

OES 11: iPrint Linux Administration Guide

Open Enterprise Server 11

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Novell.

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About This Guide

This guide describes how to install, configure, and customize Novell iPrint on Novell Open Enterprise Server.

- ♦ Chapter 1, “Overview,” on page 11
- ♦ Chapter 2, “What’s New in iPrint,” on page 21
- ♦ Chapter 3, “Installing and Setting Up iPrint on Your Server,” on page 23
- ♦ Chapter 4, “Installing and Setting Up iPrint on Client Workstations,” on page 43
- ♦ Chapter 5, “Migrating iPrint from NetWare 6.5 SP8 to OES 11,” on page 83
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Audience

This guide is intended for anyone involved in installing, managing, and using iPrint or NDPS for a print system.

Feedback

We want to hear your comments and suggestions about this manual and other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation to submit your comments.

Documentation Updates

For the latest version of the *OES 11 iPrint Administration Guide for Linux*, visit the [Novell Open Enterprise Server documentation Web site](http://www.novell.com/documentation/oes11/) (<http://www.novell.com/documentation/oes11/>).

Additional Documentation

For documentation on installing and running the iPrint Manager Health Monitor, see the [OES 11: iPrint Manager Health Monitor Administration Guide](#).

1 Overview

Novell iPrint is a component of Novell Open Enterprise Server 11. iPrint lets mobile employees, business partners, and customers access printers from a variety of remote locations using existing Internet connections. This section describes the benefits and key features of iPrint.

- ♦ [Section 1.1, “Introduction to iPrint,” on page 11](#)
- ♦ [Section 1.2, “iPrint Component Overview,” on page 12](#)
- ♦ [Section 1.3, “Understanding Port Usage,” on page 18](#)
- ♦ [Section 1.4, “iPrint Solutions,” on page 18](#)
- ♦ [Section 1.5, “What’s Next,” on page 20](#)

1.1 Introduction to iPrint

iPrint is Novell’s solution to seamless integration of printing services. Regardless of whether users are working in an office building, telecommuting from home, or attending a sales meeting in another country, iPrint ensures that they can print documents quickly, easily, and reliably.

Using a Web browser, users point to a Web page that displays the available printers to install. They click a printer to install the iPrint Client, download the printer’s driver, and create a printer on the user’s workstation. Then users can send documents to the printer from any application on the desktop.

With iPrint, mobile users no longer need to contact a busy network administrator to find out a printer’s name, context, and the required printer driver. Instead, mobile users work within a familiar Web browser to locate nearby printers through iPrint’s Printer List Web page or maps created by the administrator. Companies can also reduce communication costs by printing documents to remote printers.

iPrint Uses Industry Standards

iPrint uses the Internet Printing Protocol (IPP), an industry standard, to eliminate the complexities of printing over the Internet and to make location-based printing a reality.

The benefits of IPP include the following:

- ♦ Uses the IP protocol
- ♦ Provides broad vendor support
- ♦ Works over local networks and the Internet
- ♦ Provides print data encryption (SSL, TLS)
- ♦ Provides a standard print protocol for all platforms (Linux, Macintosh, Windows, and so forth)

For more information about IPP, see the documents on the [Printer Working Group Website \(http://www.pwg.org/ipp/index.html\)](http://www.pwg.org/ipp/index.html).

iPrint Benefits

In addition to the benefits of IPP, the Novell implementation of iPrint adds the following value:

- ♦ Printer driver download and installation
- ♦ Location-based printing
- ♦ Browser-enabled printer installation interface
- ♦ Customizable user interface
- ♦ Secure information transfer
- ♦ Universal Printer Driver (UPD) support

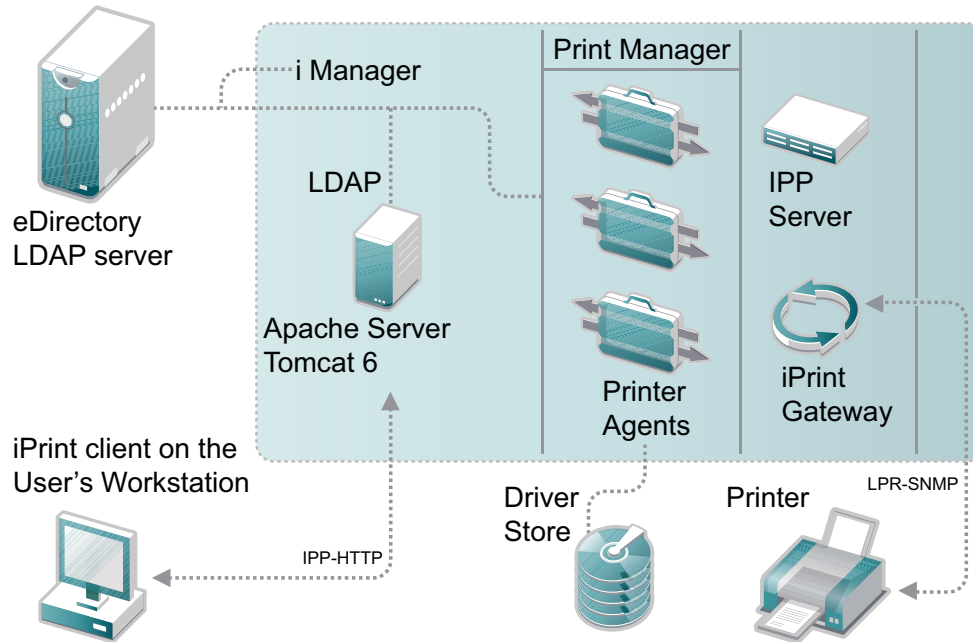
For secure printing needs, iPrint integrates with Novell eDirectory to ensure that only authorized users can access the printer. A user is required to authenticate with an eDirectory username and password. The print data is also encrypted to ensure that sensitive print data is kept secure and unaltered.

1.2 iPrint Component Overview

- ♦ [Section 1.2.1, "Print Manager," on page 13](#)
- ♦ [Section 1.2.2, "Driver Store," on page 14](#)
- ♦ [Section 1.2.3, "iPrint Client," on page 14](#)
- ♦ [Section 1.2.4, "iManager," on page 16](#)
- ♦ [Section 1.2.5, "Apache Web Server," on page 17](#)

iPrint consists of three main components: the Print Manager, the Driver Store, and the iPrint Client. Other supporting components include the Apache Web Server, iManager, and eDirectory.

Figure 1-1 iPrint Component Overview

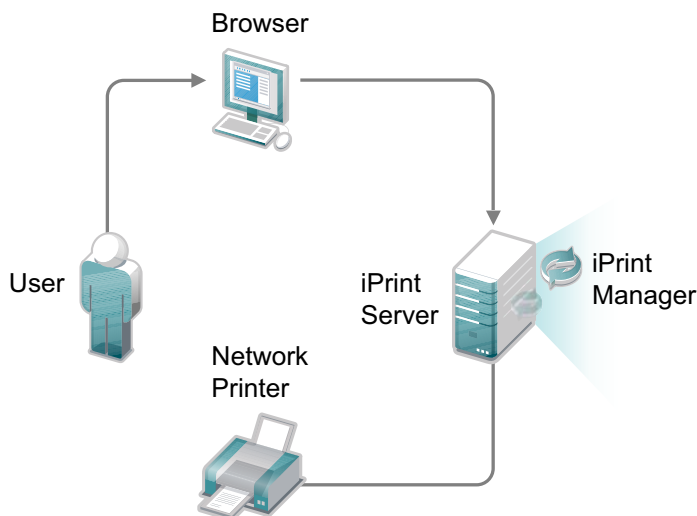


1.2.1 Print Manager

The Print Manager, which is an object in the eDirectory tree as well as software that runs on an OES 11 server, provides a platform for Printer Agents on the server. As print jobs are submitted to the Print Manager, the print job is forwarded to a printer when the printer is ready.

A single Print Manager can handle print jobs for multiple printers. Depending on your network configuration (for example, remote locations), you can create additional Print Managers on other servers, but only one Print Manager can exist on any one server. The Print Manager user access control allow authorized users to print.

Figure 1-2 Workflow through a Print Manager



Printer Agent: The Printer Agent is an entry in the Print Manager database that represents the physical printer. When you create a printer, a Printer Agent is created in the Print Manager's database and a Printer object is added to eDirectory. The Printer Agent manages the processing of print jobs; answers queries from network clients about a print job or attributes of a printer; and provides SNMP information that is displayed in the Print Manager Health Monitor.

IPP server: The IPP server's main function is to handle IPP requests from the Web server and deliver the requests to the Print Manager or to the Broker.

iPrint Gateway: The gateway maintains communication with the printers. When a printer is ready, the gateway requests print jobs from the Print Manager for the printer. The print jobs are sent to the printer through LPR and the TCP/IP protocol. The gateway also uses SNMP to query printers to get their status and other printer information.

1.2.2 Driver Store

The Driver Store is an eDirectory object. Only one Driver Store is required on a network; however, depending on your network configuration, you can create additional Driver Stores. The fewer Driver Stores that are running, the better. With more Driver Stores, you need to keep track of which drivers run on which driver store.

The Driver Store is a repository of printer drivers for your print system. When the first user of a printer installs the printer, the Print Manager requests the associated printer driver from the Driver Store, and the Print Manager saves the printer driver to disk for future use. When the same printer is installed by another user, the Print Manager checks to see if there is an updated printer driver in the Driver Store. If an updated driver exists, the Print Manager caches it and subsequent printer installations use the newer drivers. However, printers already installed on workstations with the older driver are not updated. For additional information on the Driver Store, see [Technical Information Document \(TID #3281477\) on the Novell Support Site \(http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=3281477&sliceId=2&docTypeID=DT_TID_1_1&dialogID=72061104&stateId=1%200%2010986128\)](http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=3281477&sliceId=2&docTypeID=DT_TID_1_1&dialogID=72061104&stateId=1%200%2010986128).

1.2.3 iPrint Client

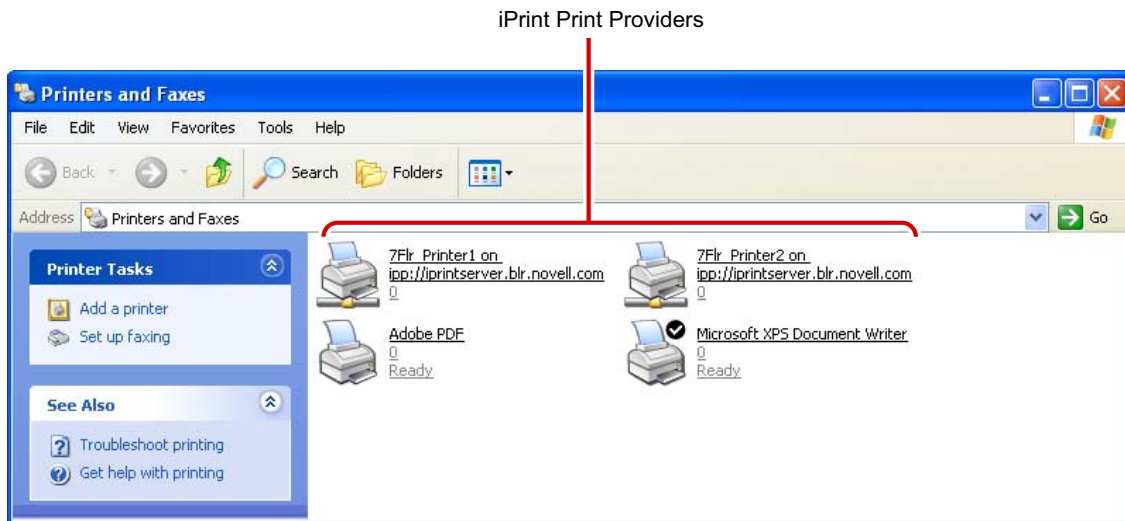
The iPrint Client is available on the following platforms:

- ♦ [Windows](#)
- ♦ [Macintosh](#)
- ♦ [Linux](#)

Windows iPrint Client

The Windows iPrint Client lets you install iPrint printers and configure iPrint on your workstation. It includes the following components:

Figure 1-3 Windows Print Spooler



- ♦ **Print Provider:** The iPrint Print Provider communicates directly with the Windows spooler, which takes print jobs from applications and delivers them to a print provider. Upon startup, the iPrint Client ensures that the iPrint Print Provider is the first one in the list of providers. When a print job is intended for an iPrint printer, the iPrint Print Provider delivers the print job to the Print Manager.
- ♦ **Browser plug-in:** The iPrint Client contains a browser plug-in for Mozilla-based browsers and Internet Explorer. The IE plug-in is an OCX-based plug-in that lets you install printers through your IE browser.
- ♦ **Client configuration:** Through the iPrint Client configuration screen, you can take advantage of several advanced client features. For more information on each of these features, see the associated documentation. These features include the following:
 - ♦ [“Using a Proxy Server” on page 56](#)
 - ♦ [“Using the Novell iCapture LPT Port Redirector Utility” on page 58](#)
 - ♦ [“Setting Up iPrint on Terminal Servers” on page 57](#)
 - ♦ [“Managing Passwords for Remote iPrint Servers” on page 57](#)
- ♦ **Command line utilities:** The iPrint MS-DOS commands let you install iPrint printers without a Web browser and capture LPT ports to iPrint printers. These commands are useful when you have legacy applications that require output to an LPT port, or when you want to add printers through a login script.

For more information, see [Section 4.5.4, “Implementing iPrint by Using the Command Line,” on page 59](#).

For more information, including client requirements, see [Section 4.1.3, “Windows: iPrint Client,” on page 49](#).

Macintosh iPrint Client

The Macintosh iPrint Client contains a browser plug-in for the Safari Web browser that lets you install printers through your Web browser. For more information, see [Section A.1, “iPrint Client Supported Browsers,” on page 143](#).

The client integrates with CUPS and uses the CUPS local spooler to send print jobs to the Print Manager.

For more information, including client requirements, see [Section 4.1.2, “Macintosh: iPrint Client,” on page 47](#).

Linux iPrint Client

This client lets Linux workstations install iPrint clients. It includes the following components:

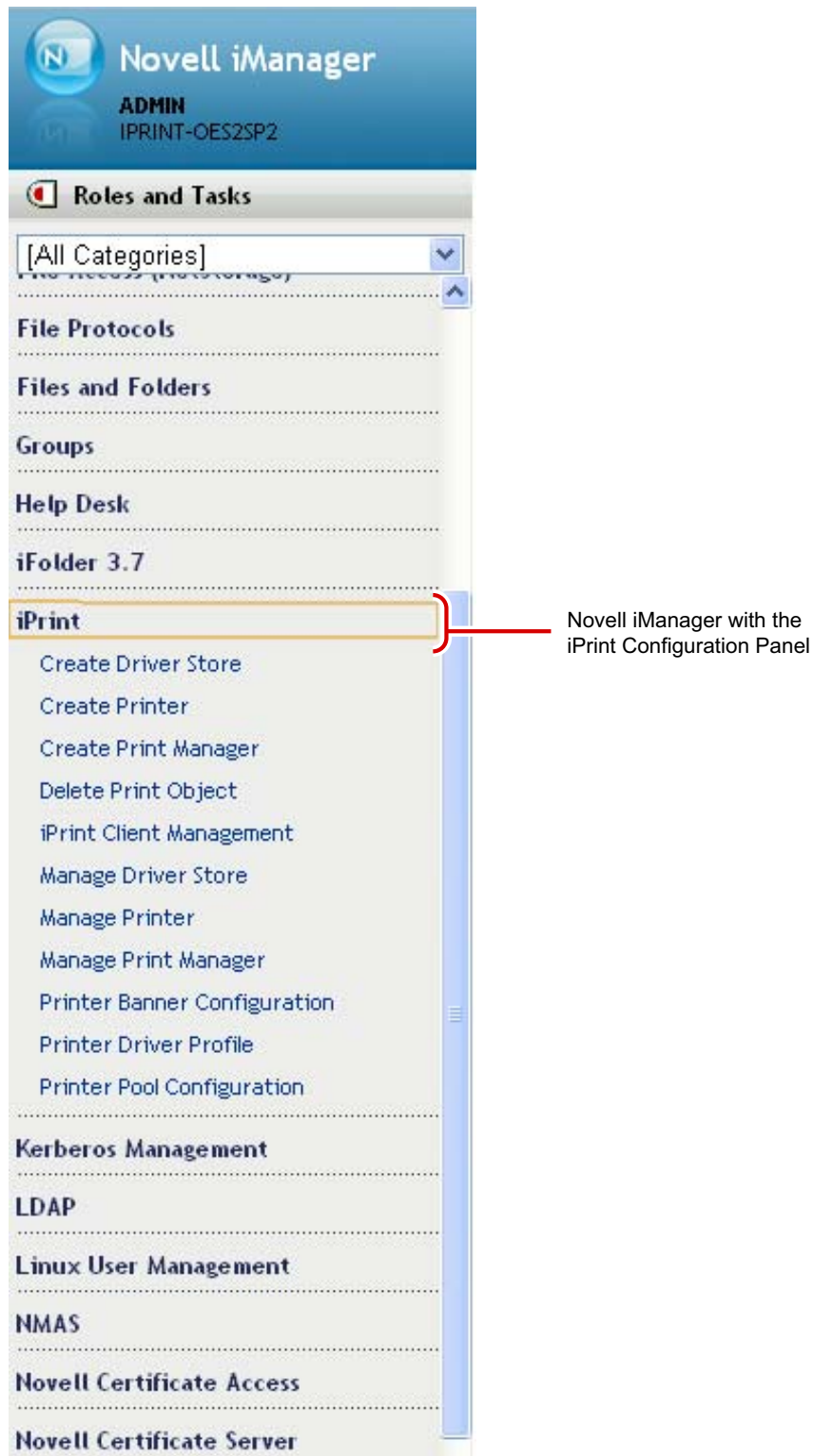
- ♦ **Browser plug-in:** The iPrint Client contains a browser plug-in for Mozilla-based browsers. This plug-in lets you install printers through your Web browser.
- ♦ **Console utility:** The Linux iPrint Client includes the `iprintcmd` utility that lets you install printers, print test pages, and upload drivers to a driver store from a console prompt. For more information, see [Section 4.6, “Using iprintcmd on Linux and Macintosh,” on page 65](#).
- ♦ **CUPS Integrator:** The client integrates with the CUPS (Common UNIX Printing System) software and uses the CUPS local spooler to send print jobs to the Print Manager.

For more information, including client requirements, see [Section 4.1.1, “Linux: iPrint Client,” on page 43](#).

1.2.4 iManager

You use iManager to create, configure, and manage your iPrint system. For complete management, including uploading printer drivers and PostScript Printer Description (PPD) files, you need to access iManager from a workstation with the iPrint Client installed. For more information, about iPrint tasks in iManager, see [Chapter 3, “Installing and Setting Up iPrint on Your Server,” on page 23](#) and [Chapter 9, “Managing Your Print System,” on page 99](#). For more information about iManager, see the *Novell iManager 2.7.4 Administration Guide*.

Figure 1-4 iManager Web Interface



1.2.5 Apache Web Server

Apache 2.0 is the Web server for iPrint. The Web server serves up HTML pages, handles secure (SSL/TLS) and non-secure requests, and utilizes LDAP for authentication.

1.3 Understanding Port Usage

iPrint can use any port specified on Apache; however, iPrint defaults to two primary ports:

- ♦ **Port 443:** All secure printing occurs through SSL over port 443.
- ♦ **Port 631:** All non-secure printing occurs over port 631.

The iPrint Client also supports TLS. If your system is configured to use TLS, all secure and non-secure printing occurs over port 631.

During the OES install of the iPrint software, the CUPS back-end components are disabled on the server to avoid port 631 conflicts. This is because iPrint uses CUPS to render print jobs before sending a job to the Print Manager, printing from the server itself by using CUPS, or if iPrint is not available.

1.4 iPrint Solutions

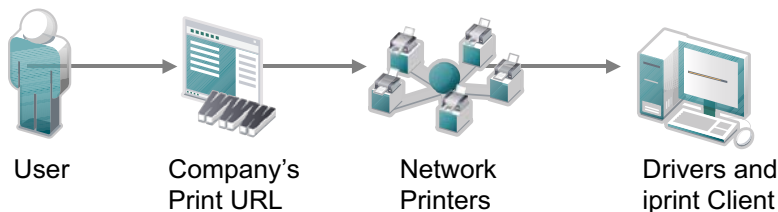
The following examples demonstrate how iPrint solves current business needs.

- ♦ [Section 1.4.1, “Printing Across the Internet,” on page 18](#)
- ♦ [Section 1.4.2, “Printing at a Remote Office,” on page 18](#)
- ♦ [Section 1.4.3, “Printing Instead of Faxing,” on page 19](#)

1.4.1 Printing Across the Internet

Juan is an employee working at home who wants to send a document to a printer at his office. Juan does not want to dial in to the company’s network, but he has access to the Internet.

Figure 1-5 How iPrint Helps You Print Across the Internet

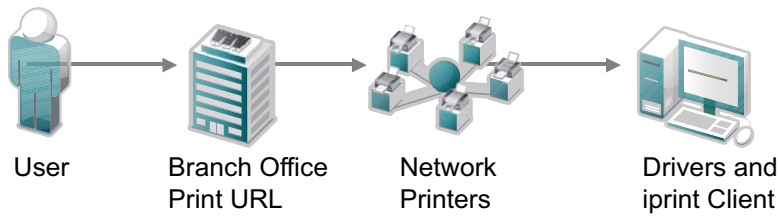


1. Juan points his Web browser to the company’s print URL.
2. From the Web page, Juan selects the printer to install. The iPrint Client is automatically downloaded and is installed on his computer. The printer driver is also downloaded and the printer is installed on his computer.
3. From any application on his home computer, Juan can now print documents directly on his company’s printer.

1.4.2 Printing at a Remote Office

Olga is visiting her company’s branch office in Paris. She needs to print a handout for an upcoming meeting. Olga knows she can print to the branch office printer, even though she does not know the printer’s name, eDirectory context, make, model, or required printer driver.

Figure 1-6 How iPrint Helps You Complete Print Jobs at a Remote Office

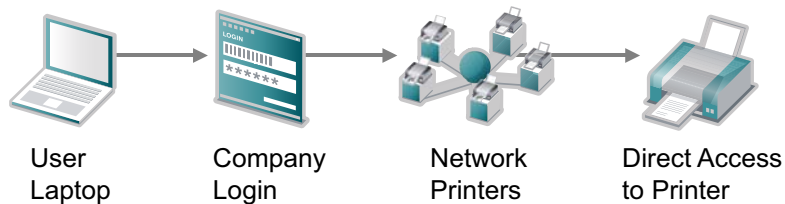


1. Olga connects her laptop to the company network, clicks the iPrint link on the company's intranet Web page, then clicks a link for the branch office she is visiting. A map displays the branch office and the iPrint printers.
2. Olga locates the office she is using and clicks the icon for the printer just outside her office.
3. The printer driver is downloaded and a printer is created in her laptop's Printer folder. She didn't need to install the iPrint Client software again because she had used iPrint previously at a different branch office.
4. From her application, Olga prints her handouts for the upcoming meeting.

1.4.3 Printing Instead of Faxing

Dan has just returned to his hotel room in Chicago after visiting with some clients. While checking his e-mail, he is reminded that he needs to submit a report to his manager in the corporate office in New York. The report is due by 8:00 a.m. Although he could send the report by fax, he wants a high-quality printout in color and he does not want to incur long-distance telephone charges.

Figure 1-7 How iPrint Helps you Print Documents to Another Printer Instead of Faxing Them



1. Dan uses his laptop to dial in to a local Internet Service Provider.
2. Using his Web browser, Dan accesses the company's intranet Web page. Using the iPrint map pages, he locates an iPrint color printer adjacent to his manager's office.
3. After downloading and installing the printer driver, Dan uses his application to send the report to the printer.
4. Dan returns to the iPrint Web page and clicks the printer again to display printer management options. He monitors the printer job list to verify that his print job is complete.
5. Dan sends an e-mail to his manager telling him that the report is available at the printer.

1.5 What's Next

- ♦ [Chapter 3, “Installing and Setting Up iPrint on Your Server,” on page 23](#): Helps you install the server software and configure your print system.
- ♦ [Chapter 4, “Installing and Setting Up iPrint on Client Workstations,” on page 43](#): Helps you deploy the iPrint Client to workstations and explains the features of the client.
- ♦ [Chapter 7, “Customizing iPrint,” on page 87](#): With your print system set up and the client distributed to the workstation, you can focus on how your users can access and install iPrint printers.

2 What's New in iPrint

Novell iPrint for Novell Open Enterprise Server (OES) 11 includes several enhancements and changes.

- ♦ Novell iPrint now runs on the OES 11 platform. Novell iPrint now completely supports the SUSE Linux Enterprise Server (SLES) 11 base, along with the enhancements and hardware for the SLES life cycle.
- ♦ Novell secure printing and iPrint Client Management features can now function without the Novell Client component. Users working in Windows and Active Directory environments now can have iPrint Client Management (iCM) and shared login abilities with or without the Novell Client.
- ♦ Printer driver transfer methods in iPrint Migration have been improved, and dependencies have been reduced to increase reliability and robustness. iPrint Migration has also been enhanced in areas such as printer driver transfer and driver platform selection.
- ♦ The `iprintman` utility now runs on Windows, Mac, and Linux clients, and has been rewritten to use the Java IPP libraries for performing various operations.

NOTE: This feature is under development and might not function as expected in all cases. Novell plans to complete development in a future OES release.

3 Installing and Setting Up iPrint on Your Server

- ♦ [Section 3.1, “Installing iPrint Software,” on page 23](#)
- ♦ [Section 3.2, “Installing and Configuring iPrint Services through YaST,” on page 24](#)
- ♦ [Section 3.3, “Setting Up iPrint,” on page 28](#)
- ♦ [Section 3.4, “Upgrading to Novell iPrint,” on page 38](#)
- ♦ [Section 3.5, “Setting up iPrint on an NSS File System,” on page 39](#)
- ♦ [Section 3.6, “What’s Next,” on page 41](#)

3.1 Installing iPrint Software

If you select iPrint during the Novell Open Enterprise Server (OES) installation, you can skip the instructions in this section and proceed to [Section 3.3, “Setting Up iPrint,” on page 28](#), because the iPrint software components are automatically installed on the server during the OES installation, one of the components being the Common UNIX Printing System (CUPS) software. However, even though the CUPS software is installed, it is disabled to avoid port 631 conflicts.

In order to disable iPrint services, you need to disable the Print Manager and the Driver Store. For more information on disabling iPrint services, see [“Disabling OES 11 Services”](#) in the [OES 11: Installation Guide](#).

iPrint installs the following RPM packages:

Table 3-1 *iPrint RPMs*

RPM Name	Description
<code>novell-iprint-iprntman-wrapper-1.0.0-10.1</code>	Contains the Novell iPrint Command Line Management Tool, which has the Web-Based Enterprise Management (WBEM) system for managing Print objects.
<code>yast2-novell-iprint-2.14.9-9.79</code>	Contains the YaST installation on RPM for iPrint.
<code>novell-iprint-server-6.4.20110823-1.2</code>	Contains the core Print Manager, Driver Store, and other iPrint components.
<code>novell-iprint-client-6.4.20110823-1.1</code>	Contains the iPrint Clients for Linux, Macintosh, and Windows.
<code>novell-iprint-iprntman-6.4.20110811-1.4</code>	Contains the Web-Based Enterprise Management (WBEM) system for managing core iPrint components.
<code>novell-iprint-migration-6.4.20110811-1.13</code>	Contains the Novell iPrint Migration service.

3.2 Installing and Configuring iPrint Services through YaST

Follow this procedure to install and configure the iPrint services on an OES 11 server in either of the following cases:

- ♦ Installing iPrint with a bundle of products during OES 11 installation.
- ♦ Installing only the Novell iPrint service and its dependencies on an existing OES 11 server.

Before you begin, ensure that you have the required eDirectory admin credentials to proceed, if you are installing iPrint after installing OES 11.

- 1 Launch YaST, using one of the following methods:

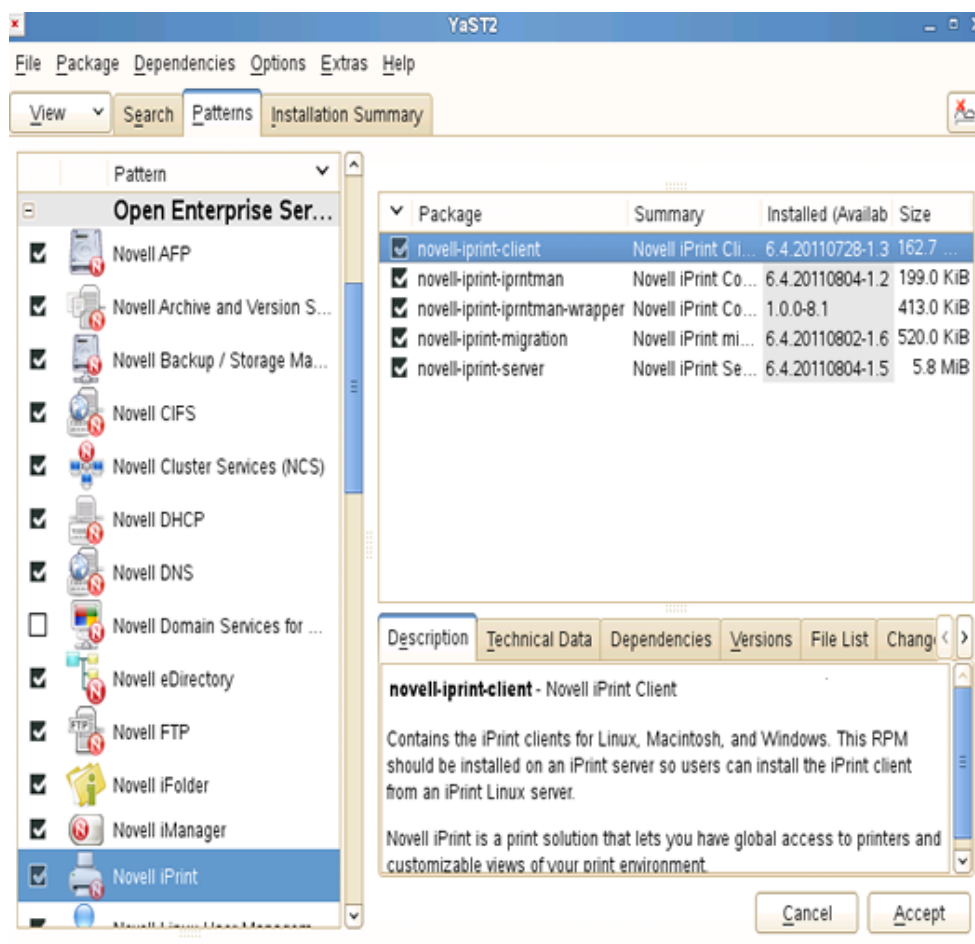
From your Desktop: Click *Computer > More Applications > System > YaST*.

From your Terminal: Run the `yast2` command on the server console.

- 2 Click *Group > Open Enterprise Server > OES Install and Configuration*.



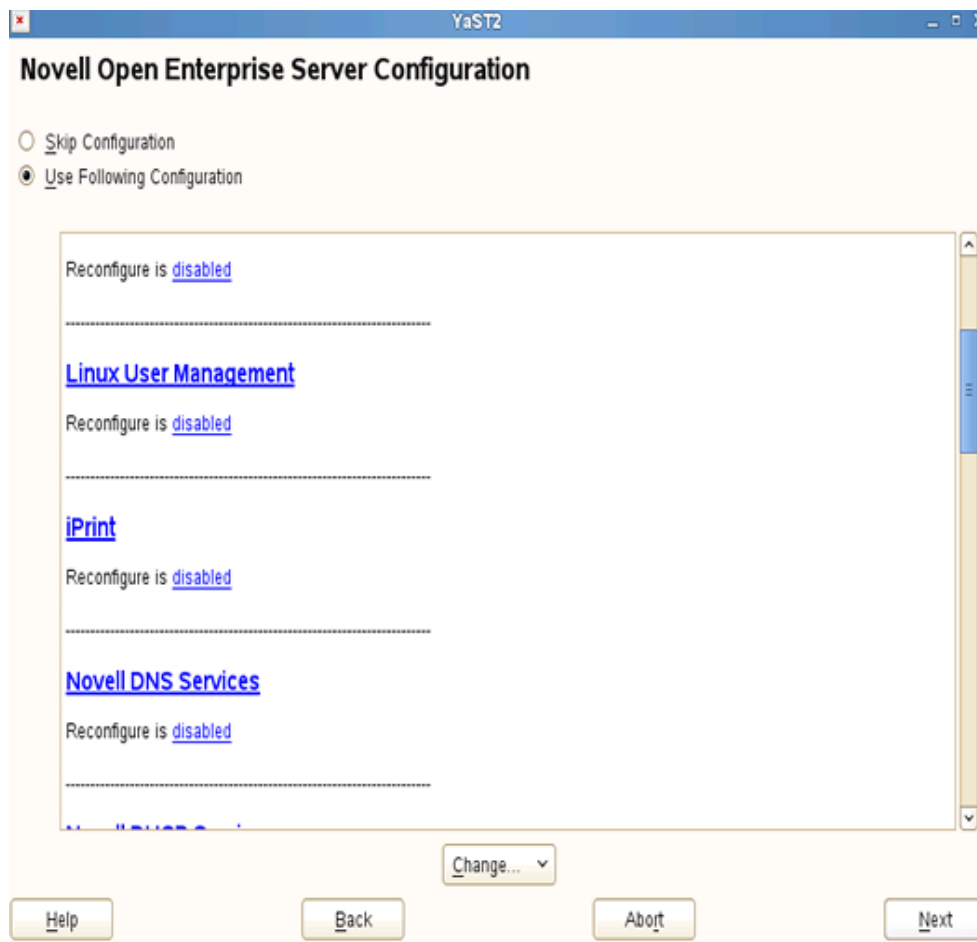
- 3 Select *Novell iPrint* from the software patterns listed.



IMPORTANT: By default, the iPrint dependency packages are selected.

4 Click *Accept*.

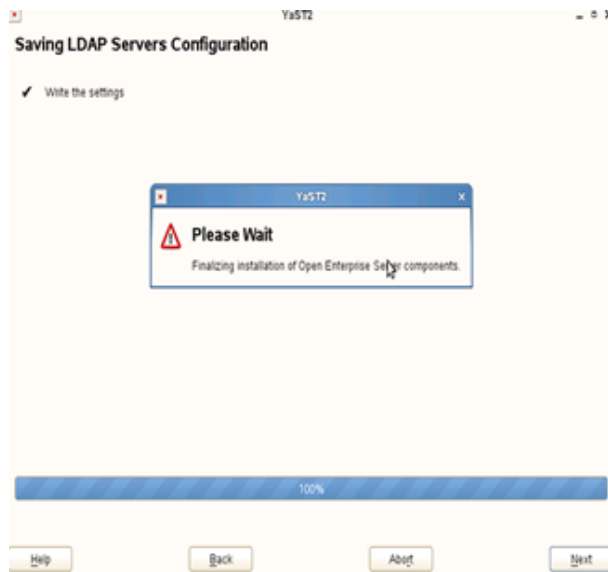
The subsequent pages allow you to configure iPrint on OES 11.



- 5 To change the default configuration settings for iPrint, click the *iPrint* service, or click *Next* to continue with the default configuration.

If you are installing iPrint after installing OES 11, you are prompted to enter the eDirectory admin password. Enter the password and click *OK* to proceed. Enter the eDirectory parameters in the page that is displayed and click *Next*.

- 6 Read the confirmation message on the LDAP Server settings for the iPrint configuration getting successfully saved, as you specified on your OES 11 server.



- 7 Read the confirmation message that the system displays a confirmation screen to indicate that your install was successful.



3.3 Setting Up iPrint

- ♦ Section 3.3.1, “Accessing and Using iManager,” on page 29
- ♦ Section 3.3.2, “Creating a Driver Store,” on page 30
- ♦ Section 3.3.3, “Changing the eDirectory Server Assignment,” on page 31
- ♦ Section 3.3.4, “Managing Printer Drivers,” on page 32
- ♦ Section 3.3.5, “Managing Driver Stores,” on page 34
- ♦ Section 3.3.6, “Creating a Print Manager,” on page 35
- ♦ Section 3.3.7, “Creating a Printer,” on page 38

After you install the Open Enterprise Server components on your server (including iPrint), you need to start and configure iPrint. For complete management, including uploading printer drivers and PPD files, you need to access iManager from a workstation with the iPrint Client installed. For a review of supported browsers and iPrint operations, see [Appendix A, “Supported Browsers for iPrint,” on page 143](#).

- ❑ Run iManager from the operating system in which you want to upload the print driver. For example, to upload a Windows 7 print driver, you must run Internet Explorer from a Windows 7 workstation. For more information, see the [iManager Web site \(http://www.novell.com/documentation/imanager27/\)](http://www.novell.com/documentation/imanager27/).
- ❑ **Create a Driver Store:** A Driver Store is a repository where administrators add printer drivers and PPD files used for their print system.
- ❑ **Add printer drivers and PPD files:** To save the extra step of associating driver files when you create printers, you should add printer drivers to the Driver Store before you create printers.
- ❑ **Create a Print Manager:** The Print Manager communicates print job information between users and printers while also providing print job management, security, and spooling.
For more information, see [“Creating Additional Print Managers” on page 109](#).
- ❑ **Create Printers:** This task helps you create printers for your system and associate printer drivers.
For more information, see [Section 9.4.1, “Creating Additional Printers,” on page 114](#).

3.3.1 Accessing and Using iManager

iManager is a Web-based administration console that provides secure, customized access to network administration utilities and content from virtually anywhere you have access to the Internet and a Web browser.

