

Administration Guide

Novell iPrint Appliance 1.1

December 2015

Novell.



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About This Guide

This guide describes how to install, configure, and customize Novell iPrint Appliance on your network.

- ◆ Chapter 1, “iPrint Overview,” on page 11
- ◆ Chapter 2, “What’s New or Changed in iPrint Appliance,” on page 17
- ◆ Chapter 3, “Planning Your iPrint Appliance Environment,” on page 23
- ◆ Chapter 4, “Installing iPrint Appliance,” on page 31
- ◆ Chapter 5, “Configuring Print System,” on page 39
- ◆ Chapter 6, “Document Rendering,” on page 71
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- ◆ Appendix D, “TIDs for iPrint,” on page 223
- ◆ Appendix E, “iPrint Commands and Utilities,” on page 225
- ◆ Appendix F, “iPrint Appliance Documentation Updates,” on page 231

Audience

This guide is intended for Novell iPrint Appliance administrators.

Feedback

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

Documentation Updates

For the most recent version of the *Novell iPrint Appliance 1.1 Administration Guide*, and other documentation for this product, visit the [Novell iPrint Appliance 1.1 Documentation Web site \(http://www.novell.com/documentation/iprint-appliance1/\)](http://www.novell.com/documentation/iprint-appliance1/).

For information about configuring and using the mobile app, see the *iPrint Appliance User Guide*, or the *Help* section of the app.

1 iPrint Overview

Organizations want to reduce the complexity of managing printers by IT and allow end users to easily locate and install printers.

That's where Novell iPrint comes in. Novell iPrint offers a single, scalable solution for managing all of your printing across multiple office locations from any device. It lets the users print quickly, easily, and more securely.

- ◆ [Section 1.1, "Challenges in Print Environment," on page 11](#)
- ◆ [Section 1.2, "What is Novell iPrint?," on page 11](#)

1.1 Challenges in Print Environment

End users:

- ◆ Printing from mobile devices (BYOD)
- ◆ Ease of installing printers and printer drivers
- ◆ Updating printer specific drivers

Administrators:

- ◆ Complexity of managing printers and printer drivers
- ◆ Auditing and accounting of print jobs
- ◆ Health-monitoring of a printer
- ◆ Secure printing
- ◆ Printing in heterogeneous environments - Windows, Mac, and Linux platforms

1.2 What is Novell iPrint?

- ◆ [Section 1.2.1, "iPrint Features," on page 11](#)
- ◆ [Section 1.2.2, "iPrint Components," on page 13](#)

Novell iPrint provides secure enterprise print services for your desktops, laptops, and mobile devices. Novell's iPrint solution integrates with any of your existing corporate printers, irrespective of the printing vendor or brand allowing you to deliver self-service printer provisioning to your device users.

1.2.1 iPrint Features

Simplified enterprise printing: Novell iPrint connects all your organization's workstations and mobile devices to your current printers. iPrint scales exceptionally well, reducing the server infrastructure you need to maintain hundreds or thousands of printers and thus lowering your network bandwidth costs.

Self-service printing: Users can print from their desktops, laptops, or mobile devices without waiting for the helpdesk to set-up a printer.

From desktops or laptops, users can print by selecting printers on a map using a web browser.

From mobile devices, users can print to any organizational printer via AirPrint, an iPrint app or email.

Mobile device printing: Users of iOS, Android, and Windows mobile devices can download apps that allow them to print from their mobile devices directly to any of your organization's printers.

Novell iPrint provides all of the necessary document rendering and conversion.

AirPrint Integration: Makes wireless, proximity-based printing a possibility across your organization. Allows iOS users to use their devices' AirPrint capabilities with any iPrint printer.

Samsung KNOX certified: Enhanced security for Android devices while maintaining user-friendly, secure mobile printing in your corporate environment.

QR Code Support: Scan a QR code to quickly connect your mobile device to a specific printer.

Email print jobs to any iPrint printer: Any email-enabled device can print to any iPrint printer by sending the print job in the body of the email or as an attachment.

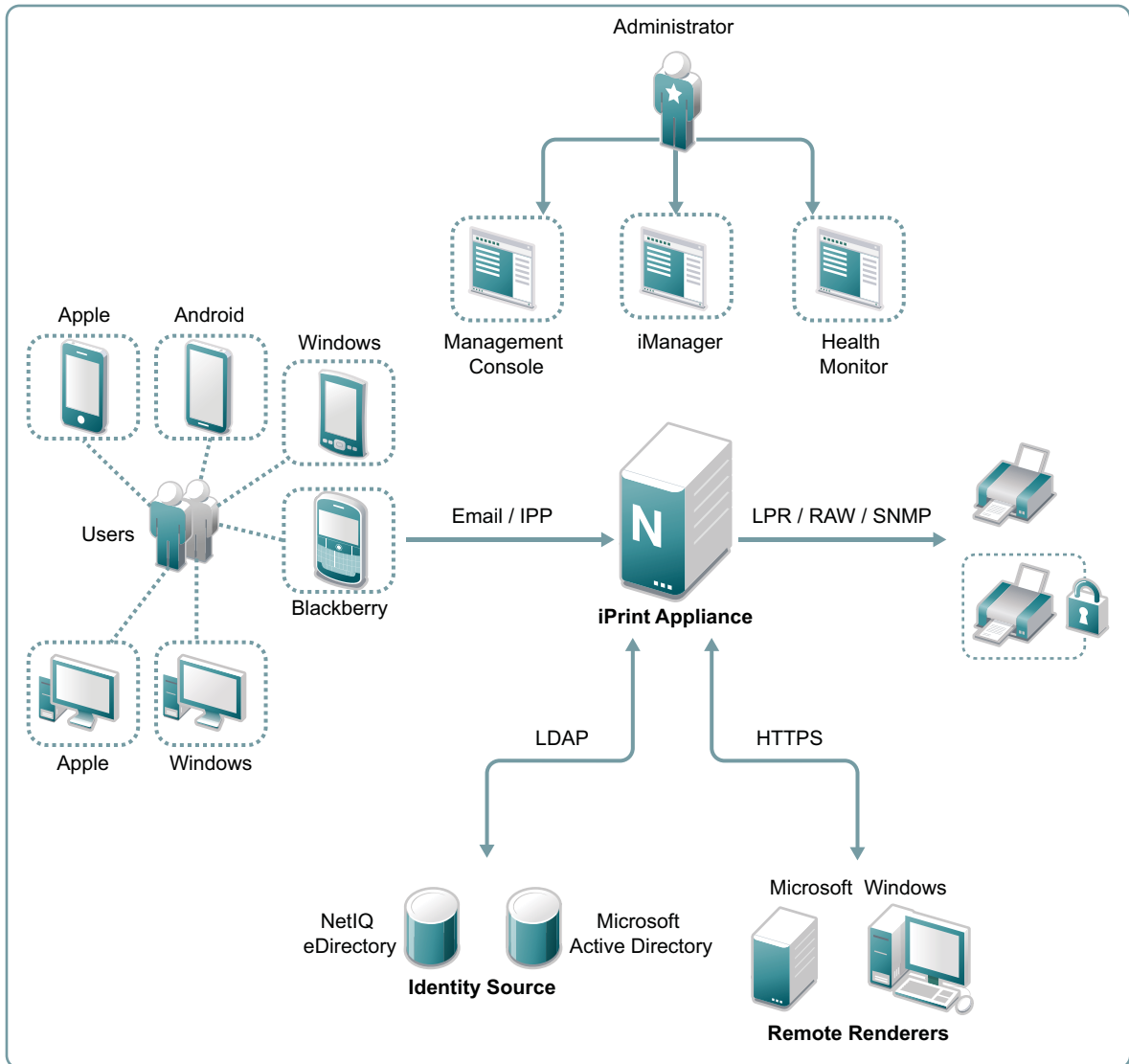
Works in heterogeneous environments: Saves IT time and money by significantly reducing the management burden required for mixed fleets of Mac, Windows, or Linux desktops. It works across the major mobile platforms as well, meaning IT only has to manage a single print solution for all your organization's endpoints.

Leverages your current directory service: Novell iPrint makes secure printing easy by integrating its data store with your identity directory. It works with lightweight directory access protocol (LDAP) directories such as Active Directory and NetIQ eDirectory.

Works with legacy printers: Mobilize your existing fleet of printers rather than buying new.

1.2.2 iPrint Components

Figure 1-1 iPrint Overview



- ◆ “Users” on page 14
- ◆ “Devices” on page 14
- ◆ “Protocols” on page 14
- ◆ “Administration” on page 14
- ◆ “Accounting With iPrint” on page 15
- ◆ “Identity Source” on page 15
- ◆ “iPrint Appliance” on page 15
- ◆ “Renderers” on page 15
- ◆ “Printers” on page 15
- ◆ “iPrintman” on page 16

Users

Users can submit print jobs through iPrint from their desktops, laptops, or mobile devices to both new and legacy printers from all the major print vendors, without worrying about print drivers. You can either import users from an existing LDAP source or create new users on the iPrint Appliance.

Devices

iPrint supports printing from desktops, laptops, or mobile devices.

Desktops and laptops: Clients for Windows, Mac, and Linux workstations.

Mobile Devices: Apps for iOS, Android, Windows, and BlackBerry devices.

Protocols

IPP/ Email: The devices and app uses IPP (Internet Printing Protocol) or email to submit the print job. If a direct network connection to iPrint Appliance is unavailable, the device switches to email printing, and uses the email client configured on the device.

LDAP: LDAP is used for communication between iPrint Appliance and identity stores (eDirectory and Active Directory).

HTTPS: HTTPS protocol is used for secure communication between iPrint Appliance and remote renderers.

LPR/RAW/SNMP: iPrint Appliance supports printer communications using the Line Printer Remote (LPR), RAW, or SNMP protocols.

Administration

Using Novell iPrint Appliance Management Console, you can add and manage printers, check the printer status, create printer maps, and monitor the appliance.

iPrint Appliance Configuration: Use for initial iPrint configuration and setup. You can configure mobile printing, LDAP user/group sources, and renderers for enhanced document conversion.

Appliance System Configuration: Use this tool to reconfigure the system's network settings, time, SSL certificates, and passwords. Network Settings should not be changed once iPrint Appliance Configuration has been initiated.

iPrint Printer Configuration (iManager): iManager is a web-based tool that allows you to set up and manage your print environment. You can create printers, printer drivers, profiles, and users.

iPrint Health Monitor: Monitors your iPrint environment. You can view status of print jobs and manage jobs, and generate audit reports that show details of who printed and how much.

iPrint Migration Utility: You can migrate printers, drivers, driver profile, and printer configuration details from your existing NetWare or OES environment.

iPrint Map Designer: Use this tool to create map displaying the location of printers. Users can identify and install printers that are nearest to their location.

Ganglia: You can access various real-time monitoring statistics for all of the Ganglia-enabled machines on your network segment.

Accounting With iPrint

Print Accounting: Novell iPrint integrates with third-party print accounting solutions to provide full support for accounting the print jobs including tracking all the print jobs and keeping a tab on the paper consumption. The print accounting feature enables the print administrator to have a clear understanding of who is printing what and when, and apply charge back capabilities if required.

Direct Print Accounting: A printer that is enabled for iPrint Direct sends print jobs directly to the printer instead of sending the job to the print server first. The print 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. However, if you are running a third-party print accounting solution, Novell iPrint client can integrate with the third-party print accounting solution to provide support for accounting print jobs to direct printers.

To install and configure third-party print accounting solution, refer to their documentation.

Identity Source

It works with LDAP directories such as Active Directory and eDirectory. Novell iPrint makes secure printing easy by integrating its data store with your identity directory.

iPrint Appliance

Print and mobile server are the main components of appliance which handle all print jobs and all print infrastructure.

Renderers

- ♦ [“Local Renderer” on page 15](#)
- ♦ [“Remote Renderer” on page 15](#)

Local Renderer

iPrint Appliance is bundled with an in-built document renderer (local renderer). The local renderer converts documents to the PDF format, then converts them to the print ready format using CUPS. The renderer supports Open Office, Microsoft Office and image formats, and also has a multithreading feature.

Remote Renderer

iPrint Appliance ships with a remote renderer. For desktop-quality printing, it is highly recommended that you install the remote renderer. You can download the remote renderer from the iPrint Appliance Management Console.

The remote renderer provides high quality rendering for Microsoft Office and PDF document formats.

Printers

Users can send print jobs through iPrint to both new and legacy printers from all the major print vendors.

iPrintman

A Command line tool that allows you to manage your print environment. You can create and manage your printers, upload printer drivers, and so forth.

2 What's New or Changed in iPrint Appliance

This section describes enhancements and changes to Novell iPrint Appliance.

- ♦ [Section 2.1, "What's New \(iPrint Appliance 1.1 Patch 4\)," on page 17](#)
- ♦ [Section 2.2, "What's New \(iPrint Appliance 1.1 Patch 3\)," on page 17](#)
- ♦ [Section 2.3, "What's New \(iPrint Appliance 1.1 Patch 2\)," on page 17](#)
- ♦ [Section 2.4, "What's New \(iPrint Appliance 1.1 Patch 1\)," on page 19](#)
- ♦ [Section 2.5, "What's New \(iPrint Appliance 1.1\)," on page 20](#)

2.1 What's New (iPrint Appliance 1.1 Patch 4)

2.1.1 iPrint Client 6.01 for Mac

The iPrint Client is upgraded to version 6.01 and is available for Mac 10.11 (El Capitan). This client is also available on Mac OS X 10.8, OS X 10.9, and OS X 10.10. The users can now install printers using the Google Chrome browser and get an improved installation experience with the Safari and Firefox browsers. For more information, see [Section 9.1, "Installing the iPrint Client," on page 147](#).

2.2 What's New (iPrint Appliance 1.1 Patch 3)

2.2.1 iPrint Client 6.2.0 for Windows

- ♦ The iPrint Client is upgraded to version 6.2.0 and is available for Windows 10. This client is also available for Windows 8.x, Windows 7, Windows Vista, Windows Server 2008 R2, and Windows Server 2012 R2. For more information, see [Section 9.1, "Installing the iPrint Client," on page 147](#).
- ♦ Updated accounting APIs to perform cancellation of jobs silently.

2.2.2 Additional Updates

- ♦ Increased ability to upload large printer drivers using iManager.
- ♦ Paused jobs of a direct printer are no longer lost even if the printer agent is redirected or driver/profile update is applied.

2.3 What's New (iPrint Appliance 1.1 Patch 2)

- ♦ [Section 2.3.1, "iPrint Client 6.0.0 for Mac," on page 18](#)
- ♦ [Section 2.3.2, "iPrint Client 6.1.0 for Windows," on page 18](#)
- ♦ [Section 2.3.3, "iPrintman Enhancements," on page 18](#)

- [Section 2.3.4, “Log File,” on page 18](#)
- [Section 2.3.5, “Email Printing,” on page 18](#)
- [Section 2.3.6, “Additional Updates,” on page 19](#)

2.3.1 iPrint Client 6.0.0 for Mac

The iPrint Client is upgraded to version 6.0.0. and is available for Mac OS X 10.8 or later. The users can now install printers using the Google Chrome browser and get an improved installation experience with the Safari and Firefox browsers. For more information, see [Section 9.2.2, “Using the iPrint Printer List Web Page on Macintosh,” on page 160.](#)

2.3.2 iPrint Client 6.1.0 for Windows

The iPrint Client is updated so that users can now install printers using the latest Google Chrome browser. This client is available for Windows 8.x, Windows 7, Windows Vista, Windows Server 2008 R2, and Windows Server 2012 R2. For more information, see [Section 9.2.1, “Using the iPrint Printer List Web Page on Windows,” on page 156.](#)

2.3.3 iprintman Enhancements

The following pool and profile enhancements are made to the iprintman command:

• Pool Options

List: Lists the pools (`--list`) and printers in a pool (`--info`).

Manage printer pools: Creates (`--create`), modifies (`--modify`), and deletes (`--delete`) a printer pool.

Manage printers in a pool: Adds (`--add-printer`) or removes (`--remove-printer`) printers from the pool.

• Profile Options

List driver profiles: Lists (`--list`) the driver profiles on the server.

Import driver profiles: Imports (`--import`) the driver profiles from one server to another.

Overwrite: Overwrites (`--overwrite`) the existing profiles on the server.

2.3.4 Log File

Log file is now available to capture the patch installation details. In the Field Test Patch page, click [Download Log File](#) to download the file.

For more information, see [Section 7.9, “Field Patch,” on page 89.](#)

2.3.5 Email Printing

Supports printing of images that are part of the email message body.

2.3.6 Additional Updates

- ◆ Printer status is ready for direct printers even if SNMP is disabled on the printer.
- ◆ Localization fixes across the components.

2.4 What's New (iPrint Appliance 1.1 Patch 1)

- ◆ [Section 2.4.1, "Flexible Communication Options," on page 19](#)
- ◆ [Section 2.4.2, "New iPrint Client 6.0.0," on page 19](#)
- ◆ [Section 2.4.3, "LDAP," on page 19](#)
- ◆ [Section 2.4.4, "Renderer," on page 20](#)
- ◆ [Section 2.4.5, "Email Printing," on page 20](#)
- ◆ [Section 2.4.6, "Additional Updates," on page 20](#)

2.4.1 Flexible Communication Options

In addition to secure communication, iPrint Appliance now accepts non-secure communication from the Remote Renderer. In the Management Console Renderers's page, a new *Settings* icon has been added to select secure communication. If this option is not selected, both secure and non-secure communication will be supported.

For more information, see [Section 6.2.2, "Secure and Non-secure Communication Support \(Remote Renderer\)," on page 72](#).

2.4.2 New iPrint Client 6.0.0

A new iPrint client has been released for Windows Vista, Windows 7, Windows 8.x, Windows Server 2008 R2, and Windows Server 2012 R2 with the following features:

- ◆ **Direct Print Accounting Support:** Supports print accounting for direct printers with third-party print accounting solutions such as PaperCut. For more information, see ["Accounting With iPrint" on page 15](#).
- ◆ **Simplified Printer Installation:** Users can now install printers using the Google Chrome browser prior to version 42. Users also get an improved installation experience with the Firefox browsers. In addition, on the Internet Explorer browser, you no longer need to run as an administrator to install printers on the Windows operating systems. For more information, see [Section 9.2.1, "Using the iPrint Printer List Web Page on Windows," on page 156](#).

If you are installing printers using the Google Chrome browser version 42 and later, see [TID 7016444](#) on the Novell Support Site.

Henceforth, any updates to these browsers will not impact the installation of the iPrint clients.

2.4.3 LDAP

- ◆ Large number of user and group objects are successfully imported from the source LDAP directory (eDirectory or Active Directory) to the iPrint Appliance server.
- ◆ Modifications and deletions to the configuration on the source LDAP directory is synced successfully to the Appliance server.
- ◆ The synchronization of User and Group Objects is enhanced.

- ♦ Users renamed on the source LDAP directory are successfully imported to the Appliance.
- ♦ eDirectory users now successfully authenticate to the iPrint Appliance server.

2.4.4 Renderer

- ♦ Upgrade issues related to renderers are resolved.
- ♦ Remote renderer processes print job with the latest driver associated with the printer.
- ♦ Secure configuration of Renderer is allowed only if the certificate files are of PKCS12 (file extensions .pfx or .p12) type.

2.4.5 Email Printing

- ♦ The print command for email printing is simplified. You can now specify only the printer name in the subject line to print your mail and its attachments. For example, printername#Test Mail.
- ♦ A new option `audit_common_name` is added to the `/etc/opt/novell/iprintmobile/conf/iprintmobile.conf` file. You can set this value `audit_common_name=true` to send only the Common Name from the FDN.
By default, FDN value is sent for Accounting or Auditing of the LDAP imported users.

2.4.6 Additional Updates

- ♦ You can successfully print from a Linux server using the LPR protocol.
- ♦ Migration is now successful even if the OU includes “&” sign.
- ♦ No erroneous messages are displayed when printers are migrated.
- ♦ Print jobs are successful and audit logs are updated when the job file size changes.

2.5 What's New (iPrint Appliance 1.1)

iPrint Appliance 1.1 provides the following key features:

- ♦ [Section 2.5.1, “User Enhancements,” on page 20](#)
- ♦ [Section 2.5.2, “Administration Enhancements,” on page 20](#)

2.5.1 User Enhancements

For a list of iPrint user enhancements, see “[What's New in iPrint](#)” in the *Novell iPrint 1.1 User Guide*.

2.5.2 Administration Enhancements

- ♦ **Local and remote renderers:**
 - ♦ **Multi-driver support:** You can now configure the local and remote renderer to use multiple drivers for various mobile-enabled printer agents.
 - ♦ **Web-based management:** You can now manage remote renderers by using Management Console.

- ♦ **Built-In PDF renderer:** The remote renderer is now bundled with an built-in PDF renderer. Until last release of iPrint Appliance, Adobe Acrobat Pro was mandatory to render PDF documents using the remote renderer.

For more information, see [Chapter 6, “Document Rendering,” on page 71](#).

- ♦ **Interface for applying software patches:** An interface is available to apply software patches. For more information, see [Section 7.9, “Field Patch,” on page 89](#).
- ♦ **Interface for uploading configuration files:** You can upload configuration files to Novell Support via FTP, or to download the configuration files so that you can send them by an alternative method. For more information, see [Section 7.8, “Support,” on page 88](#).
- ♦ **Migration of iCM and ACL:** iPrint Client Management (iCM) settings and Access Control Lists (ACL) are now automatically migrated from OES environment to iPrint Appliance during the printer import process. For more information, see [Section 5.4.1, “Migrating Printers from an OES iPrint System,” on page 50](#).
- ♦ **Ability to bulk import printers:** You can now bulk import printers into iPrint Appliance through a csv file. For more information, see [Section 5.4.3, “Bulk Printer Import Using a CSV File,” on page 57](#).
- ♦ **Printer rename:** You can now rename a printer from the Printers page. Select a printer you want to rename, click the Configure menu, then click Rename Printer. For more information, see [“Printer Rename and Printer Refresh” on page 96](#).
- ♦ **Printer refresh:** To refresh the printers list, click the Reload button in the upper right of the Available Printers window. For more information, see [“Printer Rename and Printer Refresh” on page 96](#).
- ♦ **IPP page enhancements:** IPP page is enhanced for better user experience.
- ♦ **MobileIron integration:** iPrint App is now enabled for MobileIron. For more information, see [Chapter 10, “Mobile Device Management \(MDM\),” on page 187](#).
- ♦ **Samsung KNOX certified:** Enhanced security for Android devices while maintaining user-friendly, secure mobile printing in your corporate environment.

3 Planning Your iPrint Appliance Environment

This section describes the requirements for installing iPrint Appliance.

- ◆ [Section 3.1, “Server Requirements,” on page 23](#)
- ◆ [Section 3.2, “Ports Requirements,” on page 25](#)
- ◆ [Section 3.3, “Remote Renderer Requirements,” on page 28](#)
- ◆ [Section 3.4, “AirPrint Requirements,” on page 28](#)
- ◆ [Section 3.5, “Mobile Platform Requirements,” on page 29](#)
- ◆ [Section 3.6, “Upgrade Requirements,” on page 29](#)

3.1 Server Requirements

iPrint Appliance works with any virtualization software that can run the `.ovf`, `.vmmx`, or `.xen` file formats. However, iPrint Appliance works best with the virtualization software versions listed below.

- ◆ Virtualization software:
 - ◆ Hyper-V: Windows Server 2012 Hyper-V and Windows Server 2008 Hyper-V
 - ◆ Xen 4.2.2_04-0.7.5 on SLES 11 SP2 and SLES 11 SP3
 - ◆ VMware ESX 4.x, ESXi 4.x, ESXi 5.x or higher
- ◆ A VMware vSphere client 4.x or VMware vSphere client 5.x for accessing the host server and appliance for initial configuration.
- ◆ VMware Workstation 9 on Windows 7 and SLES. Though VMware Workstation 9 is certified, VMware Workstation 8 works with no major issues.
- ◆ Microsoft Internet Explorer 9 or 10, or the latest version of Mozilla Firefox or Google Chrome, or Safari on Mac, for configuring and managing iPrint Appliance after installation.
- ◆ Directory service:
 - ◆ NetIQ eDirectory 8.8 or later
 - ◆ Active Directory configured on Windows Server 2012 R2 Standard Edition
 - ◆ Active Directory configured on Windows Server 2008 R2 Enterprise Edition
- ◆ IP address details for iPrint Appliance, including:
 - ◆ Static IP address
 - ◆ Network mask
 - ◆ Gateway IP address
 - ◆ DNS host name associated with the IP address
 - ◆ IP address of a DNS server
- ◆ The IP address assigned to the iPrint Appliance and remote renderer must have DNS host entry in the DNS server. Ensure that the DNS entries are in the same domain.