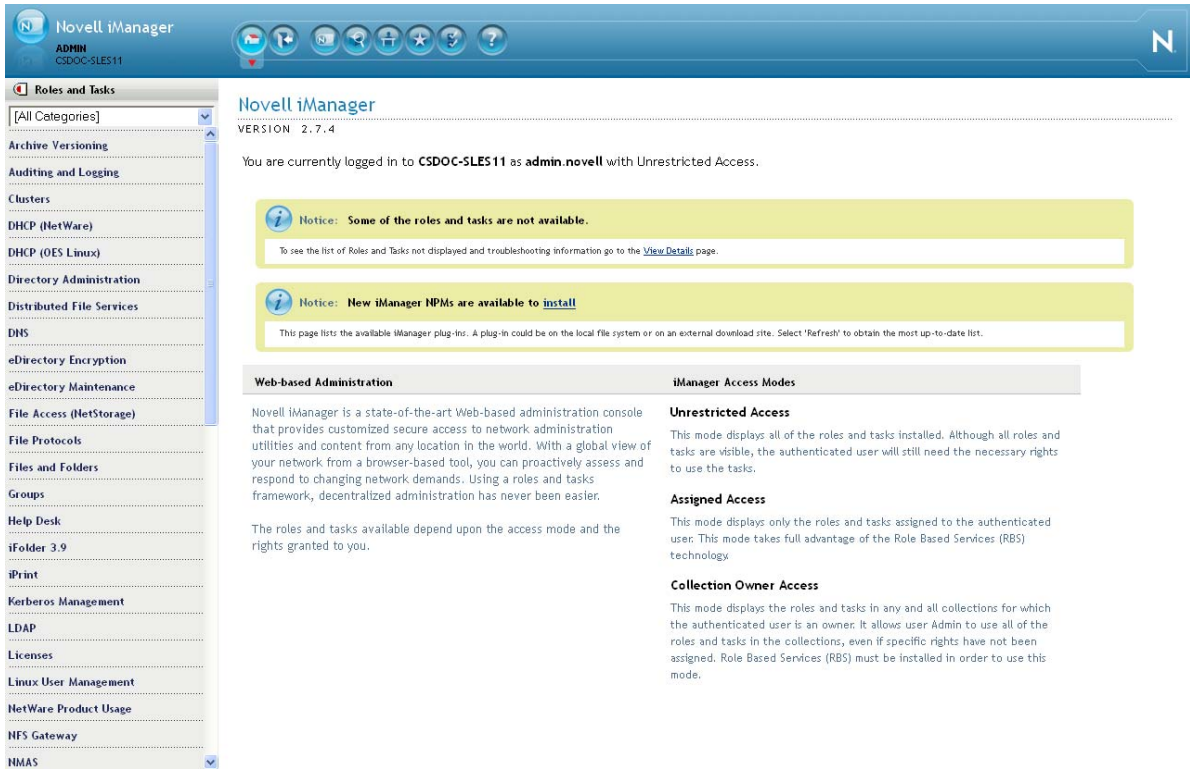
For information on accessing iManager, see [Accessing iManager](#) in the [Novell iManager Administration Guide](#).

For iManager access and complete use of all its features, use one of the Web browsers listed below. Although you might be able to access iManager through a Web browser that is not on the list, we do not guarantee or support full functionality with any browser other than the following:

- ♦ Microsoft Internet Explorer 6 SP2 on Windows XP
- ♦ Microsoft Internet Explorer 7
- ♦ Microsoft Internet Explorer 8
- ♦ Firefox 1.5.x, 2.x, 3.0, 3.5, 3.6, 4.0, and 5.0

In order for some iManager wizards and help systems to work, you must enable pop-up windows in your Web browser. If you use an application that blocks pop-up windows, you must disable the blocking feature while working in iManager or allow pop-ups from the iManager host. The mobile iManager functions similarly to the Web-based iManager, except that it does not allow you to upload drivers and to create profiles.

Figure 3-1 iManager



For information on using the iManager interface, see [Navigating the iManager Interface](#) in the [Novell iManager Administration Guide](#).

3.3.2 Creating a Driver Store



You need only one Driver Store for your print system; however, depending on your network setup, you can add additional Driver Stores. You must create a Driver Store in order to create a Print Manager. For more information about placing Driver Stores on your network, see [“Creating Additional Driver Stores”](#) on page 124.

- 1 In iManager, click *iPrint > Create Driver Store*.



The Create Driver Store dialog box is displayed.

- 2 In the *Driver Store name* field, specify the name of the Driver Store object.
- 3 In the *Container name* field, specify the name of the container where you want the Driver Store object to reside.

TIP: Use the Object Selector  to choose the container object from an object list. For more information on using the Object Selector, see [“Using the Object Selector”](#) in the [Novell iManager Administration Guide](#). Use the History Browser  to browse through the list of objects you used recently.

- 4 In the *Target Server* field, specify the DNS name or the IP address of the server where you want the iPrint Driver Store to reside.

If you have set up the cluster, specify the DNS name or IP address of the iPrint resource.

- 5 In the *eDir Server name* field, specify an eDirectory server that you want the Driver Store to communicate with.

For fault tolerance, you can specify more than one eDirectory server from the same tree. For more information, see [Section 3.3.3, “Changing the eDirectory Server Assignment,”](#) on page 31.

- 6 Click *Cancel* to exit without saving any of your changes.

or

Click *OK* to save your changes.

IMPORTANT: When you try creating a Driver Store for the first time, you might receive a certificate error. You should accept the certificate in order to proceed with creating the Driver Store.

After the Driver Store is created, the daemon is loaded on the server and you can start uploading drivers.

3.3.3 Changing the eDirectory Server Assignment

If you need to change the eDirectory server assignment for the Print Manager or Driver Store, edit the Driver Store Server1= entry in the corresponding configuration file,

print_manager_name_ipsmd.conf or *idsd.conf*, located in */etc/opt/novell/iprint/conf*.

NOTE: As many as two additional servers can be specified, using Driver Store Server2 and Driver Store Server3. Driver Store Server1 is considered to be the primary eDirectory server. Driver Store Server2 and Driver Store Server3 are considered to be secondary servers.

For example, editing the Driver Store Servers 1, 2, and 3 entries for the *idsd.conf* file looks like this:

```
cat /etc/opt/novell/iprint/conf/idsd.conf {  
  
DSServer1 wgp-printlab-59.labs.blr.novell.com  
DSServer2 wgp-printlab-59.labs.blr.novell.com  
DSServer3 wgp-printlab-59.labs.blr.novell.com  
  
IDSOBJECTDN CN=ds-102-59-2,O=novell  
  
IDSOBJECTPasswd yhvuedbumpuvfuklnqqapvipxvemh  
  
IDSHOSTAddress 100.100.100.100  
  
}
```

Editing the Driver Store Servers 1, 2, and 3 entries for the `ipsmd.conf` file looks like this:

```
cat /etc/opt/novell/iprint/conf/ipsmd.conf

DSServer1 wgp-printlab-59.labs.blr.novell.com
DSServer2 wgp-printlab-59.labs.blr.novell.com
DSServer3 wgp-printlab-59.labs.blr.novell.com
PSMObjectDN CN=psm-dns-name,O=novell
PSMObjectPasswd pgtnlafnfekh
PSMHostAddress wgp-printlab-59.labs.blr.novell.com
```

3.3.4 Managing Printer Drivers

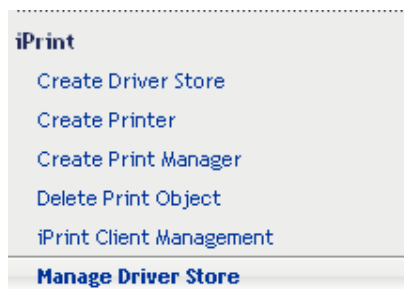
A printer driver or PostScript Printer Description (PPD) file is software that directly supports a physical printer, enabling it to carry out its functions.

Hardware vendors develop printer drivers and PPD files, which are specific to each printer. Most printers require different printer drivers for each operating system they interact with. You can use iManager to view a list of printer drivers and PPD files you have uploaded to the Driver Store. On Windows XP, Vista, and Windows 7 platforms, you can also upload printer drivers by using a command line option. For more information, see [Section 4.5.4, “Implementing iPrint by Using the Command Line,” on page 59](#). You can add printer drivers and PPD files from diskettes, CDs, and the workstation operating system.

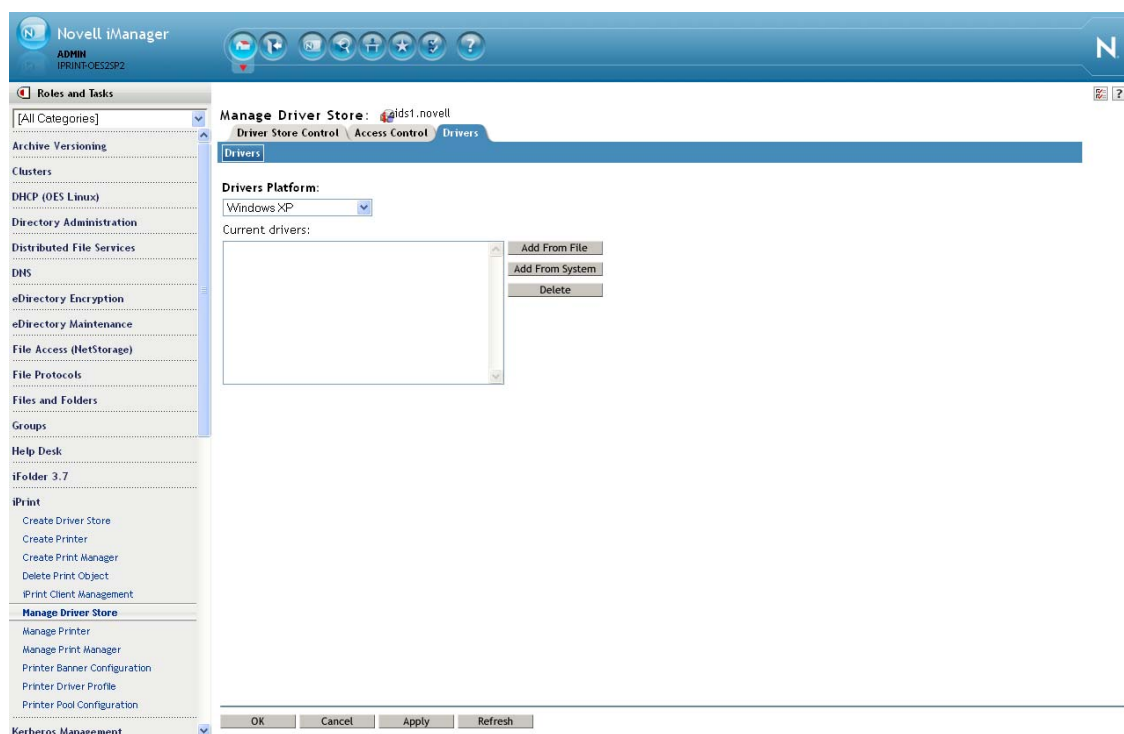
The Driver Store daemon must be running in order to add printer drivers, and the iPrint Client must be installed on a Linux or Windows workstation. To install the client, go to `http://server_IP_address/ipp` and click the *Install iPrint Client* link. For more information on installing the client, see [Chapter 4, “Installing and Setting Up iPrint on Client Workstations,” on page 43](#). For a review of supported browsers and driver upload operations, see [Section A.2, “Supported Browsers for the iPrint Plug-In and iManager,” on page 143](#).

To add printer drivers to the Driver Store:

- 1 In iManager, click *iPrint > Manage Driver Store*.



- 2 Specify the name of the iPrint Driver Store to which you want to add printer drivers.
- 3 Select the *Drivers* tab.
- 4 Use the *Drivers Platform* drop-down list to select the client platform for which you want to upload the printer driver.



5 Do one of the following:

- ♦ Click *Add from File* to add printer resources from a printer driver .inf file or PPD file.
Uploading a PPD file is supported on the Firefox browser (Linux only).

- ♦ Click *Add from System* to add drivers from the workstation where you are running iManager.

The drivers installed on your workstation are made available to be uploaded to the Driver Store. You can upload only drivers for the platforms installed on your workstation.

6 Select a driver, then click *OK*.

7 Click *OK* to save your changes.

or

Click *Cancel* to exit without saving your changes.

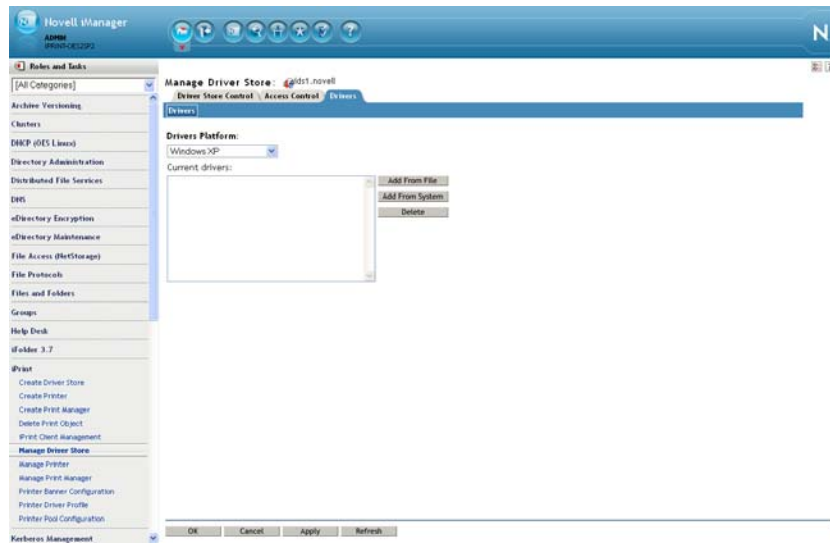
8 Click *Refresh* to refresh the screen and display the changes you just made.

If you need to install an iPrint printer but cannot use a Web browser, you can use the `iprntcmd.exe` command at a DOS prompt. For more information, see [“Using iprntcmd.exe to Install iPrint Printers” on page 60](#). You can also install driver files from a Linux console prompt by using the `iprntcmd` command. For more information, see [Section 4.6, “Using iprntcmd on Linux and Macintosh,” on page 65](#).

To delete printer drivers from the Driver Store:

- 1** In iManager, click *iPrint > Manage Driver Store*.
- 2** Select the *Drivers* tab.
- 3** Read the list of existing printer drivers displayed in the *Current Drivers* panel.

Figure 3-2 Delete Driver Stores

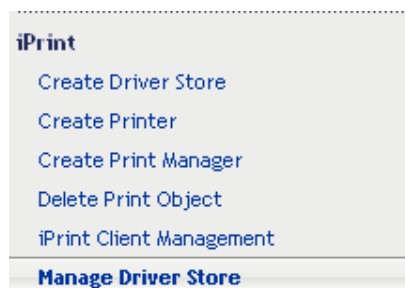


- 4 Select a driver, then click *Delete*.
- 5 Click *OK* to save your changes
- or
- Click *Cancel* to exit without saving your changes.
- 6 Click *Refresh* to refresh the screen and display the changes you just made.

3.3.5 Managing Driver Stores

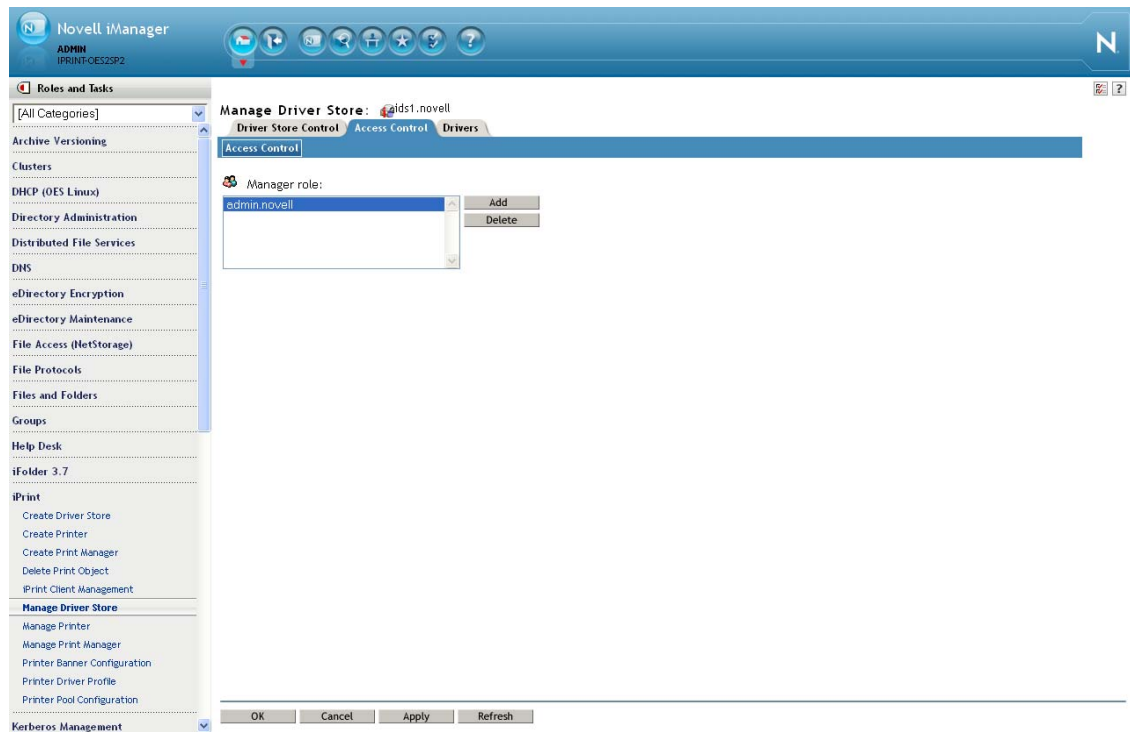
To look at the information on the existing driver stores:

- 1 In iManager, click *iPrint > Manage Driver Store*.



- 2 Use the *Driver Store Control* tab to make changes in the driver functionality as needed:
 - ♦ Use the *Driver Store Control* panel to start up or shut down the driver store, copy the printer drivers in this driver store to another driver store, move the Driver Store configuration files and printer drivers to a different server, and view the status of the driver store (Active, Down, Initializing, or Shutting Down).
 - ♦ Use the *Identification* panel to view and add information related to the Driver Store, such as the Driver Store name, version, the network address where the Driver Store is running on, the list of iPrint Manager Customers using your Driver Store, the physical location of the server that the Driver Store is loaded on, and any extra information that you might want to note about your driver store.

- 3 Use the *Access Control* tab to view and modify the list of resources that have been assigned manager roles for your driver store:
 - ♦ View the list of the existing Driver Store Manager role objects in the *Manager Role* panel.
 - ♦ Click *Add* to add a new Driver Store Manager object.
 - ♦ To delete a Driver Store Manager object, select an object from the *Manager Role* panel, then click *Delete*.



- 4 Use the *Drivers* tab to [create and maintain Printer Drivers](#).
- 5 Click *OK* to save your changes.
or
Click *Cancel* to exit without saving your changes
- 6 Click *Refresh* to display the changes you just made.

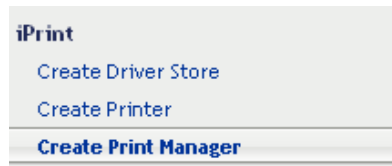
3.3.6 Creating a Print Manager

You need to create at least one Print Manager for your print system. Depending on your network setup, you can create additional Print Managers, such as, across a WAN link. The Print Manager must be running in order to create printers. For more information about placing print managers on your network, see [“Creating Additional Print Managers” on page 109](#).

IMPORTANT: Based on the Print Manager configuration, the Print Manager creates a URL for each printer. When you create the Print Manager, you can specify a DNS name or an IP address for the iPrint Service of the same server where you are creating the Print Manager. You should use the DNS name because if the IP address changes, users must delete and reinstall the printers.



A Driver Store must exist before you can create a Print Manager. For more information, see [Section 3.3.2, “Creating a Driver Store,” on page 30](#).

- 1 In iManager, click *iPrint > Create Print Manager*.



When you create the Print Manager the first time, you might receive an error about trusting a certificate. You need to click the *iPrint Certificate Manager* link and accept the certificate, then attempt to create the Print Manager again.

- 2 In the *Print Manager name* field, specify the name for your iPrint Manager object.
- 3 In the *Container name* field, specify the name of the container where you want the Print Manager object to reside.

TIP: Use the Object Selector  to choose the container object from an object list. For more information on using the Object Selector, see “[Using the Object Selector](#)” in the *Novell iManager Administration Guide*. Use the History Browser  to browse through the list of objects you used recently.

- 4 In the *eDir Server name* field, specify an eDirectory server with which you want the Driver Store to communicate.

For fault tolerance, you can specify more than one eDirectory server from the same tree. For more information, see [Section 3.3.3, “Changing the eDirectory Server Assignment,” on page 31](#).

- 5 In the *Driver Store name* field, specify the Driver Store you want this Print Manager to use to deliver printer drivers to iPrint clients.

A screenshot of the 'Create Print Manager' dialog box. The title bar says 'Create Print Manager' with a question mark icon on the right. The dialog has four text input fields: 'Print Manager name:', 'Container name:' (with 'novell' entered), 'eDir Server name:', and 'Driver Store name:'. Each of the last three fields has a magnifying glass icon and a document icon to its right. Below these fields is a checkbox labeled 'Start print manager after creation' which is checked. A horizontal line separates this section from the 'iPrint Service *' section. In the 'iPrint Service *' section, there are two radio buttons: 'DNS Name:' (which is selected) and 'IP Address:'. Each has a corresponding text input field. At the bottom, there is a note: '* Note: Enter a DNS name which identifies the print manager to iPrint clients. This address should resolve to the physical server that hosts the print manager. This DNS name is required for clients to continue to print in the event that the manager is moved. Example: print.mycompany.com or 129.63.47.78'. At the very bottom are 'OK' and 'Cancel' buttons.

- 6 Select the *Start print manager after creation* check box to automatically launch the Print Manager after creating it.

This option starts the iPrint Manager after the object is created and also starts the iPrint service after every server reboot.

If you do not select the *Start print manager after creation* check box, you should start the Print Manager manually after creating it. You do this by using *Manage Print Manager > Manager Control* in iManager or by entering `/etc/init.d/novell-ipsmd start` at a command prompt.

IMPORTANT: In a cluster setup, do not select the *Start print manager after creation* check box.

- 7 Use the *iPrint Service* panel to specify a DNS name (such as `print.mycompany.com`) to identify the iPrint service on the network.

This address should resolve to the physical server that hosts the Print Manager. Additionally, this address is used to create the iPrint printer's URL, which is installed on users' workstations during a printer installation.

If this URL changes, users must delete and reinstall their printers. The DNS name should not be the server's DNS name (such as `server1.mycompany.com`).

An IP address can be used if DNS is not configured for your network or if you use a secondary IP address. Using a primary IP address or the server's DNS name limits your ability to move the Print Manager. You should use DNS names, whenever possible, to avoid client issues, especially if you need to change the IP address in the future.

- 8 Click **OK**.

or

Click *Cancel* to exit without saving any of your changes.

A CNAME is a DNS name that is tied to a Service and not tied to a Server Name. Novell recommends that you bind the Print Manager to a CNAME and not to a server DNS name or a server IP address. If the Print Manager is bound to a CNAME, the iPrint printers installed to workstations automatically point to the new server when you migrate iPrint services from OES 2 to OES 11. There are two methods to view which address or name the Print Manager is bound to:

Viewing the Installed Printer: Look at the name of an iPrint printer installed to a workstation. The name will look similar to one of the following formats:

printer1 on `ipp://servicename.company.com`

or

printer1 on SomeName

or

printer1 on `ipp://servername.company.com`

or

printer1 on `ipp://<ipaddress>`

The first format is the recommended format.

Using `ipsmd.conf`: View the `PSMHostAddress` value within the `/etc/opt/novell/iprint/conf/ipsmd.conf` file. The only recommended value is a CNAME, such as `servicename.company.com`.

To conform to the Novell CNAME recommendation:

IMPORTANT: Do not proceed with these steps if the Print Manager is bound to an IP address or a server DNS name.

- 1 Create a DNS entry for a Print Manager service name (CNAME) within the network's DNS configuration.

The CNAME must resolve to the IP address of the server hosting the Print Manager. If the Print Manager is hosted on a cluster, the CNAME must resolve to the IP address of the cluster volume.

- 2 `/etc/hosts/` - Add the CNAME and server IP address to the server's `/etc/hosts` file.
- 3 `ipsmd.conf` - Modify the `PSMHostAddress` value within the `/etc/opt/novell/iprint/conf/ipsmd.conf` file from the server DNS or IP address to the Print Manager's CNAME.
- 4 Restart the Print Manager by using the `rcnovell-ipsmd restart` command.

The iPrint clients detect the name change within the `ipsmd.conf` file, uninstall the iPrint printer, and re-install the iPrint printer to reflect the new name.

3.3.7 Creating a Printer

Before you can create a printer, you must first create a Print Manager on your server. See [Section 3.3.6, "Creating a Print Manager," on page 35](#) for more information. For information on the prerequisites for creating additional printers, see [Section 9.4.1, "Creating Additional Printers," on page 114](#).

- 1 In iManager, click *iPrint > Create Printer*.
- 2 Follow the prompts and fill in the fields.
Click the help for explanations about the fields.
- 3 Click *Next*, then select the drivers for this printer.

If the printer drivers for this printer are not listed, you can still create the printer. After the printer is created, add the printer drivers to the Driver Store and then associate the drivers to the printer by clicking *Manage Printer > Drivers*.

- 4 Click *Next* to create the printer.

3.4 Upgrading to Novell iPrint

Depending on your current print system, you can upgrade to iPrint running on Linux by using one of the following methods:

- [Section 3.4.1, "Migrating iPrint from NetWare to OES," on page 38](#)
- [Section 3.4.2, "Migrating an Existing NDPS Print System to iPrint on OES," on page 39](#)
- [Section 3.4.3, "Replacing an Existing Windows Print System with iPrint," on page 39](#)

3.4.1 Migrating iPrint from NetWare to OES

See [Chapter 5, "Migrating iPrint from NetWare 6.5 SP8 to OES 11," on page 83](#) for more information.

3.4.2 Migrating an Existing NDPS Print System to iPrint on OES

To migrate your existing NDPS print system serviced by NetWare to an OES server, complete the following tasks:

1. Set up DNS for your existing system.

For more information, see “[Setting Up DNS for the Print Manager](#)” in the *NW 6.5 SP8: iPrint Administration Guide*.

2. Upgrade your NDPS Print system to iPrint.

For more information, see “[Upgrading from NDPS to iPrint](#)” in the *NW 6.5 SP8: iPrint Administration Guide*.

3. Distribute the iPrint Client.

For more information, see “[Windows: Distributing the iPrint Client](#)” in the *NW 6.5 SP8: iPrint Administration Guide*.

4. Edit the UpgradeNDPSPrinters entry in `iprint.ini`.

For more information, see “[Upgrading NDPS Printers to iPrint Printers](#)” in the *NW 6.5 SP8: iPrint Administration Guide*.

5. Run the Server Consolidation Utility.

For more information, see “[Consolidating NDPS Printer Agents](#)” in the *Novell Server Consolidation and Migration Toolkit Administration Guide*.

6. Reconfigure DNS to point to the new server.

3.4.3 Replacing an Existing Windows Print System with iPrint

To replace an existing Windows Printing System with an OES 11 iPrint server, use the [iPrint Migration Utility for Windows Printing](#) (<http://support.novell.com/tools/csp>), which is available separately. See the documentation included with the Migration Utility for more information.

3.5 Setting up iPrint on an NSS File System

It is now possible to host iPrint configuration and data on an NSS Volume. In a standard single server setup, you can continue to host iPrint on your default native Linux file system or you can host iPrint on an NSS file system.

In a cluster setup, we recommend making iPrint available in an OES 11 NSS Cluster.

NOTE: When you create a volume, ensure that it has enough space to host all your driver needs.

Use `iprint_nss_relocate` script to host iPrint on NSS file system in a standalone or cluster setup. This script performs the following actions:

- ♦ Moves iPrint configuration data to the NSS Volume.
- ♦ Creates symbolic links on the Linux POSIX file system that point to the location on NSS.
- ♦ Removes the `/etc/passwd` local iPrint user.
- ♦ Creates an iPrint LUM user and an `iprintgrp` LUM group.

These users, along with Apache's `www` group and `wwwrun` user, are given rights to those sections of the NSS file system where the iPrint configuration and data are hosted.

3.5.1 Running the `iprint_nss_relocate` script

To run the `iprint_nss_relocate` script:

- 1 Go to the `/opt/novell/iprint/bin` folder on your OES11 server.
- 2 Run the following command at the prompt:

```
./iprint_nss_relocate -a <admin dn> -p <password> -n <NSS path> [-l cluster[-c] [-w]]
```

For example: `iprint_nss_relocate -a cn=admin,o=novell -n /media/nss/NSSVOL1 -l cluster -c o=Novell -w o=Novell`

If you do not specify the password in the command, you are prompted to enter the password when the script runs. Refer to the following table for details on the options.

Option	Value
-a	Admin DN in LDAP format
-p	Password for the Admin user
-n	NSS Path with no trailing slash IMPORTANT: When you specify the path, ensure that there are no trailing slashes after the NSS path. For example: The path should be specified as <code>/media/nss/NSSVOL1</code> and not as <code>/media/nss/NSSVOL1/</code> .
-l Cluster (Optional)	Use this parameter only when you want to achieve clustering on NSS file systems. For more details on clustering, see Chapter 8, "Configuring iPrint with Novell Cluster Services," on page 91. IMPORTANT: Use the <code>cluster</code> keyword with the <code>-l</code> option. Do not replace the cluster keyword with a cluster object name.
-c (Optional)	Specify the container FDN in LDAP format where the iPrint LUM object already exists or should be created. All the iPrint nodes on an NSS Cluster should share the iPrint LUM objects (iPrint user and iPrintgrp group) and should be in the same container. If the nodes are in different containers, you should specify the existing iPrint LUM objects' context on subsequent nodes where <code>iprint_nss_relocate</code> is running. To specify the context, give the <code>-c</code> option in the command. Do not choose the context where the non-user object named iPrint already exists.
-w (Optional)	Specify the container FDN in LDAP format where Apache LUM objects exist.

Example

```
./iprint_nss_relocate -a cn=admin,o=novell -n /media/nss/DATA -c o=Novell,t=iPrint_Tree -w o=Novell,t=iPrint_Tree -l cluster
```

3.6 What's Next

With iPrint now installed on your server, you need to distribute the iPrint Client to your workstations and determine how users access the system.

- ♦ [Chapter 4, “Installing and Setting Up iPrint on Client Workstations,” on page 43](#): Helps you deploy the iPrint Client to workstations and explains the features of the iPrint Client.
- ♦ [Chapter 7, “Customizing iPrint,” on page 87](#): With your print system set up and the client distributed to the workstation, you can focus on how your users can access and install iPrint Printers.

4 Installing and Setting Up iPrint on Client Workstations

For users to use iPrint, they need to install the Novell iPrint Client software and a printer. When a user selects a printer to be installed by iPrint, iPrint checks to see if the Novell iPrint Client software is installed and then installs it if necessary. If the iPrint Client software is already installed, the printer driver is downloaded and the printer is installed on the user's workstation.

- ♦ [Section 4.1, "Installing the iPrint Client," on page 43](#)
- ♦ [Section 4.2, "Installing Printers," on page 53](#)
- ♦ [Section 4.3, "Updating the iPrint Client," on page 55](#)
- ♦ [Section 4.4, "Managing Print Jobs from the Client," on page 55](#)
- ♦ [Section 4.5, "Windows Client: Using Additional Features," on page 55](#)
- ♦ [Section 4.6, "Using iprntcmd on Linux and Macintosh," on page 65](#)
- ♦ [Section 4.7, "Windows Client: Additional Features," on page 67](#)
- ♦ [Section 4.8, "Macintosh Client: Additional Features," on page 71](#)
- ♦ [Section 4.9, "Using iPrint Client Management," on page 75](#)
- ♦ [Section 4.10, "Uninstalling the Novell iPrint Client," on page 80](#)
- ♦ [Section 4.11, "Printing from LPR Print Systems to iPrint," on page 81](#)
- ♦ [Section 4.12, "What's Next," on page 81](#)

4.1 Installing the iPrint Client

For iPrint to work properly, a workstation must have the iPrint Client installed. You can distribute the client to your workstations in a variety of ways, including the iPrint Printer List Web page, distribution software such as ZENworks, login scripts, and so on.

- ♦ [Section 4.1.1, "Linux: iPrint Client," on page 43](#)
- ♦ [Section 4.1.2, "Macintosh: iPrint Client," on page 47](#)
- ♦ [Section 4.1.3, "Windows: iPrint Client," on page 49](#)

The client is located in the `/var/opt/novell/iprint/htdocs` directory.

4.1.1 Linux: iPrint Client

- ♦ ["Linux: iPrint Client Requirements" on page 44](#)
- ♦ ["Linux: Controlling Access to the Workstation Print System" on page 44](#)
- ♦ ["Linux: Distributing the iPrint Client" on page 45](#)

Linux: iPrint Client Requirements

In order for iPrint to work properly, workstations should have the following:

- ❑ SUSE Linux Enterprise Desktop (SLED) 10 SP2 (supports both 32-bit and 64-bit) or SLED10 SP3 (supports both 32-bit and 64-bit) or SLED 11 (supports both 32-bit and 64-bit).

IMPORTANT: To install the client, you must have the `root` password or rights as `root`.

- ❑ A Mozilla-based browser (Firefox 2.x.x, 3.0, 4.0, or 5.0).

NOTE: If the iPrint server is busy when your installed printer attempts to communicate, CUPS (Common UNIX Printing System) moves the printer into an error state and holds all print jobs. CUPS plays a role similar to a Windows spooler. It is used for administering print services such as creating print queues and monitoring, deleting, and restarting print jobs. To release print jobs, use the printer management utility to restart the printer.

Linux: Controlling Access to the Workstation Print System

The Linux iPrint Client is packaged in two different, specialized installations that control access to the workstation's print system. The following table explains the differences between the two clients.

Table 4-1 iPrint Client for Linux RPMs

Client File Name	Workstation Access	Description
<code>novell-iprint-xclient-sh-version.i586.rpm</code>	Security high. Limited access to the print system.	This client requires workstation users to be defined with <code>lppasswd</code> to install, delete, or administer printers on the workstation. When performing one of these print operations, the user is prompted for a password.
<code>novell-iprint-xclient-sl-version.i586.rpm</code>	Security low. Unlimited access to the print system.	This client allows all users of the workstation to install, delete, or administer printers and print jobs on the workstation, including printers and print jobs of other users. By default, the iPrint Printer List Web page installs this RPM.

Using the items in the *iPrint Client for Linux RPM* list does not allow you to install the iPrint Client, nor does it play any role in determining the user's printing capabilities. These items provide you access to the workstation's print system. To install the iPrint Client you need `root` permissions.

IMPORTANT: To install the iPrint Client you need `root` permissions. To upload drivers from the system, you need to be defined with `lppasswd` or know the `root` password; otherwise, when you attempt to add drivers from the system, the driver list is blank. To define a user to be part of `lppasswd`, use the following command:

```
lppasswd -a linux_user_account -g sys
```

Printing to Secure Printers

When you are installing a secure iPrint printer, you might be prompted twice for your username and password. First, you are prompted to provide your network credentials to verify that you have access to the printer (it would be no use installing a printer that would not allow you to print). The second prompt is for CUPS, to ensure you have rights to install printers on the client machine. You need to provide the root password or be defined in the CUPS `lpsswd`.

Printing to secure printers is supported only when you are logged in to the desktop. If for any reason the CUPS iPrint back end cannot deliver the job to a secure printer, the job is queued on the client with a hold. You can then see the held job and release it after you log in to the desktop.

NOTE: This client does not support printing from text logins such as SSH, unless the GUI is running on the host workstation.

Linux: Distributing the iPrint Client

Use one of the following methods to install the iPrint Client on users' workstations:

- ♦ [“Installing the Client from the iPrint Printer List Web Page” on page 45](#)
- ♦ [“Delivering the Client through Distribution Software” on page 46](#)

Installing the Client from the iPrint Printer List Web Page

You can download and install the iPrint Client from the iPrint Printer List Web page that resides on the server where the Print Manager is loaded. By default, the link is set to install the `novell-iprint-xclient-sl-version.i586.rpm` high security client. You can change this by creating a symbolic link in `/var/opt/novell/iprint/htdocs` using the following command: `ln -sf client novell-iprint-xclient.i586.rpm` where *client* is the client filename noted above.

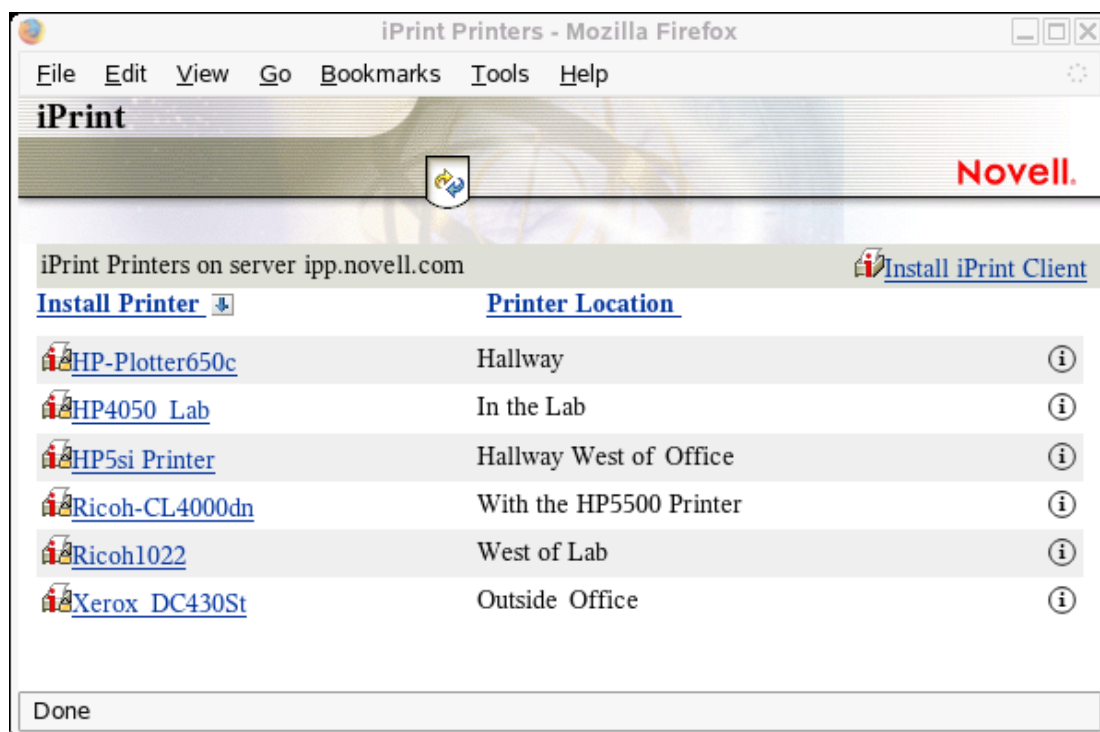
To use your Web browser to install the iPrint client RPM package to your desktop or directory:

`http://server_IP_ address_or_dns_name/ipp.`

- 1 Specify the iPrint server URL in your Web browser Address field:

For example, if the DNS name for printing is `printing.my_company.com`, you would access iPrint from the following URL:

`http://printing.my_company.com/ipp`



- 2 Click the printer you want to install.
If the iPrint Client is not yet installed on your workstation, you are prompted to install it.
- 3 When you are prompted, save the iPrint Client RPM to your desktop or home directory.
- 4 Install the iPrint Client RPM by double-clicking the RPM. If a file association for the RPM does not exist, use an RPM-installer program.
- 5 Exit and restart your Web browser before installing printers.
- 6 (Conditional) If you are using the KDE desktop and printing to secure printers, log in again as a user (not root) to start the iPrint listener, or run the `/opt/novell/iprint/bin/iprint-listener` command to manually load the listener:`/opt/novell/iprint/bin/iprint-listener`

For GNOME users, you must load the iPrint listener manually or configure GNOME to load it. See [“Additional Configuration for Secure Printers with GNOME”](#) on page 47.