If you do not have a DNS server to resolve the hostnames, you can use the `hosts` file to resolve the same as follows:

- ◆ Ensure that the `hosts` file is updated with the iPrint Appliance and remote renderer details (IP and hostname) in both the iPrint Appliance and the remote renderer machine. The `hosts` file is located at:

iPrint Appliance: `/etc/hosts`

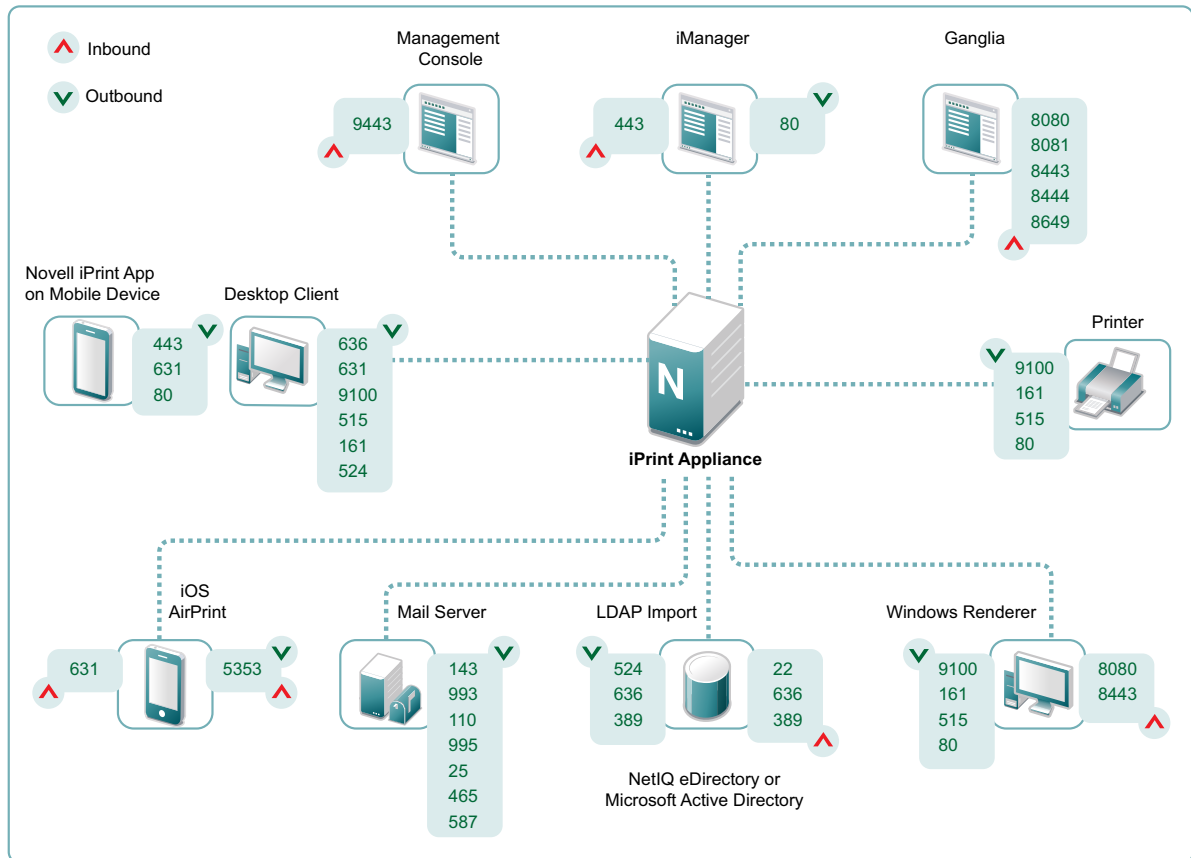
Remote renderer in the Windows machine: `C:\Windows\System32\drivers\etc`

- ◆ If you are using a third party certificate, ensure that the hostname of the iPrint Appliance and remote renderer are configured with the domain name against which the certificate is issued. For example, `appliance.xyz.com` and `remoterenderer.xyz.com`.
- ◆ If the iPrint Appliance and remote renderer, requires same IP address to resolve two different host names, then during the appliance configuration, do one of the following:
 - ◆ Ensure that the `/etc/hosts` file of iPrint Appliance is updated with the IP address and hostname (domain name against which the certificate is issued) of the iPrint Appliance and remote renderer.
 - ◆ If you have a DNS server, then ensure that the PTR record entry for hostname matches the domain name of the used certificate. Ensure to remove all the other hostnames from the `hosts` file.
- ◆ 4 GB RAM or higher is recommended
- ◆ 40 GB hard disk space is recommended

NOTE: For information about VMware system requirements, see [Minimum system requirements for installing ESX/ESXi](#) on the VMware support page.

3.2 Ports Requirements

Figure 3-1 iPrint Appliance Ports Map



Desktop Clients: Open the ports on your clients to communicate with iPrint Appliance, printers and LDAP sources.

Operating System	Connection Type	Port	Protocols	Description
Windows	Outbound	636	LDAPS (Secure)	To communicate with LDAP sources
	Outbound	631	IPP	To communicate with the printers
		9100	RAW	
		515	LPR	
		161	SNMP	
		524		To communicate with eDirectory using DClient
Linux	Outbound	631	IPP	To communicate with the printers
		9100	RAW	
		515	LPR	

Operating System	Connection Type	Port	Protocols	Description
Mac	Outbound	631	IPP	To communicate with the printers
		9100	RAW	
		515	LPR	

Mobile Apps: Open ports on your mobile devices to communicate with iPrint Appliance and printers.

Operating System	Connection Type	Port	Protocols	Description
iOS, Android, Windows, Blackberry	Outbound	443	HTTPS	To communicate with iPrint Appliance and with the printers
		631	IPP	To communicate with the printers
		80	TCP	

Remote Renderer: Open the ports for various communications between iPrint Appliance and printers.

Operating System	Connection Type	Port	Protocols	Description
Windows	Inbound	8080	HTTP	To allow Management Console and Mobile server to connect with the renderer
		8443	HTTPS	To allow secure communication
		9100	RAW	To communicate with the printers
		161	SNMP	
		515	LPR	

iPrint Appliance: Open the ports for various communications between iPrint Appliance and printers.

Tasks	Connection Type	Port	Protocols	Description
Printers	Outbound	9100	RAW	To communicate with the printers
		161	SNMP	
		515	LPR	
		80	TCP	
AirPrint	Inbound	631	IPP	To perform AirPrint jobs
		5353	mDNS/ UDP	
	Outbound	5353	mDNS/ UDP	To advertise iPrint printers as iOS AirPrint printers

Tasks	Connection Type	Port	Protocols	Description
Desktop Clients	Inbound	515	LPR	To allow Desktop clients to communicate with the appliance
LDAP Import	Outbound	524	NCP (Dclient)	To perform LDAP import and authenticate users to the configured LDAP sources
		636	LDAPS (Secure)	
		389	LDAP (Non-Secure)	
	Inbound	22	SSH	To allow access to appliance to perform LDAP Import
		636	LDAPS (Secure)	
		389	LDAP (Non-Secure)	
Management	Inbound	9443		To allow access to iPrint Management Console
	Inbound/Outbound	443	HTTPS	To perform iManager tasks
		80	TCP	
Mail Server	Outbound	143	IMAP	To communicate with the Mail server.
		993	IMAPS (Secure)	
		110	POP3	
		995	POP3	
		25	SMTP	
		465	SMTP (Secure via SSL)	
		587	SMTP (Secure via TLS)	
Ganglia Configuration	Inbound	8080 (blocked)		To configure Ganglia
		8081		
		8443		
		8444		
		8649		

NOTE: For ports required by the 3rd party products, you must refer their documentation.

3.3 Remote Renderer Requirements

For desktop quality printing for Microsoft Office and PDF documents, you must install a remote renderer. The minimum requirements are as follows:

- ◆ Install the renderer on a Microsoft Windows 64-bit system
- ◆ Windows 8.1 / Windows 8/ Windows 7 SP2 Enterprise/Windows 2012 R2/ Windows 2008 R2 Enterprise with a dual-core processor or higher
- ◆ Microsoft Office 2013 64-bit
- ◆ Microsoft Office 2013 32-bit
- ◆ Microsoft Office 2010
- ◆ Adobe Acrobat XI Professional (Optional)
- ◆ Adobe Acrobat X Pro
- ◆ Microsoft .Net Framework 4 or later
- ◆ The IP address assigned to the iPrint Appliance and remote renderer must have DNS host entry in the DNS server. Ensure that the DNS entries are in the same domain.

If you do not have a DNS server to resolve the hostnames, you can use the `hosts` file to resolve the same as follows:

- ◆ Ensure that the `hosts` file is updated with the iPrint Appliance and remote renderer details (IP and hostname) in both the iPrint Appliance and remote renderer machine. The `hosts` file is located at:

iPrint Appliance: `/etc/hosts`

Remote renderer in the Windows machine: `C:\Windows\System32\drivers\etc`

- ◆ If you are using a third party certificate, ensure that the hostname of the iPrint Appliance and remote renderer are configured with the domain name against which the certificate is issued. For example, `appliance.xyz.com` and `remoterenderer.xyz.com`.
- ◆ If the iPrint Appliance and remote renderer, requires same IP address to resolve two different host names, then during the appliance configuration, do one of the following:
 - ◆ Ensure that the `/etc/hosts` file of iPrint Appliance is updated with the IP address and hostname (domain name against which the certificate is issued) of the iPrint Appliance and remote renderer.
 - ◆ If you have a DNS server, then ensure that the PTR record entry for hostname matches the domain name of the used certificate. Ensure to remove all the other hostnames from the `hosts` file.

3.4 AirPrint Requirements

To enable AirPrint through iPrint using multicast DNS (mDNS), your network must meet the following requirements:

- ◆ [Section 3.4.1, “Hardware Requirements,” on page 29](#)
- ◆ [Section 3.4.2, “Network Requirements,” on page 29](#)

3.4.1 Hardware Requirements

- ◆ Router or Gateway with an option to forward mDNS (Apple Bonjour) multicast advertisements on all or selected wireless VLANs
- ◆ Wireless router that supports mDNS (Apple Bonjour) between wired and wireless machines

The wireless routers are expected to have the capability for IGMP snooping. IGMP snooping is required to disallow the multicast traffic on those network interfaces that are not participating in AirPrint's Bonjour multicast discovery.

The wireless network switches must not be interconnected for redundancy. This results in a Layer 2 switching loop.

3.4.2 Network Requirements

- ◆ Wireless network with no interconnection
- ◆ IP Multicast network (IP Multicast must be enabled on network devices such as routers and switches)

3.5 Mobile Platform Requirements

Table 3-1 Mobile Operating System Support for Apps

Type	Version
iOS	<ul style="list-style-type: none">◆ 6.x◆ 7.1.x◆ 8.x
Android	<ul style="list-style-type: none">◆ Gingerbread (2.3.x)◆ Ice Cream Sandwich (4.0.x)◆ Jelly Bean (4.1.x, 4.2.x, 4.3.1)◆ KitKat (4.4.x)◆ Lollipop (5.0.x)
BlackBerry	<ul style="list-style-type: none">◆ OS 10 (Phone)◆ OS 2.1.0 (PlayBook)
Windows	<ul style="list-style-type: none">◆ Phone 8.x◆ RT 8.1

3.6 Upgrade Requirements

You can use the Upgrade option in two scenarios:

- ◆ Upgrading iPrint Appliance from an earlier version
- ◆ Importing the configuration settings from an existing copy of iPrint Appliance

When you select the *Upgrade* option, you are prompted for the configuration file `iprintconfig.zip`. For creating the `iprintconfig.zip`, see [Section 3.6.1, “Exporting the Configuration File,” on page 30](#).

IMPORTANT: If you want to use an external disk to upgrade iPrint Appliance, you must add a new external hard disk to the appliance before configuring the network settings.

3.6.1 Exporting the Configuration File

To create the `iprintconfig.zip` file, you must copy the configuration information from an existing iPrint Appliance.

- 1 On a Web browser, either use DNS or the IP Address to access the Management Console. For example, `https://10.0.0.1:9443` or `http://iprint.example.com/admin`.
Ignore the security certificate warning.
- 2 Specify `vaadmin` or `root` as the user name.
- 3 Specify the password.
The Management Console page is displayed.
- 4 Click the *iPrint Appliance Configuration* icon.
- 5 Under *Administration*, click *Export Configuration*.
- 6 Specify the *eDirectory administrator Password*, then click *Export*.

This is the password that you use for the administrator account of iPrint Appliance when using iManager.

On successful export, a `iprintconfig.zip` file is created that contains the configuration information.

4 Installing iPrint Appliance

Before installing iPrint Appliance, see [Appendix B, “Best Practices,” on page 213](#) to ensure a seamless experience with iPrint Appliance.

- ♦ [Section 4.1, “Deploying iPrint Appliance and Configuring the Virtual Environment,” on page 31](#)
- ♦ [Section 4.2, “Initial Appliance Configuration,” on page 36](#)

4.1 Deploying iPrint Appliance and Configuring the Virtual Environment

You must download the iPrint Appliance and configure the virtual environment where you plan to run the appliance. This includes configuring the system resources.

The process of downloading the iPrint Appliance and configuring the virtual environment differs, depending on which virtual environment you plan to use to run the iPrint Appliance.

- ♦ [Section 4.1.1, “VMware Configuration,” on page 31](#)
- ♦ [Section 4.1.2, “Citrix Xen Configuration,” on page 32](#)
- ♦ [Section 4.1.3, “Xen Configuration,” on page 33](#)
- ♦ [Section 4.1.4, “Hyper-V Configuration,” on page 35](#)

4.1.1 VMware Configuration

- 1 Download the iPrint software (`iPrint.x86_64-version.ovf.zip`) to your management workstation.

You can download the software from the [Novell Customer Center \(NCC\) \(https://www.novell.com/center\)](https://www.novell.com/center). Or, you can download an evaluation version of the software from the [Novell Downloads page \(http://download.novell.com\)](http://download.novell.com).

- 2 Extract the `iPrint.x86_64-version.ovf.zip` file on your management workstation so that the `iPrint-version` file folder appears.

NOTE: On a VMware workstation, do not extract the `iPrint.x86_64-version.ovf.zip` file using the default Windows extractor. On deploying this file, you may receive an error message, Access is Denied. To resolve this issue, extract the file using any other third-party extractor.

- 3 In the vSphere client, click *File > Deploy OVF Template*.

NOTE: If the virtualization software you are using does not support `.ovf`, you must convert the `.ovf` file to `.vmtx` using the VMware OVF Tool available on the VMware Website.

- 4 Browse to and select the `.ovf` file in the `iPrint-version` file folder.
- 5 Click *Next*.
- 6 Click *Next* again.
- 7 In the *Name* field, rename the iPrint appliance to a name of your choice, then click *Next*.

- 8 Click *Next* to accept the default for the disk format.
- 9 Click *Finish*.
- 10 (Optional) Create a separate VMware hard disk for the appliance. This is the location where you will store your iPrint files.
 - 10a In the vSphere client, right-click the virtual machine that you just created, and for which you want to create secondary storage, then click *Edit Settings*.
The Virtual Machine Properties page is displayed.
 - 10b On the *Hardware* tab, click *Add*.
The Add Hardware dialog box is displayed.
 - 10c Select *Hard Disk*, then click *Next*.
 - 10d Select *Create a new virtual disk*, then click *Next*.
 - 10e In the *Disk Size* field, specify the amount of hard disk space that you want to allocate. 40 GB is recommended.
 - 10f Select a datastore, then click *OK*.
 - 10g Click *Next*.
 - 10h Click *Finish*.
- 11 Increase the amount of memory that VMware allocates for the iPrint appliance.
 - 11a In the Virtual Machine Properties window, select *Memory*, then increase the setting to a suitable size for your environment. 4 GB is recommended.
 - 11b Click *OK* to exit the Virtual Machine Properties window.
- 12 Power on the appliance (virtual machine).
- 13 Continue with [Section 4.2, "Initial Appliance Configuration,"](#) on page 36.

4.1.2 Citrix Xen Configuration

- 1 Download the iPrint software (`iPrint.x86_64-version.ovf.zip`) to your management workstation.
You can download the software from the [Novell Customer Center \(NCC\) \(https://www.novell.com/center\)](https://www.novell.com/center). Or, you can download an evaluation version of the software from the [Novell Downloads page \(http://download.novell.com\)](http://download.novell.com).
- 2 Extract the `iPrint.x86_64-version.ovf.zip` file on your management workstation.
- 3 In the Citrix XENCenter client, right-click the server on which you will install iPrint Appliance, then click *Import*.
The Import OVF/OVA Package wizard is displayed.
- 4 **Import Source:** Browse to `iPrint.x86_64-version` folder and select the `.ovf` file.
- 5 **Location:**
Click *Next* to continue with the default settings.
- 6 **Storage:** Select one or more storage repositories (SRs) where the disk images for the imported VMs will be placed, then click *Next*.
- 7 **Networking:** To map an incoming virtual network interface to a target network, select a network from the list in the *Target Network* column, then click *Next*.
The Network and MAC address shown in the list of the VMs are stored as part of the definition of the original (exported) VM in the export file.
- 8 **Security:**

If the selected OVF/OVA package is configured with security features such as certificates or a manifest, select *Verify manifest content* to verify the list of files in the package. If the packages are digitally signed, the associated manifest is verified automatically and so the *Verify manifest content* option is not available on the Security page.

Click *Next*.

- 9 OS Fixup Settings:** Since the VMs are created on XenServer, select *Don't use Operating System Fixup*, then click *Next*.
- 10 Transfer VM Settings:** Configure the network settings, then click *Next*.
 - 10a** Select a network from the list of network interfaces.
 - 10b** To configure networking settings manually, select *Use these network settings* and enter the IP address, subnet mask and gateway.

We recommend you to provide the same IP address that you plan to use for iPrint VM server. However, you can also provide a temporary IP address.
- 11** Review all the import settings and then click *Finish* to begin the import process and close the wizard.

The import progress is displayed in the status bar at the bottom of the XenCenter window and also on the Logs tab.
- 12** (Optional) Create a separate hard disk for the appliance. This is the location where you will store your iPrint files.
 - 12a** In the Citrix XENCenter client, select the virtual machine that you just created, and click on the *Storage* tab.

The Virtual Disks page is displayed.
 - 12b** Click *Add*.

The Add Virtual Disk dialog box is displayed.
 - 12c** In the *Name* field, specify the name of the virtual disk.
 - 12d** In the *Size* field, specify the amount of hard disk space that you want to allocate. 40 GB is recommended.
 - 12e** Click *Add*.
- 13** Power on the appliance (virtual machine).
- 14** Continue with [Section 4.2, "Initial Appliance Configuration,"](#) on page 36.

4.1.3 Xen Configuration

- 1** Log in to the host server either locally or from a remote workstation.

You can use the following command to log in to the host server from a remote workstation on Linux:

```
ssh -X root@host_ip_address
```

You must use the *-X* in the command in order to display the GUI installation program. The steps in this section use the GUI installation program to configure the server.
- 2** Navigate to the `/var/lib/xen/images` directory on the host server.
- 3** Create a new directory inside the images directory where you can download the iPrint software.

The name of this directory must be the same as the name that you plan to use for your iPrint virtual appliance. For example, if you plan to name the iPrint appliance `iPrint1`, the name of this new directory must also be `iPrint1`.
- 4** Change to the directory that you just created. For example, `/var/lib/xen/images/iPrint1`.

- 5 Download the iPrint software (`iPrint.x86_64-version.xen.tar.gz`) to the current directory on the host server. For example: `/var/lib/xen/images/iPrint1`
 You can access the software from the [Novell Customer Center \(NCC\)](https://www.novell.com/center) (<https://www.novell.com/center>). Or, you can access an evaluation version of the software from [this location](http://download.novell.com/Download?buildid=9xcn1vXns5A-) (<http://download.novell.com/Download?buildid=9xcn1vXns5A->) on the [Novell Downloads page](http://download.novell.com) (<http://download.novell.com>).
- 6 Untar the `iPrint.x86_64-version.xen.tar.gz` file in the directory where you downloaded it.
 You can use the following command to untar the file:

```
tar -Sxvzf iPrint.x86_64-version.xen.tar.gz
```

 A `iPrint-version` directory is created, which contains a `.raw` file that you will use to run the virtual image. This process can take a few minutes.
- 7 From the host server, run the following command to launch the GUI configuration menu:

```
vm-install
```

 The Create a Virtual Machine wizard is displayed.
- 8 Click *Forward*.
- 9 Select *I have a disk or disk image with an installed operating system*, then click *Forward*.
- 10 Leave *SUSE Linux Enterprise Server 11* selected, then click *Forward*.
- 11 Rename the virtual machine by clicking *Name of Virtual Machine*, then specifying a new name in the *Name* field. Then click *Apply*. For example, `iPrint1`.
- 12 Configure the amount of memory and number of CPUs that Xen allocates for the iPrint appliance.
 - 12a On the Summary page, click *Hardware*, then specify the following information:
 - Available Memory:** Displays the amount of available memory that is available on the host server.
 - Initial Memory:** 4 GB is the recommended minimum amount of memory.
 - Maximum Memory:** Set this to the same value that you set for Initial Memory.
 - Available Processors:** Displays the number of available processors on the host server.
 - 12b Click *Apply*.
- 13 Configure the bootable disk image:
 - 13a On the Summary page, click *Disks*.
 - 13b Click *Harddisk*.
 - 13c On the Virtual Disk page, specify the following information:
 - Source:** Click *Browse*, then browse to the `.raw` file that you untared in [Step 6](#).
 - Protocol:** Select *file*.
 - Size (GB):** The default size is 40.1 GB. This cannot be changed.
 - Create Sparse Image File:** This option is not available.
 - Read-Only Access:** Do not select this option.
 - 13d Click *OK*.
- 14 (Optional) Create a separate Xen hard disk. You must add a hard disk to the virtual machine before you choose this option. If you have not already added a hard disk, click *Power Off Virtual Machine*, modify the virtual machine settings to add a hard disk, then power on the virtual machine.

NOTE: If you do not add a hard disk to the virtual machine, then iPrint Appliance is installed on the default partition. The default partition is /sda.

14a On the Disks page, click *Harddisk*.

14b On the Virtual Disk page, specify the following information:

Source: This field should already contain the path to the `.raw` file that will be created when the virtual machine is created. If desired, you can rename the disk in the source field from `disk0` to a name of your choosing.

Size (GB): Specify the amount of hard disk space that you want to allocate. 40 GB is recommended.

15 Click *OK* > *Apply*.

16 Click *OK* to save your changes and to create and power on the virtual machine.

IMPORTANT: Do not power on the appliance until you have created a separate Xen hard disk for the appliance, as described in [Step 14](#).

17 Continue with [Section 4.2, "Initial Appliance Configuration,"](#) on page 36.

4.1.4 Hyper-V Configuration

1 Log in to the host server either locally or from a remote workstation.

You can use Windows Remote Desktop to log in to the host server from a remote workstation.

2 Create a new directory in the location where you want each virtual machine to reside (for example, `C:\Users\Public\Documents\Hyper-V\Virtual Hard Disks`). In a later step, you will download the iPrint software to this directory.

As a best practice, give this directory the same name as the name that you plan to use for your iPrint virtual appliance. For example, if you plan to name the iPrint appliance `iPrint1`, the name of this new directory should also be `iPrint1`.

3 Download the iPrint software (`iPrint.x86_64-version.vhd.zip`) to the directory on the host server that you created in [Step 2](#).

You can access the software from the [Novell Customer Center \(NCC\)](https://www.novell.com/center) (<https://www.novell.com/center>). Or, you can access an evaluation version of the software from [this location](http://download.novell.com/Download?buildid=9xcn1vXns5A~) (<http://download.novell.com/Download?buildid=9xcn1vXns5A~>) on the [Novell Downloads page](http://download.novell.com) (<http://download.novell.com>).

4 Extract the `iPrint.x86_64-version.vhd.zip` file to the directory on the host server that you created in [Step 2](#).

5 Open the Hyper-V Manager.

6 In Hyper-V Manager, right-click the disk name in the Action Pane in the left-hand column of the Hyper-V Manager window. This is the disk where you want to create the new virtual machine. Then click *New* > *Virtual Machine*.

The New Virtual Machine Wizard is displayed.

7 Review the Before You Begin page, then click *Next*.

8 In the *Name* field, specify a name for the new virtual machine. For example, `iPrint1`.

9 Click *Next*.

10 In the *Startup memory* field, specify the amount of memory (in MB) to allocate to the virtual machine. 4 GB is the recommended minimum for a iPrint.

11 Click *Next*.

- 12 On the Configure Networking page, select the networking card of your choice, then click *Next*.
- 13 Configure the bootable disk image:
 - 13a On the Connect Virtual Hard Disk page, select *Use an existing virtual hard disk*, then browse to the `.vhd` file that was in the downloaded `.zip` file that you extracted in [Step 4](#).
 - 13b Click *Open* to select the file, then click *Next*.
- 14 Click *Finish*.
- 15 (Optional) Create a separate Hyper-V hard disk for the appliance. You must add a hard disk to the virtual machine before you choose this option. If you have not already added a hard disk, click *Power Off Virtual Machine*, modify the virtual machine settings to add a hard disk, then power on the virtual machine.

NOTE: If you do not add a hard disk to the virtual machine, then iPrint Appliance is installed on the default partition. The default partition is `/sda`.

- 15a In Hyper-V Manager, right-click the disk that you just created, then click *Settings*.
- 15b In the Hardware section, select *IDE Controller 1*, select *Hard Drive*, then click *Add*.
- 15c Select *Virtual hard disk*, then click *New*.
- 15d Review the Before You Begin page, then click *Next*.
- 15e On the Choose Disk Format page, select *VHD*, then click *Next*.
- 15f On the Choose Disk Type page, select *Fixed size*, then click *Next*.
- 15g On the Specify Name and Location page, specify the following information, then click *Next*:
 - Name:** Specify a name for the hard disk. For example, `iPrintDisk2`.
 - Location:** Specify the location where you want the hard drive to be located.
- 16 On the Configure Disk page, select *Create a new blank virtual hard disk*, then specify a size for the hard disk. 40 GB is recommended.
- 17 Click *Next*.
- 18 Review the summary information, then click *Finish*.
- 19 Click *Apply > OK*.
- 20 Right-click the virtual machine, then click *Start*.

IMPORTANT: Do not start the appliance until you have created a separate Hyper-V hard disk for the appliance, as described in [Step 15](#).

- 21 Right-click the virtual machine, then click *Connect*.
- 22 Continue with [Section 4.2, "Initial Appliance Configuration,"](#) on page 36.

4.2 Initial Appliance Configuration

- 1 After you have downloaded the iPrint appliance, configured the virtual environment, and powered on the appliance, click the *Console* tab.
- 2 After the appliance starts, select your preferred keyboard layout in the *Keyboard Language* drop-down, then accept the license agreement by clicking *Accept*.

You can change the language in the agreement from the *License Language* drop-down.

The Novell iPrint Appliance Passwords and Time Zone page is displayed.

- 3 On the *Novell iPrint Appliance Passwords and Time Zone* page, specify the following network information:

Root password and confirmation: The root password for your iPrint appliance.

Vaadmin password and confirmation: The preferred user to use when logging in to the appliance.

NTP Server: The IP address or DNS name of the reliable external Network Time Protocol (NTP) server your OES server uses. For example, `time.example.com`.

For the best results, set up NTP in accordance with the [VMware best practices guidelines](#).

Region: Your local region.

Time Zone: Your local time zone.

- 4 Click *Next*.

- 5 On the *Novell iPrint Appliance Network Settings* page, specify the following information:

Hostname: The fully qualified DNS host name associated with the appliance's IP address. For example, `myiPrint.mynetwork.example.com`.

IP Address: The static IP address for the appliance. For example, `172.17.2.3`.

Network Mask: The network mask associated with the appliance's IP address. For example, `255.255.255.0`.

Gateway: The IP address of the gateway on the subnet where your iPrint virtual appliance is located. For example, `172.17.2.254`.

DNS Servers: The IP address of a primary DNS server for your network. For example, `172.17.1.1`.

Domain Search: The domain where the iPrint Appliance is located. For example, `mynetwork.example.com`.

- 6 Click *Next*.

- 7 Select the Hard Drive.

If you created a secondary VMware hard drive for this appliance, it is automatically detected and `sdb` is displayed as the hard drive. If you have not created a secondary VMware hard drive, `sda` is chosen as the default partition.

If you have added a secondary hard drive, specify the following options:

Hard Drive: Select the hard drive you are using.

Create a new partition: Select this option to create a new partition.

Filesystem type: Specify the type of file system.

- 8 Click *Configure*.

If you have not created a secondary hard drive, you will notice a warning message. You can change the settings by clicking *Power Off Virtual Machine*, or you can choose to continue the installation by clicking *Continue*.

The iPrint Appliance installation process begins. A message stating, "The system is ready for appliance configuration" is displayed. After the installation is complete, a URL and an IP address to access the iPrint Appliance Management Console is displayed. Using a Web browser, navigate to the Management Console URL.

NOTE: Ignore the WARNING message that is displayed in the command prompt.

The iPrint Appliance installation is now complete. You must configure iPrint Appliance before you can start printing. Continue with [Chapter 5, "Configuring Print System,"](#) on page 39.

5 Configuring Print System

You can configure iPrint Appliance through the iPrint Appliance Management Console (Novell iPrint Appliance Administration).

- ♦ [Section 5.1, “Setting Up iPrint Appliance,” on page 39](#)
- ♦ [Section 5.2, “Creating Users,” on page 43](#)
- ♦ [Section 5.3, “Configuring Printer Drivers,” on page 43](#)
- ♦ [Section 5.4, “Creating Printers,” on page 49](#)
- ♦ [Section 5.5, “Configuring Printing Through Mobile Devices,” on page 59](#)
- ♦ [Section 5.6, “What’s Next,” on page 69](#)

5.1 Setting Up iPrint Appliance

You can set up iPrint Appliance as a new copy, or you can upgrade from an earlier version.

- 1 On a Web browser, use either the DNS name or the IP Address to access the Management Console. For example, <https://10.0.0.1:9443> or <http://iprint.example.com/admin>.

Ignore the security certificate warning, and continue to the iPrint Appliance Management Console. To avoid the security warning prompt every time you access the iPrint Appliance Management Console, you can add the certificate to the trusted certificates list on your browser.

- 2 Specify `vaadmin` or `root` as the user name.
- 3 Specify the password, then click *Log in*.
The Management Console page is displayed.
- 4 Click *iPrint Appliance Configuration*.
The *iPrint Initial Configuration Wizard* window is displayed.
- 5 Select *New* or *Upgrade*, then click *Next*.

- ♦ [Section 5.1.1, “New,” on page 39](#)
- ♦ [Section 5.1.2, “Upgrade,” on page 41](#)
- ♦ [Section 5.1.3, “Post-Upgrade,” on page 42](#)

5.1.1 New

- 1 Specify the following information:

Table 5-1 iPrint Initial Configuration Wizard

General	<p>Authentication Realm: Specify the authentication domain. All the Windows and Mac desktop clients on your network authenticate against the Authentication Realm.</p>
	<p>iPrint Appliance has its own internal user store. Therefore, independent Authentication Realms are possible. The administrator can setup each appliance to only use its internal user store, or integrate with other user sources by using the LDAP Import feature. The administrator can set the Authentication Realm independently for each iPrint Appliance, or use the same Authentication Realm on all appliances for a single-sign-on ability.</p>
	<p>DNS for Print Manager: Specify the DNS name in the format displayed in the box. It is recommended that you do not use the DNS name of iPrint Appliance. Specify a DNS name that follows the Print Manager.</p>
	<p>The DNS name is important for the Windows and Mac desktop clients. It allows you to move the server without interrupting the workstations. The DNS name must resolve to the IP address of the Appliance. You must validate that the DNS address is correct and functional before continuing because a wrong DNS address can result in errors.</p>
	<p>The DNS name is also known as a CNAME record. It is a DNS name tied to a service, rather than a server. If you choose to specify a CNAME record, ensure that the chosen name resolves to the IP address of iPrint Appliance.</p>
Embedded Data Store	<p>The credentials in this section are used to log in to the iManager interface.</p>
	<p>Administrator Username: The administrator account user name is pre-populated in the following format: <code>cn=admin,o=iPrintAppliance</code>. This field is not editable.</p>
	<p>Administrator Password: Specify the password for the administrator account. Administrator password is the eDirectory administrator Password. It is used for eDirectory and iManager.</p>
	<p>Re-type Password: Specify the password again to confirm.</p>

Driver Store

Local: If you want to use a local Driver Store, select *Local*. You can manage the Local Driver Store using iManager.

Remote: If you have an existing Driver Store configured with another iPrint Appliance or OES server, you can use that Driver Store by selecting the *Remote* option, then specifying the *DNS Name/Address*, *User name* and *Password* of the server containing the Driver Store.

You can share the Driver Store with all your appliances and even your existing OES environment. This allows you to upload drivers to a single source and share the drivers with all appliances on your network. The Driver Store simplifies administration effort across your enterprise.

NOTE: Specify the admin credentials in FDN format (for example, `cn=admin,o=companyname`) of the server where the Driver Store resides.

NOTE: If you configure a Remote Driver Store, you must manage (using iManager) the Remote Driver Store from the machine where the Driver Store resides.

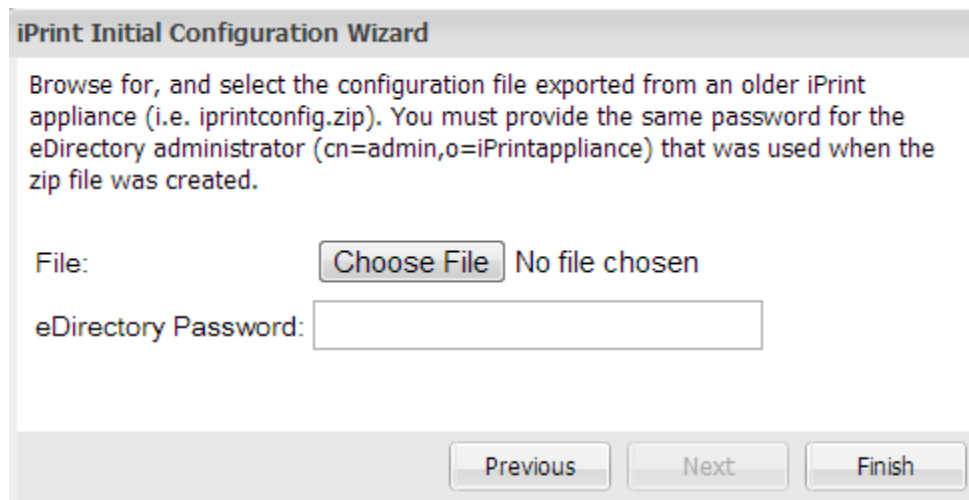
2 Click *Finish*.

After configuring iPrint Appliance, you must create printers. You can create printers using the Management Console. If you have an existing iPrint Appliance or OES iPrint system, you can also import printers. To create printers, see [Section 5.4, “Creating Printers,” on page 49](#).

5.1.2 Upgrade

When upgrading to a new version of iPrint Appliance from an older version, ensure that the newly deployed version of iPrint Appliance has the same network configuration, passwords, and time zone as that of the older version of iPrint Appliance from which you exported the `iprintconfig.zip` configuration file. For more information about `iprintconfig.zip`, see [Section 3.6.1, “Exporting the Configuration File,” on page 30](#).

- 1 On a web browser, use either the DNS name or the IP Address to access the Management Console. For example, `https://10.0.0.1:9443` or `http://iprint.example.com/admin`.
Ignore the security certificate warning, and continue to the iPrint Appliance Management Console.
- 2 Specify `vaadmin` or `root` as the user name.
- 3 Specify the password.
The Management Console page is displayed.
- 4 Click *iPrint Appliance Configuration*.
The *iPrint Initial Configuration Wizard* window is displayed.
- 5 Select *Upgrade*, then click *Next*.
- 6 In the *File* option, click *Choose File*, then select the configuration file exported from a previous copy of iPrint Appliance.



7 Specify the *eDirectory Password*.

NOTE: *eDirectory Password* is the password that you specified when exporting the configuration file from the previous copy of iPrint Appliance.

8 Click *Finish*.

IMPORTANT: If you have an existing remote renderer with the iPrint appliance, then post-upgrade of this appliance, you must download, install, and register the new remote renderer from the Management Console. You must upgrade the renderer, else it remains in inactive state.

If you are using a FireFox browser, on successful upgrade, you might not receive a completion message, even if the upgrade is successful.

5.1.3 Post-Upgrade

♦ If the iPrint Appliance you are upgrading from uses third party certificates, then post-upgrade perform the following steps on the iPrint Appliance 1.1:

1. Modify the passphrase of the certificate in the `/etc/ssl/servercerts/passphrase.sh` file:

```
#!/bin/bash
echo "changeit"
```

Replace the string `changeit` to the passphrase that you used when generating the certificate key.

2. Modify the `SSLCertificateChainFile` attribute in the `/etc/apache2/vhosts.d/vhost-ssl.conf` file to iPrint Appliance 1.1 certificate chain file location.
3. Restart the Apache service using the following command:

```
rcapache2 restart
```

5.2 Creating Users

You can either import your users from an existing LDAP eDirectory or Active Directory source, or you can create local users on iPrint Appliance.

- ♦ [Section 5.2.1, “LDAP Import from eDirectory or AD Source \(Recommended\),” on page 43](#)

5.2.1 LDAP Import from eDirectory or AD Source (Recommended)

To set up iPrint Appliance and import printers, you must first import users from your LDAP source. For information on how to import users from an LDAP source, see [Section 8.1.7, “LDAP Import,” on page 97](#).

5.3 Configuring 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. You can add printer drivers and PPD files from diskettes, CDs, and the workstation operating system.

iPrint Appliance ships with a default Linux driver that is used by the local renderer for mobile printing. To modify the default Linux driver, see [Section 5.3.4, “Modifying the Default Linux Driver Used by the Local Renderer for Mobile Printing,” on page 48](#).

- ♦ [Section 5.3.1, “Prerequisites,” on page 43](#)
- ♦ [Section 5.3.2, “Uploading Drivers By Using iManager,” on page 43](#)
- ♦ [Section 5.3.3, “Uploading Drivers By Using Command Line,” on page 47](#)
- ♦ [Section 5.3.4, “Modifying the Default Linux Driver Used by the Local Renderer for Mobile Printing,” on page 48](#)
- ♦ [Section 5.3.5, “Location Of the Linux Printer Drivers,” on page 49](#)

5.3.1 Prerequisites

- ♦ Install iPrint Client. For more information, see [Section 9.1, “Installing the iPrint Client,” on page 147](#)

5.3.2 Uploading Drivers By Using iManager

iManager is a management tool that allows you to manage your print environment. You can create printers, printer drivers, profiles, and users.

Supported Browsers to Upload Drivers Using iManager

Workstation	Supported Browser	Upload Linux Drivers (PPD file)	Upload Windows Driver (.inf file)	Upload Mac Drivers (PPD file)
		Linux	Windows	Mac
Linux	Mozilla Firefox 2.x.x or later	✓	✗	✓
Windows	Internet Explorer 6.0 or later	✓	✓	✓
Mac	Not supported	✗	✗	✗

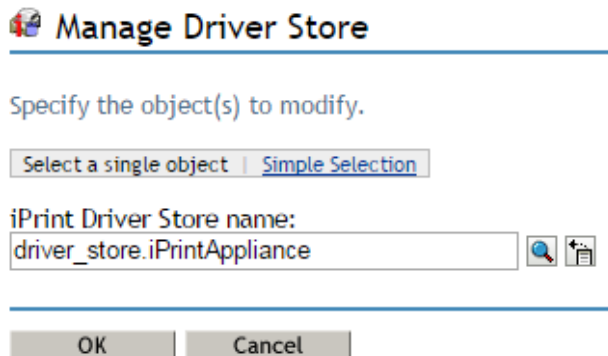
NOTE: If you are running iManager from a Windows workstation, you can only add printer drivers for Windows.

You cannot upload drivers from a Windows Server platform. To print documents from your Windows server, you must upload the drivers from the Windows workstation that can work with the server platform. For more information, see [“Windows server and workstation Map” on page 47](#).

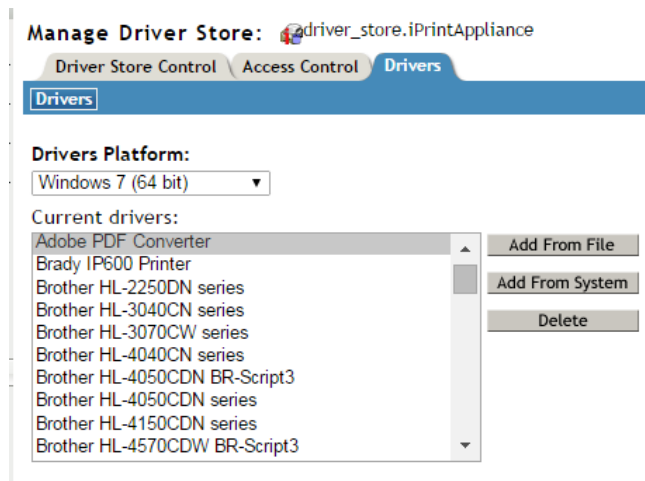
Uploading Drivers to the Driver Store

To upload 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 add the printer driver.
- 5 Perform one of the following actions:
 - ◆ Click *Add from File* to add printer resources from a printer driver (.inf file or PPD) file.
 - Linux and Mac:** The standard file format is PPD (Postscript Printer Description) file.
 - Windows:** The standard file format is .inf file.
 - ◆ Click *Add from System* to add drivers from the workstation where you are running iManager. The drivers installed on your workstation are only available to be uploaded to the Driver Store.
- 6 Select a driver, then click *OK*.
- 7 Click *OK* to save your changes.
 - To display the changes you made, click *Refresh*.

Deleting 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.
- 4 Select a driver, then click *Delete*.
- 5 Click *OK* to save your changes
- 6 Click *Refresh* to refresh the screen and display the changes you just made.

Associating the Driver

To set the default driver:

- 1 In iManager, click *iPrint > Manage Printer*.

Manage Printer

Specify the object(s) to modify.

Select a single object | [Simple Selection](#)


iPrint Printer name:

MacTest Printer2.iPrintAppliance  

OK

Cancel

- 2 Specify the name of the printer to which you want to set the default driver.
- 3 Select the *Drivers* tab.

Manage Printer:  MacTest Printer2.iPrintAppliance

Printer Control **Drivers** Access Control Configuration Client Support

Drivers

Drivers Platform:
Mac

Mac current setting

Driver:
Profile:
Model:

Available drivers:

- [None]
- Brother HL-4070CDW BR-Script3
- Brother HL-4150CDN BR-Script3
- Brother HL-5450DN series CUPS
- Canon iR3235/iR3245
- Dell 2330dn Laser Printer
- Dell B2360d-dn Laser Printer
- Dell Laser Printer W5300 PS3

Available driver profiles for selected driver:

- [None]

- 4 Use the *Drivers Platform* drop-down list to select the client platform for which you want to set the printer driver for the selected printer.
- 5 In the *Available drivers*, select the printer driver you want to associate with the selected printer. This field displays a list of printer drivers that have been uploaded for this operating system. If you do not want a printer driver to be used, select *None*.

NOTE: If no printer driver is selected, you cannot print from a desktop client to that printer. For mobile printing, the default driver will be used to render jobs for that printer.

Windows server and workstation Map

Windows Desktop	Windows Server
Windows XP (32-bit)	Windows 2003
Windows Vista (64-bit)	Windows 2008
Windows 7 (64-bit)	Windows 2008 R2
Windows 8 or 8.1 (64-bit)	Windows 2012 or 2012 R2

For example, To print from Windows 2008 server, associate the printer with Windows Vista driver.

5.3.3 Uploading Drivers By Using Command Line

You can upload drivers from your workstation or from an iPrint Appliance server.

- ◆ [“Workstation” on page 47](#)
- ◆ [“iPrint Appliance Server” on page 47](#)

Workstation

iprntcmd is a command-line utility that helps you manage iPrint tasks on your workstation. To upload the drivers to the driver store, run the following commands on your workstation:

Windows Client: Execute the following command:

```
iprntcmd -U <ids_address> <username> <password> <INF path>
```

where *ids_address* is the IP address or DNS name of the driver store, *username* and *password* are credentials of the user who has rights to add the drivers to the driver store and *INF path* is the path of the printer driver file.

Linux Client and Mac Client: Execute the following command:

```
iprntcmd -u <ids_uri> <PPD path>
```

where *ids_uri* is the IP address or DNS name of the driver store, and *PPD path* is the path of the printer driver file.

iPrint Appliance Server

iprntman is a command-line utility that helps you manage iPrint tasks on the iPrint Appliance server.

Linux: Execute the following command:

```
iprntman driver linux --upload --from-ppd <PPD path> -u <eDir username> -P <eDir password>
```

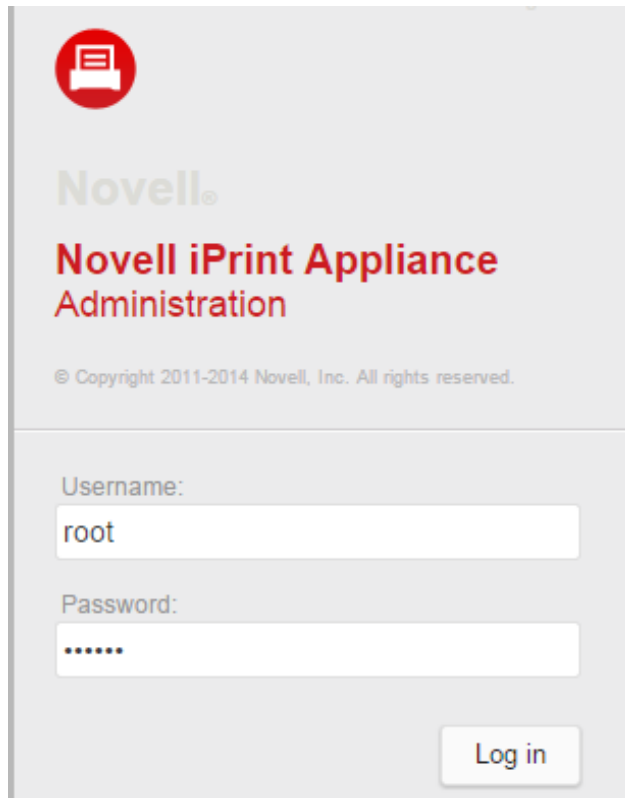
where *PPD path* is the path of the printer driver file, *eDir username* and *password* are credentials of the eDirectory user who has rights to add the drivers to the driver store.

5.3.4 Modifying the Default Linux Driver Used by the Local Renderer for Mobile Printing

iPrint Appliance ships with a default Linux driver that is used by the local renderer for mobile printing. Remote renderer does not include any driver, you must upload the drivers available in the driver store.

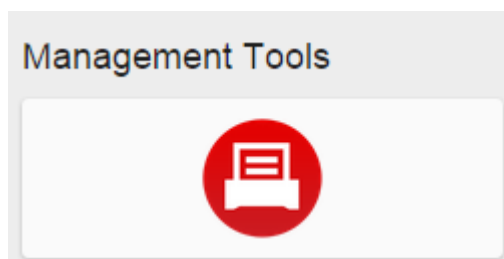
To modify the default Linux driver:

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.



The screenshot shows the login interface for the Novell iPrint Appliance Administration console. At the top left is a red circular icon containing a white printer symbol. Below the icon is the Novell logo in grey, followed by the text "Novell iPrint Appliance Administration" in red. A copyright notice "© Copyright 2011-2014 Novell, Inc. All rights reserved." is visible below the title. The main area contains two input fields: "Username:" with the text "root" entered, and "Password:" with a masked password represented by six dots. A "Log in" button is located at the bottom right of the form.

- 2 Specify `root` or `vaadmin` as the user name.
- 3 Specify the password for the administrator.
The Management Console page is displayed.
- 4 Click *iPrint Appliance Configuration*.



- 5 Under *Administration*, click *Renderers*.