NOTE: Run the iPrint Launcher from the applications menu if you want to install a secure printer without logging in again or without rebooting your system.

If you are using a non-standard installation of a browser, and the plug-in does not appear, use the `ln -s /opt/novell/iprint/plugin/npnipp.so` command to create a symbolic link in the browser's plug-in directory.

Delivering the Client through Distribution Software

You can use client distribution software such as ZENworks to deliver the iPrint Client and printers to your client workstations. For more information, see the documentation for your distribution software.

Additional Configuration for Secure Printers with GNOME

Users of the GNOME desktop that are printing to secure printers (printers that require you to authenticate) must add `iprint-listener` to the list of applications launched at login; otherwise, print jobs are not submitted to the secure printer.

NOTE: This does not apply to the KDE Desktop or GNOME running on the Novell Linux Desktop. This also does not apply when printing to non-secure printers.

- 1 On the GNOME desktop, click *System > Personal Settings*.
- 2 Under the System section, click *Sessions*.
- 3 Click *Startup Programs > Add*.
- 4 For the startup command, enter `/opt/novell/iprint/bin/iprint-listener`.
- 5 Click *OK > Close*.
- 6 Load `iprint-listener` by either running the command in [Step 4](#) or by logging out and logging in again.

The next time you log in, `iprint-listener` is automatically loaded.

If `iprint-listener` is not running, jobs submitted to secure iPrint printers are held in the local client queue. To release the jobs, start `iprint-listener` and then resume the job on the printer.

4.1.2 Macintosh: iPrint Client

- ♦ [“Macintosh: iPrint Client Requirements” on page 47](#)
- ♦ [“Macintosh: Distributing the iPrint Client” on page 47](#)

Macintosh: iPrint Client Requirements

- ☐ Mac OS 10.4 or later
- ☐ Compatible Web browser. See [Section A.1, “iPrint Client Supported Browsers,” on page 143](#) for more information.

NOTE: If the iPrint server is busy when your installed printer attempts to communicate, CUPS moves the printer into an error state and holds all print jobs. To release print jobs, use the printer management utility to restart the printer.

Macintosh: Distributing the iPrint Client

Use one of the following methods to install the iPrint Client on users' workstations:

- ♦ [“Installing the Client from iPrint Printer List Web Page” on page 48](#)
- ♦ [“Delivering the Client through Distribution Software” on page 49](#)

Installing the Client from iPrint Printer List Web Page

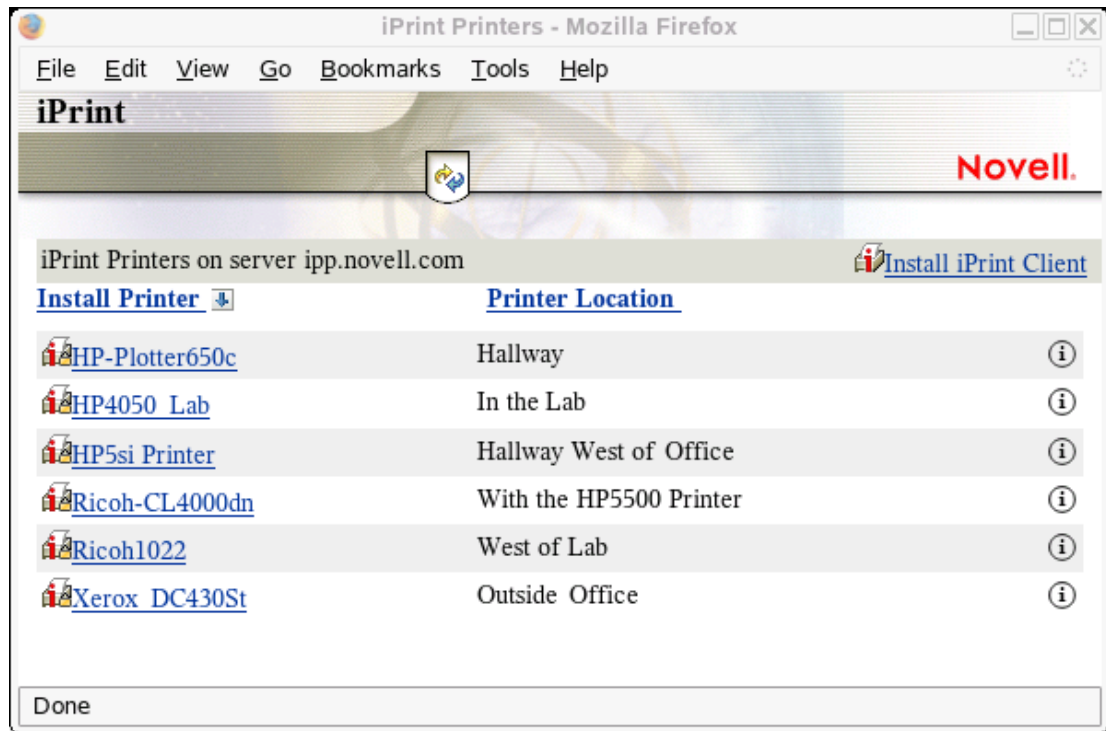
You can download and install the iPrint Client from the iPrint Printer List Web page that resides on the server where the Print Manager is loaded.

- 1 Specify the iPrint server URL in your Web browser address field:

`http://server_IP_address_or_dns_name/ipp.`

For example, if the DNS name for printing is `printing.my_company.com`, you would access iPrint from the following URL:

`http://printing.my_company.com/ipp`



The disk image file is downloaded, the install package extracted, and the disk image file is moved to the Trash. Then the iPrint Client install is launched.

- 2 Click the printer you want to install:

- 2a If the iPrint Client is not yet installed on your workstation, follow the prompts to install the client.

The disk image file is downloaded, the install package extracted, and the disk image file is moved to the trash. Then the iPrint Client install is launched.

- 2b After installing the client, restart your Web browser for the browser to recognize the iPrint Client plug-in.

- 3 After installing the client, restart your Web browser for the browser to recognize the iPrint Client plug-in.

PostScript Printer Description (PPD) files that use Foomatic filters should be running the latest Foomatic filter script and ESP Ghostscript, which are available from [Linux Printing.org \(http://www.linuxprinting.org/macosex/hpijs\)](http://www.linuxprinting.org/macosex/hpijs).

Delivering the Client through Distribution Software

You can use client distribution software such as ZENworks to deliver the iPrint Client and printers to your client workstations. For more information, see the documentation for your distribution software.

4.1.3 Windows: iPrint Client

- ♦ “Windows: iPrint Client 5.x Requirements” on page 49
- ♦ “Windows: Printer Driver Profile Requirements” on page 49
- ♦ “Limitations of the iPrint Client 5.x” on page 50
- ♦ “Windows: iPrint Client 4.x Requirements” on page 50
- ♦ “Windows: iPrint Client Support Matrix” on page 50
- ♦ “Windows: iPrint Client Installation and Uninstallation Files” on page 50
- ♦ “Windows: Distributing the iPrint Client” on page 51

Windows: iPrint Client 5.x Requirements

- ☐ Windows 2003 (32-bit), XP (32-bit)
- ☐ Windows Vista, Windows Server 2008 (32/64-bit), Windows 7 (32/64-bit)

Any user can install the iPrint Client on a Windows 7/2008/Vista Machine, your Web browser must be running as Administrator on Vista to install printers and upload drivers, unless the iPrint URL is part of the Trusted site list. Refer to the `-w` or `--trustedwebsiteforInternetExplorer` option in [Table 4-6 on page 61](#) for details.

IMPORTANT: You must upgrade your iPrint Client to 5.20 or above, if you are upgrading your Windows client to Windows 7.

The iPrint Client 5.x for Windows Vista supports iCapture only for 32-bit Windows platforms.

- ☐ Web browser with JavaScript enabled, such as Microsoft Internet Explorer 7 or later
- ☐ Ensure that you apply the the following hotfixes from Microsoft if your Vista has not been upgraded to SP1 or later:
 - ♦ [941542 \(http://support.microsoft.com/kb/941542/en-us\)](http://support.microsoft.com/kb/941542/en-us)
 - ♦ [932206 \(http://support.microsoft.com/kb/932206/en-us\)](http://support.microsoft.com/kb/932206/en-us)

Contact Microsoft Customer Support Services for more information.

Windows: Printer Driver Profile Requirements

- ♦ Windows XP
- ♦ Windows Server 2003
- ♦ Windows Vista (32/64-bit)
- ♦ Windows Server 2008 (32/64-bit)
- ♦ Windows 7 (32/64-bit)

Limitations of the iPrint Client 5.x

iCapture is supported only for 32-bit Windows platforms.

Windows: iPrint Client 4.x Requirements

☐ Windows 2000

To install the client on Windows 2000, you must have Administrator rights or be a Power User on Windows 2000.

NOTE: Windows 95/98 are not tested platforms for latest 4.x client, but it is known to work on these platforms.

☐ Web browser with JavaScript enabled and one of the following browsers:

- ♦ Microsoft Internet Explorer 5.5 or later
- ♦ Mozilla Firefox

NOTE: The iPrint Client for Windows uses ActiveX controls for Internet Explorer. By default, Internet Explorer's Run ActiveX Controls and Plug-ins are enabled. However, if they have been disabled, you need to re-enable them for iPrint to work correctly. The setting is found in *Tools > Internet Options > Intranet > Custom Level*. You need to enable the setting on the Internet page.

Windows: iPrint Client Support Matrix

Table 4-2 Windows iPrint Client Support Matrix

Client Version	Windows 2000	Windows XP (32-bit)/2003	Windows Vista/2008	Windows 7
4.38 or later	Yes	Yes	No	No
5.04	No	No	Yes	No
5.12	No	Yes	Yes	No
5.20	No	Yes	Yes	Yes
5.30	No	Yes	Yes	Yes
5.40	No	Yes	Yes	Yes
5.52	No	Yes	Yes	Yes

Windows: iPrint Client Installation and Uninstallation Files

The Windows iPrint Client is packaged in several different, specialized installations. Depending on your distribution method or need, select the file you want. The following table compares the different types of installations.

Table 4-3 *iPrint Clients for Windows*

iPrint Client Filename	Description
nipp.exe	Installs the iPrint Client and displays dialog boxes and progress windows that require user intervention. This is the default installation program.
nipp.zip	A WinZip version of the client that can be used with distribution software programs. After the file is unzipped, run <code>setupipp.exe</code> . For a list of the command line parameters that you can use with <code>setupipp.exe</code> , enter <code>setupipp.exe /h</code> at a command prompt. For more information on <code>setupipp</code> options, refer to the Table 4-4 on page 51 .
nipp-s.exe	Installs the iPrint Client. A screen displays the progress of the installation, but requires no user intervention. NOTE: Because Windows 95/98 users must reboot their workstations after the client is installed, you should use <code>nipp-sr.exe</code> unless you are using a software distribution package that reboots the workstation.
nipp-sr.exe	Installs the iPrint Client and reboots the workstation. A screen displays the progress of the installation, but no user intervention required.
nipp-su.exe	Uninstalls the iPrint Client. A screen displays the progress of the uninstall, but requires no user intervention.
nipp-u.exe	Uninstalls the iPrint Client. The user confirms the uninstallation, then a screen displays the progress of the uninstallation.
nipp-sl.exe	Provides a ready-to-use executable package with the /L and /S setup options loaded automatically.

Table 4-4 *setupipp Options*

Options	Description
/S	Silently installs or uninstalls the client.
/R	Restarts the workstation when the install or uninstall is completed.
/U	Uninstalls the client from your workstation.
/?	Displays the help.
/L	Installs in an LDAP-compliant environment (only unique usernames).

Windows 95/98 users must restart their workstations after the iPrint Client is installed. NT/2000/XP users do not need to restart, unless they are using iPrint utilities to capture LPT ports.

Windows: Distributing the iPrint Client

Use one of the following methods to install the iPrint Client on users' workstations:

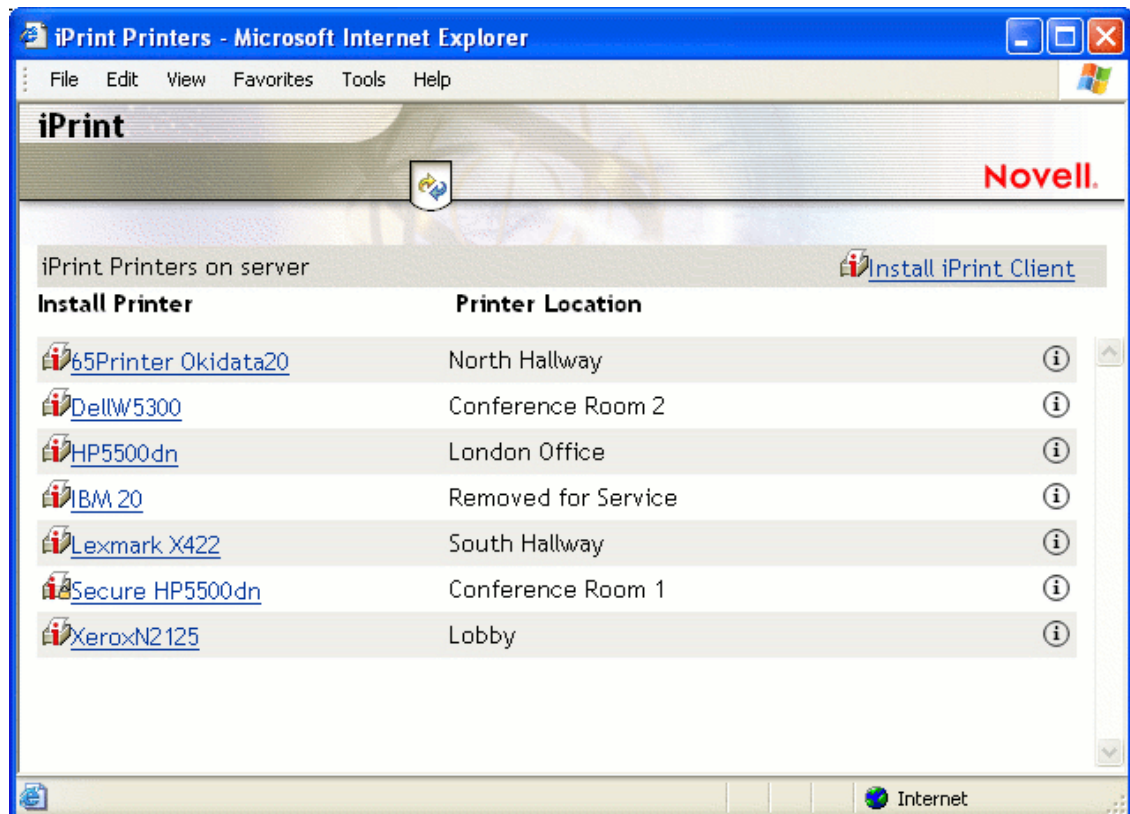
- ♦ [“Installing the Client from the iPrint Printer List Web Page” on page 52](#)
- ♦ [“Delivering the Client through Distribution Software” on page 53](#)

NOTE: Windows 9x users must restart their workstations after the iPrint Client is installed. Windows NT/2000/XP users do not need to restart, unless they are using iPrint utilities to capture LPT ports.

Installing the Client from the iPrint Printer List Web Page

You can download and install the iPrint Client from the iPrint Printer List Web page on the server where the Print Manager is loaded.

- 1 To reach the iPrint Printer List Web page, enter the following URL in your Web browser address field: `http://server_IP_address_or_dns_name/ipp`.



For example, if the DNS name for printing is `printing.my_company.com`, you would access iPrint from the following URL:

`http://printing.my_company.com/ipp`

- 2 Click the printer you want to install.
If the iPrint Client is not yet installed on your workstation, you are prompted to install it.
- 3 When you are prompted, save the iPrint Client RPM to your desktop or home directory.
- 4 Install the iPrint Client RPM by double-clicking the RPM.

Delivering the Client through Distribution Software

You can use client distribution software such as ZENworks to deliver the iPrint Client and printers to your client workstations. For more information, see the documentation for your distribution software.

For example, when using Novell ZENworks, you can use any of the iPrint Clients described in [“Windows: iPrint Client Installation and Uninstallation Files” on page 50](#) to deliver the Windows iPrint Client. You need to use the `nipp.zip` file to deliver the client to the desktop and execute `setupipp.exe` with one of the command line parameters.

4.2 Installing Printers

You can install and distribute iPrint printers in the following ways:

- [Section 4.2.1, “Using the iPrint Printer List Web Page,” on page 53](#)
- [Section 4.2.2, “Creating Location-Based Printing Web Pages,” on page 53](#)
- [Section 4.2.3, “Uninstalling iPrint Printers,” on page 54](#)

NOTE: If you are running the default browser for Windows XP Service Pack 2 or other browsers with pop-up blocking, you might encounter problems with pop-up windows. To manage iPrint in iManager and to install printers with iPrint Clients, turn off pop-up blocking or allow the URL.

4.2.1 Using the iPrint Printer List Web Page

iPrint generates a list of printers associated with a Print Manager that can be used to install the iPrint Client, install an iPrint printer, or check the status and configuration of a printer and a list of print jobs.

- 1 Enter the iPrint URL in your Web browser address field.
The iPrint Printer List is located at `http://server_IP_address_or_dns_name/ipp`.
- 2 (Conditional) If the iPrint Client is not installed, install it when you are prompted.
- 3 From the list of available printers, select the printer you want to install and follow the prompts.
During the printer installation, iPrint downloads and installs the printer driver, if one is associated with the printer, and installs the printer on the user's workstation. The first time a printer is installed, printer drivers are forced to the workstation, even if the workstation contains a newer driver. Print Managers refresh their saved copies of printer drivers for the printers they are hosting with updated printer drivers from the associated Driver Store.

4.2.2 Creating Location-Based Printing Web Pages

Location-based printing lets users select printers based on locations by using a list view or a map. Using a list view, printer locations can be displayed on HTML pages organized by building, office location, eDirectory context, and so forth. You configure the lists in a way that best suits the users' needs. For an example of using a list view, see `/var/opt/novell/iprint/htdocs/examples/example1/innerweb.html`.

For more information, see [“Creating Customized Printer Lists” on page 89](#).

You use the iPrint Map Designer to create maps of printer location through drag-and-drop technology. After the maps are created, they can be posted on a Web server for users to access. When users view the maps, they can find a printer close to their location and then click its icon. If they are not yet installed, the client software and the printer are installed on the user's workstation. For an example of using a list view, see `/var/opt/novell/iprint/htdocs/examples/example1/innerweb.html`.

For more information on using the iPrint Map Designer, see [“Creating Location-Based Maps with iPrint Map Designer” on page 87](#).

4.2.3 Uninstalling iPrint Printers

Use any of the following methods to uninstall iPrint printers based on your operating system:

Linux

- ♦ Use the CUPS management utility included with your Linux distribution
- ♦ Use the iPrint icon.
 1. Right-click the *iPrint* icon, then click *Printers*.
 2. Select the printer that you want to uninstall.
 3. Click *Uninstall* to uninstall the printer.
Press Shift to select more than one printer.or
Click *Uninstall All* to uninstall all the printers.

Macintosh

- ♦ Use the print list management utility included with the operating system.
- ♦ Use the iPrint icon.
 1. Left-click the *iPrint icon*, then click *Printers*.
 2. Select the printer that you want to uninstall.
 3. Click *Uninstall* to uninstall the printer.
Press Shift to select more than one printer.or
Click *Uninstall All* to uninstall all the printers.

Windows

Use the printer folder to delete printers installed on your system.

For more information on uninstalling the Novell iPrint Client, see [Section 4.10, “Uninstalling the Novell iPrint Client,” on page 80](#).

4.3 Updating the iPrint Client

Periodically, users need updates to the Novell iPrint Client. You need to decide how to manage this. If you want iPrint to automatically update the clients, see [“Automatically Updating the iPrint Client” on page 63](#), or you can choose to distribute a newer client through a software distribution package that uses an application such as Novell ZENworks.

You are allowed five times to reject the iPrint Client update. After that the iPrint Client is forced.

NOTE: If you install a printer, and an administrator has updated the iPrint Client to version 5.40 then created a profile and associated the profile with a printer, you see an error indicating The parameter is incorrect if you attempt to install the same printer and you have an earlier version of iPrint on your workstation.. You can ignore this message. For more information, see the error code “87” on [page 178](#).

4.4 Managing Print Jobs from the Client

Users can monitor and manage their own print jobs from their workstations.

Linux: To manage print jobs or delete printers, use the CUPS management utility included with your Linux distribution. To monitor the status of the last 10 print jobs, right-click the *iPrint* icon in the notification area and select *Job Status*.

Macintosh: To manage print jobs or delete printers, use the print list management utility included with the operating system. To monitor the status of the last 10 print jobs, left-click the *iPrint* icon in the notification area and select *Job Status*.

Windows: To manage print jobs or delete printers, use the Windows printers folder on the *Start* menu or in the Control Panel. To monitor the status of the last 10 print jobs, right-click the *iPrint* icon in the notification area and select *Document Status*.

4.5 Windows Client: Using Additional Features

- ♦ [Section 4.5.1, “Updating the iPrint Client,” on page 55](#)
- ♦ [Section 4.5.2, “Using the iPrint Client Icon,” on page 56](#)
- ♦ [Section 4.5.3, “Configuring the iPrint Client Settings,” on page 56](#)
- ♦ [Section 4.5.4, “Implementing iPrint by Using the Command Line,” on page 59](#)
- ♦ [Section 4.5.5, “Using iPrint with NetIdentity,” on page 62](#)
- ♦ [Section 4.5.6, “Managing Global Actions through Iprint.ini,” on page 62](#)

4.5.1 Updating the iPrint Client

Periodically, users need updates to the Novell iPrint Client. You need to decide how to manage this. You can allow iPrint to automatically update the clients or you can choose to distribute a newer client through a software distribution package that uses an application like Novell’s ZENworks.

See [“Automatically Updating the iPrint Client” on page 63](#) for more information.

4.5.2 Using the iPrint Client Icon

On Windows workstations, the iPrint Client adds an icon to the notification area. The iPrint icon lets you receive notification when a job has printed and letes you quickly access iPrint Client settings. Right-clicking the icon displays the following menu options:

iPrint Settings: Opens the iPrint Client Settings page.

Document Status: Lets you check the status and other information for the last 10 documents printed.

Launch Printer Folder: Opens the Windows printer folder.

Find/Install Printers: (Optional) Opens a browser window to the Menu Link URL specified on the *Tray Icon* tab.

Close: Removes the iPrint icon from the notification area until the next reboot. To make the icon reappear in your notification area, click *Start > Programs > Novell iPrint > iPrint Client Settings > Tray Icon* and deselect the *Enable the iPrint icon in the system tray*. Click *OK*. Then repeat the process to enable the icon.

To permanently remove the icon, see [“Managing iPrint’s Notification Area Icon” on page 57](#).

4.5.3 Configuring the iPrint Client Settings

- ♦ [“Using a Proxy Server” on page 56](#)
- ♦ [“Managing Passwords for Remote iPrint Servers” on page 57](#)
- ♦ [“Managing iPrint’s Notification Area Icon” on page 57](#)
- ♦ [“Managing Print Job Notifications” on page 57](#)
- ♦ [“Setting Up iPrint on Terminal Servers” on page 57](#)
- ♦ [“Using the Novell iCapture LPT Port Redirector Utility” on page 58](#)
- ♦ [“Configuring the iPrint Client to work in a Windows / Active DirectoryEnvironments without the Novell Client” on page 59](#)

Using a Proxy Server

A proxy server is located between a client and another server that the client is trying to communicate with. Often proxy servers are used in conjunction with a firewall to keep internal addresses private while exposing only the proxy server’s address to external users. If you have users that need to submit print jobs through a proxy server, you can use the iPrint Clients Proxy setting. The Client sends all print-related requests, such as a print job, to the proxy server. The proxy server then redirects the print job to the correct iPrint server.

For example, Juan is a laptop user who has installed and printed to a variety of iPrint printers at the company’s headquarters. While on the road, Juan wants to submit a report to his manager. Rather than sending the report by e-mail or fax, Juan decides to send it to the printer near his manager’s office. When Juan tries to send the report to the printer, he receives an error that the printer cannot be found. He knows that the company uses a firewall and a proxy server. He types the proxy server address in the iPrint Proxy settings, then tries to print the report again. This time the print job is accepted. The print job travels from his laptop to the proxy server. The proxy server redirects the print job to the printer’s Print Manager, where the print job is spooled and forwarded to the printer.

To set the proxy server address for iPrint in iManager:

- 1 Click *Start > Programs > Novell iPrint > iPrint Settings > Proxy*.
- 2 To use a proxy server, select the check box, then specify the URL for the proxy server.
To disable using a proxy server, deselect the check box.
- 3 Click OK.

Managing Passwords for Remote iPrint Servers

You can manage passwords for print services that you indicated should be remembered by your workstation. The ability to delete passwords is useful if you are connected to a print service that you no longer use.

To manage passwords for print services in iManager:

- 1 Click *Start > Programs > Novell iPrint > iPrint Settings > Passwords*.
- 2 Select the password you want to remove, then click *Clear Password*.

Managing iPrint's Notification Area Icon

The iPrint icon in the notification area lets you receive notification when a job has printed, and lets you view a list of print jobs that you have submitted.

- 1 Click *Start > Programs > Novell iPrint > iPrint Settings > Tray Icon*.
- 2 Modify the settings.

For more information about the settings, see [Section 4.5.2, "Using the iPrint Client Icon," on page 56](#).

Managing Print Job Notifications

iPrint can notify you through a pop-up message in the notification area when your document has printed or needs attention.

To turn iPrint notification on or off:

- 1 Click *Start > Programs > Novell iPrint > iPrint Settings > Notifications*.
- 2 Select or deselect the check box as necessary.

NOTE: If you close the iPrint applet running in the notification area, you do not receive notifications. To restart the applet, see [Using the iPrint Client Tray Icon](#).

Setting Up iPrint on Terminal Servers

You can set up iPrint on a terminal server to allow terminal server clients to install the iPrint Client and print to iPrint printers.

- ♦ ["Installing the iPrint Client on a Terminal Server" on page 58](#)
- ♦ ["Configuring iPrint for Terminal Server Clients" on page 58](#)

Installing the iPrint Client on a Terminal Server

- 1 Log in to the terminal server with Administrator or equivalent rights.
- 2 Install the iPrint Client.

You can download the iPrint Client from the iPrint Printer List or you can copy and execute `nipp.exe` from the iPrint server in `sys:\apache2\htdocs\ippdocs`.

NOTE: On terminal servers, the client auto-update does not work. To update the client with a newer release, you must install it manually.

Configuring iPrint for Terminal Server Clients

You can configure iPrint to work in any of the following ways, depending on the rights the terminal server client has.

- ♦ **Install user printers only:** User printers can only be installed and deleted by the user who installed the printer. User printers are not available to other users on the workstation.
- ♦ **Install workstation printers only:** Workstation printers can be installed and deleted only by users with sufficient rights. After a workstation printer is installed, all users using the workstation can print to it.
- ♦ **Try to install workstation printer first:** If the user has insufficient rights to install the printer, the printer is installed as a user printer.

To configure iPrint for terminal server clients:

- 1 Log in to the terminal server with Administrator or equivalent rights.
- 2 Click *Start > Programs > Novell iPrint > iPrint Settings*.
- 3 Click *Terminal Server*, then select the configuration option you want.
- 4 Click *OK*.

Using the Novell iCapture LPT Port Redirector Utility

The Novell iCapture LPT Port Redirector lets you capture LPT ports and redirect the output to iPrint printers. Novell iCapture is installed when you install the iPrint Client. Before using the LPT Port Redirector, you must have iPrint printers installed on the workstation and the Print Manager and Printer Agents must be up and running. This feature is not available on terminal servers.

For example, Olga uses a legacy MS-DOS application to run reports. The application can print only to an LPT port. With the iPrint Client installed, Olga installs an iPrint printer on her workstation and uses Novell iCapture to capture the LPT port. iCapture redirects any data sent to the LPT port to the iPrint printer. Olga can now run her MS-DOS application from her Windows workstation and send print jobs to an iPrint Printer.

To run the utility through iManager:

- 1 Click *Start > Programs > Novell iPrint > iPrint Settings > iCapture*.
- 2 Select the port you want to capture.
- 3 Click *Select Printer*, select the iPrint printer you want, then click *Capture*.

If the printer you want is not listed, check to see that the Printer Agent is up and running and that the printer has been installed as an iPrint printer.

- 4 Click *OK*.

You can also use the LPT Port Redirector to end a printer capture by selecting the port and clicking End Capture.

IMPORTANT: Existing port assignments are not displayed, and iPrint port assignments supersede all other port assignments. iPrint port assignments remain in effect, even after the workstation restarts, until you end the capture.

Configuring the iPrint Client to work in a Windows / Active Directory Environments without the Novell Client

This functionality has been added to help you use iPrint on Windows platforms even if you do not have the Novell Client installed. You use the iPrint Client Management utility to work without the Novell Client and to share your Windows/AD login credentials with the iPrint Client. You can configure the iPrint Client Management (iCM) PSM address by using the iPrint Client tray icon. To view the iPrint Client tray icon's *iCM* tab, enter `iprntcfg icm` at the command line. Then, enter the PSM address (IP/DNS) in the iPrint Client tray icon's *iCM* tab and the system will use the DSServer (Directory Service Server) configuration of the PSM server to obtain the details of your iCM profile. If the PSMServer is not set, you can still specify the DSServer by populating the registry entry directly.

You can also set the address of the PSM server by using the `iprntcmd -S <IP/DNS>` command, in combination with a remote-policy pushing engine like ZENworks.

4.5.4 Implementing iPrint by Using the Command Line

The following DOS commands let you install iPrint printers without a Web browser and capture LPT ports to iPrint printers. These commands are useful when you have legacy applications that require output to an LPT port, or when you want to add printers through a login script.

- ♦ [Icapture.exe](#)
- ♦ [Iprntcmd.exe](#)

Using Icapture.exe to Capture Printer Ports

`Icapture.exe` is a DOS command line utility that lets you capture LPT ports and redirect the output to iPrint printers. The utility is installed when you install the iPrint Client, and it can be used from a DOS command line, called from a batch file, or called from a login script. `Icapture.exe` is compatible with Windows NT/2000/XP.

IMPORTANT: iCapture is supported only for 32-bit Windows platforms. `Icapture.exe` requires that the iPrint printer be installed before the command is run. You can install a printer from the DOS command line by using [iprntcmd.exe](#).

Use the following parameters when executing the `icapture.exe` command.

Table 4-5 Parameters Used with *icapture.exe*

Parameter	Description
LPTx or L=x where x is the port number	The port you want to capture.
P= <i>printer_uri</i>	The URI of the printer that appears in the Printers folder after the iPrint printer is installed. You can use -l from <code>iprntcmd</code> to get the printer URI.
EndCap	Ends the capture to the specified port. NOTE: Captured ports remain captured, even through a workstation restart, until you end the capture.
Show	Displays the status of currently captured ports and their associated printers.

Syntax

`icapture parameters`

Examples

To capture a printer named Printer1 to port number 2, enter either :

```
icapture l=2 P=printer uri
```

or

```
icapture lpt2 P=printer uri
```

Use `printer uri=ipp://ServerName/ipp/Sales_color_printer` or `printer uri=ipp://ServerIP/ipp/Sales_color_printer`

To end the capture, enter either of the following commands:

```
icapture endcap l=2
```

or

```
icapture endcap lpt2
```

Using `iprntcmd.exe` to Install iPrint Printers

If you need to install an iPrint printer but cannot use a Web browser, you can use the `iprntcmd.exe` command at a DOS prompt. The `iprntcmd.exe` command can install, remove, or set a printer as the default printer. This command is most often used in login scripts in conjunction with the [icapture.exe](#) command.

Use the following parameters when executing the `iprntcmd` command.

Table 4-6 Parameters Used with *iprintcmd*

Parameters	Description
-a --addprinter <i>options printer_uri</i>	<p>Installs the specified printer. You can replace <i>options</i> with any or all of the following:</p> <ul style="list-style-type: none"> ♦ no-gui: Does not display the printer installation dialog box when installing a printer. ♦ default: Installs the specified printer as the default printer. ♦ temp: The installed printer is removed when the workstation is rebooted. <p>NOTE: These options are available only in the Windows Client.</p>
-d --delprinter <i>printer_uri</i>	Removes the specified printer.
-f --fetchdriverlocal <i>printer_uri</i>	Pulls drivers from the server and stores them in the local cache directory, such as the <code>c:\ndsp\drvvr_cache</code> directory.
-g --getdefault	Displays the default printer installed on the workstation.
-h --help	Displays help for the command.
-j --listjobs <i>printer_uri</i>	Lists the print jobs for the specified printer that are on the server in a pending or printing state.
-l --listlocalprinters	Lists printers installed on the workstation.
-L --listprintersonserver <i>psm-hostname</i> or <i>psm-address</i>	Lists iPrint printers on the specified Print Manager where <i>psm-hostname</i> or <i>psm-address</i> can be a DNS name or IP address.
-p --printfile <i>printer-uri file path</i>	<p>Sends a printer-ready file to the specified iPrint printer.</p> <p>This option is used to test the print path (job flow) from the client workstation to the server and subsequently to the printer. This requires a print-ready file as an input. The printer or the driver does not need to be installed on the client workstation.</p>
-P --ppdlist	Lists the PPDs installed on this workstation.
-s --setdefault <i>printer_uri</i>	Sets the specified printer as the default.
-t --testpage <i>printer_uri</i>	Prints a test page to the specified printer.
-v --version <i>server_uri server_user</i>	Displays the server platform and version information, where <i>server_uri</i> is the URI for the server and <i>server_user</i> is a valid user for the server.
-U --uploaddriver <i><ids-address></i> or <i><ids-hostname></i> <i><username></i> <i><password></i> [INF-Filepath <i><model-name></i>]	<p>Uploads printer drivers.</p> <p>IMPORTANT: INF-Filepath and model-name are mandatory only for Windows XP platforms.</p>

Parameters	Description
<code>-w --trustedwebsiteforInternetExplorer printer_installation_page_uri</code>	<p>Adds the specified URI of the printer installation page to the trusted site list for Internet Explorer.</p> <p>The trusted site list allows users to view and add the printers directly from the printer IPP site or printer map page, without running the Internet Explorer browser with administrator privileges on Windows Vista.</p> <p>For example, <i>http://printing.my_company.com/ipp</i>.</p>
<code>-c</code>	Clears the password from the cache.

Use quotes around printer-uri if it contains spaces.

Syntax

```
iprntcmd parameters
```

Example

To install a printer named ColorPrinter1 and set it as the default printer, you would enter the following command:

```
iprntcmd -a -s ipp://printing.my_company.com/ipp/ColorPrinter1
```

4.5.5 Using iPrint with NetIdentity

The NetIdentity agent works with eDirectory authentication to provide background authentication to Windows Web-based applications that require eDirectory authentication. iPrint supports only the NetIdentity agent included with the Novell Client32 running on Windows NT/2000/XP. If the NetIdentity agent is installed on the workstation, iPrint uses NetIdentity when authenticating. For more information on using NetIdentity, see the [NetIdentity Administration Guide for NetWare 6.5](#).

4.5.6 Managing Global Actions through Iprint.ini

A configuration file named `iprint.ini` is located on each server where a Print Manager is running. The `iprint.ini` file should be synchronized across all servers where iPrint and a Print Manager are running. The `iprint.ini` file is located in `/var/opt/novell/iprint/htdocs/`.

The file controls the following tasks:

- ♦ [“Automatically Updating the iPrint Client” on page 63](#)
- ♦ [“Creating a Short Printer Name Profile” on page 63](#)
- ♦ [“Installing User Printers” on page 64](#)

IMPORTANT: When you apply a support pack, the existing `iprint.ini` file is saved as `iprint.bak` and a new `iprint.ini` is added. If you made changes to the `iprint.ini` file, you must delete the new `iprint.ini` file from the support pack and rename `iprint.bak` to `iprint.ini`. If you want the new functionality that is included with the latest `iprint.ini`, you should re-create the settings in `iprint.bak` in the new `iprint.ini`.

Automatically Updating the iPrint Client

When a workstation boots up, iPrint checks the default printer to ensure that the workstation is using the latest Novell iPrint Client. If necessary, a newer client is installed. You can use a configuration file to control how this update takes place.

An `iprint.ini` configuration file is located on each server where iPrint is installed. This file controls whether the user is prompted before the updated client is installed or the updated client is installed without user intervention. When the client is installed without user intervention, the user still sees the installation program.

- 1 Using a text editor, edit the `iprint.ini` configuration file.

The `iprint.ini` file is located in `var/opt/novell/iprint/htdocs/`

- 2 Change the `AllowAutoUpdate` setting for the desired behavior.
- 3 Save the file.

IMPORTANT: The `iprint.ini` file should be synchronized across all servers where iPrint and an Print Manager are running.

After the iPrint Client is updated, Windows 9x users must restart their machines. Windows NT/2000/XP users do not need to reboot immediately, unless they are using iPrint utilities to capture LPT ports.

Creating a Short Printer Name Profile

By default, the installed printer name on the client follows the full UNC/URL format: `\\ipp://dns_name\printer_name`. For example, `\\ipp://Printing.My_Company.Com\ColorPrinter`. These printer names are often too long to fit in an application's display field for the printer name. You can use a Short Printer Name Profile to replace the UNC server name (or `dns_name`) for all printers on a Print Manager with any name you want to display. For example, if you want to display just the company name, you could use `\\My_Company\ColorPrinter`.

NOTE: You should keep the UNC path and printer name to fewer than 32 characters.

The Short Printer Name Profile is available only on Windows NT, XP, 2000, 2003 and later workstations. When you implement a Short Printer Name Profile, printers that are already installed are not affected. Only newly installed printers after the change use the shortened name. For printers already installed, you must delete and reinstall the printers to implement any changes to their names.

- 1 Edit `iprint.ini` in a text editor.

The `iprint.ini` file is located in `var/opt/novell/iprint/htdocs/`

- 2 Change the value of the `ShortInstallName` parameter to the value you want displayed.

`ShortInstallName=your_name`

Replace *your_name* with the value you want displayed. To reset the parameter to its default setting, use `default` as the value.

Use only lower ASCII characters and do not use a slash, quote, space, or comma.

3 Save the file.

IMPORTANT: The `iprint.ini` file should be synchronized across all servers where iPrint and a Print Manager are running. The Installed Printer Name Profile affects all printers on a Print Manager.

Installing User Printers

To install an iPrint printer and the associated printer driver users, you must have Administrator or equivalent permissions on Windows NT/2000/XP or Power User permissions on Windows NT/2000. User printers let you control what permissions are required to install a printer. To implement user printers, edit the `iprint.ini` file and change the value for `AllowUserPrinters = entry` to one of the following:

Table 4-7 *User Printer Settings*

Value	Description
0	Follow Windows standards and only let users with sufficient permissions to install the printer to the desktop. This allows all users to see and use this printer. This is considered a global or workstation printer.
1	If the current user does not have permissions to add a workstation printer (option 0), automatically add the printer so that only the current user can install, view, modify, or delete this printer. This is considered a private or user printer.
2	Only add user printers. All users (including Administrators or Power Users) that add a printer can install, view, modify, or delete the printer they installed. All printers are private or user printers.
3	Only add workstation printers. No permissions are required. All users have rights to install, view, modify, or delete iPrint printers even if the Windows workstation has been locked down. Non-iPrint printers are not affected.

For example, three workers—Albert, Juan, and Carla—share the same computer during the day. Albert prints to an accounting printer, Juan prints to a plotter, and Carla prints to a printer in the CEO's office. The administrator set `AllowUserPrinters = 2`. Each worker can install the printer he or she needs but cannot see printers installed by the other users.

Enabling and Disabling iPrint Client Management

You can use the `iprint.ini` file to enable and disable iPrint Client Management (iCM). Use the `iCMEnabled` value in the following ways:

- ♦ `iCMEnabled = 1`

iCM is fully enabled. iCM attributes are identified from the full tree hierarchy.

- ♦ `iCMEnabled = 0`

iCM is disabled.

IMPORTANT: Using this command disables all iCM configurations created in the Novell Client.

Setting the Default Attributes Container for iPrint Client Management

You can use the `iprint.ini` file to set the default container that iCM should read values from. To configure this scope, use the following command:

- ♦ `iCMScope = DEFAULT`

Using this command stops the system from reading iCM attributes beyond the container you specify. The iCM attributes are read on the full tree hierarchy. The iCM attributes are considered within the specified tree hierarchy.

For example, you can use the `OU=UNIT,O=COMPANY` command to set the iCMScope to the Organizational Unit in the OU from the base of the tree. The user should be present within the specified container for iCM function to work.

NOTE: Setting the attribute in this way does not work above the specified container.

4.6 Using `iprntcmd` on Linux and Macintosh

The Linux and Macintosh iPrint Clients include the `iprntcmd` utility that performs the same functions as `iprntcmd` in the Windows iPrint Client. In addition, you can use `iprntcmd` to upload PPD drivers to a Driver Store from the Linux iPrint Client. `iprntcmd` is located in `/opt/novell/iprint/bin/iprntcmd` on Linux and in `/usr/bin` on Macintosh.

Use the following parameters when executing the `iprntcmd` command:

Table 4-8 Parameters Used with `iprntcmd`

Parameters	Description
<code>-T --tray-icon</code>	Displays an iPrint icon to the notification area and starts the <code>iprint-listener-gui</code> process, if it is not running.
<code>-r --run-listener</code>	Launches the <code>iprint-listener</code> process if it is not already running.
<code>-a</code> or <code>--addprinter <i>printer_uri</i></code>	Installs the specified printer.
<code>-d</code> or <code>--delprinter <i>printer_uri</i></code>	Removes the specified printer.
<code>-d</code> or <code>--delprinter all</code>	Removes all printers. This option requires your confirmation before removing all the printers.
<code>-d</code> or <code>--delprinter all --force</code>	Remove all the printers. This option removes all the printers forcibly without any user intervention.
<code>-g</code> or <code>--getdefault</code>	Displays the default printer installed on the workstation.
<code>-h</code> or <code>--help</code>	Displays help for the command.

Parameters	Description
<code>-j</code> or <code>--listjobs printer_uri</code>	Lists the print jobs for the specified printer that are on the server in a pending or printing state.
<code>-l</code> or <code>--listprinters</code>	Lists printers installed on the workstation.
<code>-L</code> or <code>--listprintersonserver psm-hostname or psm-address</code>	Lists iPrint printers on the specified Print Manager where <i>psm-hostname</i> or <i>psm-address</i> can be a DNS name or IP address.
<code>-p</code> or <code>--printfile printer-uri filepath</code>	Sends a printer-ready file to the specified iPrint printer.
<code>-P</code> or <code>--ppdlist</code>	Lists the PPDs installed on this workstation.
<code>-s</code> or <code>--setdefault printer_uri</code>	Sets the specified printer as the default.
<code>-t</code> or <code>--testpage printer_uri</code>	Prints a test page to the specified printer.
<code>-u</code> or <code>--uploadids ids_uri ppd with/without a wildcard</code>	Uploads the specified PPD files to the indicated Driver Store where <i>ids_uri</i> is the IP address or DNS name for the Driver Store, and <i>ppd</i> is the directory path and filename to the PPD files. You can use a wildcard in the PPD filename.
<code>-U</code> or <code>--uploadbroker rms_uri rms_name ppd with/without a wildcard</code>	Uploads the specified PPD files to the indicated Broker where <i>rms_uri</i> is the IP address or DNS name for the Broker's associated Print Manager, <i>rms_name</i> is the username with rights to add drivers to the broker, and <i>ppd</i> is the directory path and filename to the PPD files. You can use a wildcard in the PPD filename.
<code>-v</code> or <code>--version psm-hostname or psm-address</code>	Displays the server platform and version information where <i>server_uri</i> is the URI for the server.
<code>-i</code> or <code>--info printer-uri</code>	Displays the printer information.

Syntax

`iпрntcmd options parameters`

You must use quotes around parameter information that contains a space, such as printer names and printer drivers.

Example

To install a printer named Color Printer 1 and set it as the default printer, enter the following

```
iпрntcmd -a "ipp://printing.my_company.com/ipp/Color Printer 1"
```

```
iпрntcmd --setdefault "ipp://printing.my_Company.com/ipp/Color Printer 1"
```

For more examples, use the `man iпрntcmd` command on your server console.

4.7 Windows Client: Additional Features

- ♦ [Section 4.7.1, “Automatically Removing a Printer from the Client Workstation,” on page 67](#)
- ♦ [Section 4.7.2, “Auto Redirection of Printer,” on page 67](#)
- ♦ [Section 4.7.3, “Auto Driver/Profile Update,” on page 67](#)
- ♦ [Section 4.7.4, “Using the iPrint Client Icon,” on page 67](#)

4.7.1 Automatically Removing a Printer from the Client Workstation

You can automatically remove the printer from the client workstation if the printer is removed from the server. The client displays a pop-up when the printer is removed from the client.

4.7.2 Auto Redirection of Printer

You can automatically redirect the printer from the client if the printer redirection is set up in the server. The older printer is removed and the new printer is installed on the client.

The client displays a pop-up informing you that your currently installed printer will be automatically uninstalled and a new printer will be installed in its place.

4.7.3 Auto Driver/Profile Update

You can automatically update the client with the latest drivers available on the server, so users do not need to manually update. If you make any changes to the driver in the driver store, the client displays a pop-up describing the changes and the printer is updated with the new driver.

You can enable this option using iManager. For more information on, see [Section 9.3.10, “Auto Driver/Profile Update,” on page 111](#).

4.7.4 Using the iPrint Client Icon

On Linux workstations, the iPrint Client adds an icon to the notification area. The iPrint icon lets you receive notification when a job has printed and allows you to access iPrint client settings quickly. If the iPrint icon does not appear in your notification area, run the `ioprntcmd -T` command from your terminal.

Right-clicking the iPrint icon displays the following menu options:

- ♦ [“Printers” on page 68](#)
- ♦ [“Job Status” on page 68](#)
- ♦ [“Message Board” on page 68](#)
- ♦ [“Configuration” on page 68](#)
- ♦ [“About” on page 70](#)
- ♦ [“Find/Install Printers” on page 70](#)
- ♦ [“Hide Tray Icon” on page 71](#)

Printers

Displays the iPrint printer list, printer status, location of the printer, and the driver associated with the printer. You can also uninstall your printers from here.

To uninstall a printer:

1. Right-click the *iPrint* icon, then click *Printers*.
2. Select the printer that you want to uninstall.
Press Shift to select more than one printer.
3. Click *Uninstall* to uninstall the printer.
or
Click *Uninstall All* to uninstall all the printers.

Job Status

Displays the name of the job, the status of the job, the size of the job, and the name and location of the printer for the job. This option also allows you to clear the job information from the job status tab.

To clear job information:

1. Right-click the *iPrint* icon, then click *Job Status*.
2. Select the job that you want to clear.
Press Shift to select more than one job.
3. Click *Clear* to remove the job information.
or
Click *Clear All* to remove all the jobs information.

Message Board

The message board stores all the information related to the status of the printers, the jobs issued, automatic removal of printer from the client, automatic redirection of printer, and automatic driver updates.

To remove the data from the message board:

1. Right-click the *iPrint* icon, then click *Message Board*.
2. Click *Clear* to remove the data from the message board.

Configuration

You can configure the following iPrint settings:

- ♦ [“Managing Notifications” on page 69](#)
- ♦ [“Using a Menu Link URL” on page 69](#)
- ♦ [“Using a Proxy Server” on page 69](#)
- ♦ [“Uninstalling an iPrint Printer When You Uninstall the iPrint Client” on page 70](#)

- ♦ [“Setting the Trace Level” on page 70](#)
- ♦ [“Keeping Driver Files on Upload or Download” on page 70](#)

Managing Notifications

iPrint notifies when your document has printed or your iPrint client needs attention.

To turn the iPrint notification on:

1. Right-click the *iPrint* icon, then click *Configuration*.
2. Select *Notify when jobs get printed or need attention*.
3. Click *Save* to save the settings.

Using a Menu Link URL

A menu link URL points you to the iPrint printer list or a customized printer installation page. You can find and install your printer from that page.

To specify the menu link URL:

1. Right-click the *iPrint* icon, then click *Configuration*.
2. Specify the menu link URL in the *Menu link URL* field.
3. Click *Save* to save the settings.

Using a Proxy Server

A proxy server is located between a client and another server that the client is trying to communicate with. Proxy servers are often used in conjunction with a firewall to keep internal addresses private by exposing only the proxy server's address to external users. If you have users that need to submit print jobs through a proxy server, you can use the iPrint Clients Proxy setting. The Client sends all print-related requests to the proxy server. The proxy server then redirects the print job to the correct iPrint server.

For example, Juan is a laptop user who has installed and printed to a variety of iPrint printers at the company's headquarters. While he is on the road, Juan wants to submit a report to his boss. Rather than sending the report by e-mail or fax, Juan decides to send it to the printer near his boss. When he tries to send the report to the printer, he receives an error that the printer cannot be found. He knows that the company uses a firewall and a proxy server. He types the proxy server address in the iPrint Proxy settings, then tries to print the report again. This time the print job is accepted. The print job travels from his laptop to the proxy server. The proxy server redirects the print job to the printer's Print Manager, where the print job is spooled and forwarded to the printer.

To set the proxy server address:

1. Right-click the *iPrint* icon, then click *Configuration*.
2. Specify the URL in the *Proxy URL* field.
3. Click *Save* to save the settings.

NOTE: If you do not want to use the proxy server, delete the URL specified in the *Proxy URL* field and save the settings.

Uninstalling an iPrint Printer When You Uninstall the iPrint Client

1. Right-click the *iPrint* icon, then click *Configuration*.
2. Select *Uninstall iPrint Printers on iPrint client uninstallation*.
3. Click *Save* to save the settings.

Setting the Trace Level

The trace level determines how much of the debugging information is displayed To set the trace level:

1. Right-click the *iPrint* icon, then click *Configuration*.
2. Select one of the following options:
 - Off:** No error tracing.
 - Shell:** Debug output is displayed on the shell where the application started.
 - File:** Debug output is sent to `/home/<user>/iPrint/trace.txt`. If the user's home directory cannot be determined, the debug output is sent to `/var/opt/novell/log/iPrint/client/<pid>-<uid>_trace.txt`.
 - All:** Debug output is sent to both the shell and the file.
3. Click *Save* to save the settings.

Keeping Driver Files on Upload or Download

This option allows you to store your driver files in the temporary folder when you upload or download the drivers for printer installation. To keep the driver files in the temporary folder:

1. Right-click the *iPrint* icon, then click *Configuration*.
2. Select *Keep driver files on upload or download*.
3. Click *Save* to save the settings.

When you upload drivers for printer installation, temporary files are stored at `/tmp/iPrint-<username>/tmp-xxxxxx`. This file is removed after upload, if the *Keep driver files on upload or download* option is not selected.

When you download drivers for printer installation, temporary files are stored at `/tmp/iPrint-<username>/tmp-xxxxxx/download-xxxxxx`. This file is removed after download, if the *Keep driver files on upload or download* option is not selected.

About

Displays the version of the iPrint Client installed on your workstation.

Find/Install Printers

Opens a browser window to the menu link URL specified in the *Configuration* tab of the tray icon. The menu link URL points you to the iPrint printer list or a customized printer installation page.

You can find and install your printers from there.

Hide Tray Icon

Removes the iPrint icon from the notification area until the `iprint-listener-gui` process is restarted. To make the icon reappear in your notification area, run the `iprintcmd -T` command from your terminal.

4.8 Macintosh Client: Additional Features

- ♦ [Section 4.8.1, “Automatically Removing a Printer from the Client,” on page 71](#)
- ♦ [Section 4.8.2, “Automatically Redirecting a Printer,” on page 71](#)
- ♦ [Section 4.8.3, “Automatically Updating a Driver/Profile,” on page 71](#)
- ♦ [Section 4.8.4, “Using the iPrint Client Icon,” on page 71](#)

4.8.1 Automatically Removing a Printer from the Client

You can automatically remove the printer from the client, if the printer is removed from the server.

4.8.2 Automatically Redirecting a Printer

You can automatically redirect a printer from the client if the printer is redirected from the server. The older printer is removed and the new printer is installed on the client.

4.8.3 Automatically Updating a Driver/Profile

You can automatically update the client with the latest drivers available on the server.

You enable this option through iManager. For more information, see [Section 9.3.10, “Auto Driver/Profile Update,” on page 111](#).

4.8.4 Using the iPrint Client Icon

On Macintosh workstations, the iPrint Client adds an icon to the notification area. The iPrint icon lets you receive notification when a job has printed and access iPrint client settings quickly. If the iPrint icon does not appear in your notification area, run the command `iprintcmd -T` command from your terminal.

Left-clicking the iPrint icon displays the following menu options:

- ♦ [“Printers” on page 72](#)
- ♦ [“Job Status” on page 72](#)
- ♦ [“Message Board” on page 72](#)
- ♦ [“Configuration” on page 72](#)
- ♦ [“About” on page 74](#)
- ♦ [“Find/Install Printers” on page 74](#)
- ♦ [“Hide Tray Icon” on page 75](#)

Printers

Displays the iPrint printer list, printer status, location of the printer, driver associated with the printer, and the description for the reason of printer status. You can also uninstall your printers from here.

To uninstall a printer:

1. Left-click the *iPrint* icon, then click *Printers*.
2. Select the printer that you want to uninstall.
Press Shift to select more than one printer.
3. Click *Uninstall* to uninstall the printer.

or

Click *Uninstall All* to uninstall all the printers.

Job Status

Displays the name of the job, the status of the job, the size of the job, and the name and location of the printer for the job. This option also allows you to clear the job information from the job status tab.

To clear job information:

1. Left-click the *iPrint* icon, then click *Job Status*.
2. Select the job that you want to clear.
Press Shift to select more than one job.
3. Click *Clear* to remove the job information.

or

Click *Clear All* to remove all the job information.

Message Board

The message board stores all the information related to the status of the printers, the jobs issued, automatic removal of printer from the client, automatic redirection of printer, and automatic driver updates.

To remove the data from the message board:

1. Left-click the *iPrint* icon, then click *Message Board*.
2. Click *Clear* to remove the data from the message board.

Configuration

You can configure the following iPrint settings:

- ♦ [“Managing Notifications” on page 73](#)
- ♦ [“Using a Menu Link URL” on page 73](#)
- ♦ [“Using a Proxy Server” on page 73](#)
- ♦ [“Uninstalling an iPrint Printer When You Uninstall the iPrint Client” on page 74](#)

- ♦ [“Setting the Trace Level” on page 74](#)
- ♦ [“Keeping Driver Files on Upload or Download” on page 74](#)

Managing Notifications

iPrint notifies when your document has printed or your iPrint client needs attention.

To turn the iPrint notification on:

1. Left-click the *iPrint* icon, then click *Configuration*.
2. Select *Notify when jobs get printed or need attention*.
3. Click *Save* to save the settings.

Using a Menu Link URL

A menu link URL points you to the iPrint printer list or a customized printer installation page. You can find and install your printer from that page.

To specify the menu link URL:

1. Left-click the *iPrint* icon, then click *Configuration*.
2. Specify the menu link URL in the *Menu link URL* field.
3. Click *Save* to save the settings.

Using a Proxy Server

A proxy server is located between a client and another server that the client is trying to communicate with. Proxy servers are often used in conjunction with a firewall to keep internal addresses private by exposing only the proxy server’s address to external users. If you have users that need to submit print jobs through a proxy server, you can use the iPrint Clients Proxy setting. The Client sends all print-related requests to the proxy server. The proxy server then redirects the print job to the correct iPrint server.

For example, Juan is a laptop user who has installed and printed to a variety of iPrint printers at the company’s headquarters. While he is on the road, Juan wants to submit a report to his boss. Rather than sending the report by e-mail or fax, Juan decides to send it to the printer near his boss. When he tries to send the report to the printer, he receives an error that the printer cannot be found. He knows that the company uses a firewall and a proxy server. He types the proxy server address in the iPrint Proxy settings, then tries to print the report again. This time the print job is accepted. The print job travels from his laptop to the proxy server. The proxy server redirects the print job to the printer’s Print Manager, where the print job is spooled and forwarded to the printer.

To set the proxy server address:

1. Left-click the *iPrint* icon, then click *Configuration*.
2. Specify the URL in the *Proxy URL* field.
3. Click *Save* to save the settings.

NOTE: If you do not want to use the proxy server, delete the URL specified in the *Proxy URL* field and save the settings.

Uninstalling an iPrint Printer When You Uninstall the iPrint Client

1. Left-click the *iPrint icon*, then click *Configuration*.
2. Select *Uninstall iPrint Printers on iPrint client uninstallation*.
3. Click *Save* to save the settings.

Setting the Trace Level

The trace level determines how much debugging information is displayed.

To set the trace level:

1. Left-click the *iPrint icon*, then click *Configuration*.
2. Select one of the following options:

Off: No error tracing.

Shell: Debug output is displayed on the shell where the application started.

File: Debug output is sent to `/home/<user>/iPrint/trace.txt`. If the user's home directory cannot be determined, the debug output is sent to `/var/opt/novell/log/iPrint/client/<pid>-<uid>_trace.txt`.

All: Debug output is sent to both the shell and the file.

3. Click *Save* to save the settings.

Keeping Driver Files on Upload or Download

This option allows you to store your driver files in the temporary folder when you upload or download the drivers for printer installation.

1. Left-click the *iPrint icon*, then click *Configuration*.
2. Select *Keep driver files on upload or download*.
3. Click *Save* to save the settings.

When you upload drivers for printer installation, temporary files are stored at `/tmp/iPrint-<username>/tmp-xxxxxx`. This file is removed after upload, if the *Keep driver files on upload or download* option is not selected.

When you download drivers for printer installation, temporary files are stored at `/tmp/iPrint-<username>/tmp-xxxxxx/download-xxxxxx`. This file is removed after download, if the *Keep driver files on upload or download* option is not selected.

About

Displays the version of the iPrint Client installed on your workstation.

Find/Install Printers

Opens a browser window to the menu link URL specified in the *Configuration* tab of the tray icon. The menu link URL points you to the iPrint printer list or a customized printer installation page.

You can find and install your printers from there.

Hide Tray Icon

Removes the iPrint icon from the notification area until the `iprint-listener-gui` process is restarted. To make the icon reappear in your notification area, run the `iprintcmd -T` command from your terminal.

4.9 Using iPrint Client Management

iPrint Client Management (iCM) includes functionality similar to the Remote Printer Management feature included in Novell Distributed Print Service, which lets you designate printers to be installed on a workstation when a user logs in to the workstation using the Novell Client. Previously, this functionality was only available with NDPS printers, but now it is available for iPrint printers. iCM also lets you control the iPrint Client configuration, making it easier to configure the iPrint Client without visiting each workstation. When the user logs in to the workstation using the Novell Client, the iPrint Client settings you designate are configured on the user's workstation.

iCM is available for Windows 2000/XP/2003/2008/Vista/7 workstations, and requires the following:

- ♦ iPrint iManager plug-in for Linux or the iPrint iManager plug-in for NetWare dated May 2006 or later
- ♦ Novell iPrint Client v4.17 or later (install after the Novell Client)
- ♦ `iprint.ini`
- ♦ eDirectory schema update from NetWare 6.5 Support Pack 8 or later.

IMPORTANT: Novell iPrint Windows Client components of version 5.72 and later do not require the Novell Client. However, Novell iPrint Windows Client components of versions prior to 5.72 need Novell Client 4.91 for Windows 2000/XP/2003 or later. For more information, see [Section 4.9.3, "Configuring iCM for Windows / Active Directory \(AD\) environments without Novell Client,"](#) on page 77.

All of the required components are included in NetWare 6.5 Support Pack 8 except the Novell Client 4.91 for Windows 2000/XP, which is available from the [Novell Support Web site \(http://support.novell.com/produpdate/patchlist.html#client\)](http://support.novell.com/produpdate/patchlist.html#client).

The iPrint iManager plug-ins also work with Mobile iManager. Mobile iManager is available at [Novell Downloads \(http://download.novell.com/SummaryFree.jsp?buildid=BJosshLid0~\)](http://download.novell.com/SummaryFree.jsp?buildid=BJosshLid0~).

NOTE: You can install the iPrint iManager plug-in for NetWare NPM on Mobile iManager or iManager running on NetWare. You can install the iPrint iManager plug-in for Linux on Mobile iManager or iManager running on Linux or NetWare. Depending on your iManager configuration, you might see two *iPrint* roles. The *iPrint* role is for iPrint running NetWare tasks, and, the *iPrint (Linux)* role is for iPrint running Linux tasks.

With iCM, you manage a set of attributes on a given eDirectory tree regardless of whether the printers are hosted on an Open Enterprise Server NetWare or a Linux server, because iCM is configured and managed through eDirectory objects.

Use the following information to install and configure iCM:

- ♦ [Section 4.9.1, "Understanding the Schema Update,"](#) on page 76
- ♦ [Section 4.9.2, "Deploying iPrint Client Management,"](#) on page 76

- ♦ [Section 4.9.3, “Configuring iCM for Windows / Active Directory \(AD\) environments without Novell Client,” on page 77](#)
- ♦ [Section 4.9.4, “Managing iPrint Client Settings,” on page 77](#)
- ♦ [Section 4.9.5, “Automatically Installing Printers,” on page 78](#)
- ♦ [Section 4.9.6, “Using Advanced Settings,” on page 79](#)

4.9.1 Understanding the Schema Update

iPrint Client Management requires you to extend the eDirectory schema. The `iprint.sch` file (found in `/opt/novell/sch/iprint.sch`) contains the schema extension, which adds some optional attributes to Organization, Organizational Unit, Groups, and User object class definitions. The attributes are:

- ♦ `iPrintiCMPrinterList`
- ♦ `iPrintiCMClientTrayURI`
- ♦ `iPrintiCMClientProxyURI`
- ♦ `iPrintiCMClientFlags`

Users should be able to read these new attributes on their user objects; however, if you plan to configure iCM at an Organization, Organizational Unit, or Group object level, users might need the Read right to read the attributes. The first time you access iCM on an Organization, Organizational Unit, or Group object in iManager, iManager attempts to assign the Read right to the attributes. Then users should be able to read these attributes through inheritance on subcontainers and groups. If iManager cannot assign the read right to the Organization, Organizational Unit, or Group object, your configuration is saved, but a message appears explaining that rights to the attributes could not be granted. You need to grant rights to these iPrint attributes by using either the eDirectory Administration or Trustee task in iManager.

TIP: To avoid multiple explicit rights assignments for the iCM attributes, you should make your first iCM assignment as high in the eDirectory tree as possible so that the rights can flow down the tree. You could even make an iCM assignment so that the Read right is set, and then disable the iCM assignment because this does not remove the Read right to the attributes.

4.9.2 Deploying iPrint Client Management

- 1 Distribute the iPrint Client version 4.26 or later.

For more information, see [“Windows: Distributing the iPrint Client” on page 51](#). If the iPrint Client has already been distributed, see [Section 4.5.1, “Updating the iPrint Client,” on page 55](#).

If you use `iprint.ini` to distribute the iPrint Client, you need to allow enough time for users to update to the new client before configuring iCM. If you do not allow enough time, the client attempts to update a workstation at the same time it is trying to deploy the settings in iCM.

- 2 Configure iPrint Client Management in iManager.

See [Section 4.9.4, “Managing iPrint Client Settings,” on page 77](#) or [Section 4.9.5, “Automatically Installing Printers,” on page 78](#) for more information.

4.9.3 Configuring iCM for Windows / Active Directory (AD) environments without Novell Client

The Novell iPrint Windows Client (version 5.72 and later) now supports Windows / Active Directory environments without the Novell Client. This new feature provides shared authentication with the Windows Login, and also supports iCM for printer distribution and client settings. The following pre-requisites should be met:

- ♦ Synchronization of users, groups, and containers (via Novell Identity Manager or a similar synchronization tool)
- ♦ Standardization on LDAP user names that require unique user names and require the `uniqueID` attribute to be set

4.9.4 Managing iPrint Client Settings

You can standardize the iPrint Client settings for users by using iCM Client Configuration to define the attributes for an Organization, Organizational Unit, Group, or a User Object. The attributes are delivered as a complete set, meaning that if you change only one attribute, all of the attributes are delivered to the client. The changes are not additive, so you cannot change the value of an attribute for an object and change the value of a different attribute on another object. Only the set of attributes closest to the user's object are used.

When a user logs in, iCM walks up the tree from the user's container to the highest container in the user's fully distinguished name. Then iCM starts applying the iCM attributes in each container as it walks back down to the user object. Then the user's group membership list is queried for the same attributes. Those closest to the User object have a higher priority. The set of attributes on or closest to the User object is always used.

WARNING: Using iCM on group objects can simplify making assignments, but using iCM on multiple groups can cause undesired results. You should create a new Group object with a descriptive name so that you can control the desired results for users that you assign to that group.

To configure the iCM client attributes:

- 1 In iManager, click *iPrint > iPrint Client Management*.
- 2 Browse to and select the Organization, Organizational Unit, Group, or User object you want to automatically configure iPrint Client Settings for.
- 3 Click *Client Configuration*.
- 4 Configure the attributes you want for the iPrint Client on the workstation.
Click *Help* for explanations about the attributes.
- 5 Click *OK* to save the changes.

A log file of the iCM actions taken and ignored is stored in `c:\ndps\users\username\icmlog.txt`, where *username* is the name used to log in to Windows by using the Novell Client Login. The file is created and updated when the user uses the Novell Client to log in to the workstation.

4.9.5 Automatically Installing Printers

iPrint Client Management Printer Configuration lets you designate printers to be downloaded and installed automatically on user workstations when users log in to the network. These printers appear in the user's printers folder, ready for use. You can also use this feature to remove printers, assign a printer to be the default printer, and set a printer to be a temporary printer so that it is removed when the workstation is rebooted.

iCM configures printers on workstations based on assignments made on the User object, Group object, Organization, and Organizational Unit container. When you use iManager to designate a printer for automatic installation on a user's workstation, the associated eDirectory Container, Group, or User object is updated with this information.

The actions taken are cumulative, meaning that action is taken for each assignment you made. For example, if you add two printers at one level, then add three more printers at another level, the workstation has all five printers installed. If you have more than one printer set as the default, the last printer installed is set as the default.

When a user logs in, iCM starts searching at the highest container in the user's full distinguished name, looking for the iCM Printer Configuration associated to containers and groups. The search continues through subcontainers down to the User object. Printers continue to be added or removed to the workstation as specified by iCM. If the *Allow Only Specified Printers to Reside on Workstation* option is enabled, any actions to printers specified above that container or group in the user's fully distinguished name are ignored, but any actions to printers specified between that point and the User object are taken.

- ♦ If the client finds a printer designated for installation that has not yet been installed, it is automatically installed.
- ♦ If a currently installed printer is added to the *Printers to Remove* list, that printer is automatically uninstalled.
- ♦ If you designate a different printer to be the default, the change is made.
- ♦ Using *Do Not Update Workstations* turns off iCM for printers at that container, group or user, but actions for iCM printers found on other containers or groups are taken.

WARNING: Using iCM on group objects can simplify making assignments, but using iCM on multiple groups can cause undesired results. You should create a new Group object with a descriptive name so that you can control the desired results for users that you assign to that group.

To automatically install printers:

- 1 In iManager, click *iPrint > iPrint Client Management*.
- 2 Browse to and select the Organization, Organizational Unit, Group or User object you want to automatically install printers for.
- 3 Configure the attributes you want for the *Printer Configuration* option.

Do Not Update Workstations: iCM for printers is disabled and printers are not installed or removed from workstations. Printers already installed are not altered.

Allow Only Specified Printers to Reside on Workstations: Allow only the iPrint printers specified in the *Printers to Install* list to reside on the workstation. All other iPrint printers on the workstation are removed. Non-iPrint printers are not affected.

- 4 Use the buttons to modify the *Printers to Install* list.

If you select a printer to be the default and want to remove the Set as Default attribute, click the button next to the *Default Printer* field.

- 5 Modify the *Printers to Remove* list.
- 6 Click *OK* to save the changes.

A log file of the iCM actions taken and ignored is stored in `c:\ndps\users\username\icmlog.txt`, where *username* is the name used to log in to Windows using the Novell Client Login. The file is created and updated when the user uses the Novell Client to log in to the workstation.

4.9.6 Using Advanced Settings

The iPrint Client Management Advanced Settings page lets you configure how far up the eDirectory tree iCM should look for iCM client settings and printers. You can also configure whether the iCM results dialog box should display on the workstations, which is useful for troubleshooting the iCM results.

- 1 In iManager, click *iPrint > iPrint Client Management*.
- 2 Browse to and select the Organization, Organizational Unit, Group or User object you want to configure the settings on.
- 3 Click *Advanced Settings*.
- 4 Configure these settings as needed:

Ignore iPrint Client Management (iCM) settings on parent containers: Limits the scope used to find iCM client settings and assigned printers to the object where the assignment is made and below. You can enable this setting on User, Group, and Container objects. You should enable this setting to limit traffic on the network, especially across slow network links.

When a user logs in, iCM checks the User object and group memberships, then it walks up the eDirectory tree from the user object to the root-most container to determine where iCM assignments have been made. If iCM encounters the Ignore Settings on Parent Containers attribute, iCM stops walking up the tree on that object. Then, iCM implements the iCM client settings and printers on the workstation.

To determine the iCM printers for the workstation, iCM searches down to the User object, adding and removing iCM printers as specified on each Container, Group, or User object. For iCM client settings, iCM uses the set of iCM client attributes closest to or on the User object.

The attributes are delivered as a complete set, meaning that if you change only one attribute, all of the attributes are set on the client. The changes are not additive, so you cannot change the value of one attribute for an object and change the value of a different attribute on another object. Only the set of attributes closest to or on the user's object are used.

The following table describes the behaviors when enabling this setting on different objects.

Object	Behavior
User	Only the iCM client settings and printers assigned to the User object are used. iCM does not check any group memberships, the User object's container, or parent containers.
Group	<p>iCM checks assignments on the User object and all associated groups, but does not check the User object's container or parent containers. All group memberships are read and assignments are considered even if this setting is enabled on just one group. This is useful if you want to apply iCM client settings or assigned printers from a group membership, but do not want any iCM client settings or assigned printers from the User object's container.</p> <p>IMPORTANT: Using iCM on Group objects can simplify making assignments, but using iCM on multiple groups could cause undesired results. You should create a new Group object with a descriptive name so that you can control the desired results for users that you assign to that group.</p>
Organization or Organizational Unit	iCM checks assignments on the user object, all associated groups, and each container up to a parent container where this setting is enabled.

Display iCM results in a dialog box on workstations: Displays a window on the workstation that shows the printers that were installed and removed.

- 5 Click OK to save the changes.

4.10 Uninstalling the Novell iPrint Client

Uninstalling the Novell iPrint Client is dependent on your workstation's operating system.

- ♦ [Section 4.10.1, "Uninstalling the Linux iPrint Client," on page 80](#)
- ♦ [Section 4.10.2, "Uninstalling the Macintosh iPrint Client," on page 81](#)
- ♦ [Section 4.10.3, "Uninstalling the Windows iPrint Client," on page 81](#)

4.10.1 Uninstalling the Linux iPrint Client

You can remove the Linux iPrint Client RPM from a terminal prompt. Depending on whether a high-security (sh) or low-security (sl) Client, use one of the following commands:

```
rpm -e novell-iprint-xclient-sh
rpm -e novell-iprint-xclient-sl
```

NOTE: You need to delete the printers manually after uninstalling the Linux iPrint Client on the workstation. For more information, refer [Section 4.2.3, "Uninstalling iPrint Printers," on page 54](#).

4.10.2 Uninstalling the Macintosh iPrint Client

You can uninstall iPrint from your workstation.

1. Select *Go > Computer > Applications > iPrint Uninstallation*.
2. Double-click *iPrint Uninstallation*.
3. Click *Yes* to uninstall the iPrint Client.

4.10.3 Uninstalling the Windows iPrint Client

To remove the Novell iPrint Client, use the *Add or Remove Programs* option in the Windows Control Panel.

NOTE: When you uninstall the Windows iPrint Client, all iPrint printers are removed from the workstation.

4.11 Printing from LPR Print Systems to iPrint

The implementation of LPR printing (BSD-style printing) in UNIX systems and other systems varies greatly. Typically, UNIX or LPR users know how to set up LPR printing on their systems. In order to complete the configuration, users need to know the *LPR Host* and the *LPR Printer/Queue* information, which is the Printer Agent name, provided in iManager. The iPrint Client is not required for LPR printing.

To set up an iPrint printer to accept LPR print jobs, you need to enable LPR/LPD printing for the printer. See [“Configuring LPR Printers” on page 123](#) for more information.

4.12 What's Next

- ♦ [Chapter 7, “Customizing iPrint,” on page 87](#): With your print system set up and the client distributed to the workstation, you can focus on how your users can browse to and install iPrint Printers using their Web browser.
- ♦ [Chapter 9, “Managing Your Print System,” on page 99](#): Helps you monitor and maintain your print system.

5 Migrating iPrint from NetWare 6.5 SP8 to OES 11

The OES 11 Migration Tool is a plug-in that is made up of Linux command line utilities with a GUI wrapper. You can migrate iPrint to an 11 Linux server through either the GUI Migration Tool or through the command line utilities.

To get started with migration, see [OES 11: Migration Tool Administration Guide](#). For more information on migrating iPrint, see “[Migrating iPrint from NetWare or OES 2 to OES 11](#)”.

6 Running iPrint in a Virtualized Environment

iPrint runs in a virtualized environment just as it does on a physical NetWare server, or on a physical server running OES 11, and requires no special configuration or other changes.

To get started with virtualization, see “Introduction to Xen” (http://www.suse.com/documentation/sles11/book_xen/data/cha_xen_basics.html) in the *Virtualization with Xen* (http://www.suse.com/documentation/sles11/book_xen/data/book_xen.html) guide.