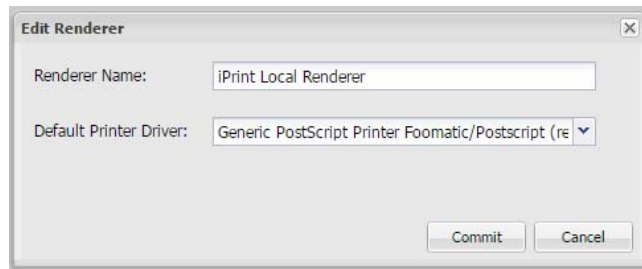
- 6 On the Renderers page, select the iPrint Local Renderer, then click Edit.



Renderers					
Available Renderers					
New Edit Delete Activate/De-Activate					
Name	Version	Host	State	...	Secure Mode
iPrint Local Renderer	1.1	10.0.0.1	Active	x...	true

- 7 In the *Default Printer Driver* drop-down list, select the driver that you want to set as default for the local renderer.

NOTE: The drivers from the driver store are listed in the *Default Printer Driver* field.



If a printer does not have a driver associated to it, the default printer driver is automatically used to print the documents.

5.3.5 Location Of the Linux Printer Drivers

iPrint Appliance ships with a default Linux driver that is uploaded to the Driver Store and used by the local renderer for mobile printing.

If you want to modify the default Linux driver, the appliance is also bundled with additional Linux printer drivers. To associate the drivers, you must upload the drivers to the Driver Store. The location of the drivers is `/usr/share/cups/model` and `/usr/share/cups/model/manufacturer-PPDs/hplip`.

To extract the relevant driver, execute the following command:

```
gunzip <path to ppd.gz>
```

For example, `gunzip /usr/share/cups/model/epson24.ppd.gz`

Using iManager or CLI, you can upload the drivers to the Driver Store.

You can also download the Linux drivers from the [OPEN PRINTING \(http://www.openprinting.org/printers\)](http://www.openprinting.org/printers) website and then upload to the Driver Store for association.

5.4 Creating Printers

Before configuring the printer, you must create printers on iPrint Appliance. You can use any one of the following methods to add printers to iPrint Appliance.

- ♦ [Section 5.4.1, “Migrating Printers from an OES iPrint System,” on page 50](#)
- ♦ [Section 5.4.2, “Creating Printers Using iManager,” on page 56](#)
- ♦ [Section 5.4.3, “Bulk Printer Import Using a CSV File,” on page 57](#)

5.4.1 Migrating Printers from an OES iPrint System

During process of migration iCM settings and ACLs are automatically migrated to the iPrint Appliance and depending on your selection printers, drivers, driver profile, and printer configuration details are migrated.

Prerequisites

- ♦ All users are migrated from OES to iPrint Appliance by using LDAP Import. For information on how to import users from an LDAP source, see [Section 8.1.7, “LDAP Import,” on page 97](#).
- ♦ Enable SSH service on the appliance. To enable SSH, see [Section 7.6, “System Services,” on page 87](#). By default, the ssh service is disabled.

Using iPrint Appliance you cannot launch the Migration GUI. You must connect from another computer to the iPrint Appliance, then launch the Migration GUI using SSH (Windows) or terminal (Linux or Mac).

Migrating Printers

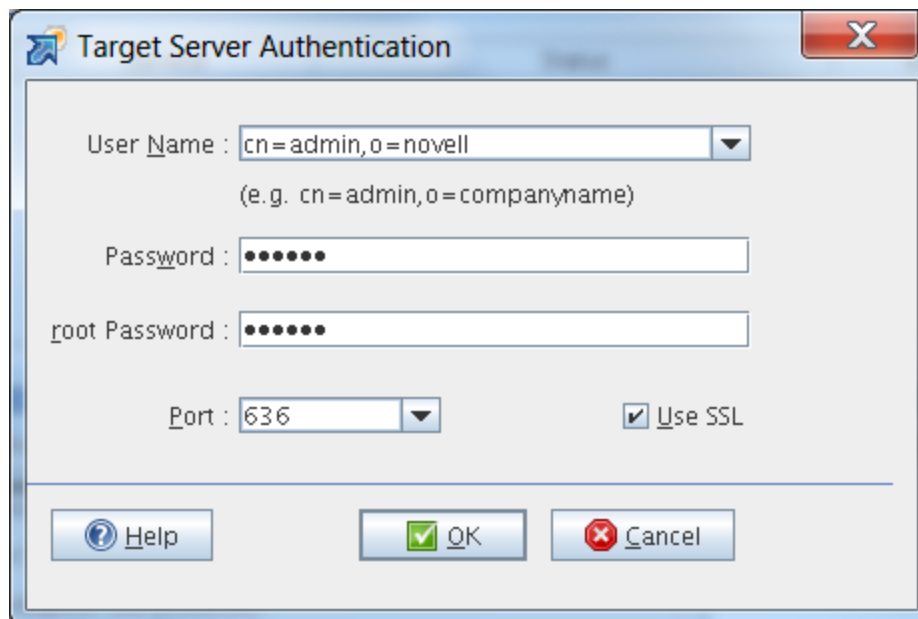
- 1 Launch the Migration Tool either from your Windows, Linux or Mac.
 - 1a To connect to the iPrint Appliance by using Windows (SSH):
 - 1a1 Launch SSH Client and connect to the iPrint Appliance. You must have X server running on your computer.
 - 1b To connect to the iPrint Appliance by using Linux or Mac:
 - 1b1 Launch the terminal, then run the command `ssh -X <iPrintApplianceIPAddress>`.
 - 2 Log in as the `root` user and at the command prompt, enter `miggui`.
 - 3 (Optional) Click *Save Project*. If you save a project, the next time you want to import printers, you can use the saved file to retrieve your preferences instantly.
 - 4 Specify the credentials to authenticate to the source and iPrint Appliance server.

If the source server is OES 2 SP3 or OES 11, specify the password for authentication in the *root Password* field.



The 'Source Server Authentication' dialog box contains the following fields and controls:

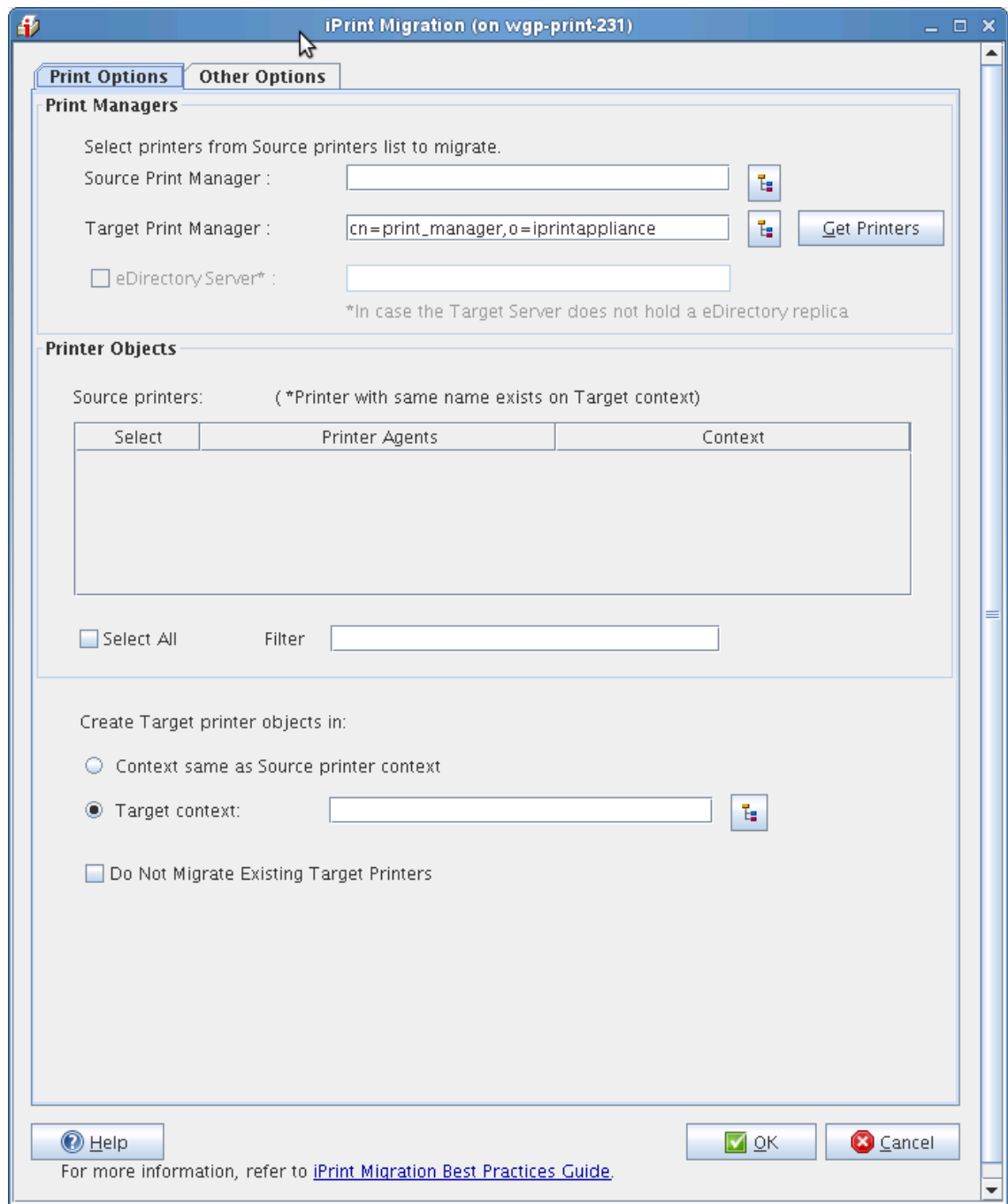
- Server :** A dropdown menu with the value '192.168.1.255'. Below it is the text '(e.g. 192.168.xxx.xxx or Host Name)'.
 Is Cluster Resource
- User Name :** A dropdown menu with the value 'cn=admin,o=novell'. Below it is the text '(e.g. cn=admin,o=companyname)'.
- Password :** A text input field with six dots.
- root Password :** A text input field with six dots. Below it is the text '(Required for OES Linux server)'.
- Port :** A dropdown menu with the value '636'. To its right is a checked checkbox labeled 'Use SSL'.
- Buttons at the bottom: 'Help' (with a question mark icon), 'OK' (with a green checkmark icon), and 'Cancel' (with a red X icon).



The 'Target Server Authentication' dialog box contains the following fields and controls:

- User Name :** A dropdown menu with the value 'cn=admin,o=novell'. Below it is the text '(e.g. cn=admin,o=companyname)'.
- Password :** A text input field with six dots.
- root Password :** A text input field with six dots.
- Port :** A dropdown menu with the value '636'. To its right is a checked checkbox labeled 'Use SSL'.
- Buttons at the bottom: 'Help' (with a question mark icon), 'OK' (with a green checkmark icon), and 'Cancel' (with a red X icon).

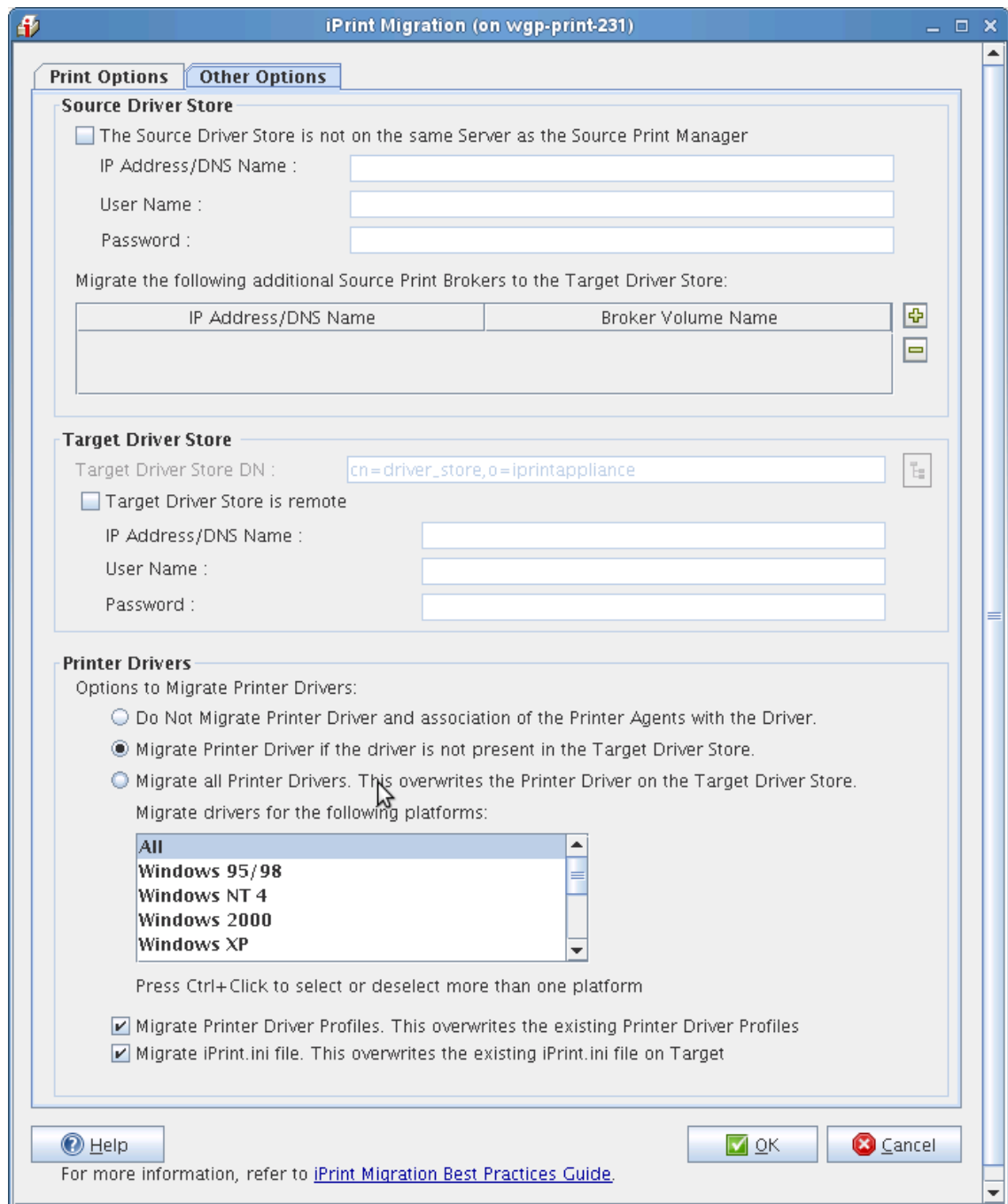
- 5 Click *Add*.
- 6 Select *Novell iPrint*, then click *OK*.
- 7 In the *Configure Service* dialog box, click *Yes*. The *iPrint* configuration windows is displayed.



8 Configure the following parameters to proceed with the migration process:

Print Objects	Parameter	Description
<i>Print Managers</i>	Source Print Manager	Specify the active Print Manager on the source server. The source Print Manager can be either an NDPS manager (for NetWare 6.5) or iPrint Manager (OES 2 SP3 or OES 11). To go directly to a context of your choice, specify the context in the search base and click <i>Search</i> . The objects in the specified context are displayed.

Print Objects	Parameter	Description
	Target Print Manager	<p>The <i>Target Print Manager</i> field is populated with the name of the active Print Manager running on the target server. This field is editable; you can also specify a different name for the active Print Manager. To go directly to a context of your choice, specify the context in the search base and click <i>Search</i>. The objects in the specified context are displayed.</p> <p>Click <i>Get Printers</i> to select printer objects from the source Print Manager.</p>
<i>Printer Objects</i>	Source printers	Displays all printers of the active Print Manager available on the source server. The printers that already exist on the target server are indicated by an asterisk (*).
	Select All	<p>Selects all the printers listed in the Printer Objects dialog box.</p> <p>NOTE: When you apply a new filter or modify an existing filter and click <i>Select All</i>, only printers that are displayed after applying the filter are selected. When you manually select all printers, the selected printers are migrated.</p>
	Filter	Specify the search pattern in the <i>Filter</i> field. This displays the printers in the Printer Agents list. This field is case sensitive.
<i>Create target printer objects in</i>	Context same as source printer context	Select this option to use the same context as the source printers on the target server.
	Target context	<p>This option is selected by default. It allows you to create source printers under a different context on the target server. This option does not maintain the context hierarchy of the source printer.</p> <p>To go directly to a context of your choice, specify the context in the search base and click <i>Search</i>. The objects in the specified context are displayed.</p>
	Do Not Migrate Existing Target Printers	<p>If the printer names on the source server match the printer names on the target server, the target printer properties and attributes are overwritten by the source printer properties and attributes.</p> <p>The printers that already exist on the target server are represented by an asterisk (*).</p>



Other Options	Parameter	Description
Source Driver Store	The Source Driver Store is not on the same server as the Source Print Manager	If the source Driver Store is running on a server different from the source Print Manager's server, this check box is selected. Specify the IP address or the DNS Name and the root password of the server on which the source Driver Store is located.

Other Options	Parameter	Description
	Migrate the following additional Source Print Brokers to the Target Driver Store	<p>This section lists the names and IP/DNS addresses of the source Print Broker volumes that must be migrated to the target Driver Store.</p> <p>Click the plus button (+) and specify the IP address or the DNS name of the Source Broker. Select the Source Broker volume from the drop-down list and click <i>OK</i>. The list is populated with the IP address or DNS name of the Source Broker and Broker volume name. You can add multiple Source Brokers to the list.</p> <p>To remove the Source Broker from the list, select the IP address or DNS name and click the minus button (-). You can remove one Broker at a time.</p>
<i>Target Driver Store</i>	Target Driver Store is remote	<p>If the Driver Store is running on the remote server (other than the target server), the <i>Target Driver Store is remote</i> check box is enabled.</p> <p>Specify the IP address or the DNS name of the remote server and the root password of the remote server in the corresponding entry fields.</p>
<i>Printer Drivers</i>	Do not Migrate Printer Drivers and the association of the Printer Agents with the Driver	<p>Selecting this option ensures that printer drivers and the association of Printer Agents with the drivers are not migrated.</p>
	Migrate Printer Driver if the driver is not present in the target Driver Store	<p>Selecting this option migrates the printer drivers for the selected driver platforms from the Select Driver Platforms to Migrate list, if they are not present in the target Driver Store. This also migrates all the associations of the Printer Agents with the driver.</p> <p>NOTE: The default driver platform selection is <i>All</i>.</p>
	Migrate all Printer Drivers. This overwrites the Printer Driver on the target Driver Store	<p>Selecting this option overwrites the target drivers for the driver platforms you have selected from the Select Driver Platforms to Migrate list, if the driver names in the target Driver Store are the same as the source Driver Store. This also migrates all the associations of the Printer Agents with the driver.</p> <p>NOTE: The default Driver Platform selection is <i>All</i>.</p>
<i>Printer Driver Profile</i>	Migrate Printer Driver Profile	<p>If the profiles are the same on the target server as the source server, the target profiles are overwritten.</p>
<i>iPrint.ini File</i>	Migrate iPrint.ini File	<p>If you migrate printer agents from two or more print managers, the <code>iPrint.ini</code> file on the target server is replaced by the <code>iPrint.ini</code> file of the last source server.</p> <p>NOTE: After migration, if the target server's <code>iprint.ini</code> file is overwritten by the source server's file, and if the target server's <code>iprint.ini</code> file had new parameters that were erased, you can restore them by copying the parameters manually from the <code>iprint.bak</code> file. The <code>iprint.bak</code> file is a backup of the target server's <code>iprint.ini</code> file. After migration, the <code>iprint.bak</code> file is saved in the <code>/var/opt/novell/iprint/htdocs</code> directory.</p>

- 9 Click *OK* to finish the configuration and go back to the migration screen.
- 10 Click *Migrate* to begin the migration process.
Using iManager, you can verify the details of the migrated printers.

5.4.2 Creating Printers Using iManager

- 1 On the iPrint Appliance Management Console page, select the *iPrint Printer Configuration (iManager)* tool to connect to iManager.
- 2 Log in to iManager using the eDirectory admin credentials of iPrint Appliance.
Ignore the security certificate warning, and continue to the iPrint Appliance Management Console. If you add the certificate to the trusted certificates list, the security warning is not displayed.
- 3 Click *iPrint > Create Printer*.
- 4 Specify the Target printer details.

Printer Name: Defines the label by which the new printer is identified. You can include uppercase and lowercase letters, numbers, spaces, and underscore in the label. Do not use any other characters.

Container Name: The eDirectory container where the printer reference resides. By default, the value is "iPrintAppliance". We do not recommend changing the default value.

Print Manager name: The name of the Print Manager that handles the incoming print jobs.

DNS name or IP address: The IP address of a printer uniquely identifies it on the network and allows other networked machines to communicate with it. A DNS name can also be applied to the printer, which can be translated into the printer's IP address.

Specify the IP address (v4) or the DNS name of the target printer.

Location: Indicates the printer's location. The value of this field is displayed when selecting a printer.

Description: Describes the printer. The value of this field is displayed when selecting a printer.

LPR Printer Name: Specify an LPR printer name. If the LPR protocol is selected, other optional parameters can also be specified. With most modern printers, the name can be set to PASSTHROUGH. With some older printers (1990's & prior), there might be a different printer name.

RAW Port Number: If the RAW protocol is selected, a port number is required. Most printers are configured, by default, to use port 9100 for RAW protocol communications.

iPrint Appliance supports printer communications using either the Line Printer Remote (LPR) or RAW protocols.

The LPR protocol is the most common printing protocol and is generally more flexible than the RAW protocol. A printer that supports the LPR protocol is sometimes referred to as a TCP/IP printer. The LPR protocol has limited error reporting capabilities, which is often limited to "Printer Error" with no details.

The RAW protocol is often the default protocol on non-Windows systems. Most printers that support the RAW protocol use port 9100. The LPR protocol can generally be substituted for the RAW protocol if the RAW protocol does not respond to a print job.

- 5 Click *Next*.
- 6 Specify the drivers for the printer.
iPrint Appliance supports both driver and driverless printing. For mobile device printing, drivers are not required. The selectable drivers for each operating system are available in the Novell iPrint Appliance Driver Store.

- 7 To re?edit the printer?specific options after the new printer has been created, click *Modify*. To create another printer, click *Repeat Task*. To continue, click *OK*.

NOTE: In iManager, you might see a *Partition and Replicas* option. This feature is not required for iPrint Appliance, so it is not supported. We recommend that you do not use it on the iPrint Appliance eDirectory.

IMPORTANT: In iManager, do not create or delete Print Manager objects. Always use the default Print Manager object.

IMPORTANT: By default, iPrint Appliance supports only PostScript printers. For non-PostScript printers like PCL, or for printers that do not work with the default PostScript driver, you must associate appropriate drivers to the printers.

5.4.3 Bulk Printer Import Using a CSV File

You can import printers into iPrint Appliance through a csv file. On successful import the printers resides in the container O=iPrintAppliance.

You must create a csv file, then import the csv file into iPrint Appliance. The csv file must contain the following fields in the same order:

```
PrinterName,PrinterIP,Location,Description,Win95_98_Driver,Winnt_Driver,Win2k_Driver,Winxp_Driver,Linux_Driver,Mac_Driver,Vista32_Driver,Vista64_Driver,Win732_Driver,Win764_Driver,Win832_Driver,Win864_Driver,Win1032_Driver,Win1064_Driver,Enable DirectPrinting,Secure Printing,Enable Auditing,LPR/RAW,Raw Port
```

NOTE: You cannot enable both direct printing and auditing. If enabled, both options are disabled when creating the printers.