7 Customizing iPrint

You can use several different methods to customize iPrint for your company:

- ♦ [Section 7.1, “Setting Up Location-Based Printing,” on page 87](#)
- ♦ [Section 7.2, “Customizing the iPrint HTML Interface,” on page 89](#)
- ♦ [Section 7.3, “Installing a Printer as the Default on Windows,” on page 90](#)

7.1 Setting Up Location-Based Printing

When you set up location-based printing, each Print Manager creates an iPrint Printer List that users can access at `http://server_DNS_or_IP_address/ipp`. You can make installing printers even easier by creating customized Web pages that link the iPrint Printer lists together or by using the iPrint Map Designer to create a map showing the location of printers.

- ♦ [Section 7.1.1, “Creating Location-Based Maps with iPrint Map Designer,” on page 87](#)
- ♦ [Section 7.1.2, “Creating Customized Printer Lists,” on page 89](#)

7.1.1 Creating Location-Based Maps with iPrint Map Designer

You can use the iPrint Map Designer tool to quickly create a map showing printer locations. The tool lets you import floor plans as background images that can be used to drag and drop printers onto actual locations. These maps are then published on a Web server so users can install printers that are closest to their location.

After the map is created, you must use the iPrint Map Designer to modify or update it. Changes to a map file that are made outside of the iPrint Map Designer are not supported. If you need to add links to a map, you should create a frameset file and then display the map file in one frame and display your links in a different frame.

Prerequisites

- ☐ Windows 9x/NT/2000/XP/Vista/7 operating system
- ☐ Microsoft Internet Explorer 5.5 or later
- ☐ Novell iPrint Client installed on the workstation
- ♦ [“Creating a Map for Printing” on page 88](#)
- ♦ [“Adding Printers from Different Print Managers” on page 89](#)
- ♦ [“Hosting Maps on a Web Server” on page 89](#)
- ♦ [“Using the Keyboard with iPrint Map Designer” on page 89](#)

Creating a Map for Printing

Before creating the map, ensure that you meet the following prerequisites:

- ☐ All of your background images (maps) are copied to the following location on the server you use for iPrint management:

```
/var/opt/novell/iprint/htdocs/images/maps
```

You can use JPEG, GIF, and BMP images for backgrounds and printer icon images. These files are detected by iPrint Map Designer at startup. A default set of printer icons is included.

- ☐ All of your custom printer icons are copied to the following location on the server you use for iPrint management:

```
/var/opt/novell/iprint/htdocs/images/printers
```

- 1 To start the iPrint Map Designer, go to `http://server_address/maptool.htm` in Internet Explorer, where *server_address* is the server's IP address or DNS name of the server where the iPrint Manager is running.

If you want to save the map to this server, you need to be authenticated to the server.

- 2 Select a map from the *Background* drop-down list.

- 3 (Optional) Add a printer to the map:

- 3a From the *Printer Icon* field, select the type of printer and icon size you want.

Sizes range from 1 to 6, with 1 being the largest. Icons with a C indicate color printers.

- 3b Click the *Printer* icon and drag the printer to the desired location on the map.

- 3c Next to the *Printer List* field, click the *Browse* icon and specify the IP address or DNS name of the server where the Print Manager is running.

- 3d From the *Printer List*, select the Printer Agent you want associated with this printer icon.

The *Printer URL* and *Mouse Over Text* are automatically filled in with the Printer Agent information.

By default, *Mouse Over Text* displays the Printer Agent's name. You can override this information by specifying the text you want to display when a user moves the mouse over the Printer icon.

- 3e (Optional) In the *Printer Caption* field, specify the information to display, using Enter to parse the information into multiple lines.

- 3f (Optional) From the menu bar, click *Font* to change the base font, color, and size for text on the map.

- 4 (Optional) Edit a printer's information by clicking the desired printer's icon and then editing the printer information fields.

To deselect a *Printer* icon while you are in the map, click anywhere in the design area.

- 5 Click *Save* to save the map in an HTML format. You can upload this HTML file to a Web server and use an HTML editor to customize the page.

IMPORTANT: Do not click *Refresh* or exit Internet Explorer without saving the map.

To retrieve and modify an existing map file, click *Open* and browse to the directory where the map is located.

Adding Printers from Different Print Managers

You can add printers from different Print Managers to the same map. First, add the printers from one Print Manager. Then click the *Browse* icon and select a different manager.

If you need to add or modify printers from a previously used Print Manager, click a Printer icon from that manager and the Printer List is populated with printers from that manager.

Hosting Maps on a Web Server

After you create your maps, you need to post them on a Web server. Copy the contents of the \ippdocs directory and its subdirectories to the Web server in order for your maps and iPrint to work properly. You can link to your maps from your company's internal Web page or send the URL to your users.

Using the Keyboard with iPrint Map Designer

You can use the keyboard to create maps in the iPrint Map Designer. With the focus in the design area, press the Insert key to insert a printer icon. Then use the arrow keys to move the icon within the design area.

7.1.2 Creating Customized Printer Lists

Printer lists let users select printers from categories that are meaningful to them. For example, you could create a list of printers by building location, department names, or eDirectory context. iPrint generates an iPrint Printer List for each Print Manager.

To create a custom list, you must use an HTML editor and create links to the different generated lists or create a Web page by using the printer's IPP URL. This URL is displayed when you enable IPP for a printer.

To view a printer's URL:

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want.
- 3 Click *Client Support > iPrint Support*.

The printer's URL is displayed under Current iPrint URL.

7.2 Customizing the iPrint HTML Interface

You can edit any of the HTML files provided in `var/opt/novell/iprint/htdocs/examples/example1/innerweb.htm` or you can create your own files to customize iPrint for your environment. For information on the HTML interface, see [Appendix E, "Configuring the iPrint HTML Interface," on page 165](#).

- ♦ In the `examples` directory, Example 1 shows a fully graphical interface for locating and installing printers using standard HTML. This type of approach can also be created using the iPrint Map Designer. For more information, see ["Creating Location-Based Maps with iPrint Map Designer" on page 87](#).

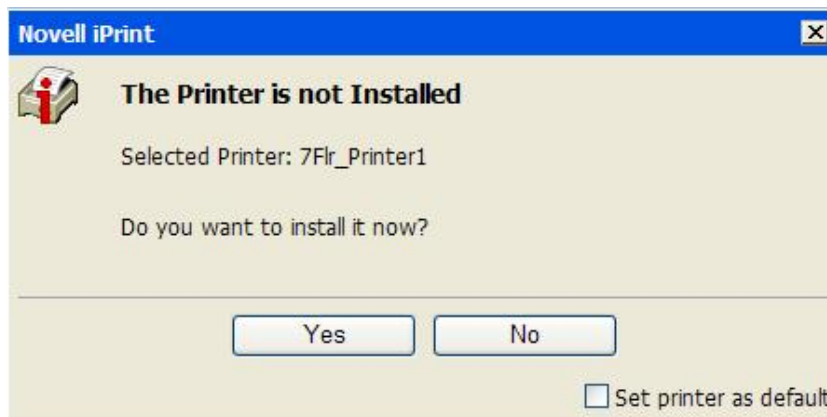
Use your Web browser to view this example from `var/opt/novell/iprint/htdocs/examples/example1/innerweb.htm`

- ♦ In the examples directory, Example 2 shows a lower-maintenance approach for locating and installing printers using standard HTML.
- Use your Web browser to view this example from `var/opt/novell/iprint/htdocs/examples/example2/innerweb.htm`

7.3 Installing a Printer as the Default on Windows

When users install a printer on a Windows workstation from the iPrint Printer List Web Page, they can choose to set the printer they are installing as the default printer by selecting the *Set Printer as Default* check box in the *Printer Is Not Installed* dialog box. When this option is selected, the printer is installed and set as the default printer. When it is not selected, the printer is installed and no change is made to the default printer.

Figure 7-1 Setting a Printer as the Default While Installing a Printer



You can customize the settings that users see when they install a printer:

- 1 Edit `iprint.js`, located in the following directory:
`/var/opt/novell/iprint/htdocs/scripts`
- 2 Modify the `var defTypeGbl =` setting to one of the following:

Setting	Description
<code>DEF_TYPE_OPTION_YES</code>	Displays the <i>Set as Default</i> check box and marks it as selected.
<code>DEF_TYPE_OPTION_NO</code>	Displays the <i>Set as Default</i> check box, but does not select it.
<code>DEF_TYPE_OPTION_NONE</code>	Hides the <i>Set as Default</i> check box.

- 3 Save the file.
When the file is saved, the change is effective immediately.

8 Configuring iPrint with Novell Cluster Services

Using iPrint in a cluster can help you to make printing more consistently available for your users.

- ♦ [Section 8.1, “Understanding the Benefits of High Availability Printing,” on page 91](#)
- ♦ [Section 8.2, “Prerequisites,” on page 91](#)
- ♦ [Section 8.3, “Setting up the Cluster Environment for iPrint,” on page 92](#)
- ♦ [Section 8.4, “Starting the iPrint Cluster Resource,” on page 96](#)
- ♦ [Section 8.5, “Using the iPrint Web Page,” on page 96](#)
- ♦ [Section 8.6, “Changing Start, Failover, and Failback Modes for Printing,” on page 97](#)
- ♦ [Section 8.7, “Troubleshooting iPrint in a Cluster,” on page 97](#)

8.1 Understanding the Benefits of High Availability Printing

Running iPrint on a cluster provides the following benefits:

- ♦ By configuring the Print Management Database to reside on a shared disk cluster volume, you no longer need to replicate information to achieve high availability.
- ♦ The cluster console GUI enables you monitor and control the location of cluster volumes with the Driver Store and Print Manager services using them from a single management workstation.
- ♦ Because cluster volumes are tightly consistent and highly available, distributed print management tasks are simplified.
- ♦ If a server fails, the cluster volume containing the Print Management Database and spool area automatically remounts on a surviving server in the cluster. The Driver Store and Print Manager also automatically restart without user intervention.
- ♦ On restart, the Driver Store and Print Manager discover the Print Management Database on a cluster volume mounted on their server. Because the cluster volume is the same regardless of the server it is mounted on, no print-related information is lost or out-of-date.

8.2 Prerequisites

Novell Cluster Services can be configured either during or after OES 11 installation.

- ♦ Ensure that Novell Cluster Services has been installed. For information on installing Novell Cluster Services, see [“Installing and Configuring Novell Cluster Services on OES 11”](#) in the *OES 11: Novell Cluster Services 2.0 for Linux Administration Guide*.
- ♦ Identify the nodes to host the iPrint service.

8.3 Setting up the Cluster Environment for iPrint

- [Section 8.3.1, “Clustering on an NSS File System,” on page 92](#)
- [Section 8.3.2, “Clustering on a Linux POSIX File System,” on page 93](#)

8.3.1 Clustering on an NSS File System

- 1 Create NSS pools if they do not already exist, and configure the shared pools to work with Novell Cluster Services.

For more information on the configuration, see [“Configuring Cluster Resources for Shared NSS Pools and Volumes”](#) in the *OES 11: Novell Cluster Services 2.0 for Linux Administration Guide*.

- 2 Ensure that the pool resource where you want to run the iPrint service is cluster-enabled.

For more information, see [“Cluster-Enabling an Existing NSS Pool and Its Volumes”](#) in the *OES 11: Novell Cluster Services 2.0 for Linux Administration Guide*.

- 3 Ensure that the pool resource is online.

The volumes of a cluster pool resource are mounted and dismounted by onlining and offlining the pool resource. For more information, see [“Onlining and Offlining \(Loading and Unloading\) Cluster Resources from a Cluster Node”](#) in the *OES 11: Novell Cluster Services 2.0 for Linux Administration Guide*.

- 4 Run the `iprint_nss_relocate` script located at `/opt/novell/iprint/bin`.

For more details on this script, see [“Running the iprint_nss_relocate script”](#) on page 40.

- 5 Migrate the pool resource to the next identified node and run the `iprint_nss_relocate` script with the same arguments. For more information, see [“Cluster Migrating Resources to Different Nodes”](#) in the *OES 11: Novell Cluster Services 2.0 for Linux Administration Guide*.

- 6 Repeat [Step 4](#) and [Step 5](#) on all the iPrint cluster nodes.

- 7 Configure iPrint services by following the instructions in [Section 3.3, “Setting Up iPrint,” on page 28](#).

When you configure iPrint, ensure that all references to IP addresses or DNS names are pointing to the resource’s IP address or to the DNS name.

IMPORTANT: During creation of the Print Manager, ensure that you do not select the *Start Print Manager after Creation* check box.

At this stage you will encounter a certificate error, indicating that the hostname or IP address of the server where you are managing the print object does not match any of the certificates on the server where iManager is running. For more information on resolving certificate errors, [Section 9.2, “Understanding and Managing Certificates,” on page 100](#).

- 8 Edit the load script. Add the following lines to the existing load script before the `exit 0` statement

```
ignore_error mv /media/nss/NSSVOL1/var/opt/novell/iprint/iprintgw.lpr /media/
nss/NSSVOL1/var/opt/novell/iprint/iprintgw.lpr.bak
```

Replace `/media/nss/NSSVOL1` in the script with your actual cluster volume mount point.

```
exit_on_error rcnovell-idsd start
```

```
exit_on_error rcnovell-ipsmd start
```

- 9 Edit the unload script. Add the following lines to the existing unload script after the `/opt/novell/ncs/lib/ncsfuns` statement:

```
ignore_error rcnovell-ipsmd stop
```

```
ignore_error rcnovell-idsd stop
```

- 10 View the current Preferred Nodes assignments, and if necessary, click the arrow button to assign or unassign servers to the print volume resource.

You can click the up-arrow or down-arrow buttons to change the failover order of the servers assigned to the print volume.

- 11 If you add a new node to the cluster later, change the file as follows:
 - 11a Comment out the load and unload scripts for the Print Manager and Driver Store.
 - 11b Migrate the resource to the new node.
 - 11c Run the `iprint_nss_relocate` script on the new node.
 - 11d Remove the comment tag from the load and unload scripts.

NOTE: If you rename the NSS volume that hosts the Print Manager, the iPrint IPP page fails to display and the iPrint configuration breaks. To re-establish the symbolic links broken because of the volume rename, refer to [Section 11.12, "iPrint Service Fails when Renaming a Volume Where iPrint Is Hosted,"](#) on page 139.

8.3.2 Clustering on a Linux POSIX File System

To configure cluster resources for shared Linux POSIX volumes, refer to [Managing Cluster Resources for CSM Linux POSIX Volumes \(http://wwwtest.provo.novell.com/documentation/oes11/clus_admin_lx/data/ncsshvollx.html\)](http://wwwtest.provo.novell.com/documentation/oes11/clus_admin_lx/data/ncsshvollx.html).

- 1 In iManager, click *Clusters > Cluster Options*.
- 2 Select the Cluster object you have created.
- 3 Under the *Cluster Objects* heading, click *New*.
- 4 Select *Resource*, then click *Next*.
- 5 Specify a name in the *Cluster Resource Name* field.
- 6 Use the object selector for *Inherit from Template* to browse to and open the Cluster object you created, then select the *iPrint_Template*.
- 7 Select the *Define Additional Properties* check box, then click *Next*.
- 8 Edit the load script by making the changes outlined in the following table:

Heading	Description
define the IP address	Replace <i>a.b.c.d</i> with the IP address of the iPrint service that is to be used for this resource.
define the file system type	Replace <i>ext3</i> with the correct file system type.
define the volume group name	Replace <i>name</i> with the name of the LVM volume group you have created.
define the device name	Specify the device by running this script - <code>/dev/\$VOLGROUP_NAME/iprin</code>
define the mount point	Specify the mount point by running this script - <code>/mnt/iprint</code> . If a different mount point is selected for the shared disk, ensure that the same mount point is specified in the unload script.

Heading	Description
activate the volume group	Activate the new volume group by running the following script: - exit_on_error vgchange -a ey \$VOLGROUP_NAME. Replace \$VOLGROUP_NAME. Use the name of the LVM volume group you have created.
mount the file system	Mount the file system by running the following script: - exit_on_error mount_fs \$MOUNT_DEV \$MOUNT_POINT \$MOUNT_FS, where \$MOUNT_DEV is the device name and \$MOUNT_POINT is the mount point you defined.
add the IP address	Add the IP address you defined by running the following script: - exit_on_error add_secondary_ipaddress \$RESOURCE_IP, where \$RESOURCE_IP is the IP address.
run the iPrint relocate script	Run the iPrint relocate script: - exit_on_error /opt/ novell/iprint/bin/iprint_relocate \$MOUNT_POINT, where \$MOUNT_POINT is the mount point you defined.
start the iPrint driver store & printer manager	Start the iPrint driver store and printer manager by running the following script: - exit_on_error /opt/novell/iprint/ bin/ncs_iprint_svc_start.

9 Set the *timeout* value in the load script to three minutes, then click *Next*.

10 Edit the unload script by making the changes outlined in the following table:

Heading	Description
define the IP address	Replace <i>a.b.c.d</i> with the IP address of the iPrint service that is to be used for this resource.
define the file system type	Replace <i>ext3</i> with the correct file system type.
define the volume group name	Replace <i>name</i> with the name of the LVM volume group you have created.
define the device name	Specify the device by running the following script: - /dev/ \$VOLGROUP_NAME/iprin
define the mount point	Specify the mount point by running the following script: - /mnt/ iprint. If a different mount point is selected for the shared disk, ensure that the same mount point is specified in the unload script.
stop the printer manager and iPrint driver store	Start the printer manager and then the iPrint driver store by running the following scripts: Printer Manager - ignore_error /etc/init.d/novell- ipsmd stop iPrint Driver Store - ignore_error /etc/init.d/novell- idsd stop
delete the IP address	Delete the IP address you defined by running the following script: - ignore_error del_secondary_ipaddress \$RESOURCE_IP, where \$RESOURCE_IP is the IP address.

Heading	Description
unmount the file system	Unmount the file system by running the following script: - <code>exit_on_error umount_fs \$MOUNT_DEV \$MOUNT_POINT</code> <code>\$MOUNT_FS</code> , where <code>\$MOUNT_DEV</code> is the device name, and <code>\$MOUNT_POINT</code> is the mount point you defined.
deactivate the volume group	Deactivate the new volume group by running the following script: - <code>exit_on_error vgchange -a n \$VOLGROUP_NAME</code> . Replace <code>\$VOLGROUP_NAME</code> with the name of the LVM volume group you have created.

11 Set the *timeout* value in the unload script to three minutes, then click *Next*.

12 Edit the monitor script by making the changes outlined in the following table:

Heading	Description
define the IP address	Replace <i>a.b.c.d</i> with the IP address of the iPrint service that is to be used for this resource.
define the file system type	Replace <i>ext3</i> with the correct file system type.
define the volume group name	Replace <i>name</i> with the name of the LVM volume group you have created.
define the device name	Specify the device by running the following script: - <code>/dev/ \$VOLGROUP_NAME/iprin</code>
define the mount point	Specify the mount point by running the following script:- <code>/mnt/ iprint</code> . If a different mount point is selected for the shared disk, ensure that the same mount point is specified in the unload script.
check the logical volume	Check the new volume group by running the following script: - <code>exit_on_error status_lv \$VOLGROUP_NAME</code> . Replace <code>\$VOLGROUP_NAME</code> with the name of the LVM volume group you have created.
check the file system	Check the file system by running the following script: - <code>exit_on_error status_fs \$MOUNT_DEV \$MOUNT_POINT</code> <code>\$MOUNT_FS</code> , where <code>\$MOUNT_DEV</code> is the device name, and <code>\$MOUNT_POINT</code> is the mount point you defined.
check the IP address	Check the IP address you defined by running the following script:- <code>exit_on_error status_secondary_ipaddress \$RESOURCE_IP</code> , where <code>\$RESOURCE_IP</code> is the IP address.
check the iPrint driver store & printer manager	Start the iPrint driver store and printer manager by running the following script: - <code>exit_on_error /opt/novell/iprint/ bin/ncs_iprint_svc_status</code> .

13 View the current Preferred Nodes assignments, and click the arrow button to assign or unassign servers to the print volume resource.

You can click the up-arrow or down-arrow button to change the failover order of the servers assigned to the print volume.

If you add a node to the cluster later, it might be added to the Assigned Nodes list. You must check this list after adding nodes to ensure that iPrint fails over to the desired nodes.

14 Click *Finish*.

8.4 Starting the iPrint Cluster Resource

- 1 In iManager, click *Cluster > Cluster Manager*.
- 2 Browse to and select the print Cluster object.
- 3 Under *Cluster State*, select the cluster resource you created for print.
- 4 Click *Online* to load the iPrint cluster resource.

If the resource does not load, ensure that the shared disk is running and the load script contains correct entries.

- 5 Select the node you want to load the resource on.
- 6 Create a driver store. For more information, see [Section 3.3.2, “Creating a Driver Store,” on page 30](#).
- 7 Create a Print Manager.

For more information, see [Section 3.3.6, “Creating a Print Manager,” on page 35](#).

You can have more than one Print Manager running in a cluster, but only one can run on a cluster resource node. For example, assume there is a four-node cluster with serverA, serverB, serverC, serverD, and two Print Managers. One Print Manager is running on serverA and other on serverB and they are assigned to fail over to serverC and serverD. If you assign the Print Managers to fail over to the same cluster resource node, the Print Managers might collide and not fail over.

When you load the iPrint cluster resource, you can add printer drivers to the Driver Store and create printers. For more information, see [Section 3.3.4, “Managing Printer Drivers,” on page 32](#) and [Section 3.3.7, “Creating a Printer,” on page 38](#).

8.5 Using the iPrint Web Page

If you are using the default iPrint Web pages or are embedding URLs in custom iPrint Web pages, remember that

Links to the default iPrint Printer List Web page or other custom pages in `\ippdocs` should use the DNS name or IP address of the print service. This is the IP address used in the cluster load script for iPrint. This address moves with the shared volume to other servers in the cluster during a failover.

If you use the server's DNS name or IP address or any other IP address other than the one assigned to the iPrint Resource, links to iPrint Web pages are broken when iPrint fails over to a different node in the cluster. If this happens, iPrint links display a blank page or return an error.

8.6 Changing Start, Failover, and Failback Modes for Printing

By default, Novell Cluster Services sets the print cluster volume Start mode and Failover mode to Auto, and the Failback mode to Disable. If the print volume Start mode is set to Auto, iPrint automatically starts on a server when the cluster is first brought up. If the print volume Start mode is set to Manual, you must manually start printing on a server, instead of having it automatically start when servers in the cluster are brought up.

If the print volume Failover mode is set to Auto, iPrint automatically starts on the next server in the Assigned Nodes list if there is a hardware or software failure. If the print volume Failover mode is set to Manual, you can intervene after a failure occurs and before iPrint is moved to another node.

If the print volume Failback mode is set to Disable, iPrint does not fail back to its most preferred node when the most preferred node rejoins the cluster. If the print volume Failback mode is set to Auto, iPrint automatically fails back to its most preferred node when the most preferred node rejoins the cluster. Generally, you want a failback to a preferred node to occur after business hours. You can set the print volume Failback mode to Manual to prevent iPrint from moving back to its preferred node when that node is brought back online, until you are ready to allow it to happen.

IMPORTANT: We recommend that you use the default settings for Start, Failover, and Failback modes.

To view or change the print volume's Start, Failover, and Failback modes:

- 1 In iManager, click *Clusters > Cluster Options*, click the print volume resource object, then select *Properties*.
- 2 Browse to and select the cluster you want to manage.
- 3 Select the check box of the Print Cluster object you want to modify, then click the *Properties* link under the *Cluster Objects* heading.

The Failover and Failback modes are displayed.

8.7 Troubleshooting iPrint in a Cluster

Use the following sections to troubleshoot common issues when clustering iPrint:

- ♦ [Section 8.7.1, "Error Code 506D0203," on page 97](#)
- ♦ [Section 8.7.2, "iPrint Web Pages Are Displayed on One Node Only," on page 97](#)

8.7.1 Error Code 506D0203

If you receive error 506D0203 and the Print Manager fails to load, ensure that you are loading iPrint on a Linux POSIX file system such as ext3.

8.7.2 iPrint Web Pages Are Displayed on One Node Only

Ensure that the Print Manager is using the secondary IP address for the iPrint resources in `/etc/opt/novell/iprint/ipsmd.conf`. If the Print Manager was created with the node IP address, then iPrint works only on that node.

9 Managing Your Print System

- ♦ [Section 9.1, “Using Web-Based Enterprise Management,” on page 99](#)
- ♦ [Section 9.2, “Understanding and Managing Certificates,” on page 100](#)
- ♦ [Section 9.3, “Managing the Print Manager,” on page 100](#)
- ♦ [Section 9.4, “Managing Printers,” on page 114](#)
- ♦ [Section 9.5, “Managing the Driver Store,” on page 124](#)
- ♦ [Section 9.6, “Configuring LDAP,” on page 127](#)

To manage your print system, use Novell iManager. The iPrint plug-in for iManager works with workstations running Mozilla-based browsers or Internet Explorer 5.5 with Service Pack 2 or later. For a review of supported browsers, see [Appendix A, “Supported Browsers for iPrint,” on page 143](#).

NOTE: If you are running Windows XP Service Pack 2 or other browsers with pop-up blocking, you might encounter problems with pop-up windows. To manage iPrint in iManager and to install printers with iPrint clients, turn off pop-up blocking or allow the URL.

- ♦ To manage iPrint running on Linux, you must access iManager installed on a Linux server. To manage iPrint on NetWare, you must access iManager installed on a NetWare server.
- ♦ You cannot administer iPrint from iManager installed on a Windows, Solaris, or HP-UX server platform.
- ♦ You cannot administer iPrint from a Macintosh computer.

For more information iManager, see the [Novell iManager 2.7.4 Administration Guide](#).

9.1 Using Web-Based Enterprise Management

This release includes a Web-Based Enterprise Management (WBEM) system for the core iPrint components. You can use the iPrint WBEM `iprintman` command in scripts or at a console prompt to create, modify, and manage Print Managers, Printers, Driver Stores, and print jobs. For more information on using `iprintman`, see the [iprintman manpage](#).

9.2 Understanding and Managing Certificates

When you manage Print Managers, driver stores, and printers that are running on a different server than the server running iManager, you might receive a certificate error, meaning that the host name or IP address of the server where you are managing the print object does not match any of the certificates on the server where iManager is running.

To find and accept the correct certificate:

- 1 Click the *iPrint Certificate Manager* link in the error.
- 2 Review the certificate information for accuracy.
- 3 Select the action you want to perform for this certificate.
In order to manage the print object, you must accept the certificate.
- 4 Click OK.
You might need to scroll down in order to click OK to accept the certificate.
- 5 Restart your task.

Certificates are accepted on a per-user basis.

You can remove accepted certificates by deleting `/var/opt/novell/iManager/nps/portal/modules/iPrintX/certstore`. Deleting this file removes all accepted certificates.

9.3 Managing the Print Manager

Although the default settings let users print without additional configuration, you probably want to modify some of those settings so that you can manage your printing resources most effectively.

NOTE: Printer driver profiles do not exist on Print Managers running on Linux.

- ♦ [Section 9.3.1, “Understanding the Print Manager Database,” on page 100](#)
- ♦ [Section 9.3.2, “Understanding the Print Manager Configuration File,” on page 101](#)
- ♦ [Section 9.3.3, “Changing the eDirectory Server Assignment,” on page 101](#)
- ♦ [Section 9.3.4, “Using the Print Manager Health Monitor,” on page 101](#)
- ♦ [Section 9.3.5, “Setting Up a Printer Pool,” on page 104](#)
- ♦ [Section 9.3.6, “Using Print Auditing,” on page 105](#)
- ♦ [Section 9.3.7, “Creating Additional Print Managers,” on page 109](#)
- ♦ [Section 9.3.8, “Loading or Unloading the Print Manager,” on page 110](#)
- ♦ [Section 9.3.9, “Moving Print Managers to Another Linux Server,” on page 111](#)
- ♦ [Section 9.3.10, “Auto Driver/Profile Update,” on page 111](#)
- ♦ [Section 9.3.11, “Enabling Printer Agent Redirection,” on page 112](#)

9.3.1 Understanding the Print Manager Database

The Print Manager uses a database to store information about the printers it controls. The database creates a backup when you create or delete a printer and also every night at midnight.

NOTE: Although database creation is a quick process, sometimes the backup is delayed because of other tasks the Print Manager is doing. You might need to wait a short while after you create or delete a printer before a backup is generated and uploaded to eDirectory.

The last four backups are saved. When a new backup file is created, the oldest of the four stored files is deleted. If the oldest backup file is older than four days, then the Print Manager creates a new backup.

If the database fails to load through normal mechanisms, you can use the following procedure to access the backup database:

- 1 Rename `/var/opt/novell/iprint/<PSM_Name>/psmdb.*` to `psmdbold.*`.
- 2 Rename `/var/opt/novell/iprint/<PSM_Name>/psmdb.sav.*` to `psmdb.*`.
- 3 Start the Print Manager.

9.3.2 Understanding the Print Manager Configuration File

When you create a Print Manager, a configuration file is created in `/etc/opt/novell/iprint/conf`. The file name is `print_manager_name.ipsmd.conf`. A separate file is created for each Print Manager that is created and assigned to run on the same server. Only one Print Manager can run on the server at a time. For information about the entries in the configuration file, see `/etc/opt/novell/iprint/conf/ipsmd-template.conf`.

The `ipsmd.conf` file links to the configuration file of the currently loaded Print Manager.

To load a different Print Manager on the server, use the *Manage Print Manager > Manager Control* page in iManager. If you attempt to load a Print Manager when one is already running, you receive an error message instructing you to unload the current Print Manager before loading the new one.

9.3.3 Changing the eDirectory Server Assignment

If you need to change the eDirectory server assignment for the Print Manager or Driver Store, edit the Driver Store Server1= entry in the corresponding configuration file, `print_manager_name_ipsmd.conf` or `idsd.conf`, located in `/etc/opt/novell/iprint/conf`.

NOTE: As many as two additional servers can be specified, using Driver Store Server2 and Driver Store Server3. Driver Store Server1 is considered to be the primary eDirectory server. Driver Store Server2 and Driver Store Server3 are considered to be secondary servers.

9.3.4 Using the Print Manager Health Monitor

The Print Manager Health Monitor provides you with a global view of your print system. The Health Monitor shows you the current status of the Print Manager and the associated printers and lets you configure error threshold, customize some print system settings, and generate reports about your system.

- ♦ [“Understanding the Print Manager Health Monitor” on page 102](#)
- ♦ [“Accessing the Print Manager Health Monitor” on page 102](#)
- ♦ [“Generating Reports” on page 102](#)

- ♦ [“Configuring Health Monitor Settings” on page 103](#)
- ♦ [“Posting Administrator Messages about a Printer” on page 104](#)

Understanding the Print Manager Health Monitor

The Print Manager Health Monitor is a powerful tool for managing and troubleshooting your print system.

The opening page of the Health Monitor shows all of your printers; their current state; and general statistics including the number of print jobs printed in the last hour, in the last day, and since the Print Manager was last started.

A quick look at these statistics helps you identify which printers are not printing because of errors or which printers are not being used. You can click a printer name to see additional details about the printer that can help you troubleshoot a reported printer error and why users are not using the printer.

For example, if the printer status shows `Error printing`, click the printer for a list of known problems. If one of the known problems is `Printer not connected`, use the IP address listed in the *Load String* field to ping the printer to determine if the IP address is valid.

By looking at the statistical information, you can correct printer problems or make decisions about redeploying underused printers to departments that print a lot.

Accessing the Print Manager Health Monitor

Access the Health Monitor by going to `http://server_address/psmstatus`, where *server_address* is the IP address or DNS name of the server where the Print Manager is running.

You can view current Printer Agent states, start up and shut down Printer Agents, and view other information about your print system.

Generating Reports

The report feature of the Health Monitor allows you to generate a report that can be displayed on the page or saved as a comma-separated-value (.csv) file that can be used in a spreadsheet program.

- 1 On the Print Manager Health Monitor main page, click *Advanced Print Manager Information > Generate Report*.
- 2 (Optional) To save the report as a file, click *Write Results to File* under the *File Options* heading. The heading specifies the location and filename of the report.
- 3 Select the information you want included in the report by selecting the corresponding check boxes.
- 4 Click *Generate Report*.
The report is displayed on the screen, even if you selected to save the report to a file.

The following common reports are available for you to generate:

Printer Configurations: To determine what features are enabled for each Printer Agent, generate the following reports:

- ♦ SSL Required for iPrint Access
- ♦ Auditing Enabled

Printer's Current State: To view the states of the printers and any printer console messages, generate the following reports:

- ♦ Printer Agent Status
- ♦ Printer Agent State Reasons
- ♦ Printer Console

Printing Statistics: To view statistics about your print system, generate the following reports:

- ♦ Jobs Printed Ever
- ♦ Jobs Printed Since Load
- ♦ Jobs Printed Today
- ♦ Average Job Size Since Load
- ♦ Average Job Size Today

Gateway Information: To view information about a gateway associated with the Printer Agents, including the gateway's IP address, generate the following report:

- ♦ Gateway Load String

Printer Driver Associations: To view the printer drivers associated with each printer, generate the following reports:

- ♦ Windows 95/98 Driver
- ♦ Windows NT4 Driver
- ♦ Windows 2000/XP Driver
- ♦ Win XP Driver
- ♦ Linux Driver

Printer and Printer Agent Associations: Because a Printer Agent can service more than one printer, use the *Associated NDS Printers* option to view the number of printers serviced by each Printer Agent.

Configuring Health Monitor Settings

You can configure settings in the Health Monitor to control how the Health Monitor presents information when certain thresholds are met.

- 1 On the Print Manager Health Monitor main page, click *Advanced iPrint Manager Information > Configure Settings and Error Thresholds*.
- 2 Adjust the settings you want to change.
See the online help for information about the available settings. For most print systems, the default settings are sufficient.

Posting Administrator Messages about a Printer

Suppose a printer has been taken offline and sent for repairs, but you keep getting phone calls from other administrators that the printer has an error in the Health Monitor. This can be resolved by leaving a message about the printer in Health Monitor. Users can see the message, but only administrators can edit it.

- 1 On the Print Manager Health Monitor main page, click the printer you want, then click *Message from Admin*.
- 2 Type the text you want displayed for this printer.
- 3 Click *Apply*.

To remove a message, follow the steps above and delete the text in the message box ([Step 2](#)).

9.3.5 Setting Up a Printer Pool

You can create a pool of printers to share the load of printing. Users install one of the printers in the pool. When a printer in the pool has a print job waiting, the Print Manager can redirect that print job to an idle printer in the pool. The Print Manager attempts to evenly distribute print jobs among all printers in a pool.

For example, if four printers are in the pool and the first printer is printing a 100-page job, then the next print job is sent to the second printer. If the second printer completes the print job and the first printer is still busy, the next print job is sent to the third printer to distribute print jobs throughout the pool. Printer pools are specific to the Print Manager, and a printer pool cannot span multiple Print Managers.

Printers that are included in a pool should be the same model and use the same printer drivers. You can include only printers from the same Print Manager in a pool.

When you create a printer pool, the pool information resides in the Print Manager and can be viewed only using iManager. Unlike the printers and the Print Manager, a separate eDirectory object for a printer pool is not created.

After you set up a printer pool, users install only one of the printers in the pool on their workstation. When a user submits a print job to the installed printer, the Print Manager uses the method described in the example above to send the print job to the next available printer in the pool. Users should be reminded that their print jobs might be printed by any printer in the pool. For this reason, the physical printers that are members of a printer pool should be located close to one another. You might also want to enable banner pages, depending on the type of documents being printed.

To configure a printer pool, do the following:

- 1 In iManager, click *iPrint > Printer Pool Configuration*.
- 2 Select the Print Manager for this pool.
- 3 Select *Create Pool* from the *Select an Operation* list, then click *OK*.
- 4 Specify the name of the printer pool.
This name is used to identify the pool only within iManager.
- 5 Select the printers you want included in the pool.
- 6 Click *Next*, then click *OK*.

To modify or delete a pool, follow the above steps and select the desired action from the *Select an Operation* list in [Step 3](#).

9.3.6 Using Print Auditing

To use print auditing, you first need to enable auditing for *each* printer you want to audit using iManager or the Print Manager Health Monitor.

When auditing is enabled for a Printer Agent, a log file is created indicating who printed how many pages to which printer on a given date. The log file is in a comma-separated format (.csv). The data from this log file can be viewed from the Health Monitor or downloaded into a spreadsheet.

Figure 9-1 Auditing Management Page

Audit Log						
Name	Start Date and Time	End Date and Time	File Size	Job Count		
AUDIT.CSV	4-30-03 10:15 am	Active	738	3	Start New Audit Log	Generate Report
AUDIT004.CSV	4-29-03 1:10 pm	4-29-03 1:21 pm	729	6	Delete Audit Log	Generate Report
AUDIT003.CSV	4-29-03 11:53 am	4-29-03 1:10 pm	999	5	Delete Audit Log	Generate Report
AUDIT002.CSV	4-03-03 9:58 am	4-03-03 11:10 am	877 Kb	7,079	Delete Audit Log	Generate Report
AUDIT001.CSV	4-03-03 9:47 am	4-03-03 9:58 am	40 Kb	325	Delete Audit Log	Generate Report

From the Auditing Management page, you can complete the following tasks:

- ♦ “Using iManager to Enable Auditing” on page 105
- ♦ “Using the Health Monitor to Enable Auditing” on page 105
- ♦ “Viewing Auditing Information” on page 106
- ♦ “Managing Audit Logs” on page 108
- ♦ “Configuring Automatic Log Rotation” on page 108
- ♦ “Downloading an Audit Report” on page 109

Using iManager to Enable Auditing

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want to enable auditing for.
- 3 Click *Configuration > Auditing*.
- 4 Select the *Enable Auditing* check box.

Using the Health Monitor to Enable Auditing

- 1 To access the Print Manager Health Monitor, open `http://server_IP_address/psmstatus` in a Web browser.

For example: http://printing.my_company.com/psmstatus

- 2 Click *Configuration Options*.
- 3 Select the *Enable Auditing* check box.

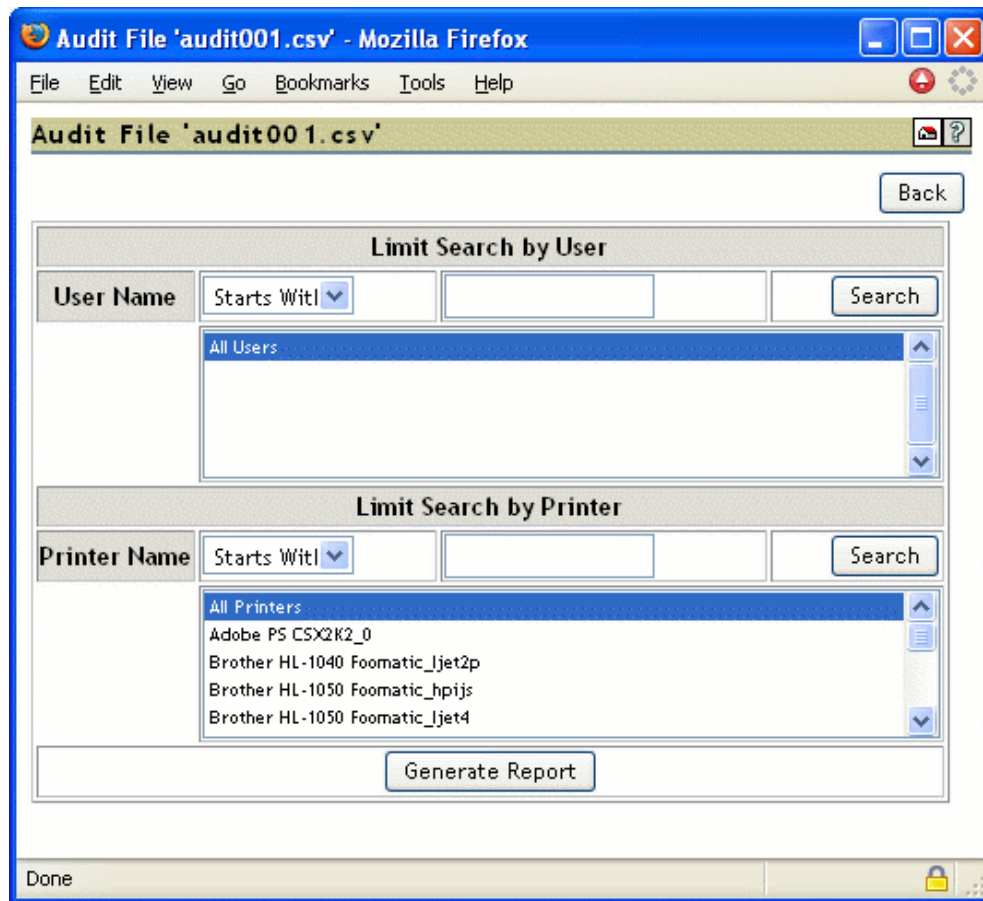
Viewing Auditing Information

You can generate an audit report that shows all print jobs, or you can filter the report based on a user or a printer or both.

- 1 In the Print Manager Health Monitor, click *Advanced iPrint Manager Information > Auditing > Generate Report*.

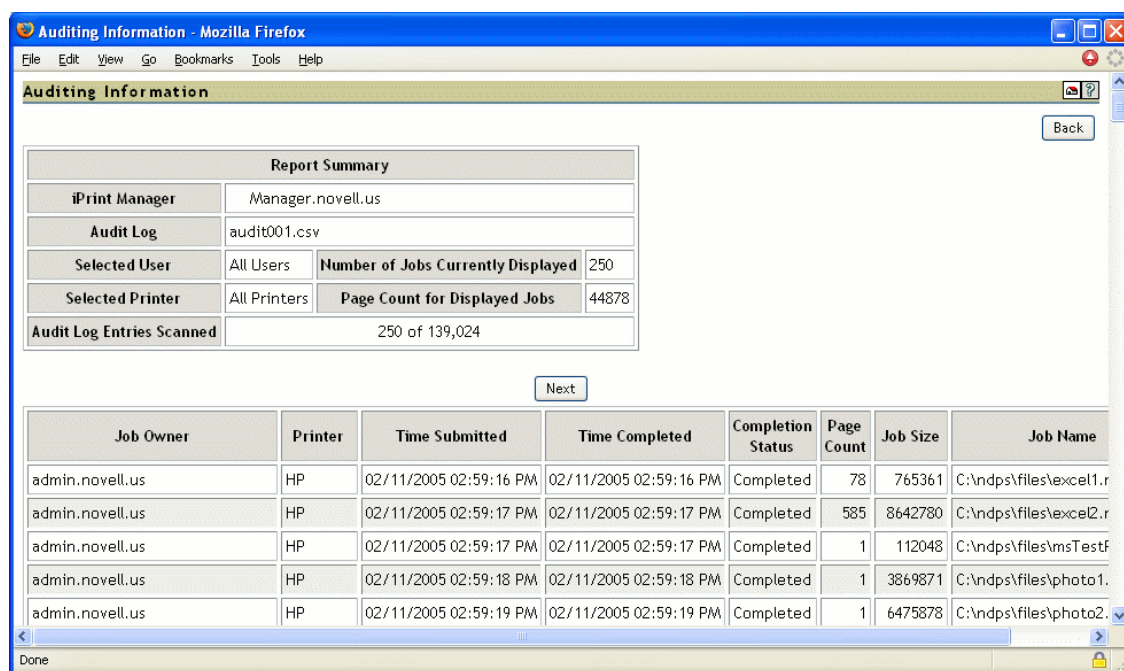
If there is more than one audit log, click *Generate Report* for the audit log you want to view.

- 2 (Optional) Filter the search by using the *Limit Search by User* or *Limit Search by Printer* filters.



- 3 Click *Generate Report* to view the report with the specified filters.

There are only 250 print jobs listed at a time. To view more print jobs in the report, click *Next*.



The following table explains the fields that are displayed under the Report Summary.

Field	Description
iPrint Manger	The Print Manager that the information is from.
Audit Log	The audit log filename that was used to create the report.
Selected User	Any user filter criteria that were used to create the report.
Selected Printer	Any printer filter criteria that were used to create the report.
Number of Jobs Currently Displayed	The number of jobs submitted by the indicated users and printers.

The following table discusses what is displayed in the body of the report.

Field	Description
Job Owner	The owner of the print job.
Printer	The printer the print job was sent to.
Time Submitted	The time the print job was submitted to the printer.
Time Completed	The time the print job was printed on the printer.
Completion Status	The completion status of the submitted print job: Completed, Cancelled by User, Cancelled by Operator, or Other (Other usually indicates the job was aborted by the system).
Page Count	The number of pages printed.
Job Size	The size of the print job (in bytes).
Job Name	The print job filename that was submitted and the type of print client that submitted the print job.

Managing Audit Logs

You can manage your audit logs by using the buttons on the Auditing Management page. When audit logs are no longer needed, you can manually delete them. To automatically save and create new logs, see [“Configuring Automatic Log Rotation” on page 108](#).

The active audit log file (audit.csv) logs data for all printers that have been enabled for auditing. You can generate a report from this file or you can move the data to a saved file by using the *Start New Audit Log* option. You cannot download the audit.csv file. To download a file, it must be saved as a separate audit log. When you move the data to a saved audit log by using the *Start New Audit Log* button, the log file is named auditxxx.csv, where xxx is the next sequential number of the log. After a log file is saved, you can download the file to your workstation and import it into a spreadsheet program.

Configuring Automatic Log Rotation

Audit Log Rotation automatically creates a new log when certain criteria are met.

- 1 In the Print Manager Health Monitor, click *Advanced iPrint Manager Information > Auditing > Configure Log Rotation*.
- 2 Select *Enable Audit Log Rotation*.
- 3 Specify the number of logs to keep.

When the number of logs to keep is reached, the oldest log is deleted when the next log is created. When setting this number, take in to account the criteria you are using to create new log files. If you want a year’s worth of logs, set the number of audit logs to keep to 12 and then select the *By Date* and *By Month* options.

- 4 Specify the criteria used for log rotation:

By Job Count: Specify the maximum number of print jobs that an audit log can contain before a new log is created.

By Date: Select when you want the audit logs to rotate.

- ♦ **Day:** The log rotates each day at midnight.
- ♦ **Week:** The log rotates each Sunday. If the Print Manager is not loaded on Sunday, the log is rotated the next time the Print Manager starts.
- ♦ **Month:** The log rotates at midnight on the first day of the month.

NOTE: If you select Day or Week, ensure that the *Maximum Number of Audit Logs to Keep* entry is large enough so that logs are not rotated before you need the data.

By File Size: Specify the maximum file size (in KB) before a new log is created. The maximum file size is 4194304 KB.

Downloading an Audit Report

When the file is downloaded, you can open the report in a spreadsheet application to sort, view, and format the data to meet your needs. The active audit log, `audit.csv`, cannot be downloaded. You must first start a new audit log by clicking the *Start New Audit Log* option, then download the newly created audit log.

- 1 On the Print Manager Health Monitor main page, click *Advanced iPrint Manager Information > Auditing*.
- 2 Right-click the name of the audit log you want to download, then click *Save Target As*.
- 3 Follow the prompts and save the file to the desired location.

9.3.7 Creating Additional Print Managers

A Print Manager must be created and running before you can create and associate printers. A Print Manager provides a platform for Printer Agents, which are logical representations of printers that reside on the server. You can manually load Print Managers on a server.

Use the following guidelines to determine where and when to place a Print Manager:

- ♦ Only one Print Manager can be running on a server.
- ♦ For optimal performance, place the Print Manager and the printers it controls on the same LAN segment.
- ♦ Consider distributing your printers across multiple Print Managers so that if one manager goes down, not all of the Printer Agents are affected.

You need the Supervisor right for the container where the Print Manager object is to reside.

- 1 In iManager, click *iPrint > Create Print Manager*.
- 2 Specify the Print Manager name for the iPrint Manager object.
- 3 Specify the container name where you want the Manager's object to reside.
- 4 Specify an eDirectory server you want the iPrint Manager to communicate with.

For fault tolerance, you can specify more than one eDirectory server from the same tree. For more information, see [Section 9.3.3, "Changing the eDirectory Server Assignment," on page 101](#).

- 5 Specify the Driver Store name.
- 6 Select the *Start print manager after creation* check box.

If you do not select the *Start print manager after creation* check box, you should start the Print Manager. You can start the Print Manager by using *Manage Print Manager > Manager Control* in iManager or by entering `/etc/init.d/novell-ipsmd start` at a command prompt.

IMPORTANT: In a cluster setup, do not select the *Start print manager after creation* check box.

7 Click *OK*.

After the Print Manager is created, the daemon is loaded on the server.

To modify the Print Manager properties, click *Manage Print Manager*, then select the manager you want to modify.

For information about Access Control roles, see [Section 10.1, “Setting Access Control for Your Print System,”](#) on page 129.

9.3.8 Loading or Unloading the Print Manager

You can start and stop the Print Manager in two ways:

- ♦ [“Using the Command Line”](#) on page 110
- ♦ [“Using iManager”](#) on page 110

Using the Command Line

The Print Manager uses init scripts for starting and stopping the daemon. To load the Print Manager from the command line, enter `/etc/init.d/novell-ipsmd start`

The following init script actions are also valid:

Table 9-1 *Print Manager Actions*

Action	Description
start	Starts the daemon.
stop	Stops the daemon.
reload or force-reload	Stops and then starts the daemon.
restart	Restarts the daemon.
try-restart	Tries restarting the daemon.
status	Displays the status of the daemon and the name of the Print Manager.

Using iManager

On the Manager Control Property page, you can view the Print Manager’s status and unload or load the manager daemon.

- 1 In iManager, click *iPrint > Manage Print Manager*.
- 2 Browse to and select the Print Manager you want to control.

- 3 Click *Manager Control > Shutdown* to stop Print Manager.
- 4 Click *OK*.

9.3.9 Moving Print Managers to Another Linux Server

Sometimes it is necessary to move the Print Manager from one server to another. If you assigned a DNS name to the Print Manager, you should update the DNS entry with the new IP address that the Manager is running on when the move is completed; otherwise, you cannot manage the Print Manager and users are cannot print.

IMPORTANT: The URLs generated by iPrint are based on the server's IP address or a DNS name. If you move a Print Manager to a server that has a different IP address or a different DNS name than is currently being used, a new URL is generated for each printer. Users must delete and reinstall their iPrint printers. If you are using NDPS Printers, printing is not affected.

- 1 In iManager, click *iPrint > Manage Print Manager*.
- 2 Browse to and select the Print Manager you want to move, then click *OK*.
- 3 Click *Shutdown*.

IMPORTANT: All printing associated with this Print Manager ceases and waiting print jobs are lost.

- 4 On the Manager Control page, click *Move*.
- 5 Fill in the fields:

Target Server: Specify the DNS name or IP address for the server that is to host the Print Manager. For example, 192.0.34.166 or print.my_company.com.

iPrint Service Name: Displays the IP address or DNS name for the iPrint service.

eDir Server: Specify an eDirectory server that you want the Print Manager to communicate with.

If you are using a DNS name, you must update your DNS host tables to reflect the move.

- 6 Click *OK* to move the Print Manager.

The Print Manager is moved and loaded on the destination server.

9.3.10 Auto Driver/Profile Update

An auto driver/profile update allows you to automatically update the client with the latest drivers and the modified profiles available on the server, without users needing to manually update the driver or profile. If you make any changes to the driver in the Driver Store or modify the profile, the client is prompted for the changes and the client is updated.

NOTE: The client might take few seconds to 24 hours to reflect the changes.

To enable the auto driver/profile update:

- 1 Upload the updated driver.
For more information on how to upload the driver, see [Section 3.3.2, "Creating a Driver Store," on page 30](#).
- 2 Create or modify the profile.

For more information on how to create the profile, see [Section 9.4.4, “Using Printer Driver Profiles,” on page 115](#).

3 Enable the auto driver/profile update:

- 3a** In iManager, click *iPrint > Manage Print Manager*.
- 3b** Browse to and select the Print Manager for which you want to enable the auto driver/profile update.
- 3c** Click *Printer Agents*.
- 3d** Select the *Auto driver/profile update* for the Printer Agents for which you want to enable auto driver/profile update.
- 3e** Click *OK*.

9.3.11 Enabling Printer Agent Redirection

Printer Agent Redirection is useful when you are decommissioning an iPrint printer and want to automatically redirect printing to a different iPrint printer without users manually deleting and reinstalling the printer. Redirection can continue even after you delete the printer agent for iPrint printers only.

Printer Agent Redirection is supported with the iPrint client for Windows v4.26 or later.

With Printer Agent Redirection enabled by entering a Printer Redirect URL, the client attempts to access the printer and is then redirected to the new printer. The client verifies that it can access the new printer before deleting the installed printer and installing the new printer.

Before implementing Printer Agent Redirection, you should be aware of the following:

- ♦ When you redirect a Printer Agent, the iPrint Printer List Web page is automatically updated to install the redirected printer. This means when a user clicks to install a printer listed from the list page, the link has been updated to install the redirected printer.

For example, you redirect a Printer Agent that has the name of `Printer_1_Color` to a printer called `Color_Printer`. On the iPrint Printer List Web page, the user sees and clicks `Printer_1_Color`. After the printer is installed, the printer listed in the Windows Printer Folder is `Color_Printer`.

- ♦ Printers on maps are not automatically redirected. If you are using maps and you redirect the Printer Agent, you need to also update your map and republish it to show the newer Printer Agent. You should update the map before enabling Printer Agent Redirection because as soon as you enter a redirection URL, the link on the map is broken and any user clicking the link in the map receives an error.
- ♦ If you redirect a Printer Agent to another printer that is also being redirected, the iPrint client attempts to install the final destination printer; however, this might cause undesired results. For example, if you have redirected `Printer_1_Color` to `Color_Printer`, and then redirect `Printer_A` to `Printer_1_Color`, the iPrint client attempts to install `Color_Printer` for `Printer_A`.
- ♦ You should enable Printer Agent Redirection before deleting a printer; otherwise, when the client accesses the Print Manager and cannot find the associated Printer Agent for an installed printer, the installed printer is deleted.

IMPORTANT: If you are using iPrint Client Management, you should not use Printer Agent Redirection. Using Printer Agent Redirection for printers being used by iPrint Client Management can cause undesired results.

Instead, you should update iPrint Client Management with the desired printers.

Managing Printer Agent Redirection

Before deleting Printer Agents from a Print Manager, you should enable Printer Agent Redirection for iPrint printers by entering another printer URL. By adding the URL before deleting the printer, workstations can update to the newest printer.

The Printer Agent Redirection lists include NDPS and iPrint printers. If you enable redirection for NDPS printers, then install the iPrint client on the workstations and edit the [UpgradeNDPSPrinter=](#) entry in the `iprint.ini` file, NDPS printers can be upgraded. However, if you delete an NDPS Printer Agent, redirection is discontinued.

- 1 In iManager, click *iPrint > Manage Print Manager*.
- 2 Browse to and select a Print Manager.
- 3 Click *Printer Agent Redirection*.
- 4 For each Printer Agent you want to redirect, use the browse button to select the Printer object in eDirectory to ensure that you use the correct URL.

If the printer resides in a different tree, you can manually enter the URL in the following format: `ipp://server/ipp/pa_name` where *server* is the IP address or DNS name of the server and *pa_name* is the Printer Agent.

- 5 Click *Apply*.

Each URL is validated to ensure that the format is valid and that the Printer Agent is available. An error is displayed when the URL cannot be validated.

Managing Deleted Printer Agent Redirection

Each time a Printer Agent is deleted, it is moved to the Deleted Printer Agent Redirection list. Periodically, you should review this page and delete printers that are no longer being accessed or printers where redirection was not enabled.

- 1 In iManager, click *iPrint > Manage Print Manager*.
- 2 Browse to and select a Print Manager.
- 3 Click *Printer Agent Redirection > Deleted Printer Agent Redirection*.
- 4 Select the Printer Agents to delete.

Use *Printer Last Accessed Time* and *Printer Deleted Time* to determine if users are still attempting to access a specific printer and if sufficient time has passed that you can delete Printer Agents from the list.

- 5 Click *Apply*.

Each URL is validated to ensure the format is valid and that the Printer Agent is available. An error is displayed when the URL cannot be validated.

9.4 Managing Printers

Although the default settings let users print without additional configuration, you might want to modify some of those settings so that you can manage your printing resources most effectively.

- ♦ [Section 9.4.1, “Creating Additional Printers,” on page 114](#)
- ♦ [Section 9.4.2, “Deleting Printers,” on page 115](#)
- ♦ [Section 9.4.3, “Managing Printer Agents,” on page 115](#)
- ♦ [Section 9.4.4, “Using Printer Driver Profiles,” on page 115](#)
- ♦ [Section 9.4.5, “Enabling iPrint Direct,” on page 118](#)
- ♦ [Section 9.4.6, “Managing Print Jobs,” on page 118](#)
- ♦ [Section 9.4.7, “Using Printer Banner Pages,” on page 119](#)
- ♦ [Section 9.4.8, “Modifying the Printer’s Gateway Load Commands,” on page 121](#)
- ♦ [Section 9.4.9, “Configuring LPR Printers,” on page 123](#)
- ♦ [Section 9.4.10, “Configuring Job Holds,” on page 124](#)

9.4.1 Creating Additional Printers

Before creating additional printers, ensure that you meet the following prerequisites:

- ☐ Have the Supervisor right for the destination container where its associated Printer object is to reside.
- ☐ Be designated as a manager of the Print Manager that controls this printer.
- ☐ Have a Driver Store running.
- ☐ Have a Print Manager running.

To create additional printers:

- 1 In iManager, click *iPrint > Create Printer*.
- 2 Fill in the fields.
Click *Help* for explanations about the fields.
- 3 Click *OK*.
- 4 Click *Next*, then select the drivers for this printer.

If the printer drivers for this printer are not listed, you can still create the printer. After the printer is created, you can add the printer drivers to the Driver Store and then associate the drivers to the printer by clicking *Manage Printer > Drivers*.

These drivers are automatically downloaded to users’ workstations when they install the printer in the future.

Because the list of printer drivers included with this product is limited, you can add drivers to the Driver Store. See [“Updating Printer Drivers” on page 126](#) for more information.

If you do not select a driver, users are prompted to provide a disk with the appropriate driver the first time they install this printer on their workstations.

- 5 Click *Next* to create the printer.

9.4.2 Deleting Printers

You use iManager to delete existing Printer Agents. Before deleting a Printer Agent, ensure that the agent is no longer being used by running an report on the printer or by using [Printer Agent Redirection](#) to redirect the printer for a period of time before deleting it.

WARNING: Deleting a printer permanently removes the printer from the Print Manager. You cannot use Printer Agent Redirection. The printer is automatically removed from workstations the next time the workstation communicates with the Print manager.

- 1 In iManager, click *iPrint > Delete Print Object*.
- 2 Browse to and select the objects you want to delete.
- 3 Click OK.

9.4.3 Managing Printer Agents

You use iManager to manage Printer Agents. You can start up and shut down a Printer Agent, pause and resume input and output, view printer information, set configuration settings, and change the printer drivers.

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want to manage.
- 3 Use the tabbed property pages to complete the task you want.

9.4.4 Using Printer Driver Profiles

A printer driver profile allows you to set the driver defaults for a Windows printer driver. When you associate the printer driver profile to a printer, the printer is installed and configured with your defined settings. For example, in a law office you might want the default paper size to be legal size. This means that every time the printer and its corresponding driver is installed on a workstation, the paper size is set to legal size.

When creating a printer driver profile, you work directly with a platform-specific printer driver; so you should create and modify profiles from the same operating-specific platform as the printer driver. For example, to create or modify a Windows 2000 printer driver profile, you must access iManager and complete the task from a Windows 2000 workstation.

Use the Bi-Directional driver option to enable the selected printer driver to communicate with the printer. Bi-Directional communication allows the driver to communicate with the printer and discover its capabilities. This enables you to create more detailed profiles. Bi-Directional drivers communicate with the printer during profile creation. If your printer is not reachable from the client during profile creation, only basic profiles are created. When you create a profile for Bi-Directional drivers, you must provide a Printer Agent.

Use the Universal Printer Driver (UPD) model to simplify the task of managing the vast array of printer makes and models. This model allows the printer vendor to create a single printer driver that works with most of the printer and multifunction devices that the vendor manufactures. With this innovation, the Administrator/User no longer needs to install a unique driver for each and every printer model, but uses one driver to communicate with their devices.

Installing the UPD on the iPrint server (NetWare or Linux) is the same as installing individual drivers. Use iManager to upload the driver to the Broker or Driver Store and then assign this driver to the printers. You should use the latest iManager and also the latest support packs/updates for the iPrint server. The latest updates include support for Windows 7, printer driver profile updates, and enhancements for bidirectional communications, which are necessary for UPD function and printer driver profile creation. For more information, see “[Novell iPrint Universal Printer Driver Support](http://www.novell.com/products/openenterpriseserver/pdfs/iprint_upd_environment.pdf)” (http://www.novell.com/products/openenterpriseserver/pdfs/iprint_upd_environment.pdf).

You can create, copy, delete, and modify the printer driver profiles.

- ♦ “[Creating a Printer Driver Profile](#)” on page 116
- ♦ “[Modifying a Printer Driver Profile](#)” on page 117
- ♦ “[Copying a Printer Driver Profile](#)” on page 117
- ♦ “[Deleting a Printer Driver Profile](#)” on page 117
- ♦ “[Associating a Printer Driver Profile with a Printer](#)” on page 118

Creating a Printer Driver Profile

- 1 In iManager, click *iPrint > Printer Driver Profile*.
- 2 Browse to and select the Print Manager where you want the driver profile to be stored and made available to the printers on that manager.
- 3 From the *Select operation* drop-down menu list, select *Create Printer Driver Profile* and click *OK*.
- 4 In the Create driver profile window, perform the following tasks:

4a Specify the Driver Profile name.

You can create a new driver profile or you can use the existing driver profile.

4b To create a new driver profile, select *Create new driver profile* and then select the driver for new profile from the list.

4c To use the existing driver profile, select *Create using existing driver profile* and then select the driver profile from the list of existing driver profiles.

The associated printer model of the selected driver profile is displayed.

4d To enable printer communication, select the *Requires printer communication* check box.

4e Specify the name of the existing Printer Agent in the *iPrint Printer name* field. The driver profile is created and associated with the printer model.

NOTE: Ensure that your printer is reachable from the client during profile creation, or only basic profiles are created.

4f Click *Next*.

The Loading Driver Configuration window appears and shows the progress.

4g When the driver profile is loaded, the Save Driver Profile page is displayed. Click *Next*.

The complete page opens.

4h Click *OK*.

The driver profile is created.

After creating a printer driver profile, you must associate it with a printer. For information on associating the driver profile, see “[Associating a Printer Driver Profile with a Printer](#)” on page 118.

Modifying a Printer Driver Profile

- 1 In iManager, click *iPrint > Printer Driver Profile*.
- 2 Browse to and select the Print Manager where you want the driver profile to be stored and made available to the printers on that manager.
- 3 From the *Select operation* list, select *Modify Printer Driver Profile* and click *OK*.
- 4 Select the *Driver Profile* that you want to modify and click *Next*.

You can select only one driver profile at a time for modification.
- 5 (Optional) Specify the name of the existing Printer Agent in the *iPrint Printer name* field and click *Next*.

Ensure that the printer model matches the profile printer model.

This option is displayed only if the printer model is displayed.

The printer model is displayed if you have selected *Requires printer communication* when creating the printer driver profile.

The Loading Driver Configuration window is displayed to indicate the progress.
- 6 When the driver configuration is completed, the Modify Driver Profile page is displayed. Click *Next*.

The complete page is displayed.
- 7 Click *OK*.

The driver profile is modified.

Copying a Printer Driver Profile

- 1 In iManager, click *iPrint > Printer Driver Profile*.
- 2 Browse to and select the Print Manager where you want the driver profile to be stored and made available to the printers on that manager.
- 3 From the *Select operation* drop-down list, select *Copy Printer Driver Profile*, then use the *Destination printer manager name* list to select the Printer Manager where you want to copy your driver profile. Click *OK*.
- 4 Select the *Driver Profiles* that you want to copy and click *Next*.

The complete page is displayed.
- 5 Click *OK*.

The driver profile is copied.

Deleting a Printer Driver Profile

- 1 In iManager, click *iPrint > Printer Driver Profile*.
- 2 Browse to and select the Print Manager where the driver profile that you want to delete is stored.
- 3 From the *Select operation* drop-down list, select *Delete Printer Driver Profile* and click *OK*.
- 4 Select the driver profiles that you want to delete and click *Next*.

The complete page is displayed.
- 5 Click *OK*.

The driver profile is deleted.

Associating a Printer Driver Profile with a Printer

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want to modify.
- 3 Click *Drivers > printer_driver_operating_system*.
- 4 Select the printer driver from the list of available drivers.
- 5 Select the profile that you want to associate with this printer from the list of *Available Driver Profiles for Selected Driver*.
If you do not want a profile to be associated, select *None*.
- 6 Click OK to save the changes.

9.4.5 Enabling iPrint Direct

A printer that is enabled for iPrint Direct sends print jobs directly to the printer instead of sending the job to the Print Manager first. A job is sent to the printer in LPR or raw 9100 format, depending on the setting in the gateway autoloading command for the printer. Although this greatly reduces server communication, the ability to audit print jobs is lost. iPrint Direct supports direct banner printing (if the banner is already configured) and driver updates. The printer information is gathered directly from the printer by using SNMP.

NOTE: Direct Banner for iPrint Direct is supported only on Windows.

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer for which you want to enable iPrint Direct printing.
- 3 Click *Client Support > iPrint Direct*.
- 4 Select the *Enable iPrint Direct Printing* option.
- 5 Click OK.

NOTE: For detailed information on iPrint Direct, see *Technical Information Document (TID #7001343)* on the Novell Support Site.

9.4.6 Managing Print Jobs

The following sections provide specific information about the print job management features. Users designated as managers or operators for a printer can perform these tasks for all jobs routed to that printer; individual job owners can perform these tasks only for their own print jobs.

- ♦ [“Viewing Print Job Information” on page 119](#)
- ♦ [“Deleting Print Jobs” on page 119](#)
- ♦ [“Changing the Order of Print Jobs” on page 119](#)

Viewing Print Job Information

You can view information about individual print jobs waiting to be processed by a specific printer.

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer the job was sent to.

- 3 Click *Printer Control > Jobs*.
Information about print jobs is displayed.

Deleting Print Jobs

Administrators can delete any print job after it has been submitted if the job has not yet started printing. Users can delete only their own print jobs.

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer the job was sent to.
- 3 Click *Printer Control > Jobs*.
- 4 Select the check box next to the job you want to delete.
- 5 Click *Delete*.

Changing the Order of Print Jobs

Occasionally, you might need to print a job ahead of other jobs that have already been submitted to a printer but have not yet started printing. Administrators, managers, and operators can move any job up or down the list. Users can move only their own jobs, and can move them only down the list.

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer the job was sent to.
- 3 Click *Printer Control > Jobs*.
- 4 Select the check box next to the job you want to modify.
- 5 Click *Promote* to move a print job up the list.

9.4.7 Using Printer Banner Pages

Banner pages create a cover sheet for each print job that a printer produces. You use the Printer Banner Configuration task to customize the information printed on a banner to your needs. If you select to display eDirectory information such as the eDir e-mail address, the Print Manager needs rights to read these attributes. Follow the steps in [“Using eDirectory Attributes with Custom Banners” on page 121](#).

- ♦ [“Configuring a Custom Banner” on page 119](#)
- ♦ [“Associating a Custom Banner to a Printer” on page 120](#)
- ♦ [“Using eDirectory Attributes with Custom Banners” on page 121](#)

Configuring a Custom Banner

- 1 In iManager, click *iPrint > Printer Banner Configuration*.
- 2 Browse to and select the Print Manager you want.
- 3 Select an operation and click *OK*.

Create Custom Banner: Lets you create a new custom banner.

Delete Custom Banner: Lets you delete an existing banner.

Modify Custom Banner: Lets you edit the settings of an existing custom banner profile.

- 4 Complete the fields with the information you want. If you create multiple banners, you should use banner names that are descriptive enough to identify them when you associate the banner to a printer.
- 5 Select the *Banner Text Location*.
This is where the banner option information appears on the banner page. The banner information is grouped together and then placed as a unit either starting at the top of the page, centered on the page, or starting at the bottom of the page.
- 6 Select the banner options you want and the font size you want to display the information.
- 7 Click *OK* to save the changes.

Associating a Custom Banner to a Printer

- 1 In iManager, click *iPrint > Printer Banner Configuration*.
- 2 Browse to and select the Print Manager where the Printer Agents are hosted.
- 3 Select *Assign Custom Banner*, then click *OK*.
- 4 From the *Custom Banner* drop-down list, select the banner you want.
- 5 Select the check box next to each printer you want this banner associated with.
When you select the check box, the banner name appears in the *Assign Banner* field. To associate a different banner, select the desired banner from the *Custom Banner* drop-down list, and select the check box for the printer you want to change. If you do not want a banner to be used, select *None*.

You can also assign banners when you use the Manage Printer task.

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want to modify.
- 3 Click *Configuration > Custom Banners*.
- 4 In *Available Banners*, select the banner that you want this printer to use.
- 5 Click *OK* to save the changes.

If you select to display eDirectory information such as the eDir e-mail address, the Print Manager needs rights to read these attributes. Follow the steps in [“Using eDirectory Attributes with Custom Banners” on page 121](#).

Using eDirectory Attributes with Custom Banners

Custom banners lets you select the information you want displayed on the banner page. Some of the banner options use information contained in eDirectory. In order for the Print Manager to obtain this information, you must modify the trustee rights and give the Print Manager read rights to these properties. Because rights flow down the eDirectory tree, you can assign the trustee right at a container level above the users, or to the tree.

- 1 In iManager, click *Rights > Modify Trustee Rights*.
- 2 Select the container or tree where you want to modify the rights.
- 3 Click *Add Trustee*, then select the Print Manager object.
- 4 Click *Add Property*, then select the *Show All Properties in Schema* check box.
- 5 Select the attributes that you want:

Banner Option	eDirectory Property
eDir mail stop	mailstop
eDir e-mail address	EMail Address
eDir location	L
eDir telephone number	Telephone Number
eDir user first name	Given Name
eDir user full name	Full Name
eDir user last name	Surname

- 6 Click *OK*.
- 7 Ensure that at least the Read right is selected.
- 8 Click *Done*.

9.4.8 Modifying the Printer's Gateway Load Commands

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want to modify.
- 3 Click *Configuration > Gateway*.
- 4 Edit the gateway autoload command.

The following table describe the gateway load commands and parameters that can be used.

Gateway Load Parameters	Description
IPRINTGW	The gateway executable that is loaded for the Printer Agent.
PA=	The name of the Printer Agent to be supported by this gateway instance.
PORT=	<p>The port on the physical printer to be used for print job submission. Valid values are:</p> <p>LPR: Specifies the LPR print protocol and resolves to the standard LPR port - 515.</p> <p>RAW: Specifies the RAW print protocol and resolves to the default RAW port - 9100 unless the port number is specified separately in the load string. Port 91 can also be used instead of 9100.</p> <p>Number: The actual port number for the physical printer.</p> <p>NODATA: Specifies the LPR print protocol, but document data is not submitted to the physical printer.</p> <p>NULL: SNMP and ping are disabled for this gateway instance. Document data is not submitted to the physical printer.</p>
STRICTLPR	<p>Limits the port number on the gateway side of LPR communication to the standard LPR range of sockets (721 - 1020).</p> <p>This parameter is needed only for some older printers that enforce the range of ports specified by the original LPR specification for LPR clients.</p>
HOSTADDRESS=	Any of these specifies the hostname / IP address for the physical printer to be supported by this gateway instance.
HOSTNAME=	
HOST=	
IPADDRESS=	
	<p>NOTE: If the hostname / address value has :nn at the end of the value, the port number for the printer is derived from this value.</p> <p>However, the most common approach is to specify the port with the PORT= parameter.</p>
PRINTERNAME=	The printer / queue name for LPR protocol print sessions to the physical printer. The default value is PASSTHROUGH.
PRINTER=	
GETCOMMUNITYSTRING=	Specifies the community string for SNMP requests. This is only needed when a printer has been configured with a community string that is different from the default string "public".
GET=	
SQUERYACTIVE=	Specifies the interval between SNMP requests to the physical printer while the printer is idle. The default value is 300 seconds (5 minutes).

Gateway Load Parameters	Description
S POLL=	Specifies the interval between SNMP requests to the physical printer while the printer is active or idle.
SETCOMMUNITYSTRING=	Sets the community string to be used for the <code>SNMPGet</code> and <code>GetNext</code> requests.
J POLL=	Sets the job polling interval (in seconds). NOTE: When the J POLL option is not set, the job polling interval is 2 seconds.
N OSNMP	Disables SNMP requests for this gateway instance to its respective physical printer.
W AITONPRINTER=	Specifies the number of minutes to timeout for communication to the physical printer. NOTE: For write attempts, this parameter is only effective if the value is greater than the minimum default timeout value. If SNMP is disabled by the N OSNMP or the NULL parameter, the minimum default is 15 minutes. If SNMP is active, the minimum default is 5 minutes.
T HROTTLE=	Specifies a delay of nn seconds while establishing communication with the physical printer and between print jobs. This is primarily used for solving a problem where the end of a job is lost when submitting an LPR job to a windows system.
K YOCERA=	Sets the Printer Manufacturer (Make) attribute for this Printer Agent to "Kyocera".
R ICOH=	Sets the Printer Manufacturer (Make) attribute for this Printer Agent to "Ricoh".
T ROY=	This has no effect.

- 5 Click *OK* to save the changes.

9.4.9 Configuring LPR Printers

UNIX, Macintosh, and other LPR clients can print to iPrint printers through LPR.

IMPORTANT: In order for LPR to work, the Printer Agent name cannot contain spaces. If it does, you need to re-create the Printer Agent or select a different printer.

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want to enable LPR printing for.
- 3 Click *Client Support > LPR Support*.
- 4 Select the *Enable LPR/LPD Client Support* check box.

The *LPR Host* and *LPR Printer/Queue* fields display information required when setting up printing for Macintosh, UNIX, or other LPR clients.

LPR Host: The server name where the Print Manager is running.

LPR Printer/Queue: The same as the Printer Agent's name. The Printer Agent name cannot contain any spaces; otherwise, LPR does not work properly.

- 5 (Optional) Enable the following options:

Filter All LF to CRLF and Append FF to Jobs: Selecting this check box changes bytes in the LPR data stream of all incoming LPR print jobs from Line Feeds to Carriage Returns with Line Feeds and appends a Form Feed to the end of the print job. Typically, these changes are made at the LPR client; however, if you are sure of your users' configurations, you can implement this option.

Address Ranges: Add an address range only if you want to restrict access to this printer to LPR clients within the address range. When the list is empty, all addresses are allowed to print (default).

- 6 Click *Apply* or *OK* to update the printer settings.
- 7 From the UNIX, Macintosh or other LPR client, set up a printer using the LPR Host and LPR Printer/Queue information displayed in [Step 4](#).

9.4.10 Configuring Job Holds

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want to modify.
- 3 Click *Configuration > Job Holds*.
- 4 Modify the settings.

Operator Hold: A job does not print until the operator releases it.

User Hold: A job does not print until the user who has submitted the job releases it.

- 5 Click *OK* to save the changes.

9.5 Managing the Driver Store

Although the default settings lets users print without additional configuration, you might want to modify some settings so that you can manage your printing resources most effectively.

- ♦ [Section 9.5.1, "Creating Additional Driver Stores," on page 124](#)
- ♦ [Section 9.5.2, "Understanding the Driver Store Configuration File," on page 125](#)
- ♦ [Section 9.5.3, "Changing the eDirectory Server Assignment," on page 125](#)
- ♦ [Section 9.5.4, "Loading or Unloading the Driver Store," on page 125](#)
- ♦ [Section 9.5.5, "Updating Printer Drivers," on page 126](#)
- ♦ [Section 9.5.6, "Deleting Printer Drivers," on page 126](#)

9.5.1 Creating Additional Driver Stores

Although you can create additional Driver Stores, you only need one for your iPrint system because the Print Manager saves the downloaded drivers files to disk. If the Print Manager does not have a requested driver, it copies the driver from the Driver Store and then saves it to disk. This process is

relatively quick, even for the first user to request a printer driver. We recommend that you maintain only one Driver Store, so you do not need to track which Driver Store contains what printer drivers. Periodically, the Print Manager checks the Driver Store for updated printer drivers.