Table 5-2 Parameter Description of CSV File

Parameter	Description	Value (Mandatory/Optional)
PrinterName	Name of the printer that you want to import	Mandatory
PrinterIP	IP Address assigned to this printer NOTE: Specify only the IP address. Printer creation fails if DNS name is specified.	Mandatory
Location	Location of the printer	Optional
Description	Details of the printers like make, model, and so forth.	Optional
Win95_98_Driver	Driver associated with this printer for Windows 95 and Windows 98 platform.	Optional
Winnt_Driver	Driver associated with this printer for Windows NT platform.	Optional
Win2k_Driver	Driver associated with this printer for Windows 2000 platform.	Optional

Parameter	Description	Value (Mandatory/Optional)
Winxp_Driver	Driver associated with this printer for Windows XP platform.	Optional
Linux_Driver	Driver associated with this printer for Linux platform.	Optional
Mac_Driver	Driver associated with this printer for Mac devices.	Optional
Vista32_Driver	Driver associated with this printer for Windows Vista 32-bit platform.	Optional
Vista64_Driver	Driver associated with this printer for Windows Vista 64-bit platform.	Optional
Win732_Driver	Driver associated with this printer for Windows 7 32-bit platform.	Optional
Win764_Driver	Driver associated with this printer for Windows 7 64-bit platform.	Optional
Win832_Driver	Driver associated with this printer for Windows 8.x (32-bit) platform.	Optional
Win864_Driver	Driver associated with this printer for Windows 8.x (64-bit) platform.	Optional
Win1032_Driver	Driver associated with this printer for Windows 10 32-bit platform. Windows 10 uses the same driver as Windows 8.x.	Optional
Win1064_Driver	Driver associated with this printer for Windows 10 64-bit platform. Windows 10 uses the same driver as Windows 8.x.	Optional
DirectPrinting	Enable direct printing for this printer. Value is <i>yes</i> or <i>no</i> . By default, this option is disabled. You cannot enable both direct printing and auditing.	Optional
Secure Printing	Enable secure printing for this printer. Value is <i>yes</i> or <i>no</i> . By default, this option is disabled.	Optional
Enable Auditing	Enable auditing of this printer. Value is <i>yes</i> or <i>no</i> . By default, this option is disabled.	Optional
LPR/RAW	Protocol to be used by this printer. Value is <i>LPR</i> or <i>RAW</i> . By default, the value is <i>LPR</i> .	Optional
Raw Port	If you have selected RAW protocol, specify the port number.	Optional

IMPORTANT: In the csv file, you must specify at least one driver for each printer. For all optional parameters, you must include a empty string.

Example of a CSV file

If you have to migrate 2 printers (printer1 and printer2) for a Windows 8 32-bit platform. The csv file includes:

```
printer1,10.0.0.1,1st_floor,HP LaserJet 4100,,,,,,,,,HP LaserJet 4100 PCL 5  
,,,,no,yes,yes,LPR,
```

```
printer2,10.0.0.2,2st_floor,HP LaserJet 4100,,,,,,,,,HP LaserJet 4100 PCL 5  
,,,,no,yes,yes,RAW,9100
```

After you create the csv file, upload the file to iPrint Appliance.

Uploading the CSV File

- 1 On a Web browser, specify either the DNS name or the IP address. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Specify the *Username* and *Password*, then click *Log in*.
- 3 Click the *iPrint Appliance Configuration* icon.
- 4 Click *Printers*.
- 5 Click the *Bulk Printer Upload* button in the upper-right corner of the *Available Printers* window.
- 6 Navigate to the csv file, select it, then click *OK* to begin the printer import process.

Printing is configured for desktops and laptops. To understand how to manage the iPrint client.

To enable printing from mobile devices, proceed to [Section 5.5, “Configuring Printing Through Mobile Devices,”](#) on page 59.

5.5 Configuring Printing Through Mobile Devices

You can configure printers to accept print jobs through mobile devices, AirPrint or email.

- ♦ [Section 5.5.1, “Configuring for Mobile Printing,”](#) on page 59
- ♦ [Section 5.5.2, “Airprint Through iPrint Using mDNS,”](#) on page 60
- ♦ [Section 5.5.3, “Configuring for Email Printing,”](#) on page 64
- ♦ [Section 5.5.4, “Generating QR Code for Printer,”](#) on page 69

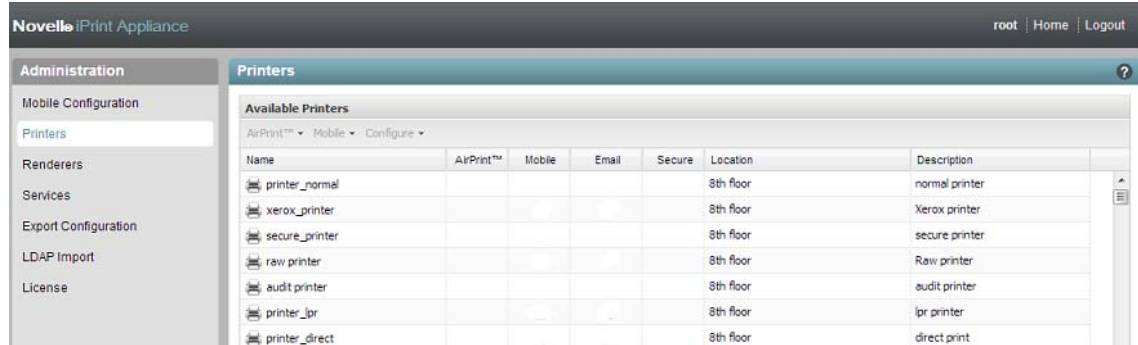
5.5.1 Configuring for Mobile Printing

- 1 On a Web browser, use either the DNS name or the IP Address to access the Management Console. For example, `https://10.0.0.1:9443` or `http://iprint.example.com/admin`.

Ignore the security certificate warning, and continue to the iPrint Appliance Management Console. If you add the certificate to the trusted certificates list, the security warning is not displayed.

- 2 In the Novell iPrint Appliance Administration login page, enter the user name as `vaadmin`, enter the password that you specified for `vaadmin`, then click *Log in*.
- 3 Click the *iPrint Appliance Configuration* icon.
- 4 Under *Administration*, click *Printers*.

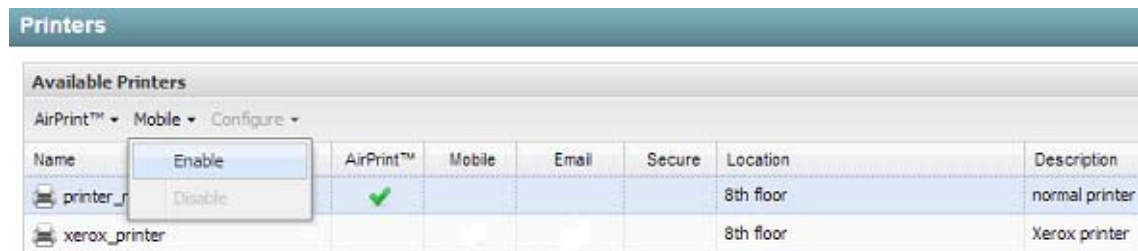
The Printers screen lists all printers created with iManager that are currently managed by iPrint Appliance. You can enable the printers for Mobile, AirPrint, and Email printing for iPrint Appliance.



- 5 Select the printer that you want to configure. You can choose multiple printers at a time by holding the *Ctrl* key.

The *AirPrint*, *Mobile* and *Configure* drop-down menus are activated.

- 6 To configure the printers for Mobile and Email printing, click the *Mobile* drop-down menu, then select *Enable*.



- 7 The selected printer is enabled for Mobile printing.

5.5.2 Airprint Through iPrint Using mDNS

AirPrint is a framework that facilitates driverless printing. The framework was invented by Apple Inc. iOS applications (apps) that implement AirPrint technology allow users to send print jobs to AirPrint enabled printers. With iPrint Appliance, you can “AirPrint enable” any iPrint printer.

This section describes the benefits and key features of AirPrint through iPrint:

- ◆ [“iOS Wireless Printer Discovery” on page 61](#)
- ◆ [“Multicast DNS” on page 61](#)
- ◆ [“AirPrint through iPrint” on page 61](#)
- ◆ [“Benefits” on page 61](#)
- ◆ [“Supported iOS Devices” on page 61](#)
- ◆ [“AirPrint Deployment Considerations in iPrint Appliance” on page 62](#)
- ◆ [“AirPrint Deployment Scenario in iPrint” on page 62](#)
- ◆ [“Enabling AirPrint through iPrint” on page 63](#)
- ◆ [“Disabling AirPrint through iPrint” on page 64](#)

iOS Wireless Printer Discovery

iOS devices have an inherent service discovery mechanism called Bonjour. Bonjour has the wireless service identifying capability known as mDNS (multicast DNS). iPrint uses the Linux Avahi daemon service to advertise iPrint printers to the iOS devices on a wireless network.

Multicast DNS

Domain Name Service provides translation from a Web address (starting with www) to the Internet Protocol (IP) addresses. mDNS (Multicast DNS protocol) is a method of network neighborhood resource discovery. mDNS forwards the DNS message to many endpoints on a network. Each device connected to an mDNS enabled network sends out a message detailing its name, function, and capabilities. On the receiving device, the information is stored so that it can route requests when an application requests a service, such as printing.

mDNS is useful in wireless networks. By monitoring mDNS advertisements, clients can learn the location of the service, then connect to it in the same way as any other service. mDNS transforms the manual process of configuring IP addresses and port numbers that provides a zero configuration experience where a user references the service using human-friendly types and names.

AirPrint through iPrint

When iOS devices such as iPhone, iPad, and iPod touch connect to the wireless network, they are automatically assigned an IP address. This opens an opportunity to exploit the IP network service for printer discovery, and submit the print job. iOS devices convert Microsoft Office files, images, and Web pages into PDF; construct an IPP print request; and send the print request to the AirPrint enabled IPP printer. The AirPrint enabled IPP printer renders the PDF or image file into a printer-specific language such as post script. The printer consumes this data and the document is printed. This is called AirPrint.

Many printers are not compatible with AirPrint. iPrint hides the printer's capabilities, and advertises the printer as an AirPrint enabled printer. This allows iPrint to extend the enterprise print service into the wireless network to exploit the iOS devices' inherent print capability, and provides additional advantages to consume iPrint features.

Benefits

AirPrint through iPrint offers significant benefits over other printing models:

- ♦ Any iPrint printer can be enabled for AirPrint regardless of the printer's inherent AirPrint support.
- ♦ AirPrint enabled printers are also listed in the iOS device.
- ♦ AirPrint enabled printers can make use of the iPrint server's features.

Supported iOS Devices

Supported iOS devices include iPhone, iPad, and iPod touch with iOS 5 and above.

NOTE: Secure printing to iPrint printers through AirPrint is supported only on iOS 6.x and later versions.

AirPrint Deployment Considerations in iPrint Appliance

The mDNS protocol operates on service announcements and queries, which allow devices to advertise specific applications, such as printing services. Each query or advertisement is sent to an mDNS multicast address for delivery to all clients on the subnet. Apple's Bonjour protocol relies on Multicast DNS (mDNS) operating at UDP port 5353. iOS devices listen for services on these reserved group addresses:

- ♦ IPv4 Group address - 224.0.0.251

The addresses used by the mDNS protocol are link-local multicast addresses and are valid on the link local domain. Hence, routers might have to be enabled, in order to forward the multicast advertisement to various subnetworks.

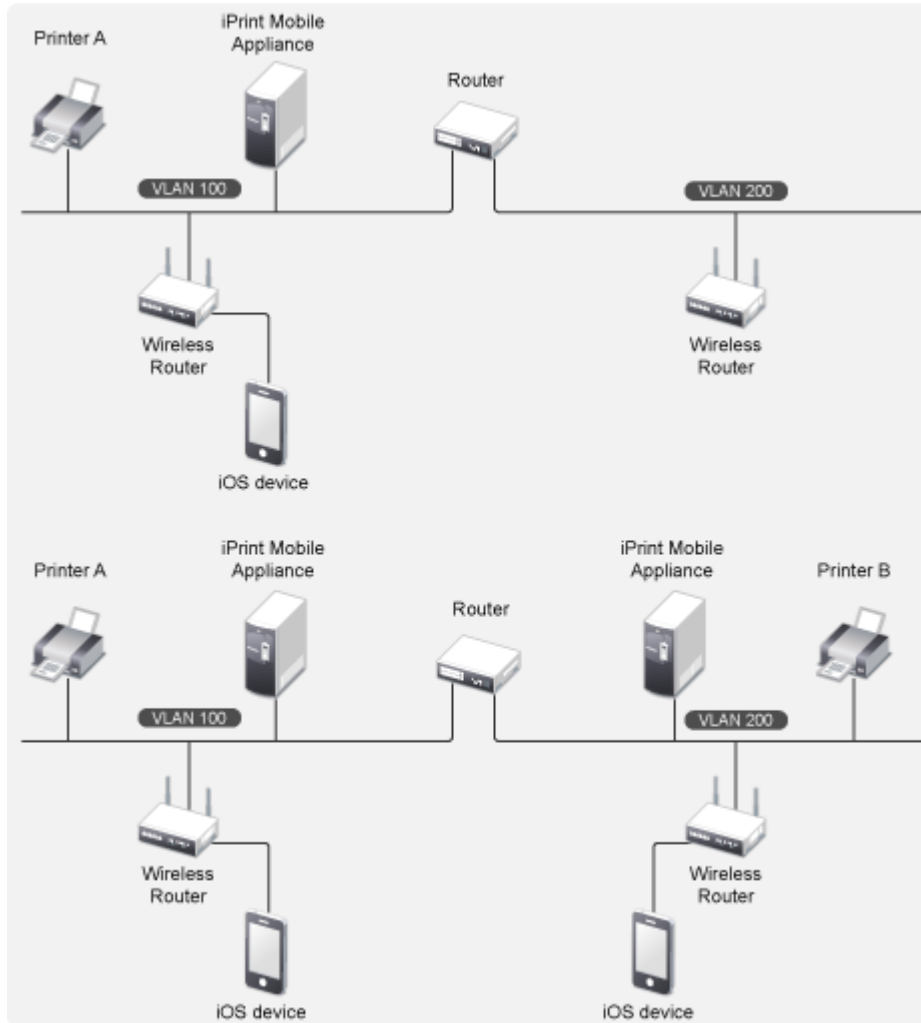
AirPrint Deployment Scenario in iPrint

The deployment scenarios are confined to the wireless-based LAN network because iOS devices can only communicate over the wireless medium for the printer discovery and print services. The deployment scenario varies based on how wireless is configured in the organization. The preferred scenario is to deploy iPrint's AirPrint mDNS services led by the router, which has the ability to route the mDNS packets (link local Bonjour advertisement) into the various wireless sub networks in the organization. See [Figure 5-1](#).

Intra VLAN Configuration

Wireless routers span across multiple wired networks, and have hot spots on every network. The mDNS service advertises printers on the wireless network, and the iOS device builds a list of available print services by listening to these advertisements. AirPrint client's users can select a target printer from the received list of advertised printers.

Figure 5-1 Logical Network Segment Configuration



In this configuration, the mDNS advertisement is instantly injected into the network. In the above configuration, printer 'A' is visible to VLAN 100 wireless users, and printer 'B' is visible to VLAN200 wireless users. The printers are not visible across the VLANs.

Enabling AirPrint through iPrint

To enable AirPrint through iPrint:

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Specify the user name and password, then click *Log in*.
- 3 Click *iPrint Appliance Configuration*.
- 4 Under *Administration*, click *Printers*.
- 5 Select a printer for which you want to enable AirPrint.
The *AirPrint* and *Mobile* drop-down menus are activated.
- 6 Click the *AirPrint* drop-down menu, then click *Enable Advertising*.

iPrint AirPrint is now enabled on the iPrint printer. You can print to an iPrint AirPrint enabled printer from any iOS device.

Disabling AirPrint through iPrint

To disable AirPrint through iPrint:

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Specify the user name and password, then click *Log in*.
- 3 Click *iPrint Appliance Configuration*.
- 4 Under *Administration*, click *Printers*.
- 5 Select a printer for which you want to disable AirPrint.
The *AirPrint* and *Mobile* drop-down menus are activated.
- 6 Click the *AirPrint* drop-down menu, then click *Disable Advertising*.

IMPORTANT: If a printer is shut down or redirected to another printer, you must disable AirPrint advertising. This ensures that users do not receive errors when trying to print to non-functional printers.

5.5.3 Configuring for Email Printing

iPrint Appliance contains an email printing feature. Using email printing, you can print documents from any device capable of sending emails. You can print emails by specifying email printing commands in the subject line of the email. You can also print documents by emailing them to your printer as attachments.

When you enable email printing, the email address you provide becomes the global print email address. You can also configure a printer for private email printing by providing a specific email address to each printer.

NOTE: To enable private email printing, you must first enable the email printing feature.

The difference between global email printing and private email printing is:

- ♦ **Global Email Printing:** When you enable email printing, you are prompted to specify an email address. This email address is the global print email address. When configured for email printing, iPrint Appliance becomes a client to an email server. The global email account inbox is polled for incoming print jobs, which are then routed to the intended printer.
- ♦ **Private Email Printing:** With private email printing, you can assign a specific email address to each printer. When a user sends an email printing request, the print job is sent directly to the printer. Users do not need to specify any print commands in the subject line of the email.

Email printing is not enabled by default. You can enable email printing through the Management Console. You must create a unique email address for iPrint Appliance to receive and process print requests.

IMPORTANT: If you enable auditing for email print jobs, the email address of the user is logged in the iPrint audit logs. If the same email address is populated for the user object in the LDAP source, then the user FDN is logged instead of email address. This is important if you are using an accounting software to ensure that jobs are tracked or accounted correctly.

- ♦ [“Enabling Email Printing” on page 65](#)
- ♦ [“Email Printing Commands” on page 66](#)

Enabling Email Printing

- 1 On a Web browser, use either the DNS name or the IP address of iPrint Appliance to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Specify the user name and password, then click *Log in*.
- 3 Click *iPrint Appliance Configuration*.
- 4 Under *Administration*, click *Mobile Configuration*.
- 5 Choose *Enable email-based printing*.

This email address is the global print email address.

- 6 Specify the following information:

Email address: Specify the full email address that is used to queue global print jobs. The global email address must be unique for each copy of iPrint Appliance that you deploy.

WARNING: You must create an exclusive email account to be used for iPrint Appliance. If you provide an existing email address (for example, your official email address), the iPrint Appliance mobile server immediately starts processing all existing emails in the inbox, replies to every mail with a response, then deletes all the received emails.

Account Username: Specify the user name for iPrint Appliance to log in to the email server to access the global email account. Account Username must be the user name of the email address that you specified in the *Email address* field.

Account Password: Specify the password for iPrint Appliance to log in to the email server to access the global email account.

Re-type Password: Specify the password again to confirm.

Incoming Mail Server: Specify the address of the incoming email server for the email account. For example, imap.example.com.

jobs. The default POP3 and IMAP protocol ports are listed below:

Incoming Server Type: iPrint Appliance supports IMAP and POP for incoming print jobs. Select the protocol that your email server supports. For more information, see [Section A.1, “Incoming Mail Server Parameters,” on page 211](#).

Outgoing (SMTP) Mail Server: Specify the address of the outgoing email server for the email account. For example, smtp.example.com. The iPrint Appliance uses SMTP protocols to send email back to users who submit email-based print jobs in order to report their job status. For more information, see [Section A.2, “Outgoing Mail Server Parameters,” on page 212](#).

Enable Mail-body Printing: With email-based printing, attachments are always printed. This option allows the email message body to also be printed.

Polling Interval: Configures the interval (in seconds) at which emails are fetched from mail servers.

- 7 Click *Save*.

IMPORTANT: When using email printing, the print command in the subject line might trigger spam filters. To avoid this issue, configure your email system to allow print-specific emails. Include the approved print users in the spam filter of your email system to prevent unwanted print requests.

Enabling Private Email Printing

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *iPrint Appliance Configuration* icon.
- 3 Under *Administration*, click *Printers*.
- 4 Select a printer, click the *Configure* drop-down menu, then click *Private Email Settings*.
- 5 Specify the following information, then click *OK*.

Account	<ul style="list-style-type: none">◆ Email Address: Specify the full email address of the mailbox to be polled for the print jobs. When an email-based job arrives, the print job is processed to the printer. For example, <code>print@example.com</code>.◆ Username: Specify the user name to be used by iPrint Appliance to log in to the email server to access the private printer email account. For example, <code>iprint</code>.◆ Password: Specify the password for iPrint Appliance to log in to the email server to access the private printer email account.◆ Retype Password: Confirm the account password.
Server	<ul style="list-style-type: none">◆ Incoming Mail Server: Specify the address of the incoming email server for the email account. For example, <code>imap.example.com</code>.◆ Outgoing Mail Server: Specify the address of the outgoing email server for the email account. For example, <code>smtp.example.com</code>.◆ Access Method: iPrint Appliance supports two different protocols to poll for incoming print jobs. Select POP or IMAP depending on the protocol that your email server supports.

Email Printing Commands

You can print the body of the email and the attachments by using a few simple print commands in the subject line of your email.

- ◆ [“Basic Print Commands” on page 66](#)
- ◆ [“Additional Print Commands” on page 68](#)

Basic Print Commands

`help`

Provides information on email printing commands.

`list printers`

To get the names of the available printers, send an email to the iPrint server address (for example, `iprint@novell.com`) with the subject line `list printers`.

print printer=<printer_name>

Prints your email and its attachments to the specified printer. For example, `print printer=hp#Test Mail`.

If you print to a specific printer by using the printer's email address, the `print printer` command is ignored.

hold printer=<printer_name>

Queues your email along with its attachments and sends you the job ID as acknowledgement.

resume

Resumes the printing of a job that you put on hold. There are two ways to print a job on hold:

- ◆ Send an email with subject `resume` followed by the job ID. For example, `resume 10`
- ◆ Send an email with the original subject line prefixed with `resume`. For example, `resume#Test Mail`

cancel

Cancels a job that you put on hold. There are two ways to cancel a job on hold:

- ◆ Send an email with subject `cancel` followed by the job ID. For example, `cancel 10`
- ◆ Send an email with the original subject line prefixed with `cancel`. For example, `cancel#Test Mail`

status

Displays the status of a job. There are two ways to check the status of a job:

- ◆ Send an email with subject `status` followed by the job ID. For example, `status 10`
- ◆ Send an email with the original subject line prefixed with `status`. For example, `status#Test Mail`

move

Moves a job to a new printer. There are two ways to move a job to a new printer:

- ◆ Send an email with subject `move`, the job ID, and the name of the new printer. For example, `move 10 printer=<PrinterName>`
- ◆ Send an email with the original subject line prefixed with `move`, the name of the new printer, and #. For example, `move printer=<PrinterName>#Test Mail`

list jobs

Lists the details of the held jobs.

default printer

Displays the default printer.

default printer=<PrinterName>

Sets a particular printer as your default printer. After you set the default printer, you do not need to include the printer name while printing to the default printer. You only need to use the `print` command followed by the email subject. For example, `print#Test Mail`.

NOTE: If a printer name contains spaces, enclose the printer name within double (") or single (') quotes. For example, `print printer='HP PRINTER'`.

NOTE: To separate the email subject from the command, use #. For example, `print printer=hp#Test Mail`.

Additional Print Commands

In addition to the basic print commands listed above, you can use these commands to refine your printing:

portrait [portrait=yes/portrait=y (or) portrait=no/portrait=n]

Prints your email content in portrait orientation. For example, `print printer=hp portrait=y#Test Mail`

landscape [landscape=yes/landscape=y (or) landscape=no/landscape=n]

Prints your email content in landscape orientation. For example, `print printer=hp landscape=y#Test Mail`

color [color=yes/color=y (or) color=no/color=n]

Prints your email content in color. For example, `print printer=hp landscape=y color=y#Test Mail`.

pages

Prints a given range of pages in your email. For example, the command `print printer=hp landscape=y color=y pages=1-3#Test Mail` prints pages 1, 2, and 3.

copies

Prints the specified number of copies of your email and its attachments. For example, the command `print printer=hp landscape=y color=y pages=1-3 copies=5#Test Mail` prints 5 copies of pages 1, 2, and 3.

duplex [duplex=yes/duplex=y (or) duplex=no/duplex=n]

Prints your email and its attachments on both sides of the printing paper. For example, the command `print printer=hp landscape=y color=y pages=1-3 copies=5 duplex=y#TestMail` prints 5 copies of pages 1, 2, and 3 in duplex mode.

media

Prints your email and its attachments with the specified paper type. The default paper type is "LETTER." You can change the default paper type by using the iPrint Appliance Management Console. The other available print paper types are A3, A4, and other common paper types. For example, the command `print printer=hp landscape=y color=y pages=1-3 copies=5 duplex=y media=A3#Test Mail` prints 5 copies of pages 1, 2, and 3 in duplex mode, on an A3 size paper.

mailbody [mailbody=yes/mailbody=y (or) mailbody=no/mailbody=n]

Prints either your email and its attachments or only the attachments from your email without the email body. For example, using the command `print printer=hp landscape=y color=y mailbody=n#Test Mail` prints only the email attachments in landscape mode.

NOTE: If you do not specify any of the additional commands, your print job is carried out according to the default preferences set by your administrator.

IMPORTANT: When printing to a specific printer using the printer's private email address, you do not need to specify the printer's name in the command. You can also leave the subject line empty. Printing is carried out according to the default print options set by the administrator.