If you configure multiple Driver Stores that run on the same server, they all point to the same repository of printer drivers. This can be useful because each Driver Store has its own eDirectory object, and you can distribute the objects in your eDirectory tree.

To create a driver store:

- 1 In iManager, click *iPrint > Create Driver Store*.
- 2 Specify the Driver Store name you want for the Driver Store object.
- 3 Specify the container name where you want the Driver Store object to reside.
- 4 Specify a DNS name or IP address of the target server where you want the Driver Store to reside.
- 5 Specify an eDirectory server that you want the Driver Store to communicate with.
For fault tolerance, you can specify more than one eDirectory server from the same tree. For more information, see [Section 9.5.3, “Changing the eDirectory Server Assignment,” on page 125](#).
- 6 Click *OK*.

To modify the Driver Store properties or to add printer drivers, click *Manage Driver Store*, then select the Driver Store you want to modify.

9.5.2 Understanding the Driver Store Configuration File

When you create a Driver Store, a configuration file is created in `/etc/opt/novell/iprint`. The filename is `idsd.conf`. Each time you use iManager to create a Driver Store object and assign it to the same server, a separate entry is added to `idsd.conf`. Although you can have several Driver Stores assigned to a server, all printer driver files are stored in one file structure on the server. For information about the entries in the configuration file, see `/etc/opt/novell/iprint/conf/idsd.conf`.

9.5.3 Changing the eDirectory Server Assignment

If you need to change the eDirectory server assignment for the Print Manager or Driver Store, edit the Driver Store `Server1=` entry in the corresponding configuration file, `print_manager_name_ipsmd.conf` or `idsd.conf`, located in `/etc/opt/novell/iprint/conf`.

NOTE: As many as two additional servers can be specified, using Driver Store `Server2` and Driver Store `Server3`. Driver Store `Server1` is considered to be the primary eDirectory server. Driver Store `Server2` and Driver Store `Server3` are considered to be secondary servers.

9.5.4 Loading or Unloading the Driver Store

You can start and stop the Print Manager in two ways:

- ♦ [“Using the Command Line” on page 126](#)
- ♦ [“Using iManager” on page 126](#)

Using the Command Line

The Driver Store uses init scripts for starting and stopping the daemon. To load the Driver Store from the command line, enter `/etc/init.d/novell-idsd start`

The following init script actions are also valid:

Table 9-2 *Driver Store Actions*

Action	Description
reload or force-reload	Stops and then starts the daemon.
start	Starts the daemon.
status	Displays the status of the daemon and the name of the Driver Store.
stop	Stops the daemon.

Using iManager

On the Driver Store Control property page, you can view the Driver Store's status and unload or load the Driver Store daemon.

- 1 In iManager, click *iPrint > Manage Driver Store*.
- 2 Click *Driver Store Control > Shutdown* to stop the Driver Store process.
- 3 Click *OK*.

9.5.5 Updating Printer Drivers

- 1 Add a new driver.

For more information on adding a new driver, see [Section 3.3.4, "Managing Printer Drivers," on page 32](#).

- 2 Associate the printer to the driver.

For more information on associating a printer to the driver, see [Step 3 on page 38](#).

NOTE: Only the new iPrint Clients auto-update the drivers. For the existing or old Print Clients, you need to manually install and associate the drivers.

9.5.6 Deleting Printer Drivers

- 1 In iManager, click *iPrint > Manage Driver Store*, then browse to and select the Driver Store you want.
- 2 Click *Drivers*, then select the client platform you want to work with.
- 3 Select the driver you want to delete.
- 4 Click *Delete*.
- 5 Click *OK*.

9.6 Configuring LDAP

iPrint uses LDAP to verify rights to perform various iPrint operations, including authenticating users for printing, and performing management tasks such as uploading drivers. During the iPrint installation, iPrint attempts to identify the top-most container of the eDirectory tree and sets the base DN to this container for the AuthLDAPURL entry in `/etc/opt/novell/iprint/httpd/conf/iprint_ssl.conf`. For most installations, this is adequate because users are often distributed across containers. However, if you have multiple peer containers at the top of your eDirectory tree, leave this field blank so the LDAP search begins at the root of the eDirectory tree.

Use the following syntax for the AuthLDAPURL entry:

```
ldap://host:port/basedn?attribute?scope?filter
```

Use the following example of a typical AuthLDAPURL entry where the base DN is set to a container called DivisionA:

```
"ldaps://server1.my_company.com/C=DivisionA???(objectClass=user) "
```

Use the following example of a modified AuthLDAPURL entry where the base DN is removed. This means that the search begins at the root of the eDirectory tree:

```
"ldaps://server1.my_company.com/???(objectClass=user) "
```

TIP: For fault tolerance, you can specify additional LDAP servers if an LDAP server is unavailable. Additional servers use the attributes prescribed on the first server. Additional LDAP servers are separated by a space. An AuthLDAPURL entry specifying multiple LDAP servers appears like `ldaps://ldap.domain.com ldap1.domain.com/o=novell???(objectClass=user)`

For more information about the AuthLDAPURL, see the [AuthLDAPUrl Directive \(http://httpd.apache.org/docs/2.0/mod/mod_auth_ldap.html#authldapurl\)](http://httpd.apache.org/docs/2.0/mod/mod_auth_ldap.html#authldapurl).

10 Setting Up a Secure Printing Environment

You can set up a secure printing environment by using the following methods:

- ♦ [Section 10.1, “Setting Access Control for Your Print System,” on page 129](#)
- ♦ [Section 10.2, “Using SSL/TLS for Secure Printing,” on page 132](#)

10.1 Setting Access Control for Your Print System

Your print system is designed to take full advantage of eDirectory. You receive all the benefits of eDirectory security and ease of management provided by the industry’s most advanced and robust directory service. The Access Control feature lets you specify the access that each User, Group, or Container object has to your printing resources. Currently, access control for printers is only supported on the Windows iPrint Client.

Access control roles are mutually exclusive, even though the same individual might need to perform tasks reserved for different roles. For example, only Printer Managers can add or delete printer operators or printer users. In a similar way, managers and operators must also be designated as users for a printer before they can submit print jobs to it.

In actual implementation, the defaults prevent most problems that might occur from these distinctions. For example, a manager is automatically designated an operator and user, and an operator of a printer is automatically designated a user of that printer.

The creator of an object is automatically granted privileges for all available roles for the type of object being created.

The following sections describe some of the security issues and features you might find useful as you plan your print system setup:

- ♦ [Section 10.1.1, “Setting Access Control for Printers,” on page 129](#)
- ♦ [Section 10.1.2, “Setting Access Control for the Print Manager,” on page 131](#)
- ♦ [Section 10.1.3, “Setting Access Control for the Driver Store,” on page 132](#)

10.1.1 Setting Access Control for Printers

Printer security is ensured through the assignment of the manager, operator, and user access control roles and by the strategic placement of your printers and printer configurations.

- ♦ [“Printer Access Control Roles” on page 130](#)
- ♦ [“Assigning Printer Access Control Roles through Printer Objects” on page 131](#)

Printer Access Control Roles

Different User, Group, or container objects can have different access rights to the same printer. For example, if you want only certain users to be able to send jobs to a particular printer, you can specify which users should have access and what access roles each user should have.

The following table describes the rights and privileges associated with each of the printer access control roles:

Table 10-1 *Printer Access Control Roles*

Role	Description
Manager	<p>Tasks performed exclusively by the Manager are those that require the creation, modification, or deletion of objects, as well as other directory administrative functions. Managers are automatically designated as Operators and Users, so they can perform all tasks assigned to those operator roles. Typical manager functions include the following:</p> <ul style="list-style-type: none">♦ Modifying and deleting Printer objects♦ Adding or deleting operators and users for a printer♦ Adding other managers♦ Configuring interested-party notification♦ Creating, modifying, or deleting printer configurations
Operator	<p>Operators are automatically designated as Users, so they can perform all tasks assigned to Users roles. Printer management tasks performed by the operator include the following:</p> <ul style="list-style-type: none">♦ Performing all of the functions available through the Printer Control page♦ Pausing, restarting, or reinitializing printers♦ Reordering, moving, copying, and deleting jobs♦ Setting printer defaults, including locked properties <p>Operators cannot create, modify, or delete eDirectory objects or perform other eDirectory administrative functions.</p>
User	<p>Tasks performed by users include the following:</p> <ul style="list-style-type: none">♦ Submitting print jobs♦ Managing print jobs they own (users cannot copy, move, reorder, or remove jobs they do not own) <p>To simplify administration, the container a printer resides in is automatically assigned as a user for that printer, so all users in that container and its subcontainers can use that printer without being added to the list. You can delete the container from the list if you want to limit access to certain users, groups, or roles.</p>

Assigning Printer Access Control Roles through Printer Objects

Different User, Group, or Container objects can have different access rights to the same printer. For example, if you want only certain users to be able to send jobs to a particular printer, you can specify which users should have access and what access roles each user should be given.

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the printer you want to enable Access Control for.
- 3 Click the *Access Control* tab.
- 4 Add or delete Users, Groups, or Container objects to the different access control roles.
- 5 Click OK.

10.1.2 Setting Access Control for the Print Manager

Print Manager security is ensured through the assignment of the manager access control role.

- ♦ [“Print Manager Access Control Role” on page 131](#)
- ♦ [“Assigning the Manager Role for Print Managers” on page 131](#)

Print Manager Access Control Role

The only access control role available for the Print Manager is that of manager. The following table explains the tasks performed by the manager role:

Table 10-2 *Print Manager Access Control Role*

Role	Description
Manager	<p>Tasks performed exclusively by the manager are those that require the creation, modification, or deletion of print system objects, as well as other eDirectory administrative functions. Typical manager functions include the following:</p> <ul style="list-style-type: none">♦ Creating Printer Agents and Print Manager objects♦ Adding or deleting operators and users for a printer♦ Adding other managers♦ Configuring interested-party notification♦ Creating, modifying, or deleting printer configurations

Assigning the Manager Role for Print Managers

To create manager assignments for your Print Manager objects:

- 1 In iManager, click *iPrint > Manage Print Manager*.
- 2 Browse to and select the Print Manager you want to enable access control for.
- 3 Click the *Access Control* tab.
- 4 Add or delete Users, Groups, or containers to the manager role.
- 5 Click OK.

10.1.3 Setting Access Control for the Driver Store

The Driver Store security is ensured through the assignment of manager access control roles.

- ♦ [“Driver Store Access Control Roles” on page 132](#)
- ♦ [“Assigning Managers for the Driver Store” on page 132](#)

Driver Store Access Control Roles

The access control roles available to the Driver Store are manager and public access user. The following table explains these roles:

Table 10-3 *Driver Store Access Control Roles*

Role	Description
Manager	Tasks performed exclusively by the Driver Store manager are those that require the creation, modification, or deletion of Driver Store objects, as well as those that involve other eDirectory administrative functions. Typical manager functions include the following: <ul style="list-style-type: none">♦ Creating, modifying, and deleting Driver Store objects♦ Adding other managers♦ Adding resources to the Driver Store
Public Access User	A public access user is a role assigned to all entities on the network that are users of resources provided by the Driver Store. This role is assigned by default and does not require specific administrative action by the Driver Store manager. Typically, Print Managers refresh their cached copies of printer drivers for the printers they are hosting with updated printer drivers from the Driver Store.

Assigning Managers for the Driver Store

To create Manager assignments for your Driver Store objects:

- 1 In iManager, click *iPrint > Manage Driver Store*.
- 2 Browse to and select the Driver Store you want to enable access control for.
- 3 Click the *Access Control* tab.
- 4 Add or delete Users, Groups, or Containers to the manager role.
- 5 Click OK.

10.2 Using SSL/TLS for Secure Printing

Secure printing takes advantage of SSL, which requires users to authenticate with their eDirectory usernames and passwords. Users authenticate once per eDirectory tree per session. Between the client and the Print Manager, the print data is encrypted and all print communication uses port 443. Without secure printing, the printer is available to anyone inside the firewall on the network and the print data is not encrypted to the server. Secure printing works in conjunction with the security level

set for the printer. All print data between the server and the printer is not encrypted because most printers do not support encrypted data. Also, when you enable iPrint Direct, data is not encrypted between the client and the printer.

If you are using the latest iPrint Client and server software, iPrint automatically attempts to use TLS for printing on port 631. TLS printing supports encrypted and non-encrypted print communication through port 631. Whether or not encryption is used is dependent on the secure printing setting of the Printer Agent. If secure printing is enabled on a printer, the user is required to authenticate, and the print data is encrypted. If secure printing is not enabled, the user does not authenticate and the print data is not encrypted.

Beginning with Open Enterprise Server and the iPrint Client 4.05, both non-secure and secure printing URLs use `ipp://`.

Prior to Open Enterprise Server, printer URLs were based on `http://` and `https://`. When a non-secure printer using an `http://` URL changes to a secure printer, the URL changes to `https://` or `ipp://` and users must delete the printer and reinstall the new secure printer.

- ♦ [Section 10.2.1, “Enabling SSL/TLS,” on page 133](#)
- ♦ [Section 10.2.2, “Saving Passwords for Secure Printers,” on page 133](#)
- ♦ [Section 10.2.3, “Configuring TLS Printing with Proxies,” on page 133](#)

10.2.1 Enabling SSL/TLS

- 1 In iManager, click *iPrint > Manage Printer*.
- 2 Browse to and select the Printer object you want to modify.
- 3 Click *Client Support > iPrint Support*.
- 4 Select the *Enable Secure Printing* check box.
- 5 Click *Apply* or *OK* to update the printer settings.

10.2.2 Saving Passwords for Secure Printers

When users print to a secure printer, they are prompted for the eDirectory username and password. Users can select to have their workstations remember their password for printing. For Windows NT/2000 users, passwords are saved on a per-user basis.

For more information, see [“Managing Passwords for Remote iPrint Servers” on page 57](#).

10.2.3 Configuring TLS Printing with Proxies

To use a proxy with secure printing:

- 1 Create a file in `/etc/opt/novell/httpd/conf.d` named `mod_proxy.conf`.
- 2 Add the following lines to the file:

```

LoadModule proxy_module /usr/lib/apache2-worker/mod_proxy.so
LoadModule proxy_connect_module /usr/lib/apache2-worker/mod_proxy_connect.so
LoadModule proxy_http_module /usr/lib/apache2-worker/mod_proxy_http.so

# This is the port the proxy will listen on
Listen 8080

ProxyRequests On
ProxyVia On
<Proxy *>
    Order deny,allow
    Allow from All
</Proxy>
AllowCONNECT 631 443

```

- 3 Set the proxy port on the client to 8080.
- 4 Restart Apache.

To set up a Squid proxy:

IMPORTANT: Implementing the following changes lets your users print using TLS; however, there are security risks involved. Contact your Security Administrator before completing these steps.

- 1 Rename the Squid configuration file by using the following command: `mv /etc/squid/squid.conf /etc/squid/squid.conf.orig`
- 2 Create a new `/etc/squid/squid.conf` file.
- 3 Add the following lines to the file:

```

http_port 3128

acl all src 0.0.0.0/0.0.0.0
acl manager proto cache_object
acl localhost src 127.0.0.1/255.255.255.255
acl to_localhost dst 127.0.0.0/8
acl SSL_ports port 80 443 563 631
acl Safe_ports port 80          # http
acl Safe_ports port 21          # ftp
acl Safe_ports port 443 563 631 # https, snews
acl Safe_ports port 70          # gopher
acl Safe_ports port 210         # wais
acl Safe_ports port 1025-65535  # unregistered ports
acl Safe_ports port 280         # http-mgmt
acl Safe_ports port 488         # gss-http
acl Safe_ports port 591         # filemaker
acl Safe_ports port 777         # multiling http
acl CONNECT method CONNECT

aclipp_access port 631
http_access allow all
miss_access allow all
http_access allow CONNECTipp_access
http_reply_access allow all
icp_access allow all
miss_access allow all

```

- 4 Set the proxy port on the client to 3128.
- 5 Restart Squid.

11 Troubleshooting iPrint

The following are some common troubleshooting issues:

- ♦ Section 11.1, “Non-replica eDirectory Server Issues,” on page 135
- ♦ Section 11.2, “Printer Assignment issues,” on page 136
- ♦ Section 11.3, “ZLIB error during printer installation, profile creation, or upload,” on page 137
- ♦ Section 11.4, “Dragging and dropping printers to a printer map might result in space restriction errors,” on page 137
- ♦ Section 11.5, “Installing VMWare tools when iPrint is hosted in VMWare results in a CUPS conflict,” on page 137
- ♦ Section 11.6, “Interactive Service Dialog Box,” on page 137
- ♦ Section 11.7, “Problem with iPrintman,” on page 138
- ♦ Section 11.8, “Problem with Installing a Secure Printer,” on page 138
- ♦ Section 11.9, “Printer Installation Fails,” on page 139
- ♦ Section 11.10, “Unable to Print Test Page,” on page 139
- ♦ Section 11.11, “iPrint Client Installation Fails,” on page 139
- ♦ Section 11.12, “iPrint Service Fails when Renaming a Volume Where iPrint Is Hosted,” on page 139
- ♦ Section 11.13, “iPrint xClient Installation Fails on a SLED 11 64-Bit Computer,” on page 140
- ♦ Section 11.14, “Cluster Configuration Fails on an NSS Volume When You Use `iprint_relocate`,” on page 140
- ♦ Section 11.15, “Upgrading iPrint on a Cluster Does Not Upgrade the iPrint Clients,” on page 140
- ♦ Section 11.16, “iPrint LUM error when running the `iprint_nss_relocate` script,” on page 141
- ♦ Section 11.17, “Secure Printer Installation Fails,” on page 141
- ♦ Section 11.18, “Error on Uploading a Driver,” on page 142
- ♦ Section 11.19, “Error on Deleting Printer Agents,” on page 142
- ♦ Section 11.20, “iManager Help Page Displays an Error on Internet Explorer 8 Running in Chinese,” on page 142

11.1 Non-replica eDirectory Server Issues

These issues should be understood in the context of eDirectory non-replica servers. These issues can occur throughout Open Enterprise Server (OES) 11 so they refer to the OES 11 troubleshooting information or eDirectory documentation on the [Novell OES 11 online documentation site \(http://www.novell.com/documentation/oes11/\)](http://www.novell.com/documentation/oes11/) for details. For more information on eDirectory, refer to the *Novell eDirectory 8.8 Administration Guide*.

Unable to start/stop the Print Manager/Driver Store from iManager

Explanation: You cannot start/stop the Print Manager/Driver Store using iManager. Unable to bind to the eDirectory throws an error message with the code FFFFD8E (-626).

Possible Cause: The SLP configuration of the non-replica OES server. Two modes of SLP configuration for a non-replica OES server are:

- ♦ SLP-DA (Directory Agent)
- ♦ Multicast SLP

There are two possible problems for a non-replica OES server in SLP-DA mode:

- ♦ The non-replica OES server is not able to reach the DA server.
- ♦ The replica OES server is not able to reach the DA server.

There is one possible cause for this problem for a non-replica OES server in Multicast SLP mode:

- ♦ The firewall is on, so multicast communication is not possible.

Action: If the message indicates *Non-replica server is not able to reach the DA server*, ensure the DA server is up.

If the message indicates *Replica server is not able to reach the DA server*, ensure the DA server is within the multicast range of the replica server. If it is not within the multicast range, provide the IP address of the DA server in the SLP configuration file of the replica server.

For details on SLP configuration and setting up the DA server, see “Configuration Parameters” of the *Novell eDirectory 8.8 Administration Guide* (<http://www.novell.com/documentation/edir88/edir88/data/akscitm.html>).

For the *Multicast SLP* configuration, turn the firewall off.

11.2 Printer Assignment issues

These issues are specific to iPrint on Linux.

Printer assignment fails for Linux drivers

Explanation: Uploading a driver to the driver store succeeds but assigning the driver to the printer fails from iManager.

Possible Cause: Verify whether the driver name contains two continuous blank spaces. The following two printers have been found to cause problems:

♦HP LaserJet 9000 postscript

♦HP LaserJet 9000 MFP postscript

NOTE: Note the two continuous blank spaces before the word postscript in the above two examples.

Action: Do not use Firefox to upload the drivers with two continuous blank spaces from a Linux client. Instead, use Internet Explorer from any Windows client to upload and assign the drivers.

11.3 ZLIB error during printer installation, profile creation, or upload

This happens when the machine has space constraint problems. Performing Printer Install, Upload, or Profile Creation actions on a machine that is almost out of space results in a ZLIB error.

11.4 Dragging and dropping printers to a printer map might result in space restriction errors

When you create a map by using the map tool, you might not be able to drag a printer icon and drop it on the top portion of the map. This happens if you have scrolled down the map, and have not scrolled back up to the original position. When you scroll back up to the original position for the map you can drag a printer icon and drop it on the map.

11.5 Installing VMWare tools when iPrint is hosted in VMWare results in a CUPS conflict

If you are installing iPrint in a VMWare environment, you might encounter issues that are caused by conflicts with the VMware tools. The tools use a startup script that starts CUPS. If iPrint is installed, this can cause problems in managing the iPrint server that the VMware tools are installed on. There is a conflict that cannot be resolved until CUPS releases the port it is holding open.

To fix this, run the following script: `#> chmod 775 /etc/init.d/vmware-tools`

Now, go to vmware-tools and comment out the following lines:

```
$cupsscript start
#> vi /etc/init.d/vmware-tools
# If we found CUPS, start it, wait, then start tpmvlpd
    if [ $cupsscript ]; then
        # $cupsscript start
        sleep 2
#> chkconfig cups off
```

Reboot to test the new configuration.

11.6 Interactive Service Dialog Box

This issue is specific to Vista and Windows Server 2008 platforms.

The iPrint dialog box is intercepted on Vista and Windows Server 2008

Explanation: The iPrint dialog box on Vista and Windows Server 2008, sometimes displays the Interactive Services dialog box .

Possible Cause: Vista restricts applications from being launched from the system context. This has been fixed in iPrint, but there might be random situations where it still happens.

Action: To avoid seeing this dialog box, the interactive service needs to be stopped by using the following procedure:

- 1 Right-click *My Computer*.
- 2 Select *Manage*.
- 3 Select *Services*.
- 4 Double-click *Interactive Service Detection* service from the list.
- 5 Click *Stop*.

11.7 Problem with iPrintman

This issue is specific to migration.

Unable to get the user FDN and/or password from the request when using iPrintman

Explanation: After the upgrade is over, iManager shows that both the Driver Store and PSM are down.

Possible Cause: AS problem with the Small Footprint CIM Broker (SFCB) configuration.

Action: Use the following procedure:

- 1 Use the `rcnovell-idsd stop` and `rcnovell-ipsmd stop` commands to stop the `idsd` and `ipsmd` daemons before the upgrade.
- 2 Use the `rcnovell-idsd start` and `rcnovell-ipsmd start` commands to restart the `idsd` and `ipsmd` daemons after the upgrade is over.

11.8 Problem with Installing a Secure Printer

The issue is specific to the Linux client.

Installing a secure printer fails intermittently on the iPrint Linux client

Explanation: Installing a secure printer fails on the iPrint Linux client if you are using long user names.

Possible Cause: If you are using long user names, the connection times out because of the delay in typing the user name.

Action: Do the following to avoid this problem:

- 1 Use short user names.
- 2 Type the user name fast or copy paste the user name.

11.9 Printer Installation Fails

The printer installation fails when you install a printer through IPP or the command line utility.

Unable to install the printer when the specified PPD file is not found

Explanation: When you install a printer, the iPrint Client verifies the availability of the filters specified in the PPD file. If the filters are not available, the printer installation fails.

Action: Search for a CUPS-compatible driver for the printer that failed to install. Use the `/usr/bin/cupstestppd` utility to verify if the PPD is supported by CUPS.

11.10 Unable to Print Test Page

This problem is specific to SLED 10 SP2 and HP IJS drivers.

Unable to print the test page from the SLED 10 SP2 using HP IJS drivers

Possible Cause: The interpreter used by these drivers cannot process the test page.

Action: To validate your printer, print from any other application, such as any text editor.

11.11 iPrint Client Installation Fails

This problem is specific to Windows Vista and Windows 7 64-bit.

iPrint client installation fails when installing the client from the IPP page

Source: Mozilla Firefox

Explanation: The iPrint client installation fails when you install the iPrint client from the IPP page using Firefox on a Windows Vista or a Windows 7 64-bit computer.

Possible Cause: Firefox does not determine the correct operating system version and it uses the 32-bit client instead of the 64-bit client.

Action: Use Internet Explorer to install the iPrint client from the IPP page.

11.12 iPrint Service Fails when Renaming a Volume Where iPrint Is Hosted

If you rename the NSS volume that hosts the Print Manager, the iPrint IPP page fails to display and the iPrint configuration breaks. To re-establish the symbolic links broken because of renaming the volume, use the following steps:

- 1 Run the `iprint_nss_relocate` script, and use the new volume path.
- 2 Restart `idsd` (`rcnovell-idsd start`) and `ipsmd` (`rcnovell-ipmsd start`).

11.13 iPrint xClient Installation Fails on a SLED 11 64-Bit Computer

Installing the iPrint xClient fails on a 64-bit computer because of a dependency on 32-bit XULRunner. You can resolve the dependency by doing either of the following:

- ♦ Install the zypper `install novell-iprint-xclient-sl-6.502.20090805-4.x86_64.rpm` package to resolve the dependency on 32-bit XULRunner and install the iPrint xClient on a 64-bit machine.
- ♦ Install the zypper `install mozilla-xulrunner190-32bit` package to download 32-bit XULRunner. Then you can install the iPrint xClient on a 64-bit computer.

11.14 Cluster Configuration Fails on an NSS Volume When You Use `iprint_relocate`

For cluster configuration on NSS volume, use the `iprint_nss_relocate` script. For more information, see [Section 8.3.1, “Clustering on an NSS File System,” on page 92](#). Use the `iprint_relocate` script only for ReiserFS file system.

11.15 Upgrading iPrint on a Cluster Does Not Upgrade the iPrint Clients

IMPORTANT: This issue applies only if you have configured iPrint to store its configuration on a shared NSS volume in a cluster.

On servers that store their iPrint configuration on an NSS volume, the iPrint configuration folder (`/var/opt/novell/iprint/htdocs`) at the root of the file system is actually a symbolic link to the NSS volume.

During a cluster upgrade to OES 11, the connection between the server being upgraded and the shared NSS volume is taken down, making the symbolic link invalid. When the upgrade process determines that the symbolic link is invalid, it overwrites the symbolic link with an actual folder on the system disk, so that when the server comes back up, the NSS volume is inaccessible. Obviously, the files it contains have not been upgraded.

OES 11 restores the symbolic link to the shared NSS volume, but it doesn't update the iPrint files. Therefore, you must manually copy the files to the shared NSS volume, while at the same time preserving the configuration settings in the `iprint.ini` file located there.

To address this issue, bring up the shared NSS volume where the iPrint configuration files are stored and do the following:

- 1 On the upgraded server's file system, check to make sure that the `/var/opt/novell/iprint/htdocs` symbolic link is providing access to the shared NSS volume.
- 2 Make a backup copy of the `iprint.ini` file that is located in the `/var/opt/novell/iprint/htdocs` folder. You use this to restore the original `iprint.ini` file in [Step 5 on page 141](#).

- 3** (Conditional) If you are upgrading an OES 2 FCS server and you use the automatic client update feature, do the following:

3a Open the backup copy of the `iprint.ini` file in a text editor.

3b Locate the following lines:

```
NovellWinVersion      = 432      ;This is set by Novell, Inc.  
NovellWinVer2K        = 432  
NovellWinVerXP        = 432
```

3c Change the version number for each client type from 432 to 438 as follows:

```
NovellWinVersion      = 438      ;This is set by Novell, Inc.  
NovellWinVer2K        = 438  
NovellWinVerXP        = 438
```

3d Save the file.

- 4** Copy the contents of the `/var/opt/novell/iprint_client/htdocs` folder to the `/var/opt/novell/iprint/htdocs` folder by using the following command: `cp /var/opt/novell/iprint_client/htdocs/* /var/opt/novell/iprint/htdocs/ -rf`

IMPORTANT: Do not delete the contents of the `/var/opt/novell/iprint/htdocs` folder. Only overwrite the folder contents. The `/var/opt/novell/iprint/htdocs/` folder contains additional files not found in the `/var/opt/novell/iprint_client/htdocs/` folder.

- 5** Replace the `iprint.ini` file in the `/var/opt/novell/iprint/htdocs` folder with the backup copy that you created in Step 3, and if applicable, modified in [Step 4 on page 141](#).

11.16 iPrint LUM error when running the `iprint_nss_relocate` script

You might see the following error when you execute the NSS relocate script: iPrint LUM User does not exist in container `<iprint_lum_container>`.

One of the reasons for this error could be that the LUM-enabled user and group names might be incorrect.

This can be solved by checking whether the iPrint LUM enabled user and group names (`iprint` and `iprintgrp`) are lowercase. If they are not, rename them to lowercase and re-run the script.

NOTE: All system users and groups should be assigned names in lowercase, which is expected in Linux and UNIX.

11.17 Secure Printer Installation Fails

If you get a Winsock error during secure printer installation, check your proxy setting in the iPrint client tray icon.

11.18 Error on Uploading a Driver

A `driver store (DS) not loaded` message is displayed on uploading the drivers, but the status of the driver Store is Active when verified through iManager or the `rcnovell-idsd` command.

A possible reason for the error is that the server is running low on disk space. To resolve this issue, check the hard disk of the server and increase its capacity accordingly.

11.19 Error on Deleting Printer Agents

When you create a PSM and corresponding Printer Agents as an Administrator, log out of iManager, and then use a Manager User account type to log in to iManager and try to delete the PSM, the PSM is deleted, but the corresponding Printer Agents are not deleted. A `PSM is not loaded` message is displayed when you delete the PSM.

You can delete the PSM and corresponding Printer Agents with an Admin account type but not a Manager User account type.

11.20 iManager Help Page Displays an Error on Internet Explorer 8 Running in Chinese

When you launch the help page for a Printer in iManager, when you are using the Chinese language in Internet Explorer 8 with the default encoding set to GB2312, the help page is not displayed. Set the default encoding to UTF-8 to correctly display the help page.

A Supported Browsers for iPrint

The section provides information on which Web browsers are supported for different iPrint tasks and operations.

- ♦ [Section A.1, “iPrint Client Supported Browsers,” on page 143](#)
- ♦ [Section A.2, “Supported Browsers for the iPrint Plug-In and iManager,” on page 143](#)
- ♦ [Section A.3, “Supported Browsers for the iPrint Map Designer,” on page 144](#)

A.1 iPrint Client Supported Browsers

The following table indicates which browsers are supported with the various iPrint Client platforms:

iPrint Client Platform	Supported Browsers
Linux	♦ Mozilla Firefox 2.x.x, 3.0.x, or later
Macintosh	♦ Safari 1.2 or later ♦ Safari 2.0.1 or later NOTE: iPrint has not been tested with Safari 3.x.
Windows	♦ Microsoft Internet Explorer 6.0 or later ♦ Mozilla Firefox 2.0.x, 3.0.x, or later
Windows Vista	♦ Internet Explorer 7 or later ♦ Mozilla Firefox 3.0.x or later
Windows 7	♦ Internet Explorer 8 ♦ Mozilla Firefox 3.0.x or later

A.2 Supported Browsers for the iPrint Plug-In and iManager

The iPrint plug-in with iManager supports the following browsers:

- ♦ Internet Explorer 6.0 or later
- ♦ Mozilla Firefox 2.x.x or later

NOTE: If you are running Windows XP Service Pack 2 or other browsers with pop-up blocking, you might encounter problems with pop-up windows. To manage iPrint in iManager and to install printers with iPrint clients, turn off pop-up blocking or allow the URL.

When you upload printer drivers and PPD files, you should use the following browsers for the operations indicated:

- ♦ [Section A.2.1, “Uploading PPD Files Using iManager,” on page 144](#)
- ♦ [Section A.2.2, “Uploading Windows Printer Drivers Using iManager,” on page 144](#)

A.2.1 Uploading PPD Files Using iManager

iPrint Client latform	Supported Browser	Upload PPD file to Driver Store on Linux	Upload PPD file to Broker on NetWare
Linux	Mozilla Firefox 2.x.x or later	Supported	Only supported using the <i>Add from System</i> button.
Windows	Internet Explorer 6.0 or later	Supported	Supported

A.2.2 Uploading Windows Printer Drivers Using iManager

Client	Supported Browser	Upload Windows Printer Driver to Driver Store on Linux	Upload Windows Printer Driver to Broker on NetWare
Linux	Mozilla Firefox 2.x.x or later	Not supported	Not supported
Windows	Internet Explorer 6.0 or later	Supported	Supported
	Mozilla Firefox 2.x.x or later	Not supported	Not supported

A.3 Supported Browsers for the iPrint Map Designer

The iPrint Map Designer works only with Microsoft Internet Explorer 6.0 or later.

B iPrint Log Files Location

This section details the location of the iPrint log files.

Name	Location
Driver Store	/var/opt/novell/log/iprint/idsd.log
Print Manager	/var/opt/novell/log/iprint/ipsmd.log
iPrint Gateway	/var/opt/novell/log/iprint/iprintgw.log
LPR enabled printers	/var/opt/novell/log/iprint/ilprsrvrd.log
Print Manager CIM Provider	/var/opt/novell/log/iprint/ipsmprov.log
Cluster related	/var/opt/novell/log/iprint_nss_relocate.log
ZCM Migration	/var/opt/novell/migration/zcm10-migration.log
iPrintman	/var/opt/novell/log/iprintmgmt/IPrintManLogger0.log

C iPrint Commands and Utilities

This section contains iPrint commands and utilities used on the Linux platform.

- ♦ [“iprintman\(1\)” on page 148](#)
- ♦ [“iprintcmd\(1\)” on page 159](#)

iprintman(1)

Name

iprintman - Manage iPrint Managers and Driver Stores.

Syntax

This section contains iPrint commands and utilities used on the Linux platform.

```
iprintman <target> <targetcommand><options>
```

Description

iprintman is a management tool used to manage and configure iPrint print managers, driver stores, printers, and print jobs.

Help

To display help about a specific target, use the following command:

Syntax

```
iprintman <target> -h or iprintman <target> --help
```

Example:

```
iprintman psm -h or iprintman ids --help
```

Target Summary

A target is the iPrint object type you want to manage. It includes either the target's distinguished name (DN) in LDAP format or just the common name.

NOTE: FDN is used for target's PSM and iPrint Driver Store (IDS) iprintman commands, and the common name is used for printer iprintman commands.

For example, if you want to modify settings for a printer with the common name *colorprinter*, the command and target appear as `iprintman printer colorprinter`.

target_type

driver

target_instance

<repository_name> <driver_name>

target_type

ids

target_instance

<IDS_DN>

target_type

job

target_instance

<printer_agent_name <JOBID>>

target_type

printer

target_instance

<printer_agent_name>

target_type

profile

target_instance

<profile_name>

target_type

psm

target_instance

<print_manager_DN>

All distinguished names (DN) should be in LDAP format. If the name of a target instance or option contains a space, use quotes, for example, "HP LaserJet 4Si".

Target Commands

Target commands indicate which operation to perform for the specified target. For targets whose name is a distinguished name (DN), the DN is given in LDAP format. For example, to modify settings for a PSM with a DN of cn=manager,ou=printing,o=my_company, iprintman would be invoked as follows:

```
iprintman psm cn=manager,ou=printing,o=my_company
```

Driver Commands

For driver options, see ["Driver Options" on page 154](#).

Syntax

```
iprintman driver <repos_name> <driver_name> <command> <options>
```

Example

```
iprintman driver driver_windows-nt-5_x86-32_en "HP Color LaserJet 5500 PS" -i
```

-d | --delete

Deletes a printer driver. This operation prompts interactively to reduce unintentional deletes. To skip the confirmation prompt, use the -f or --force option.

-i | --info

Displays driver information.

-l | --list

Lists drivers in a repository.

--upload

Uploads the driver to the IDS.

--download

Downloads the driver from the IDS.

Driver Store (IDS) Commands

Syntax

```
iprntman ids <ids_dn> <command> <options>
```

Example

```
iprntman ids cn=ids1,ou=print,o=my_company -c --hostname
printing.my_company.com --use-directory-server ds.my_company.com
```

-c | --create

Creates an IDS. See [IDS OPTIONS](#) for specific options.

-d | --delete

Deletes an IDS. This operation prompts interactively to reduce unintentional deletes. To skip the confirmation prompt, use the `-f` or `--force` option.

-i | --info

Lists information about an IDS.

-l | --list

Lists IDS instances.

--start

Starts IDS. All IDS instances on the server are started.

--status

Displays the status of the IDS.

--stop

Stops IDS. All IDS instances on the server are stopped.

--listAll

Lists all the Driver Stores / Printer Managers by doing a root level tree search

Job Commands

Syntax

```
iprntman job <printer_name> <job_id> <command> <options>
```

Example

```
iprntman job HP_ColorLaserJet 3 -l
```

-d | --delete

Deletes a print job. This operation prompts interactively to reduce unintentional deletes. To skip the confirmation prompt, use the `-f` or `--force` option.

-i | --info

Lists information about a print job.

-l | --list

Lists all jobs for the specified printer.

--pause

Pauses the processing of a print job.

--resume

Resumes the processing of a print job.

--status

Displays the status of a print job.

Print Manager (PSM) Commands

Syntax

```
iprntman psm <psm_dn> <command> <options>
```

Example

```
iprntman psm cn=PrintManager1,ou=print,o=my_company -c --hostname  
printing.my_company.com --use-ids cn=ids,ou=print,o=my_company --use-  
directory-server ds.my_company.com
```

-c | --create

Creates a Print Manager. See [PRINT MANAGER \(PSM\) OPTIONS](#) for specific options.