However, you must specify the print command in the following scenarios:

- ♦ The administrator changes the `subject_optional_for_printer_specific_emails` to *False* in the iPrint Appliance Server Configuration file located at `/etc/opt/novell/iprintmobile/conf/iprintmobile.conf`.
 - ♦ If you want to customize the print options, you must specify the `print` command, along with the required print options. For example, `print landscape=y color=y pages=1-3 copies=5 duplex=y media=A3#Test Mail`.
-

5.5.4 Generating QR Code for Printer

User can scan a QR code to select a specific printer on their mobile device. To generate the QR code for the printer, perform the following steps:

- 1 Create a QR code using any QR code generator.
The generator might include multiple formats, ensure to use Plain text format.
The format to use is `ipp://<server ip or dns>/ipp/<printer name>`
where the `printer name` is case-sensitive.
- 2 Print the generated QR code and paste it on the printer.

5.6 What's Next

iPrint Appliance is now configured for printing through desktop, laptops, and mobile devices. You can start printing to iPrint printers.

- ♦ For desktop-quality printing on your mobile devices, it is highly recommended that you install the remote renderer. You can download the remote renderer from the iPrint Appliance Management Console. To install and configure the remote renderer, see [Section 6.3, "Installing and Configuring a Remote Renderer," on page 74](#).
- ♦ For managing iPrint Appliance, see [Chapter 8, "Managing Print System," on page 93](#).

6 Document Rendering

iPrint Appliance provides a client-independent and driverless printing environment to mobile users.

- ♦ [Section 6.1, “What Is a Renderer?,” on page 71](#)
- ♦ [Section 6.2, “Key Features,” on page 72](#)
- ♦ [Section 6.3, “Installing and Configuring a Remote Renderer,” on page 74](#)
- ♦ [Section 6.4, “Upgrading the Remote Renderer,” on page 78](#)
- ♦ [Section 6.5, “Managing the Remote Renderer,” on page 79](#)
- ♦ [Section 6.6, “Remote Renderer Commands,” on page 80](#)

6.1 What Is a Renderer?

iPrint now supports printing from mobile devices that have limited abilities to convert documents into print-ready formats. On desktop platforms, the documents are usually converted to print-ready formats by the application, driver, and the spooler subsystems. This functionality is primitive or non-existent in many of the mobile devices and hence must be provided by the Print Service. To facilitate this, iPrint now provides Rendering and Conversion capabilities in the product and can convert and render most of the documents that are submitted by a mobile device, email, or other submission methods.

This conversion (rendering) is performed on the iPrint Appliance using our built-in solution known as Local Renderer. Printing quality varies, depending on the document complexity so for enhanced desktop-quality printing, you can use the Remote Renderer on a Windows platform.

You can view the Local renderer and list of remote renderers in the *Management Console > iPrint Appliance Configuration, Renderers* page.

The renderers support broad range of document formats. For more information, see [Section C.7, “Supported Document Formats By the Local Renderer and Remote Renderer,” on page 217](#).

6.1.1 Local Renderer

iPrint Appliance is bundled with a built-in document renderer known as Local Renderer. The renderer converts documents to the PDF format, and then converts them to the print-ready format using CUPS. The renderer supports multiple formats, has a multithreading feature, and provides limited support for Microsoft Office formats. If a printer does not have a driver associated with it, the default printer driver PostScript 3 is automatically used to print documents.

6.1.2 Remote Renderer

iPrint Appliance also ships with a Remote Renderer. For enhanced desktop-quality printing, you can use the Remote Renderer. The remote renderer can be downloaded from the iPrint Appliance Management Console and installed on a Windows 64-bit computer.

The remote renderer provides high quality rendering for different formats. The remote renderer job might take some additional time to complete the print jobs in comparison to the local renderer. If you do not want to use the built-in PDF renderer, you can also install Adobe Acrobat Pro for PDF rendering. However, printing PDF using a built-in pdf renderer there can be some minor print quality differences such as color shade difference in the PDFs.

The remote renderer communicates with iPrint Appliance for document conversion. Although, it is not a mandatory requirement for iPrint Appliance, the remote renderer is recommended for desktop quality printing.

6.2 Key Features

- ♦ [Section 6.2.1, “Multidriver Support,” on page 72](#)
- ♦ [Section 6.2.2, “Secure and Non-secure Communication Support \(Remote Renderer\),” on page 72](#)
- ♦ [Section 6.2.3, “Automatic Printer Driver Updates,” on page 73](#)
- ♦ [Section 6.2.4, “Printer Rename and Redirection \(Remote Renderer\),” on page 73](#)

6.2.1 Multidriver Support

On iPrint Appliance 1.1, you can configure the local and remote renderer to use multiple drivers for different mobile enabled printer agents. The renderer installs the unique drivers associated with various mobile enabled printer agents, on the renderer machine. During the rendering of jobs, the correct printer driver is selected based on the printer agent to which the job is being submitted for rendering.

If a printer agent does not have any driver associated with the renderer platform, the renderer uses the default driver for rendering the jobs sent to those printer agents. You can select a default driver when adding a renderer from the Management Console. The Management Console also provides an option to change the default drivers.

For information on how to upload printers to the Driver Store, see [Section 5.3, “Configuring Printer Drivers,” on page 43](#).

6.2.2 Secure and Non-secure Communication Support (Remote Renderer)

On iPrint Appliance 1.1, the remote renderer can communicate over secure and non-secure channels with the iPrint Appliance. By default, the iPrint Appliance is set to communicate in both secure and non-secure modes.

Secure Communication Mode: When this mode is used, only the secure remote renderers can communicate with the iPrint Appliance. For information on how to configure the iPrint Appliance and renderer in a secure mode, see [“Secure Communication Mode” on page 76](#).

Non-secure Communication Mode: When this mode is used, both secure and non-secure remote renderers can communicate with the iPrint Appliance. For information on how to configure the iPrint Appliance and renderer in a non-secure mode, see [“Non-secure Communication Mode” on page 77](#).

Non-secure communication mode is desirable in the following scenarios:

- ◆ Experiencing problems with third-party certificates

The iPrint Appliance handles third-party certificates well when working with secure web tools and authentications from the iPrint Mobile App. However, some third-party certificates can be problematic when registering a remote renderer; in these situations, non-secure communication mode is convenient because certificates are not used for the remote renderer registration.

- ◆ Domain suffix for the iPrint Appliance and the remote renderer does not match

Secure communication mode requires both the iPrint Appliance and the remote renderer to have matching DNS domain suffixes. For example, `iprintserver.company.com` and `remoterenderer.cityname.company.com` will cause the remote renderer registration to fail if the secure communication mode is selected. The non-secure communication mode ignores the DNS suffix matching requirement.

You can verify the mode of the renderer in the *Renderers* page under the *Secure Mode* column.

- ◆ If the *Secure Mode* column displays *false*, then the renderer is in a non-secure communication mode.
- ◆ If the *Secure Mode* column displays *true*, then the renderer is in a secure communication mode.

6.2.3 Automatic Printer Driver Updates

The local and remote renderer on iPrint Appliance 1.1 supports the Automatic Driver Update feature. When a printer driver is updated on the Drive Store, or if the association of a particular printer agent is changed, the driver is automatically updated on the renderer.

Local Renderer: The driver update and driver association changes takes effect only after 1 hour because the value set for `driver_update_interval` is 1 hour in the `iprintmobile.conf` file. After the default driver time interval, the first print job is rendered by the old driver and the subsequent jobs are rendered by the new driver.

You can modify the `driver_update_interval` value in the `iprintmobile.conf` file.

Remote Renderer: All the jobs submitted for printing is rendered by the driver that is currently associated with the printer. However, the first print job that is sent for printing after the driver association change may take some time to be rendered depending on the size of the driver. This is because the remote renderer installs the driver first and then processes it for rendering.

6.2.4 Printer Rename and Redirection (Remote Renderer)

If a printer is renamed or redirected through the Management Console, the remote renderer automatically updates its configuration to associate the correct printer drivers with the printer.

When you redirect a printer, the printer driver associated with the destination printer is used for rendering.

6.3 Installing and Configuring a Remote Renderer

For desktop quality printing for Microsoft Office and PDF documents, you must install a remote renderer on a Microsoft Windows 7, Windows 8.1, Windows 2008 R2, Windows 2012, or Windows 2012 R2 64-bit system with a dual-core processor or higher.

During the remote renderer configuration process, when prompted for service configuration credentials, local users must specify the credentials of an account with Windows admin and domain users must specify the user name in [domainname] \ [username] format.

- ◆ [Section 6.3.1, “Prerequisites,” on page 74](#)
- ◆ [Section 6.3.2, “Assigning Log On as a Service Rights,” on page 74](#)
- ◆ [Section 6.3.3, “Downloading the Remote Renderer,” on page 75](#)
- ◆ [Section 6.3.4, “Installing and Configuring the Remote Renderer,” on page 75](#)
- ◆ [Section 6.3.5, “Registering the Remote Renderer,” on page 76](#)
- ◆ [Section 6.3.6, “Secure Communication Mode,” on page 76](#)
- ◆ [Section 6.3.7, “Non-secure Communication Mode,” on page 77](#)

6.3.1 Prerequisites

Before installing and configuring the remote renderer, ensure that you have met the requirements listed in [Section 3.3, “Remote Renderer Requirements,” on page 28](#) and the following prerequisites:

- ◆ At least one printer driver is uploaded to the Driver Store for the Windows platform on which you are setting up the renderer. This is required because when you add a remote renderer from the Management Console, you must designate one driver as the default driver for the renderer.

NOTE: It is recommended that you upload a universal printer driver such as HPUPD, and set that as the default driver.

- ◆ You must assign *Log on as a service* rights to the account with which you want to set up the renderer.

6.3.2 Assigning Log On as a Service Rights

Before configuring the remote renderer, you must assign the *Log on as a service* rights to the account with which you want to set up the renderer, on the local machine.

- 1 On your Windows computer, Go to *Start > Control Panel*.
- 2 In the upper-right corner of the Control Panel window, click the *View by* drop-down menu, then select *Large icons*.
- 3 Go to *Administrative Tools > Local Security Policy*.
- 4 In the left pane, double-click *Local Policies*.
- 5 Click *User Rights Assignment*.
- 6 In the right pane, under *Policy*, double-click *Log on as a service*.
- 7 Click *Add User or Group*.
- 8 Specify the user name in the *Enter the object names to select* box, then click *Check Names*.
- 9 Click *OK* after the user is displayed.

- 10 Click *OK*.
- 11 Click *OK*, then close the Local Security Policy window.

6.3.3 Downloading the Remote Renderer

- 1 On a web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Specify `root` or `vaadmin` as the user name.
- 3 Specify the password that you provided for `root` or `vaadmin`.
The Management Console page is displayed.
- 4 Click *iPrint Appliance Configuration*.
- 5 Under *Administration*, click *Renderers*.
- 6 Click the icon next to the *Download remote rendering agent* in the upper-right corner of the screen.



NOTE: The remote renderer installation interface is not available in Slovak, Hungarian, Netherlands Dutch, or Catalan languages

A zip file named `iPrintRendererBundle.zip` is downloaded. This zip file contains a `setup.exe` file, `iPrintRendererSetup.msi` file, `readme.txt`, and a `device.pfx` certificate file.

Continue with installing and configuring the remote renderer.

6.3.4 Installing and Configuring the Remote Renderer

- 1 Unzip the `iPrintRendererBundle.zip` file, then launch the `setup.exe` file. Follow the on-screen prompts to complete the installation procedure.
- 2 When the installation is complete, launch the command prompt in the *Run as administrator* mode.
- 3 Run the command `iPrntRendCmd -c` to configure the remote renderer.
 - 3a If you want to configure the remote renderer over a secure channel and if you are using a self-signed digital certificate, copy the `device.pfx` file into the `C:\NDPS\Renderer\certificates\` folder.
 - 3b If you want to configure the remote renderer over a secure channel and if you are using a third-party certificate, copy the PKCS12 file of type `.pfx` or `.p12` into the `C:\NDPS\Renderer\certificates\` folder.

- 4 When prompted for *Do you want to configure the remote renderer over secure channel*, depending on your requirement, specify *Yes* or *No*.
 - 4a When you specify *Yes*, the renderer is configured in a secure mode. You need to perform additional steps, if you need iPrint Appliance to accept only secure communications. For more information, see [Section 6.3.6, “Secure Communication Mode,” on page 76](#).
 - 4b When you specify *No*, the renderer is configured in a non-secure mode. You need to perform additional steps to ensure that iPrint Appliance accepts non-secure communications. For more information, see [Section 6.3.7, “Non-secure Communication Mode,” on page 77](#).
- 5 When prompted for credentials, specify your credentials.

On successful configuration, you must register the Remote Renderer.

6.3.5 Registering the Remote Renderer

- 1 On the Management Console, click *iPrint Appliance Configuration*.
- 2 Under *Administration*, click *Renderers*.
- 3 Click *New*.
- 4 In the *Renderer Host/IP address* box, specify the hostname or IP address of the renderer system, then click *Connect*.
- 5 Under Options, specify a name for the renderer in the *Renderer Name* box.
- 6 Select the document formats you want the remote renderer to render.
- 7 Choose the *Default Printer Driver*, then click *Register*.

After you click the *Register* button, a success message is displayed, but the remote renderer is still configuring. The configuration time depends on the number of unique drivers associated with mobile enabled printers. During that period, the renderer is in the *Configuring* state. After the configuration is complete, the renderer changes to the *Active* state. When the status of the remote renderer displays *Active*, it means that the registration is successful. Refresh the page after a couple of minutes to check the status.

6.3.6 Secure Communication Mode

By default, the iPrint Appliance accepts both secure and non-secure communication. To set only secure communication mode, you must ensure that the renderer is secure and the iPrint Appliance accepts only secure communications.

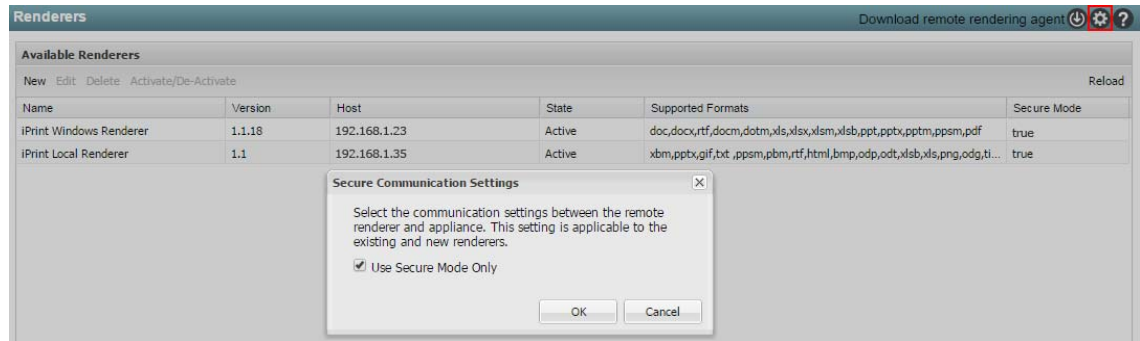
On the Windows computer, run the `iPrntRendCmd -c` command to configure secure remote renderer. On configuring the renderer to a secure mode, you can verify the status in the Management Console, *Renderers* page under the *Secure Mode* column, the value displayed is *true*.

To configure iPrint Appliance to accept only secure communications, modify the secure communication settings in the Management Console as follows:

- 1 On a web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Specify the root or vaadmin name that you provided as the user name.
- 3 Specify the password that you provided for the root or vaadmin.
The Management Console page is displayed.
- 4 Click *iPrint Appliance Configuration*.

- 5 Under *Administration*, click *Renderers*. All the available renderers are displayed.
- 6 Click the *Secure settings for renderers* icon.

The Secure Communication Settings window is displayed.



- 7 Select the *Use Secure Mode Only* check box, then click *OK*. The iPrint Appliance will now accept only secure communications. The non-secure renderers will fail to communicate with the iPrint Appliance and no jobs can be rendered by those renderers.

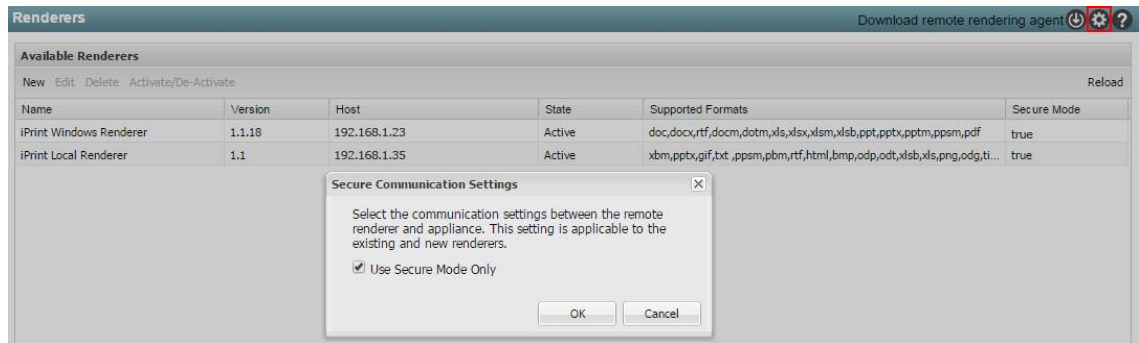
6.3.7 Non-secure Communication Mode

By default, the iPrint Appliance accepts both secure and non-secure communication but if the iPrint Appliance is modified to accept only secure communications, then you must modify the iPrint Appliance to accept both secure and non-secure communications.

On the Windows computer, run the `iPrintRendCmd -c` command to configure the non-secure remote renderer. On configuring the renderer to a non-secure mode, you can verify the status in the Management Console, *Renderers* page under the *Secure Mode* column, the value displayed is *false*.

Modify the secure communication settings in the Management Console for iPrint Appliance to accept both secure and non-secure communications:

- 1 On a web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Specify the root or vaadmin name that you provided as the user name.
- 3 Specify the password that you provided for the root or vaadmin.
The Management Console page is displayed.
- 4 Click *iPrint Appliance Configuration*.
- 5 Under *Administration*, click *Renderers*. All the available renderers are displayed.
- 6 Click the *Secure settings for renderers* icon.
The Secure Communication Settings window is displayed.



- 7 Deselect the *Use Secure Mode Only* check box, then click *OK*. The iPrint Appliance will now accept both secure and non-secure communications.

6.4 Upgrading the Remote Renderer

If you have upgraded your iPrint Appliance, you must also upgrade the remote renderer. Before upgrading the remote renderer, ensure that you have applied the patch and updated the iPrint Appliance server.

NOTE: Upgrading the remote renderer from iPrint Appliance 1.0 or 1.0.1 to iPrint Appliance 1.1 is not supported.

6.4.1 Upgrading from 1.1 to 1.1 Patch 1

If you have upgraded your iPrint Appliance from 1.1 to iPrint Appliance 1.1 Patch 1, you must also upgrade the remote renderer. To upgrade the remote renderer from iPrint Appliance 1.1 to iPrint Appliance 1.1 Patch 1:

- 1 Follow the steps from [Section 6.3.3, “Downloading the Remote Renderer,” on page 75](#) to [Section 6.3.4, “Installing and Configuring the Remote Renderer,” on page 75](#).

When the procedure is complete, the iPrint remote renderer is updated and is ready to be used.

6.4.2 Upgrading from 1.0 or 1.0.1 to 1.1 Patch 1

If you have upgraded your iPrint Appliance from 1.0 or 1.0.1 to iPrint Appliance 1.1 Patch 1, you must also upgrade the remote renderer. To upgrade the remote renderer from iPrint Appliance 1.0 or 1.0.1 to iPrint Appliance 1.1 Patch 1:

- 1 Follow the steps from [Section 6.3.3, “Downloading the Remote Renderer,” on page 75](#) to [Section 6.3.5, “Registering the Remote Renderer,” on page 76](#).

When the procedure is complete, the iPrint remote renderer is updated and is ready to be used.

6.5 Managing the Remote Renderer

You can manage the remote renderer through the Management Console.

- 1 On a web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Specify `root` or `vaadmin` as the user name.
- 3 Specify the password that you provided for `root` or `vaadmin`.
The Management Console page is displayed.
- 4 Click *iPrint Appliance Configuration*.
- 5 Under *Administration*, click *Renderers*.

On the Renderers page, you can perform the following actions:

- ♦ [Section 6.5.1, “Add a Renderer,” on page 79](#)
- ♦ [Section 6.5.2, “Edit a Renderer,” on page 79](#)
- ♦ [Section 6.5.3, “Delete a Renderer,” on page 79](#)
- ♦ [Section 6.5.4, “Activate or Deactivate a Renderer,” on page 80](#)

6.5.1 Add a Renderer

- 1 On the Renderers page, click *New*.
- 2 In the *Renderer Host/IP address* box, specify the hostname or IP address of the renderer system, then click *Connect*.
- 3 Under Options, specify a name for the renderer in the *Renderer Name* box.
- 4 Select the document formats you want the remote renderer to render.

NOTE: The *PDF Formats* option along with the *In-built PDF renderer* is selected by default. If you want to use Adobe Acrobat, you must ensure that Adobe Acrobat Pro is installed on the renderer machine before selecting the *Adobe Acrobat* option. Similarly, if you want to enable the remote renderer to render Microsoft Office formats, you must ensure that Microsoft Office is installed on the renderer machine before selecting the *Office Formats* option.

- 5 Choose the *Default Printer Driver*, then click *Register*.

6.5.2 Edit a Renderer

You can change a remote renderer’s name, the document rendering options, and the default printer driver using the Edit feature on the Renderers page.

- 1 On the Renderers page, select a renderer which you want to edit, then click *Edit*.
- 2 Change the rendering options, then click *Commit*.

6.5.3 Delete a Renderer

- 1 On the Renderers page, select a renderer that you want to delete, then click *Delete*.

Deleting a renderer unregisters the renderer from iPrint Appliance.

6.5.4 Activate or Deactivate a Renderer

- 1 On the Renderers page, select a renderer that you want to activate or deactivate, then click *Activate/De-Activate*.

If the renderer is in an Active state, it is deactivated. If the renderer is in an Inactive state, it is activated.

If the renderer is in an Inactive state, it will not render any job.

Deactivating a renderer does not unregister the renderer from iPrint Appliance.

6.6 Remote Renderer Commands

The management of remote renderer is supported from the Management Console. You can additionally use the command line interface by launching the command prompt in the *Run as administrator* mode and executing the `iPrntRendCmd` command for the following operations:

Command	Description
<code>-h --help</code>	Shows the various available commands with their syntax.
<code>-v --version</code>	Shows the current version of the remote renderer.
<code>-c -- configureservice</code>	Configures the remote renderer service for the specified user. It also provides the option of choosing between secure and non-secure communication mode with the iPrint Appliance.
<code>-u -- unregisterrenderer <iPrint Appliance server Fully Qualified Domain Name or IP address></code>	Unregisters the remote renderer from the iPrint Appliance server. Afterward, the remote renderer stops accepting jobs from the iPrint Appliance server for conversion. The iPrint Rendering service is running, but does not receive rendering jobs from the iPrint Appliance server.
<code>-rt -- reregisterrenderer <iPrint Appliance server Fully Qualified Domain Name or IP address></code>	Installs both self-signed and unsigned drivers for remote renderers.
<code>-s -- rendererstatus</code>	Displays the status of the iPrint Windows Rendering service.
<code>-l -- launchrenderer</code>	Starts the iPrint Windows Rendering service. After registration, the rendering service starts automatically.
<code>-q --stoprenderer</code>	Stops the iPrint Windows Rendering service.
<code>-t -- testconverttops <input file location> <output file location></code>	Tests the conversion locally.
<code>-ls --listservers</code>	Lists the iPrint Appliance registered with the remote renderer.

7 Managing iPrint Appliance

The Novell iPrint Appliance Management Console allows you to administer iPrint Appliance, and to change configuration settings, such as administrative passwords, network settings, and certificate settings.

To access the Appliance System Configuration page:

- 1 On a Web browser, specify either the DNS name or the IP address. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Specify the *Username* and *Password*, then click *Log in*.
- 3 Click the *Appliance System Configuration* icon.