-d | --delete

Deletes the specified Print Manager. This operation prompts interactively to reduce unintentional deletes. To skip the confirmation prompt, use the `-f` or `--force` option.

-i | --info

Lists information about the Print Manager.

-l | --list

Lists the Print Manager instances.

--listAll

Lists all the Driver Stores / Printer Managers by doing a root level tree search

--set-default

Make this Print Manager the default manager. This is useful when you have created several Print Managers running on the same machine and want to specify one to be the default on the next load. When you load a Print Manager, it is automatically set as the default.

--start

Starts the default Print Manager. If the Print Manager DN is given, it starts the Print Manager corresponding to DN; otherwise, the current default Print Manager is started. When a Print Manager is started, it becomes the default Print Manager.

--status

Displays the Print Manager status.

--stop

Stops the running Print Manager. If the Print Manager DN is given, it verifies that the running Print Manager corresponds to the Print Manager DN; otherwise, the currently running Print Manager is stopped.

Printer Commands

Syntax

```
iprntman printer <printer_name> <command> <options>
```

Example

```
iprntman printer Xerox_Color -d -s server1.my_company.com
```

-c | --create

Creates a Printer Agent. See [PRINTER OPTIONS](#) for specific options.

-d | --delete

Deletes the specified Printer Agent. This operation prompts interactively to reduce unintentional deletes. To skip the confirmation prompt, use the **-f** or **--force** option.

-i | --info

Lists printer information.

-l | --list

Lists target instances.

-m | --modify

Modifies properties of the printer. See [PRINTER OPTIONS](#) for specific options.

--pause-input

Pauses printer input.

--pause-output

Pauses output from the printer.

--purge-all-jobs

Deletes all jobs queued for this printer.

--resume-input

Resumes printer input.

--resume-output

Resumes output from the printer.

--start

Starts the Printer Agent when it is shut down.

--status

Displays the printer status.

--stop

Shuts down the Printer Agent.

Profile Commands

Syntax

```
iiprintman profile <platform> <driver_name> <profile_name> <command> <options>
```

Example

```
iiprintman profile winxp "HP Color LaserJet 5500 PS" HP5500_A4 -l -s
server1.my_company.com
```

-l | --list

Lists printer profiles on the server.

Options

Options modify the command specified. General options can be used with all commands in conjunction with target specific options.

General Options

-f | --force

Suppresses the display of interactive confirmation prompts for the delete and other operations.

-p | --passfile <filename>

Specifies a file containing a password for the eDirectory user performing the operation. By default, if a password is required, the user is prompted. For security purposes, ensure that your password file is not readable by other users.

-P | --password

Specifies the password for the eDirectory user performing the operation. Use of this option should be limited because other users can see command line options, including the password. Use --passfile instead.

-s | --server <host>

Specifies a server host on which to perform the operation, where host is a hostname or IP address. Defaults to localhost.

-u | --username <username>

Specifies a username that is in LDAP format, using the FDN of the eDirectory user performing the operation. For example: cn=admin,o=myorganization

-v | -vv | -vvv | -vvvv | -verbose

Determines the level of detail to display about the execution of operations, with -v displaying a minimum amount of detail and -vvvv displaying the most detail.

-w | --warnings

Disables any warning messages from appearing.

--accept-cert

Automatically accepts any certificates when you make your first IPP connection or your first direct eDir access through the JNDI library.

--log-level

Sets the log level to one of these: SEVERE (highest), WARNING, INFO, CONFIG, FINE, FINER, or FINEST

Driver Store (IDS) Options

--hostname <hostname>

When you create URIs for drivers and repositories associated with this IDS, this hostname is used. If it is not specified, it defaults to whatever is specified by --server.

Example: `--server server2.my_company.com --hostname ids.my_company.com`

--use-directory-server <ds_hostname>

The directory servers this IDS uses. The hostname can be followed by an optional port, if the directory server is running on a non-standard port. This option can be specified up to three times to designate a primary server and two backup directory servers.

Example: `--use-directory-server ds1.my_company.com use-directory-server ds2.my_company.com`

Driver Options

--from-ids-zip <zipfile>

For use with the --upload command. The <zipfile> is a .zip file that came directly from an iPrint Driver Store. This option is intended to facilitate scripts for IDS backup/restore or IDS synchronization.

--from-ppd <ppdfile>

For use with the --upload command. The <ppdfile> is a .ppd file for Linux or Mac OS X clients.

Print Manager (PSM) Options

--hostname <hostname>

Use this hostname when you create URIs for services associated with this Print Manager. If it is not specified, it defaults to whatever is specified by --server. You should use this option with the create (-c) and modify (-m) commands.

Example: `--server server1.my_company.com --hostname printserver.my_company.com`

--use-ids <DN>

Specifies the IDS that printers on this Print Manager will use. This option is required when creating a Print Manager.

Example: `--use-ids cn=ids,ou=print,o=my_company`

--use-directory-server <ds_hostname>

The directory server this Print Manager uses. The host name can be followed by an optional port, if the directory server is running on a non-standard port.

Example: `--use-directory-server ds1.my_company.com:663`

Printer Options

--audit-enable <yes|no>

Enables auditing for this printer.

--banner <banner_name>

Specifies the banner you want to use for this printer.

Example: `--banner BigBanner`

--container <container_DN>

Only valid on printer creation. A directory object corresponding to the printer is created with the DN `CN=<printer_name>,<container_DN>`. If this option is not used, the Print Manager's object container is used.

Example: `--container ou=printers,o=my_company`

--description <description_string>

Set the description of the printer.

Example: `--description "Marketing color laser printer"`

--direct-print-enabled <yes|no>

Enables or disables iPrint Direct, which lets you print directly to the printer and bypass the Print Manager.

--driver-<platform> <driver_name>

Set the IDS driver associated with the printer for the specified platform (`win9x`, `winnt`, `win2k`, `winxp`, `win732`, `win764`, `vista32`, `vista64`, `linux`, `mac`). The *driver_name* is the name of the driver in the iPrint Driver Store used by the iPrint Print Manager for the printer.

Example `--driver-winxp "HP 5 Si/Mx"`

--gateway-load-string <load_string>

Lets you specify the gateway load string information. This load string is usually used to specify the printer's IP address. You must use the entire syntax, as shown in the example, every time this option is used. This field is required when creating a Printer Agent.

Example: `--gateway -load -string "iprintgw PORT=LPR HOSTNAME=192.168.0.100
PRINTERNAME=PASSTHROUGH"`

If you need to connect to a printer using port 9100, use `PORT=RAW`.

See `iprintgw` for options that can be passed to the gateway in the load string.

--accounting-load-string<arg>

Lets you set the accounting load string for the printer.

--location <location_string>

Set the location string of the printer

Example: `--location "Second floor, South West corner"`

--lpr-input-enabled <yes|no>

Allows the printer to accept LPR print jobs.

--profile-<platform> <profile>

Set the printer profile you want associated with the printer for the specified platform (win9x, winnt, win2k, winxp, win7, vista, linux, or mac). The *profile* is the name of the profile used by the iPrint Print Manager for the printer.

Example `--profile -winxp "HP 5 Si/Mx A4paper"`

--ssl-required <yes|no>

Specifies whether or not Secure Sockets Layer (SSL) is required for clients to print to this printer.

Examples

Creating a Driver Store

Syntax

```
iprntman ids <IDS_DN> -c --hostname <DNS_name> --use-directory-server
<ds_hostname>
```

Example

```
iprntman ids cn=idsl,ou=print,o=my_company -c --hostname
printing.my_company.com --use-directory-server ds.my_company.com
```

Creating a Print Manager

Syntax

```
iprntman psm <print_manager_DN> -c --hostname <DNS_name> --use-ids <IDS_DN> --use-
directory-server <ds_hostname>
```

Example

```
iprntman psm cn=PrintManager1,ou=print,o=my_company -c --hostname
printing.my_company.com --use-ids cn=ids,ou=print,o=my_company --use-
directory-server ds.my_company.com
```

Creating a Printer

Syntax

```
iprntman printer <printer_agent_name> -c --container <container_DN> --gateway-
load-string "iprintgw port=lpr hostaddress=<IP_address> printername=passthrough"
```

Example

```
iprintman printer "HP Color LaserJet 5000" -c --container ou=print,o=my_company
--gateway-load-string 'iprintgw port=lpr hostaddress=192.0.34.166
printername=passthrough'
```

List Printer Drivers in Repository for Windows 2000

Syntax

```
iprintman driver <repository_name> -l
```

Example

```
iprintman driver driver_windows-nt-5_x86-32_en -l
```

Upload Printer Driver

Syntax

```
iprintman driver <repository_name <driver_name>> --upload
```

Example

```
iprintman driver driver_windows-nt-6.1_x86_32_en --upload --from-ids-zip /root/
drivers/drv.zip
```

Assign Print Driver to Printer

Syntax

```
iprintman printer <printer_agent_name> -m --driver-<platform> <driver_name>
```

Example

```
iprintman printer "HP LaserJet 4" -m --driver-winxp "HP LaserJet 4Si"
```

Enable Auditing and SSL on Printer

Syntax

```
iprintman printer <printer_agent_name> -m --audit-enabled yes --ssl-required yes
```

Example

```
iprintman printer "HP LaserJet 4" -m --audit-enabled yes --ssl-required yes
```

Modify Printer Location and Description

Syntax

```
iprintman printer <printer_agent_name> -m --location <location_info> --description
<description_info>
```

Example

```
iprintman printer "HP LaserJet 4" -m --location "Next to front desk" --
description "Color printer with envelope tray"
```

Delete a Printer

Syntax

```
iprntman printer <printer_agent_name> -d
```

Example

```
iprntman printer "HP Color LaserJet 5000" -d
```

Display Information about a Printer

Syntax

```
iprntman printer <printer_agent_name> -i
```

Example

```
iprntman printer "HP LaserJet 4Si" -i
```

Associate Drivers to an Existing Printer

Syntax

```
iprntman printer <printer_agent_name> -m --driver-<platform> <driver_name>
```

Examples

```
iprntman printer printer1 -m --driver-winxp "HP LaserJet 4200 PCL 5e"
```

```
iprntman printer printer1 -m --driver-win2k "HP LaserJet 3200 Series PCL 5e"
```

```
iprntman printer printer1 -m --driver-linux "HP LaserJet 8000 Series"
```

You can list the drivers in the Driver Store by using the following Linux command:

```
ll /var/opt/novell/iprint/resdir/<platform>
```

Files

/opt/novell/iprintmgmt/iPrintman.keystore

Contains the certificate DN.

Authors

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See Also

legal(5)

For more information, see the *iPrint Administration Guide for Linux* at http://www.novell.com/documentation/oes11/iprint_lx/data/front.html.

iprintcmd(1)

Name

`iprintcmd` - iPrint administrative utility.

SYNTAX

`iprintcmd <options> <parameter>`

DESCRIPTION

`iprintcmd` provides command-line functionality for iPrint administrative tasks on a workstation.

.

OPTION SUMMARY

You must use quotes around parameters that contain spaces.

OPTIONS

Option type <parameter>

-T | --tray-icon

Displays an iPrint icon to the notification area and launches the `iprint-listener-gui` process, if it is not running.

-r | --run-listener

Launches the `iprint-listener` process if it is not already running.

-a | --addprinter <printer-uri>

Installs the specified printer.

-d | --delprinter <printer-uri>

Removes the specified printer.

-d | --delprinter all

Remove all the printers. This option requires your confirmation before removing all the printers.

-d | --delprinter all --force

Remove all the printers. This option removes all the printers forcibly without any user intervention.

-g | --getdefault

Displays the default printer installed on the workstation.

-h | --help

Displays help for the command.

-j | --listjobs *<printer-uri>*

Lists the print jobs for the specified printer that are on the server in a pending or printing state.

-l | --listprinters

Lists printers installed on the workstation.

-L | --listprintersonserver *<psm-hostname or psm-address>*

Lists iPrint printers on the specified Print Manager where *psm-hostname* or *psm-address* can be a DNS name or IP address.

-p | --printfile *<printer-uri>* *<file path>*

Sends a printer-ready file to the specified iPrint printer.

-P | --ppdlist

Lists the PPDs installed on this workstation.

-s | --setdefault *<printer-uri>*

Sets the specified printer as the default.

-t | --testpage *<printer-uri>*

Prints a test page to the specified printer.

-u | --uploadids *<ids-uri>* *<ppd path with/without wildcards>*

Uploads the specified PPD files to the indicated driver store where *ids_uri* is the IP address or DNS name for the driver store, and *ppd* is the directory path and filename to the PPD files. You can use a wildcard in the PPD filename.

-U | --uploadbroker *<rms-uri>* *<rms-name>* *<ppd path with/without wildcards>*

Uploads the specified PPD files to the indicated Broker where *rms_uri* is the IP address or DNS name for the Broker's associated rinter anager, *rms_name* is the username with rights to add drivers to the broker, and *ppd* is the directory path and filename to the PPD files. You can use a wildcard in the PPD filename.

-v | --version *<psm-hostname or psm-address>*

Displays the server platform and version information where *server_uri* is the URI for the server.

-i | --info *<printer-uri>*

Displays the printer information.

-S | --setprimarypsm *<IP/DNS>*

Sets the PSM address for iCM configuration.

EXAMPLES

Syntax

```
iprntcmd --<option> ipp://<host_address>/ipp/<printer_name>
```

Example to add a printer

```
iprntcmd --addprinter ipp://printing.MyCompany.com/ipp/Printer1
```

Example to delete a printer

```
iprntcmd --delprinter ipp://printing.MyCompany.com/ipp/Printer1
```

Example to get a default printer

```
iprntcmd --getdefault
```

Example to list the print jobs

```
iprntcmd --listjobs ipp://printing.MyCompany.com/ipp/Printer1
```

Example to get the list of installed printers

```
iprntcmd --listprinters
```

Example to get the list of printers on a server

```
iprntcmd --listprintersonserver printing.MyCompany.com
```

Example to print a file

```
iprntcmd --printfile ipp://printing.MyCompany.com/ipp/Printer1 /home/user1/temp.txt
```

Example to get a list of local ppd files

```
iprntcmd --ppdlist
```

Example to set a default printer

```
iprntcmd --setdefault ipp://printing.MyCompany.com/ipp/Printer1
```

Example to test a print page

```
iprntcmd --testpage ipp://printing.MyCompany.com/ipp/Printer1
```

Example to upload driver <without using a wildcard> to ids

```
iprntcmd --uploadids printing.MyCompany.com /usr/share/cups/model/HP/  
LaserJet_4V_4LJ_Pro-lj4dithp.ppd.gz
```

```
r
```

```
iprntcmd --uploadids 192.168.3.4 /usr/share/cups/model/HP/LaserJet_4V_4LJ_Pro-  
lj4dithp.ppd.gz
```

Example to upload driver <using a wildcard> to ids

```
iprntcmd --uploadids printing.MyCompany.com /usr/share/cups/model/HP/LaserJet_4*
```

```
r
```

```
iprntcmd --uploadids 192.168.3.4 /usr/share/cups/model/HP/LaserJet_4*
```

Example to upload drivers (without using a wildcard) to rms

```
iprntcmd --uploadbroker printing.MyCompany.com rms_name /usr/share/cups/model/HP/  
LaserJet_4V_4LJ_Pro-lj4dithp.ppd.gz
```

```
r
```

```
iprntcmd --uploadbroker 192.168.3.4 rms_name /usr/share/cups/model/HP/  
LaserJet_4V_4LJ_Pro-lj4dithp.ppd.gz
```

Example to upload drivers (using a wildcard) to rms

```
iprntcmd --uploadbroker printing.MyCompany.com rms_name /usr/share/cups/model/HP/  
LaserJet_4*
```

```
r
```

```
iprntcmd --uploadbroker 1.2.3.4 rms_name /usr/share/cups/model/HP/LaserJet_4*
```

Example to get iPrint server version

```
iprintcmd --version printing.MyCompany.com  
r  
iprintcmd --version 192.168.3.4
```

Example to get information of a printer

```
iprintcmd --info ipp://printing.MyCompany.com/ipp/Printer1
```

Authors

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See Also

`iprintman(1)`

For more information see the *iPrint Administration Guide for Linux* at http://www.novell.com/documentation/oes11/iprint_lx/data/front.html.

D iPrint Client Version Release List

This section details the major releases of the iPrint Client.

Table D-1 *iPrint Client 4.x Releases*

iPrint Client Version	Release
1.00	NetWare 6
1.00a	NetWare 6 Internationalized
1.01	NetWare 6 Support Pack 1
1.03	NetWare 6 Support Pack 2
1.05	Web Release
1.06	Web Release
1.10	NetWare 6 Support Pack 3
2.01	NetWare 6.5
2.02	NetWare 6 Support Pack 4 and NetWare 6.5 Support Pack 1
3.00	Novell Enterpris Linux Services Support
3.05	Novell Enterprise Linux Services Support Pack 1
3.09	NetWare 6 Support Pack 5 and NetWare 6.5 Support Pack 2
4.05	Open Enterprise Server 1 and NetWare 6.5 Support Pack 3
4.11	Open Enterprise Server Support Pack 1 and NetWare 6.5 Support Pack 4
4.12	Web Release
4.15	Open Enterprise Server Support Pack 2 and NetWare 6.5 Support Pack 5
4.16	Web Release
4.20	Web Release with iPrint Client Management (iCM)
4.26	NetWare 6.5 Support Pack 6
4.28	Web Release
4.30	Web Release with fix for auto updating to OES 2
4.32	Open Enterprise Server 2 and NetWare 6.5 Support Pack 7
4.34	Web Release. See TID 3134385 (https://secure-support.novell.com/KanisaPlatform/Publishing/623/3134385_f.SAL_Public.html)

iPrint Client Version	Release
4.36	Web Release
4.38	Web Release

Table D-2 *iPrint Client 5.x Releases*

iPrint Client Version	Release
5.02	Open Enterprise Server 2 and NetWare 6.5 Support Pack 7.
5.04	Web Release. See TID 3447977 (http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=3288691&sliceId=1&docTypeID=DT_TID_1_1&dialogID=13182737&statId=1%20%2013180385) and TID 3045689 (http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=3045689&sliceId=2&docTypeID=DT_TID_1_1&dialogID=2041619&statId=0%20%202039576)
5.06	Web Release for Vista only
5.08	Web Release for Vista only, with security fixes
5.12	Open Enterprise Server 2 Support Pack 1 and NetWare 6.5 Support Pack 8
5.20	Web Release
5.30	Open Enterprise Server 2 or later.
5.40	Open Enterprise Server 2 or later.
5.42	Open Enterprise Server 2 or later.
5.44	Open Enterprise Server 2 or later.
5.50	Open Enterprise Server 2 or later.
5.52	Open Enterprise Server 2 or later.
5.60	Open Enterprise Server 2 or later.

E Configuring the iPrint HTML Interface

This section discusses the HTML parameters and operations used in the iPrint interface for Internet Explorer 5.5 Web browsers. This information is provided to give administrators insight into how to customize their HTML files.

HTML developers can use this information to create and edit customized iPrint Web pages for their companies.

The sample iPrint HTML files are located in the `/var/opt/novell/iprint/htdocs` directory.

- ♦ [Section E.1, “iPrint Client HTML Interface Description,” on page 165](#)
- ♦ [Section E.2, “HTML Parameters,” on page 166](#)
- ♦ [Section E.3, “Supported Operation Strings,” on page 169](#)

E.1 iPrint Client HTML Interface Description

The list of operations and identifiers is the same for each browser. The printer name and the operation to be performed are required parameters for all operations except [op-client-interface version](#) and [op-client-version-info](#). All other parameters are operation-specific or optional. Operation-specific parameters that are used out of context are ignored.

If the desired output from the plug-in is HTML, a frameset needs to be used. This is to prevent some browsers from failing when they try to write to the document that invoked the plug-in. The name of the frame to receive the HTML page generated by the plug-in can be passed in using the target frame option. This target frame needs to be a named frame in the same frameset as the frame invoking the plug-in.

E.1.1 Internet Explorer Browser Customization

- ♦ [“HTML Script Example” on page 165](#)
- ♦ [“HTML Code Example” on page 166](#)

HTML Script Example

The `ExecuteRequest()` entry point simplifies HTML coding when working with Internet Explorer. It lets you pass/get information from the iPrint without reloading a Web page.

A result type called *object* is implemented and should be used only in conjunction with `ExecuteRequest()`. You can use `ExecuteRequest()` and have it return results via HTML, URL, message box, or cookie. All data can be passed via the `ExecuteRequest()` second parameter. The first parameter is the operation. Both of the parameters are strings.

Syntax: `variable=variable.ExecuteRequest("operation_string",additional_operation_strings);`

```
<object ID=iPrintAccess classid=clsid:36723f97-7aa0-11d4-8919-ff2d71d0d32c>
</object>
<script Language="javascript1.1">
var pStatus;
var params;
params = "printer-url=" + printerNameHere + "&result-type=object"
pStatus=iPrintAccess.ExecuteRequest("op-printer-get-status", params);
alert(pStatus);
</script>
```

HTML Code Example

The following example defines the interface between HTML pages and the browser plug-in. The HTML element `<OBJECT>` is used to invoke the Internet Explorer plug-in (`ienipp.ocx`).

```
<OBJECT ID=TESTID
CLASSID="clsid:36723f97-7aa0-11d4-8919-FF2D71D0D32C"
CODEBASE=v:\ipp\ieNipp\final\novipp.ocx>
<PARAM NAME=operation VALUE=op-printer-get-status>
<PARAM NAME=printer-url VALUE=http://192.168.1.2/ipp/lpr>
<PARAM NAME=result-type VALUE=html>
<PARAM NAME=target-frame VALUE=displayFrameName>
</OBJECT>
```

E.2 HTML Parameters

The following parameters can be used to enhance the iPrint HTML pages. They are used in the HTML files as `PARAM NAME=parameter VALUE=identifier` statements.

- [Section E.2.1, “call-back-url,” on page 166](#)
- [Section E.2.2, “debug,” on page 167](#)
- [Section E.2.3, “error-type,” on page 167](#)
- [Section E.2.4, “file-path-name,” on page 167](#)
- [Section E.2.5, “job-list,” on page 167](#)
- [Section E.2.6, “job-list-options,” on page 168](#)
- [Section E.2.7, “persistence,” on page 168](#)
- [Section E.2.8, “printer-url,” on page 168](#)
- [Section E.2.9, “result-type,” on page 168](#)
- [Section E.2.10, “target-frame,” on page 169](#)

E.2.1 call-back-url

Targets the results from the onchange JavaScript function associated with selecting jobs from the job list. The JavaScript function causes the browser to reload the indicated control frame passing the list of selected jobs as a parameter.

Example:

```
PARAM NAME=call-back-url VALUE=CONTROL.HTM
```

E.2.2 debug

If set to True, displays message boxes with debug and profiling information.

Example:

```
PARAM NAME=debug VALUE=true
```

E.2.3 error-type

Determines how the plug-in reports errors associated with the requested operation. The plug-in has the ability to return the errors.

Option	Description
cookie	Puts the error information in a cookie.
html	Displays results as an HTML page generated by the plug-in.
msgBox	Displays results in a message box.
none	No response.
url	Passes the results as a URL parameter.

The plug-in defaults to the same reply mechanism that is specified in [results-type](#) if [error-type](#) is not specified.

Example:

```
PARAM NAME=error-type VALUE=html
```

E.2.4 file-path-name

Specifies a printer-ready file that can be passed to the plug-in for printing. This mechanism bypasses the print provider and the printer driver. The printer does not need to be installed on the workstation to use this operation.

Example:

```
PARAM NAME=file-path-name VALUE=directory path\filename
```

E.2.5 job-list

The plug-in can perform several operations on jobs. The job-list parameter is a comma-delimited string of job IDs that indicates which jobs to operate on. A job list with the job ID of -1 is equivalent to selecting all jobs

Example:

```
PARAM NAME=job-list VALUE=3,5,7
```

E.2.6 job-list-options

When the plug-in creates the HTML for job-list, it can add buttons to allow the user to hold, resume, delete, or display information for selected jobs. The job-list-options parameter specifies which of the following possible buttons to display and support:

- ♦ [op-job-cancel \(page 170\)](#)
- ♦ [op-job-get-info \(page 171\)](#)
- ♦ [op-job-hold \(page 171\)](#)
- ♦ [op-job-release-hold \(page 171\)](#)

Example:

```
PARAM NAME=job-list-options VALUE=op-job-hold,op-job-release-hold, op-job-cancel,
op-job-get-info
```

E.2.7 persistence

Printer installation can be temporary or permanent. If it is not specified, persistence defaults to persistent. The persistence parameter specifies how long the printer is to be installed for. The choices include the following:

Option	Description
persistent	Printer is not removed.
volatile-date-time	Printer is removed at the indicated time (year, month, day, hour, minute).
volatile-reboot	Printer is removed when the workstation reboots.

Examples:

```
PARAM NAME=persistence VALUE=volatile-reboot
```

```
PARAM NAME=persistence VALUE=volatile-date-time:2004,3,22,8,30
```

E.2.8 printer-url

Indicates which printer the operation should be directed to.

Example:

```
PARAM NAME=printer-url VALUE=ipp://MyPrinter.com/ipp/Printer1
```

E.2.9 result-type

Determines how the plug-in reports the results of the requested operation. The plug-in can return the results in any of the following ways:

Option	Description
cookie	Puts the results in a cookie.
html	Displays results as an HTML page generated by the plug-in.
msgBox	Displays results in a message box.
none	No response.
url	Passes the results as a URL parameter.

The plug-in defaults to none if [results-type](#) is not specified.

Example:

```
PARAM NAME=result-type VALUE=html
```

E.2.10 target-frame

Specifies the name of the frame to put the results or error information into. If the operation results type is url, the target frame is the one reloaded with the indicated URL.

Example:

```
PARAM NAME=target-frame VALUE=FrameName
```

E.3 Supported Operation Strings

All requests to the plug-in have two required parameters. The first is operation, and the second is result-type. All operations except [op-client-interface-version](#) and [op-client-version-info](#) require the parameter [printer-url](#). All requests support the optional parameter [error-type](#).

With the exception of [op-printer-send-test-page](#) and [op-printer-remove](#), the printer does not need to be installed to use the following operations:

- [Section E.3.1, “op-client-interface version,” on page 170](#)
- [Section E.3.2, “op-client-is-printer-installed,” on page 170](#)
- [Section E.3.3, “op-client-version-info,” on page 170](#)
- [Section E.3.4, “op-job-cancel,” on page 170](#)
- [Section E.3.5, “op-job-get-info,” on page 171](#)
- [Section E.3.6, “op-job-hold,” on page 171](#)
- [Section E.3.7, “op-job-release-hold,” on page 171](#)
- [Section E.3.8, “op-printer-get-info,” on page 171](#)
- [Section E.3.9, “op-printer-get-status,” on page 172](#)
- [Section E.3.10, “op-printer-install,” on page 172](#)
- [Section E.3.11, “op-printer-list-all-jobs,” on page 172](#)
- [Section E.3.12, “op-printer-pause,” on page 172](#)
- [Section E.3.13, “op-printer-purge-jobs,” on page 172](#)

- ♦ [Section E.3.14, “op-printer-remove,” on page 173](#)
- ♦ [Section E.3.15, “op-printer-resume,” on page 173](#)
- ♦ [Section E.3.16, “op-printer-send-file,” on page 173](#)
- ♦ [Section E.3.17, “op-printer-send-test-page,” on page 173](#)

E.3.1 op-client-interface version

Description:	Determines a version associated with the plug-in’s HTML interface. Can also determine if a client upgrade needs to be invoked for any other client plug-in/HTML file compatibility issues.
Required information:	None
Supported return types:	URL, Cookie, Object

E.3.2 op-client-is-printer-installed

Description:	Determines if the indicated printer is installed on the workstation.
Required information:	Printer URL
Supported return types:	URL, Cookie, Object

E.3.3 op-client-version-info

Description:	Determines the version of the Novell iPrint Client files running on the workstation.
Required information:	None
Supported return types:	Cookie, URL, Object

E.3.4 op-job-cancel

Description:	Deletes the indicated jobs.
Required information:	Printer URL, job-list
Supported return types:	None, Message box, HTML, URL, Cookie

E.3.5 op-job-get-info

Description:	Gets job information for indicated jobs. The information returned depends on the printer's capabilities. This information can include job name, ID, owner, size, bytes processed, hold until, priority, time created, time started printing, and time finished printing.
Required information:	Printer URL, job-list
Supported return types:	Message box, HTML, URL, Cookie

E.3.6 op-job-hold

Description:	Puts a hold on the indicated jobs. A job that is printing might not be held.
Required information:	Printer URL, job-list
Supported return types:	None, Message box, HTML, URL, Cookie

Supported parameter is indefinite.

E.3.7 op-job-release-hold

Description:	Removes the hold on the indicated jobs.
Required information:	Printer URL, job-list
Supported return types:	None, Message box, HTML, URL, Cookie

E.3.8 op-printer-get-info

Description:	Gets additional information about the printer. The information returned depends on the printer's capabilities. This information can include printer location, printer make and model, and supported document formats (PDLs).
Required information:	Printer URL
Supported return types:	Message box, HTML, URL, Cookie

E.3.9 op-printer-get-status

Description:	Gets status information from the indicated printer. The information returned depends on the printer's capabilities. Status can include printer state, printer state reasons, printer state message, printer accepting jobs, and printer job count.
Required information:	Printer URL
Supported return types:	Message box, HTML, URL, Cookie

E.3.10 op-printer-install

Description:	Installs the indicated printer to this workstation.
Required information:	Printer URL
Optional information:	persistence
Supported return types:	None, Message box, HTML, URL, Cookie

E.3.11 op-printer-list-all-jobs

Description:	Lists jobs for this printer.
Required information:	Printer URL
Supported return types:	Message box, HTML, URL, Cookie

E.3.12 op-printer-pause

Description:	Pauses the printer. If results are requested for this operation, the op-printer-get-status operation is executed to provide the new printer status.
Required information:	Printer URL
Supported return types:	None, Message box, HTML, URL, Cookie

E.3.13 op-printer-purge-jobs

Description:	Deletes all jobs for this printer.
Required information:	Printer URL
Supported return types:	None, Message box, HTML, URL, Cookie

E.3.14 op-printer-remove

Description:	Deletes the indicated printer from this workstation.
Required information:	Printer URL
Supported return types:	None, Message box, HTML

E.3.15 op-printer-resume

Description:	Resumes the printer. If results are requested for this operation, the op-printer-get-status operation is executed to provide the new printer status.
Required information:	Printer URL
Supported return types:	None, Message box, HTML, URL, Cookie

E.3.16 op-printer-send-file

Description:	Sends a printer-ready file to this printer.
Required information:	Printer URL, file-path-name
Supported return types:	None, Message box, HTML, URL, Cookie

E.3.17 op-printer-send-test-page

Description:	Sends a test page to this printer.
Required information:	Printer URL
Supported return types:	None, Message box, HTML, URL, Cookie

F Disabling iPrint

If you no longer want iPrint running on a server, you can disable the service by following the steps in the “[Disabling OES 11 Services](#)” section of the *OES 11: Installation Guide*.

To recover disk space from a Driver Store, you can manually delete the `/resdir` located in `/var/opt/novell/iprint`.

G Error Codes

This chapter includes sets of Novell iPrint error codes and the following information for each code listed within the set:

- ♦ Error code number (hex or decimal) and its description
- ♦ Source
- ♦ Explanation
- ♦ Possible cause (optional)
- ♦ Action (optional)

G.1 Error Code List

This section includes the following error codes:

- ♦ ["0xA00004" on page 177](#)
- ♦ ["HTTP_UNAUTHORIZED/401" on page 177](#)
- ♦ ["Add-on Errors" on page 177](#)
- ♦ ["2146500025" on page 178](#)
- ♦ ["87" on page 178](#)

0xA00004

Source: iManager

Explanation: The Printer object on which an operation is being attempted does not exist.

Possible Cause: This usually happens when you select a printer from the object browser history, but the actual object has been deleted.

HTTP_UNAUTHORIZED/401

Source: Apache Web server

Explanation: Authentication failed.

Possible Cause: You have provided incorrect user credentials.

Action: Provide correct credentials. For more information on the error, refer to the Apache logs.

Add-on Errors

Source: Windows 2008 with the Internet Explorer 8 browser.

Explanation: On Windows 2008, users are not allowed to run the add-ons on Internet Explorer 8 browsers.

Possible Cause: Your browser is not running as an Administrator or the URL is not a part of the Trusted site list.

Action: Add the iPrint URL to the trusted site list or run your browser as an Administrator.

2146500025

Source: Windows 7 and Windows Vista.

Explanation: Adding a driver to the driver store fails.

Possible Cause: The unsigned drivers are not supported for Windows Vista and Windows 7.

Action: Use a signed driver.

87

Source: Novell iPrint Client.

Explanation: The administrator has updated the iPrint Client to version 5.40 then created a profile and associated the profile with a printer. If you install the same printer and you have an earlier version of the iPrint Client on your workstation, you get an error message indicating that The parameter is incorrect.

Possible Cause: Administrator has created the profile using the latest version of the iPrint Client version 5.40 and you have an earlier version of the iPrint Client installed on your workstation.

Action: Ignore this error message. Your printer is installed.

You should use the latest version of the iPrint Client on user workstations.

H TIDs for iPrint

This section contains the list of TIDs that are available for iPrint on Linux. These TIDs are located on the Novell Support Web site and are listed in this document to provide easy access for online document users.

- ♦ [Section H.1, “TIDs related to NDPS,” on page 179](#)
- ♦ [Section H.2, “TID for iPrint Direct,” on page 180](#)
- ♦ [Section H.3, “TID for Print Manager/Brokers/Driver Stores,” on page 180](#)
- ♦ [Section H.4, “TIDs for the iPrint Client,” on page 180](#)
- ♦ [Section H.5, “TIDs for Backup and Recovery,” on page 181](#)

H.1 TIDs related to NDPS

- ♦ **Support Statement for NDPS:** [Support Statement for NDPS \(http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=7001584&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399257&stateId=0%200%2091401196\)](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=7001584&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399257&stateId=0%200%2091401196)
- ♦ **Command line switches for NDPS Broker:** [The command line switches for NDPS Broker \(http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10069797&sliceId=&docTypeID=DT_TID_1_1&dialogID=91399097&stateId=0%200%2091393986\)](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10069797&sliceId=&docTypeID=DT_TID_1_1&dialogID=91399097&stateId=0%200%2091393986)
- ♦ **Command line switches for NDPS Manager:** [The command line switches for NDPS Manager \(http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3536563&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399165&stateId=0%200%2091401063\)](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3536563&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399165&stateId=0%200%2091401063)
- ♦ **Command line switches for NDPS Gateway:** [The command line switches for NDPS Gateway \(http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3604883&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399180&stateId=0%200%2091401108\)](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3604883&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399180&stateId=0%200%2091401108)
- ♦ **Configure Windows 2000 to print to an NDPS printer without a Novell client:** [How do I configure Windows 2000 to print to an NDPS printer without a Novell client? \(http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10084679&sliceId=&docTypeID=DT_TID_1_1&dialogID=91399207&stateId=0%200%2091401141\)](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10084679&sliceId=&docTypeID=DT_TID_1_1&dialogID=91399207&stateId=0%200%2091401141)
- ♦ **Moving an iPrint/NDPS Manager to a new server:** [How to move an iPrint/NDPS Manager to a new server \(http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3628527&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399420&stateId=0%200%2091401344\)](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3628527&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399420&stateId=0%200%2091401344)

- ♦ **Rebuilding a corrupt NDPS manager database:** How to rebuild a corrupt NDPS Manager database using PAgGen.exe (http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=3591389&sliceId=1&docTypeID=DT_TID_1_1&dialogID=2371944&stateId=0%200%202375304)
- ♦ **Sending print jobs to a printer attached to a windows workstation/server:** How to configure NDPS/iPrint to send print jobs to a printer attached to a Windows workstation/server (http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=7001923&sliceId=1&docTypeID=DT_TID_1_1&dialogID=2371589&stateId=0%200%202369816)
- ♦ **Load Parameter Options:** Load Parameter Options for the NDPS Gateway (http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=3604883&sliceId=1&docTypeID=DT_TID_1_1&dialogID=15276952&stateId=0%200%206287234)

H.2 TID for iPrint Direct

- ♦ **iPrint Direct:** What is iPrint Direct? (http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=7001343&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399257&stateId=0%200%2091401196)

H.3 TID for Print Manager/Brokers/Driver Stores

- ♦ **Deciding the number of iPrint Brokers/Driver Stores:** Considerations in deciding the number of iPrint Brokers / Driver Stores (http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3281477&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399373&stateId=0%200%2091401305)
- ♦ **Copying Printer Drivers between OES Driver Stores:** How to copy Printer Drivers from one OES Driver Store to another (http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=7000237&sliceId=1&docTypeID=DT_TID_1_1&dialogID=2371864&stateId=0%200%202375206)

H.4 TIDs for the iPrint Client

- ♦ **Redirect printers on clients to a different server:** Redirect the iPrint printers on clients to a different server (http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3006726&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399420&stateId=0%200%2091401344)
- ♦ **Suppress update messages presented by the iPrint client:** How to suppress update messages (http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3476106&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399420&stateId=0%200%2091401344)
- ♦ **Universal Printer Drivers:** iPrint and HP Universal Printer Drivers (http://www.novell.com/support/php/search.do?cmd=displayKC&docType=kc&externalId=7001400&sliceId=1&docTypeID=DT_TID_1_1&dialogID=13326719&stateId=0%200%202375997)

H.5 TIDs for Backup and Recovery

- ♦ **Disaster Recovery:** Restore Linux Print Manager database in disaster recovery situation (http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3006957&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399815&stateId=0%200%2091401668)
- ♦ **Print Manager unable to read generation number:** iPrint Linux Print Manager unable to read generation number (http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=7000933&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399815&stateId=0%200%2091401668)
- ♦ **Missing Printer agents after Print Manager crashes:** Printer agents are missing after Linux Print Manager crashes/ segfaults (http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=7000747&sliceId=1&docTypeID=DT_TID_1_1&dialogID=91399815&stateId=0%200%2091401668)