The Appliance System Configuration page displays the following options:

- ◆ [Section 7.1, “Administrative Passwords,” on page 81](#)
- ◆ [Section 7.2, “Network,” on page 82](#)
- ◆ [Section 7.3, “Time,” on page 82](#)
- ◆ [Section 7.4, “Digital Certificates,” on page 83](#)
- ◆ [Section 7.5, “Ganglia Configuration,” on page 86](#)
- ◆ [Section 7.6, “System Services,” on page 87](#)
- ◆ [Section 7.7, “Firewall,” on page 88](#)
- ◆ [Section 7.8, “Support,” on page 88](#)
- ◆ [Section 7.9, “Field Patch,” on page 89](#)
- ◆ [Section 7.10, “Storage,” on page 89](#)
- ◆ [Section 7.11, “Logging,” on page 90](#)
- ◆ [Section 7.12, “Shutting Down and Restarting iPrint Appliance,” on page 90](#)
- ◆ [Section 7.13, “Signing Out of iPrint Appliance,” on page 91](#)

7.1 Administrative Passwords

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Administrative Passwords*.
- 4 Specify new passwords for the root and vaadmin administrators.

If you are changing the root password, you must first specify the current root password.

- 5 (Optional) Select or deselect *Allow root access to SSH*. When this option is selected, the root user is able to SSH to the appliance. If this option is not selected, only the vaadmin user can SSH to the appliance.
- 6 Click *OK*.

IMPORTANT: To change the eDirectory admin password, launch the terminal and run the script `iprint_edir_change_passwd.sh`.

7.2 Network

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Network*.
- 4 In the *DNS Configuration* section, you can modify the name servers, search domains, and gateway settings for your Novell iPrint Appliance network.

If the *Search Domains* field is left blank, it is auto-populated with the domain of the appliance hostname. For example, if the hostname of the appliance is `iprint.mycompany.com`, the domain is auto-populated with `mycompany.com`.
- 5 In the *NIC Configuration* section, you can modify the IP address, hostname, and network mask of any Network Interface Controller (NIC) associated with the appliance. (If you configured multiple NICs for the Novell iPrint Appliance, you can configure the additional NICs.)
 - 5a In the *NIC Configuration* section, click the ID of the NIC.
 - 5b Edit the IP address, hostname, or network mask.

If you change the IP address, you must restart the appliance in order for the change to be reflected
 - 5c Click *OK*.
- 6 (Optional) In the *Appliance Administration UI (port 9443) Access Restrictions* section, specify the IP address of any networks for which you want to allow access to the iPrint Appliance. Leave this section blank to allow any network to access the iPrint Appliance.

IMPORTANT: Post iPrint Appliance configuration, do not change any Network settings.

- 7 Click *OK*.

7.3 Time

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Time*.
- 4 Change the time configuration options as necessary:
 - NTP Server:** Specify the NTP server that you want to use for time synchronization.
 - Region:** Select the region where your Novell Appliance is located.
 - Time Zone:** Select the time zone where your Novell Appliance is located.
- 5 Click *OK*.

7.4 Digital Certificates

The Novell Appliance ships with a self-signed digital certificate. Instead of using this self-signed certificate, you should use a trusted server certificate that is signed by a trusted certificate authority (CA) such as VeriSign or Equifax.

The certificate works for both the Novell iPrint Appliance and the iPrint remote renderer (ports 9443 and 8443). You do not need to update your certificate when you update the iPrint Appliance software.

Complete the following sections to change the digital certificate for your Novell Appliance. You can use the digital certificate tool to create your own certificate and then have it signed by a CA, or you can use an existing certificate and key pair if you have one that you want to use.

- ♦ [Section 7.4.1, “Using the Digital Certificate Tool,” on page 83](#)
- ♦ [Section 7.4.2, “Using an Existing Certificate and Key Pair,” on page 85](#)
- ♦ [Section 7.4.3, “Activating the Certificate,” on page 85](#)
- ♦ [Section 7.4.4, “Managing Certificates,” on page 85](#)

7.4.1 Using the Digital Certificate Tool

- ♦ [“Creating a New Self-Signed Certificate” on page 83](#)
- ♦ [“Getting Your Certificate Officially Signed” on page 84](#)

Creating a New Self-Signed Certificate

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.



- 2 Click the *Appliance System Configuration* icon.
- 3 Click *Digital Certificates*.

- 4 In the *Key Store* drop-down list, ensure that *Web Application Certificates* is selected.
- 5 Click *File > New Certificate (Key Pair)*, then specify the following information:
 - Alias:** Specify a name that you want to use to identify and manage this certificate.
 - Validity (days):** Specify how long you want the certificate to remain valid.
 - Key Algorithm:** Select either *RSA* or *DSA*.
 - Key Size:** Select the desired key size.
 - Signature Algorithm:** Select the desired signature algorithm.
 - Common Name (CN):** This must match the server name in the URL in order for browsers to accept the certificate for SSL communication.
 - Organizational Unit (OU):** (Optional) Small organization name, such as a department or division. For example, Purchasing.
 - Organization (O):** (Optional) Large organization name. For example, Novell, Inc.
 - City or Locality (L):** (Optional) City name. For example, Provo.
 - State or Province (ST):** (Optional) State or province name. For example, Utah.
 - Two-letter Country Code (C):** (Optional) Two-letter country code. For example, US
- 6 Click *OK* to create the certificate.

After the certificate is created, it is self-signed.
- 7 Make the certificate official, as described in [“Getting Your Certificate Officially Signed” on page 84](#).

Getting Your Certificate Officially Signed

- 1 On the Digital Certificates page, select the certificate that you just created, then click *File > Certificate Requests > Generate CSR*.

NOTE: Web Application Certificates should be selected in key store for selecting a certificate for officially sign the certificate.

- 2 Complete the process of emailing your digital certificate to a certificate authority (CA), such as Verisign.

The CA takes your Certificate Signing Request (CSR) and generates an official certificate based on the information in the CSR. The CA then mails the new certificate and certificate chain back to you.
- 3 After you have received the official certificate and certificate chain from the CA:
 - 3a Revisit the Digital Certificates page.
 - 3b Click *File > Import > Trusted Certificate*. Browse to the trusted certificate chain that you received from the CA, then click *OK*.
 - 3c Select the self-signed certificate, then click *File > Certification Request > Import CA Reply*.
 - 3d Browse to and upload the official certificate to be used to update the certificate information.

On the Digital Certificates page, the name in the *Issuer* column for your certificate changes to the name of the CA that stamped your certificate.
- 4 Activate the certificate, as described in [Section 7.4.3, “Activating the Certificate,” on page 85](#).

7.4.2 Using an Existing Certificate and Key Pair

When you use an existing certificate and key pair, use a .P12 key pair format.

- 1 Go to the Digital Certificates page by clicking *Digital Certificates* from the Novell Appliance Configuration.
- 2 On the Digital Certificates page, in the Key Store drop-down menu, select *JVM Certificates*.
- 3 Click *File > Import > Trusted Certificate*. Browse and select your existing certificate, then click *OK*.
- 4 Click *File > Import > Trusted Certificate*. Browse and select your existing certificate chain for the certificate that you selected in [Step 3](#), then click *OK*.
- 5 Click *File > Import > Key Pair*, then browse to and select your .P12 key pair file, specify your password if needed, then click *OK*.
- 6 Continue with [Section 7.4.3, “Activating the Certificate,” on page 85](#).

7.4.3 Activating the Certificate

- 1 On the Digital Certificates page, in the *Key Store* drop-down menu, select *Web Application Certificates*.
- 2 Select the certificate that you want to make active, click *Set as Active*, then click *Yes*.
- 3 Verify that the certificate and the certificate chain were created correctly by selecting the certificate, then clicking *View Info*.

NOTE: When you activate a certificate, the *Set as Active* button might still be enabled for that certificate. You can ignore it, as it does not affect the certificate activation.

7.4.4 Managing Certificates

All certificates that are included with the IBM Java package that is bundled with the version of SLES that iPrint Appliance ships with, are installed when you install iPrint Appliance.

You can use the Digital Certificates tool on the iPrint Appliance to remove certificates that are not used by your organization, if you are concerned about keeping them.

Also, you can use the Digital Certificates tool on the iPrint Appliance to maintain the certificate store by removing certificates that have expired and then installing new certificates as needed, according to your organization's security policies.

To access the Digital Certificates tool:

- 1 Click *Digital Certificates* in the Novell Appliance Configuration page.

iPrint Appliance uses only the certificates that relate to LDAP and SMTP. In the *Key Store* drop-down menu, under *Web Application Certificates*, a self-signed certificate is displayed. This certificate is required for iPrint Appliance, and must not be deleted.

In the *Key Store* drop-down menu, under *JVM Certificates*, you can delete all the certificates except the *edir_root_ca* certificate, and any other LDAP or SMTP certificates that you might have imported.

7.5 Ganglia Configuration

Ganglia is a scalable, distributed monitoring system that allows you to gather important information about your iPrint Appliance system. The default metrics that you can monitor are CPU, disk, load, memory, network, and process.

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Ganglia Configuration*.
- 4 As necessary, change the following Ganglia configuration options:

Enable Full Monitoring Services: Select this option to receive and store metrics from other appliances, and to allow the Ganglia Web Interface to run on the same machine as the iPrint appliance.

You might want to disable Ganglia monitoring by deselecting this option if:

- ◆ You already have a monitoring system that you plan to use for iPrint.
- ◆ You plan to configure a dedicated appliance for viewing monitoring information. (You do this by selecting *Unicast* below, then specifying the DNS name or IP address of the appliance where monitoring information will be collected.)

Enable monitoring on this appliance: Select this option to enable Ganglia monitoring on this appliance.

- ◆ **Multicast:** Select this option to send monitoring information to other appliances on the network.
- ◆ **Unicast:** (Recommended) Select this option to send monitoring information to a single destination.

Unicast mode is recommended for improving performance of the iPrint system.

Publish to: Specify the URL where Ganglia sends monitoring information when it is running in Unicast mode.

- 5 (Optional) Click *Reset Database* to remove all existing Ganglia metrics from this appliance. This option is not related to the iPrint database.
- 6 Click *OK*.

For more information about how to use Ganglia monitoring with iPrint Appliance, see [Section 8.7, “Ganglia,” on page 145](#).

7.6 System Services

This section describes the actions you can perform on the system services.

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *System Services*.
- 4 You can perform the following actions:
 - ♦ [Section 7.6.1, “Starting, Stopping, or Restarting System Services,” on page 87](#)
 - ♦ [Section 7.6.2, “Setting System Services to Automatic or Manual,” on page 87](#)
 - ♦ [Section 7.6.3, “Downloading Log Files for System Services,” on page 87](#)

7.6.1 Starting, Stopping, or Restarting System Services

- 1 Select the service that you want to start, stop, or restart.
- 2 Click *Action*, then click *Start*, *Stop*, or *Restart*.
- 3 Click *Close* to exit System Services.

7.6.2 Setting System Services to Automatic or Manual

- 1 Select the service that you want to make automatic or manual.
- 2 Click *Action*, then click *Set as Automatic*, or *Set as Manual*.

7.6.3 Downloading Log Files for System Services

In the *Log Files* column of the table, click the *download* link for the service for which you want to view log files.

You can download the following log files for each service:

SSH: This is the SSH service that is running on the appliance.

Novell iPrint Mobile: The `iprintmobile0.log` file includes log messages related to mobile server and renderer. To access this file, either click *Download* or browse to `/var/opt/novell/log/iprintmobile/` folder.

Novell iManager: The `catalina.out` file includes log messages related to iManager operations. To access this file, either click *Download* or browse to `/var/opt/novell/tomcat6/logs/` folder.

Novell Authentication Services: The `catalina.out` file includes log messages related to services accessed by the users. To access this file, either click *Download* or browse to `/opt/novell/filr/apache-tomcat/logs/` folder.

NetIQ eDirectory: The `ndsd.log` file includes log messages related to eDirectory operations. To access this file, either click *Download* or browse to `/var/opt/novell/eDirectory/log/` folder.

Apache server for Novell iPrint: The `error_log` file includes log messages related to Apache web server operations. To access this file, either click *Download* or browse to `/var/log/apache2/` folder.

Avahi: The `messages` file includes log messages related to Appliance system operations. To access this file, either click *Download* or browse to `/var/log/` folder.

Driver Store: The `idsd.log` file includes log messages related to driver store operations. To access this file, either click *Download* or browse to `/var/opt/novell/log/iprint/` folder.

Print Manager: The `ipsmd.log` file includes log messages related to print manager operations. To access this file, either click *Download* or browse to `/var/opt/novell/log/iprint/` folder.

7.7 Firewall

You can view your current firewall configuration directly from the iPrint Appliance:

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Firewall*.

Port numbers are listed with the current status of each port number. This page is for informational purposes and is not editable.

To have seamless experience with iPrint Appliance, ensure you do not block the ports with your firewall settings. For more information, see [Section 3.2, "Ports Requirements," on page 22](#).

7.8 Support

You can upload configuration files to Novell Support via FTP, or to download the configuration files so that you can send them by an alternative method.

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Support*.

- 4 Select *Automatically send the configuration to Novell using FTP* to automatically send your iPrint Appliance system's configuration information to Novell Support via FTP.
or
Select *Download and save the configuration file locally, then send it to Novell manually* to download your iPrint Appliance system's configuration information to your management workstation. You can then send the information to Novell Support using a method of your choice.
- 5 Click *OK* to complete the process.

7.9 Field Patch

You can manage field test patches for the iPrint Appliance from the Field Patch page. You can install new patches, view currently installed patches, and uninstall patches.

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Field Test Patch*.
- 4 (Optional) Install a Downloaded Patch:
 - 4a Before you can install a patch, you first need to download it from the [Novell Support web site](https://www.novell.com/support/) (<https://www.novell.com/support/>) to your management workstation.
 - 4b From the Field Test Patch page on the iPrint appliance, click *Browse*.
 - 4c Browse to and select the patch that you downloaded in [Step 4a](#).
 - 4d Click *Install*.
- 5 (Optional) Manage Installed Patches: Uninstall Patch
 - 5a Click *Uninstall Latest Patch* to uninstall the latest patch. You may not be able to uninstall some patches.
- 6 (Optional) Manage Installed Patches: Download Log File
 - 6a Click *Download Log File* to download the log file. This file includes details about patch installation.

7.10 Storage

If you have created partitions for `/vastorage` and `/var`, iPrint Appliance provides native tools to allow you to expand the storage space for the `/vastorage` and `/var` partitions.

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Storage*.
- 4 Use the tools provided by your virtualization platform vendor to expand the virtual disks that contain the partitions your are expanding.
- 5 In the provided table, select the partitions to be expanded.
- 6 Click *Expand partitions*.
Appliance services are stopped, the selected partitions are expanded to the size of their respective disks, and appliance services are restarted.
- 7 Reboot the appliance so the operating system can detect the disks that have been expanded.

7.11 Logging

iPrint Appliance system events are logged in the `/var` directory. Since the `/var` directory can fill up with log files and cause the boot partition to grow, it is recommended that `/var` be located either on a separate hard disk on the appliance, or on a remote NFS directory.

To move the `/var` directory to a dedicated disk or to a remote NFS directory:

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Logging*.
- 4 Specify the hard disk information for the `/var` directory:
 - ♦ **Select disk:** Select the hard disk where you want to place `/var`.
 - ♦ **File system type:** Specify the type of file system.
- 5 Click *OK*.

7.12 Shutting Down and Restarting iPrint Appliance

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *Appliance System Configuration* icon.



- 3 Click *Reboot* or *Shutdown*.

7.13 Signing Out of iPrint Appliance

- 1 In the upper-right corner of the Management Console page, next to the user name, click *Logout*.

NOTE: On the *Appliance System Configuration* and *iPrint Appliance Configuration* pages of iPrint Appliance, you can see the user name displayed along with the *Home* and *Logout* links. The *Home* link directs you to the iPrint Appliance main page, and the *Logout* link allows you to sign out of iPrint Appliance.

8 Managing Print System

In this section, you can manage the appliance through the iPrint Appliance Management Console and the configure the server to automatically update the Macintosh and Windows clients.

The Novell iPrint Appliance Management Console allows you to add and manage printers, check the printer status, create printer maps, and monitor iPrint Appliance. To access the Management Console, on a Web browser, specify either the DNS name or the IP address. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.

The iPrint Appliance Management Console page displays the following options:

- ♦ [Section 8.1, “iPrint Appliance Configuration,” on page 93](#)
- ♦ [Section 8.2, “Appliance System Configuration,” on page 101](#)
- ♦ [Section 8.3, “iPrint Printer Configuration \(iManager\),” on page 101](#)
- ♦ [Section 8.4, “iPrint Printer Status,” on page 142](#)
- ♦ [Section 8.5, “iPrint Printer Import / Migration,” on page 142](#)
- ♦ [Section 8.6, “iPrint Map Creation,” on page 143](#)
- ♦ [Section 8.7, “Ganglia,” on page 145](#)
- ♦ [Section 8.8, “What’s Next,” on page 146](#)

8.1 iPrint Appliance Configuration

The iPrint Appliance Configuration page displays the following options:

- ♦ [Section 8.1.1, “Mobile Configuration,” on page 93](#)
- ♦ [Section 8.1.2, “Driver Store Configuration,” on page 95](#)
- ♦ [Section 8.1.3, “Printers,” on page 95](#)
- ♦ [Section 8.1.4, “Renderers,” on page 96](#)
- ♦ [Section 8.1.5, “Services,” on page 96](#)
- ♦ [Section 8.1.6, “Export Configuration,” on page 96](#)
- ♦ [Section 8.1.7, “LDAP Import,” on page 97](#)
- ♦ [Section 8.1.8, “License,” on page 100](#)

8.1.1 Mobile Configuration

On the Mobile configuration page, you can configure email printing and default options for printers.

Email Configuration

iPrint Appliance can be configured to accept print jobs through email messages and attachments. When configured for email printing, iPrint Appliance becomes a client to an email server. Email account inbox(es) are polled for incoming print jobs, which are routed to the intended printer. Email accounts must be created and functional prior to their association with Novell iPrint Appliance.

Enable email-based printing: Select this option to enable email printing. A global email address can be assigned for all printers. The global email address feature requires access to an email account such as GroupWise, Exchange, Lotus Notes, or Gmail.

The following fields are used by iPrint Appliance to describe and access the global email account:

Email address: Specify the full email address for global print jobs. iPrint Appliance polls the inbox of this email address looking for print jobs. When an email-based job arrives, the subject line is parsed to determine the printer to which the job is sent. For example, print@example.com.

Account Username: Specify the user name for iPrint Appliance to log in to the email server to access the global email account. For example, iprint.

Account Password: Specify the password for iPrint Appliance to log in to the email server to access the global email account.

Re-type Password: Confirm the account password.

Incoming Mail Server: Specify the address of the incoming mail server for the email account. For example, imap.example.com.

Incoming Server Type: iPrint Appliance supports POP and IMAP protocols to poll for incoming print jobs. Select POP or IMAP depending on the protocol that your email server supports.

Outgoing (SMTP) Mail Server: Specify the address of the outgoing mail server for the email account. For example, smtp.example.com. iPrint Appliance uses the SMTP protocol to send email back to users who submit email-based print jobs to report their job status. In order to support iPrint Appliance, the email server you select must support the SMTP protocol.

Enable Mail-body Printing: With email-based printing, attachments are always printed. This option allows the email message body to also be printed. It is enabled by default.

Polling Interval: Configures the interval (in seconds) at which emails are fetched from mail servers.

NOTE: Each instance of iPrint Mobile service must be configured with a unique email address, which cannot be shared with other instances of mobile service. Similarly, an email address used for a particular printer (per printer email configuration) cannot be shared for any other printer or mobile service.

Printer Defaults

Printer features managed by iPrint Appliance can be enabled and disabled. The fields in this section are the default values for newly added printers. As each printer is added, these values can be modified.

Paper Size: Select *Letter* or *A4*.

Orientation: Select between *Landscape* or *Portrait* printing orientation.

Enable Duplex Printing: Duplex printing allows automatic printing of a sheet of paper on both sides. Print devices without this capability can only print on a single side of paper (simplex printing).

Enable Color Printing: Color (or Colour) printing prints the documents in color, as opposed to monochrome (black and white) printing.

8.1.2 Driver Store Configuration

You can change the Drive Store post the initial configuration. The Driver Store Configuration page contains the following options:

Enable local driver store: Select this option to use the Driver Store located on the local machine

Enable remote driver store: Select this option to change the location of the Remote Driver Store. Specify the *DNS Name/Address*, Username (FDN format - for example, cn=admin,o=companyname), and the *Password* of the new Remote Driver Store, then click *Save*.

Changing from local to remote driver store or vice versa: After initial configuration, if you change the local driver store to remote driver or vice versa, you must again set the default driver for the local renderer.

8.1.3 Printers

The Printers page lists all printers currently managed by iPrint Appliance. You can enable a printer for AirPrint, Email printing, and IPP printing. Select a printer, click the *AirPrint* or *Mobile* drop-down menu, then click *Enable*. On enabling the printer for AirPrint, the printer is advertized as an AirPrint-enabled printer and also gets enabled for Mobile and Email Printing. On enabling the printer for mobile, you can print to that printer from your mobile devices or by using the email printing feature. The platform-specific associated drivers are also installed on enabling the printer for mobile.

You can also assign a specific email address to each printer by clicking the *Configure* drop-down menu, then clicking *Private Email Settings*. When configured for private email printing, iPrint Appliance becomes a client to an email server. You must provide the following information to enable a private email address for the printer:

Account	<ul style="list-style-type: none">◆ Email Address: Specify the full email address of the mailbox to be polled for the print jobs. When an email-based job arrives, the print job is processed to the printer. For example, print@example.com.◆ Username: Specify the user name to be used by iPrint Appliance to log in to the email server to access the private printer email account. For example, iprint.◆ Password: Specify the password for iPrint Appliance to log in to the email server to access the private printer email account.◆ Retype Password: Confirm the account password.
Server	<ul style="list-style-type: none">◆ Incoming Mail Server: Specify the address of the incoming email server for the email account. For example, imap.example.com.◆ Outgoing Mail Server: Specify the address of the outgoing email server for the email account. For example, smtp.example.com.◆ Access Method: iPrint Appliance supports two different protocols to poll for incoming print jobs. Select POP or IMAP depending on the protocol your email server supports.

NOTE: An email address used for a particular printer (per-printer email configuration) cannot be shared for any other printer or mobile service.

IMPORTANT: If you configure a printer for private email printing and then disable the printer for Mobile printing, the private email configuration settings are deleted. If you want to enable private email printing in future, you must specify the information manually.

Printer Rename and Printer Refresh

You can rename a printer from the Printers page. Select a printer you want to rename, click the *Configure* menu, then click *Rename Printer*.

To refresh the printers list, click the *Reload* button in the upper right of the Available Printers window.

Bulk Printer Import Using a CSV File

You can import printers into iPrint Appliance through a csv file. You must create a csv file, then upload the csv file into iPrint Appliance by clicking the *Bulk Printer Upload* button in the upper-right corner of the *Available Printers* window.

The csv file must contain the following fields:

```
PrinterName,PrinterIP,Location,Description,Win95_98_Driver,Winnt_Driver,Win2k_Driver,Winxp_Driver,Linux_Driver,Mac_Driver,Vista32_Driver,Vista64_Driver,Win732_Driver,Win764_Driver,Win832_Driver,Win864_Driver,Enable_DirectPrinting,Secure_Printing,Enable_Auditing,LPR/RAW,Raw_Port
```

In the secure printing, auditing, and direct printing fields, populate with the options Yes or No.

For more information on importing printers into iPrint Appliance through a csv file, see [Section 5.4.3, "Bulk Printer Import Using a CSV File,"](#) on page 57.

8.1.4 Renderers

The Renderers page allows you to download the remote renderer. The page also displays all renderers registered with iPrint Appliance, and allows you to add, delete, and activate/deactivate a renderer. For more information about installing and configuring a remote renderer, see [Section 6.3, "Installing and Configuring a Remote Renderer,"](#) on page 74.

8.1.5 Services

The Services page displays the system services that are required for iPrint Appliance.

To enable or disable a service, select a service on the page, click the *Action* drop-down menu, then click *Start*, *Stop*, or *Restart*.

To set the *Startup Type* of the services to Automatic or Manual, select a service on the page, click the *Options* drop-down menu, then click *Set as Automatic* or *Set as Manual*.

To refresh the information on the page, click *Refresh List*.

8.1.6 Export Configuration

The Export Configuration page allows you to create a backup of the iPrint Appliance configuration. You can back up the configuration file of iPrint Appliance to protect against system or hard drive crashes. You can also use the backup to transfer the configuration to another iPrint Appliance, or to quickly restore iPrint Appliance.

- 1 On a Web browser, use either the DNS name or the IP Address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.

Ignore the security certificate warning, and continue to the iPrint Appliance Management Console.

- 2 Specify `vaadmin` or `root` as the user name.
- 3 Specify the password.
The Management Console page is displayed.
- 4 Click *iPrint Appliance Configuration*.
- 5 Under *Administration*, click *Export Configuration*.
- 6 Specify the *eDirectory administrator Password*, then click *Export*.
The *iprintconfig.zip* file is created. This is the backup file. The backup file contains the configuration information.

Any configuration change in iPrint Appliance takes at least 20 minutes to get updated to the configuration file. If you export the iPrint Appliance configuration file within 20 minutes of modifying the configuration settings, and then import the configuration file into another copy of iPrint Appliance, the changes are not captured. In this case, you might not be able to view the updated information in the iPrint Appliance. We recommend that you wait at least 20 minutes after the last configuration change before you export the configuration file.

8.1.7 LDAP Import

To create an iPrint Appliance user account, you can synchronize initial user information from your network directory service (NetIQ eDirectory or Microsoft Active Directory service) after you have installed the iPrint Appliance software. Over time, you can continue to synchronize user information from the LDAP directory to your iPrint Appliance.

When you synchronize user information into iPrint Appliance from a source LDAP directory service, the entire Base DN on the source is imported into iPrint Appliance. For example, if you sync the context `o=users` from an LDAP source, the same `o=users` context is created in iPrint Appliance.

IMPORTANT:

- ♦ iPrint Appliance performs one-way synchronization from the LDAP directory. If you change user information in iPrint Appliance, the changes are not synchronized back to your LDAP directory. It is recommended that you do not change synced LDAP user information on iPrint Appliance.
- ♦ iPrint Appliance does not support multi-value attributes. If your LDAP directory contains multi-value attributes, iPrint Appliance recognizes only the first attribute. For example, if your LDAP directory contains multiple email addresses for a given user, only the first email address is synchronized to iPrint Appliance.
- ♦ LDAP import does not sync user passwords to iPrint Appliance. Authentication requests from the mobile app are redirected to the defined LDAP source. If a user password is changed on the LDAP source, you do not need to update the same password on iPrint Appliance.
- ♦ The LDAP source IP or DNS name must be always active for iPrint Appliance to authenticate users.

You can configure multiple LDAP connections. To create a new LDAP connection, click *Add a New LDAP Source* on the LDAP Import page.

For information on importing certificates into iPrint Appliance when using LDAP, see the knowledge base article: [How to enable SSL to Teaming LDAP Synchronization and Authentication](#).

Each connection requires the following configuration information:

- ♦ [“LDAP Server URL” on page 98](#)
- ♦ [“User DN \(Proxy User for Synchronizing Users and Groups\)” on page 98](#)

- ♦ “LDAP Attribute to Identify a User or Group” on page 98
- ♦ “LDAP Attribute for iPrint Appliance User Name” on page 99
- ♦ “User and Group Object Locations” on page 99
- ♦ “LDAP Synchronization” on page 100

LDAP Server URL

In order to synchronize initial user information, iPrint Appliance must access an LDAP server where your directory service is running. You must provide the hostname of the server, using a URL with the following format:

```
ldap://hostname
```

If the LDAP server requires a secure SSL connection, use the following format:

```
ldaps://hostname
```

If the LDAP server is configured with a default port number (389 for non-secure connections or 636 for secure SSL connections), the port number is not required in the URL. If the LDAP server uses a different port number, use the following format for the LDAP URL:

```
ldap://hostname:port_number
ldaps://hostname:port_number
```

If the LDAP server requires a secure SSL connection, additional setup is required. You must import the root certificate for your LDAP directory into the Java KeyStore (JVM Certificates) from *Management Tools > Appliance System Configuration > Digital Certificates* on the iPrint server, before you configure iPrint Appliance for LDAP synchronization.

User DN (Proxy User for Synchronizing Users and Groups)

To sync users into iPrint Appliance, you must provide the user name and password of a user who has sufficient rights to access the user information on the LDAP server.

In your LDAP directory tree, you must provide the fully qualified, comma-delimited user name, along with its context, in the format expected by your directory service.

Directory Service	Format for the User Name
eDirectory	<i>cn=username,ou=organizational_unit,o=organization</i>
Active Directory	<i>cn=username,cn=organizational_unit,dc=domain_component</i>

LDAP Attribute to Identify a User or Group

The LDAP attribute that uniquely identifies a user or group helps facilitate renaming and moving iPrint users and groups in the LDAP directory. If this attribute is not set and you rename or move a user in the LDAP source directory, iPrint Appliance assumes that the new name (or the new location of the same name) represents a new user rather than a modified user, and creates a new iPrint Appliance user.

For example, you have an iPrint user with a given name of William Jones. If William changes his name to Bill and you make that change in the LDAP directory, iPrint Appliance creates a new user named Bill Jones.

To ensure that iPrint Appliance modifies the existing user instead of creating a new user when the user is renamed or moved in the LDAP directory, you must specify the name of the LDAP attribute that uniquely identifies the user. For eDirectory, this value is `GUID`. For Active Directory, this value is `objectGUID`. This attribute always has a unique value that does not change when you rename or move a user in the LDAP directory. If you want to map users to a different attribute, you must ensure that the attribute that you use is a binary attribute. For example, the `cn` attribute cannot be used because it is not a binary attribute.

LDAP Attribute for iPrint Appliance User Name

The setting *LDAP Attribute Used for iPrint Appliance User Name* is used for two purposes:

- ◆ The value is used as the iPrint Appliance user name when the user is first provisioned from LDAP. The value of this attribute must be unique.
- ◆ During iPrint Appliance login, iPrint Appliance uses this attribute to locate the user in the LDAP directory, and then tries to authenticate as that user.

LDAP directories differ in the LDAP attribute used to identify a User object. Both eDirectory and Active Directory might use the `cn` (common name) attribute. A more sure alternative for Active Directory is to use the `sAMAccountName` attribute. Other LDAP directories might use the `uid` (unique ID) attribute, depending on the structure and configuration of the directory tree.

Consult with your directory administrator in order to determine the best attribute to use. In some cases where not all users are being imported successfully, you must set up two LDAP sources pointing to the same LDAP server and have each source use a different value for the *LDAP Attribute Used for iPrint Name*. For example, set up one LDAP source and use `cn` as the *LDAP Attribute Used for iPrint Name*, and then set up a separate source to the same LDAP server and use `sAMAccountName` as the *LDAP Attribute Used for iPrint Name*.

In addition to the attributes already mentioned in this section, other LDAP attributes can be used for the *LDAP Attribute Used for iPrint Name*, as long as the attribute is unique for each User object. For example, the `mail` LDAP attribute on User objects can be used to enable iPrint Appliance users to log in by using their email addresses.

User and Group Object Locations

iPrint Appliance can find and synchronize initial user information from User objects located in one or more containers in the LDAP directory tree. A container under which User objects are located is called a base DN (distinguished name). The format you use to specify a base DN depends on your directory service.

Directory Service	Format for the User Container
eDirectory	<code>ou=organizational_unit,o=organization</code>
Active Directory	<code>cn=organizational_unit,dc=domain_component</code>

To identify potential iPrint users, iPrint Appliance by default filters on the following LDAP directory object attributes:

- ◆ `Person`
- ◆ `orgPerson`
- ◆ `inetOrgPerson`

If you want to create iPrint groups based on information in your LDAP directory, iPrint Appliance filters on the following LDAP directory object attributes:

- ◆ group
- ◆ groupOfNames
- ◆ groupOfUniqueNames

You can add attributes to the user or group filter list if necessary. You can use the following operators in the filter:

- ◆ | OR (the default)
- ◆ & AND
- ◆ ! NOT

You can choose whether you want iPrint Appliance to search for users (and optionally, groups) in containers below the base DN (that is, in subtrees).

You can create a group that consists of all the users that you want to set up in iPrint Appliance, regardless of where they are located in your LDAP directory. After you create the group, you can use the following filter to search for User objects that have the specified group membership attribute:

```
(groupMembership=cn=group_name,ou=organizational_unit,o=organization)
```

IMPORTANT: Ensure that you include parentheses in your filter.

LDAP Synchronization

Synchronization options apply to all LDAP configurations.

Select *Enable schedule*, then set the schedule to synchronize users and groups. You can perform LDAP synchronization every day, or on specific days of the week. You can also perform a sync once a day at a specified time, or multiple times each day. The smallest time interval you can set is .25 hours (every 15 minutes).

To synchronize users and groups immediately, select *Run Immediately*.

NOTE: If you want to delete users that are synced from a particular LDAP source, you must delete the LDAP source connection then run an LDAP sync. When you delete an LDAP source, the users and groups from that context are deleted while the context itself is retained.

8.1.8 License

The License page displays information about your current iPrint license, including the date it was issued and the number of days from the issue date that the license is valid.

iPrint ships with a 60-day evaluation license. You must update this license to a full product license.

You can obtain a new valid license key from the [Novell Customer Center \(NCC\)](#).

- ◆ [“Accessing the License Page” on page 101](#)
- ◆ [“Updating the iPrint Appliance License” on page 101](#)

Accessing the License Page

You can access the License page of iPrint Appliance by using the Management Console.

- 1 On a Web browser, specify either the DNS name or the IP address of iPrint Appliance. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Log in using `vaadmin` or root credentials.
- 3 Click the *iPrint Appliance Configuration* icon.
- 4 Under *Administration*, click *License*.

The License page displays the license details of the iPrint Appliance.

Updating the iPrint Appliance License

To update your iPrint Appliance license:

- 1 On the License page, browse and select a valid license (.xml) file to upload.
- 2 Click *Upload*.

IMPORTANT: If you are running multiple copies of iPrint Appliance, you must update the license for each copy of iPrint Appliance individually.

After copying the license file, iPrint Appliance is updated. Restarting the services is not required.

8.2 Appliance System Configuration

You can change configuration settings, such as administrative passwords, network settings, and certificate settings. For more information, see [Chapter 7, "Managing iPrint Appliance," on page 81](#).

8.3 iPrint Printer Configuration (iManager)

iManager is a tool that allows you to manage your print environment. You can create printers, printer drivers, profiles, and users. You can also manage workstations. iManager enables you to perform the following operations on iPrint Appliance:

- ♦ [Section 8.3.1, "Understanding and Managing Certificates," on page 102](#)
- ♦ [Section 8.3.2, "Managing the Driver Store," on page 102](#)
- ♦ [Section 8.3.3, "Managing the Print Manager," on page 105](#)
- ♦ [Section 8.3.4, "Managing Printers," on page 119](#)
- ♦ [Section 8.3.5, "Using iPrint Client Management," on page 135](#)

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.

8.3.1 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 the certstore folder located at: `/var/opt/novell/iManager/nps/portal/modules/iPrintX/certstore`. Deleting this folder removes all accepted certificates.

8.3.2 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.

- ♦ [“Creating Additional Driver Stores” on page 102](#)
- ♦ [“Understanding the Driver Store Configuration File” on page 103](#)
- ♦ [“Changing the eDirectory Server Assignment” on page 103](#)
- ♦ [“Loading or Unloading the Driver Store” on page 104](#)
- ♦ [“Updating Printer Drivers” on page 104](#)
- ♦ [“Deleting Printer Drivers” on page 105](#)

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 [“Changing the eDirectory Server Assignment” on page 103](#).
- 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.

Understanding the Driver Store Configuration File

When you create a Driver Store, a configuration file is created in `/etc/opt/novell/iprint/conf`. 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`.

Changing the eDirectory Server Assignment

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

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

For example, editing the Directory Services Servers 1, 2, and 3 entries for the `idsd.conf` file looks like this:

```
cat /etc/opt/novell/iprint/conf/idsd.conf {
DSSEServer1 server1.blr.novell.com
DSSEServer2 server2.blr.novell.com
DSSEServer3 server3.blr.novell.com
IDSObjectDN CN=ds-102-59-2,O=novell
IDSObjectPasswd yhvuedbumpuvfuklnqqapvipxvemh
IDSHostAddress 100.100.100.100
}
```

Editing the Directory Services Servers 1, 2, and 3 entries for the `ipcmd.conf` file looks like this:

```
cat /etc/opt/novell/iprint/conf/ipcmd.conf
DSSEServer1 server1.blr.novell.com
```

```
DSServer2 server2.blr.novell.com
DSServer3 server3.blr.novell.com
PSMObjectDN CN=psm-dns-name,O=novell
PSMObjectPasswd pgtnlafnfekh
PSMHostAddress server1.blr.novell.com
```

Loading or Unloading the Driver Store

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

- ◆ [“Using the Command Line” on page 104](#)
- ◆ [“Using iManager” on page 104](#)

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 8-1 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 Browse to and select the Driver Store you want.
- 3 Click *Driver Store Control > Shutdown* to stop the Driver Store process.
- 4 Click *OK*.

Updating Printer Drivers

- 1 Add a new driver.
For more information on adding a new driver, see [Section 5.3, “Configuring Printer Drivers,” on page 43](#).
- 2 Associate the printer to the driver.

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.

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*.

8.3.3 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 are stored in the Print Manager database file (psmdb.dat). While the .dat file can be viewed only using iManager and the /psmstatus page, a text copy of the database file can be viewed using many tools (including text editor, web browser, and others). This text copy is periodically backed up in the same directory as the .dat file, but in XML format. The directory location is: /var/opt/novell/iprint/<print manager name.ou.ou.o>.psm/.

- ◆ [“Understanding the Print Manager Database” on page 105](#)
- ◆ [“Understanding the Print Manager Configuration File” on page 106](#)
- ◆ [“Changing the eDirectory Server Assignment” on page 106](#)
- ◆ [“Using the Print Manager Health Monitor” on page 107](#)
- ◆ [“Setting Up a Printer Pool” on page 109](#)
- ◆ [“Using Print Auditing” on page 110](#)
- ◆ [“Creating Additional Print Managers” on page 114](#)
- ◆ [“Loading or Unloading the Print Manager” on page 115](#)
- ◆ [“Moving Print Managers to Another Linux Server” on page 116](#)
- ◆ [“Auto Driver/Profile Update” on page 116](#)
- ◆ [“Enabling Printer Agent Redirection” on page 117](#)

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.

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.context.ipsmc.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/ipsmc-template.conf`.

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

To load a different Print Manager on the server, use the *iPrint > 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.

Changing the eDirectory Server Assignment

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

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

For example, editing the Directory Services Servers 1, 2, and 3 entries for the `idsd.conf` file looks like this:

```
cat /etc/opt/novell/iprint/conf/idsd.conf {
DSServer1 server1.blr.novell.com
DSServer2 server2.blr.novell.com
DSServer3 server3.blr.novell.com
IDSOBJECTDN CN=ds-102-59-2,O=novell
IDSOBJECTPASSWD yhvuedbumpuvfuklnqqapvipxvemh
IDSHOSTADDRESS 100.100.100.100
}
```

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

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

DSServer1 server1.blr.novell.com

DSServer2 server2.blr.novell.com

DSServer3 server3.blr.novell.com

PSMObjectDN CN=psm-dns-name,O=novell

PSMObjectPasswd pgtnlafnfekh

PSMHostAddress server1.blr.novell.com
```

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 107](#)
- ◆ [“Accessing the Print Manager Health Monitor” on page 107](#)
- ◆ [“Generating Reports” on page 108](#)
- ◆ [“Configuring Health Monitor Settings” on page 109](#)
- ◆ [“Posting Administrator Messages about a Printer” on page 109](#)

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 under used printers to departments that print a lot. For more information, see [“An Overview of the iPrint Manager Health Monitor”](#).

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.

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

You can view current Printer Agent states, start up and shut down Printer Agents, and 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](#)).

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 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](#).

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 8-1 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 111](#)
- ♦ [“Using the Health Monitor to Enable Auditing” on page 111](#)
- ♦ [“Viewing Auditing Information” on page 111](#)
- ♦ [“Managing Audit Logs” on page 113](#)

- ♦ “Configuring Automatic Log Rotation” on page 113
- ♦ “Downloading an Audit Report” on page 114

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.

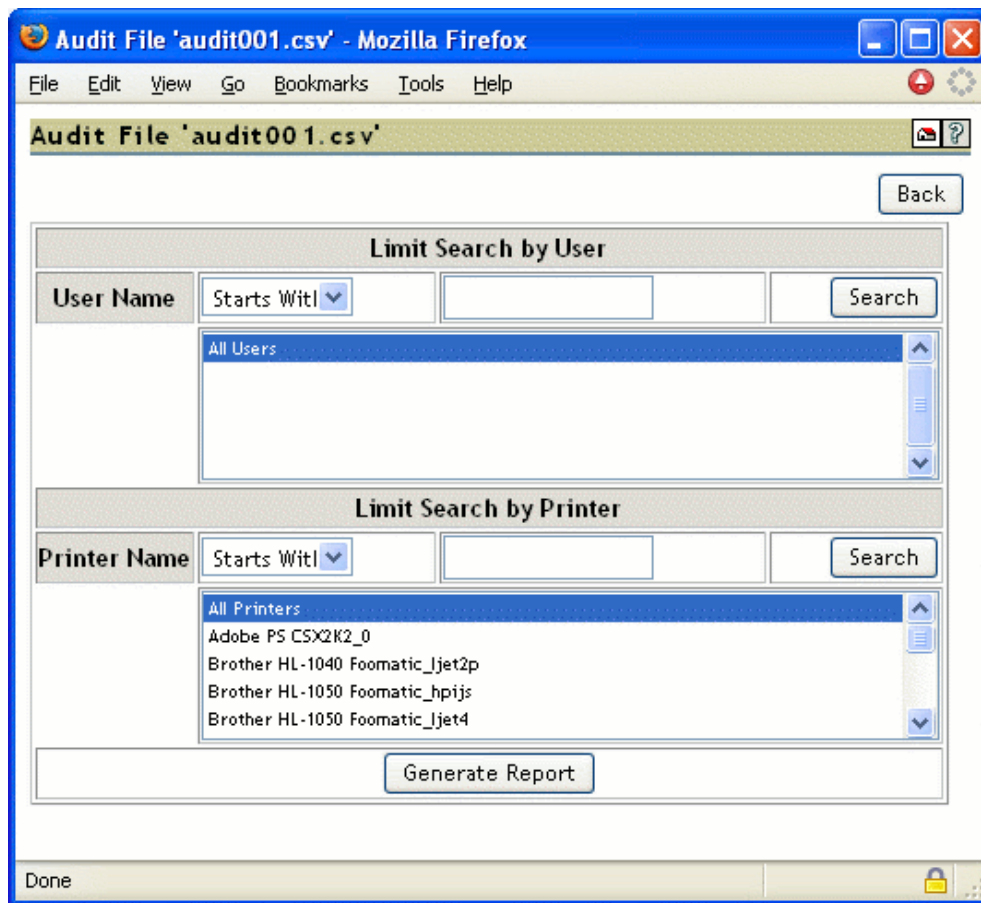
Using the Health Monitor to Enable Auditing

- 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 Select a printer, then click *Configuration Options*.
You can also access Configuration Options by going to https://server_IP_address/PsmStatus/configOpt/Printer_Name.
- 3 Select the *Enable Auditing* check box.

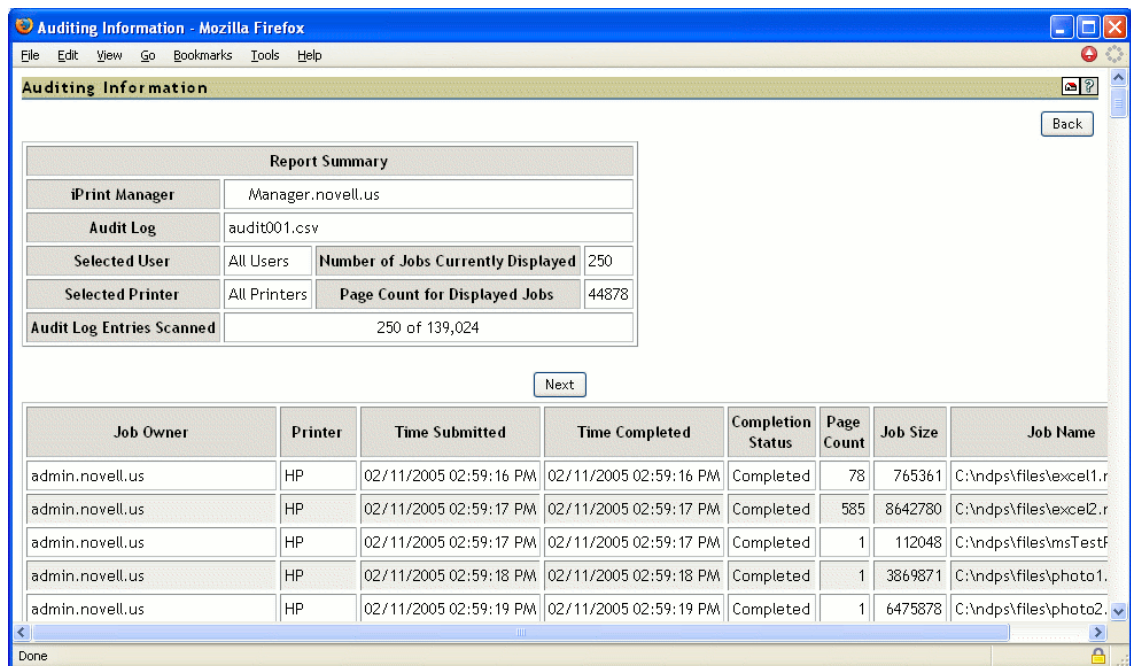
Viewing Auditing Information

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 113](#).

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.

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 [“Changing the eDirectory Server Assignment” on page 103](#).

- 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 .

Loading or Unloading the Print Manager

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

- ♦ [“Using the Command Line” on page 115](#)
- ♦ [“Using iManager” on page 116](#)

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 8-2 *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*.

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.

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.
- 2 Create or modify the profile.

For more information on how to create the profile, see [“Using Printer Driver Profiles” on page 126](#).

- 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*.

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 mobile-enabled printer, you must ensure the redirected printer is also mobile-enabled else the job fails to print. For example, Printer1 is redirected to Printer2. Later, if you mobile-enable Printer1, you must ensure to mobile-enable Printer2 before sending a print job.
- ◆ 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.

NOTE: By default, the `iprint.ini` file is located at: `/var/opt/novell/iprint/htdocs/iprint.ini`.

- 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.

8.3.4 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.

- ◆ [“Creating Secure Printers” on page 119](#)
- ◆ [“Creating Additional Printers” on page 125](#)
- ◆ [“Deleting Printers” on page 125](#)
- ◆ [“Managing Printer Agents” on page 126](#)
- ◆ [“Using Printer Driver Profiles” on page 126](#)
- ◆ [“Enabling iPrint Direct” on page 129](#)
- ◆ [“Managing Print Jobs” on page 129](#)
- ◆ [“Using Printer Banner Pages” on page 130](#)
- ◆ [“Modifying the Printer’s Gateway Load Commands” on page 132](#)
- ◆ [“Configuring LPR Printers” on page 134](#)
- ◆ [“Configuring Job Holds” on page 135](#)

Creating Secure Printers

You can set up a secure printing environment by using the following methods:

- ◆ [“Setting Access Control for Your Print System” on page 119](#)
- ◆ [“Using SSL/TLS for Secure Printing” on page 123](#)
- ◆ [“Password Caching” on page 125](#)

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:

- ◆ [“Setting Access Control for Printers” on page 120](#)
- ◆ [“Setting Access Control for the Print Manager” on page 121](#)
- ◆ [“Setting Access Control for the Driver Store” on page 122](#)

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 120](#)
- ◆ [“Assigning Printer Access Control Roles through Printer Objects” on page 121](#)

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 8-3 *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 edirectory 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>

Role	Description
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*.

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 121](#)
- ◆ [“Assigning the Manager Role for Print Managers” on page 122](#)

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 8-4 *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*.

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 122](#)
- ♦ [“Assigning Managers for the Driver Store” on page 122](#)

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 8-5 *Driver Store Access Control Roles*

Role	Description
Manager	<p>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:</p> <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	<p>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.</p>

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*.

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.

- ♦ [“Enabling SSL/TLS” on page 123](#)
- ♦ [“Saving Passwords for Secure Printers” on page 123](#)
- ♦ [“Configuring TLS Printing with Proxies” on page 123](#)

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.

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.

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 all
acl manager proto cache_object
acl localhost src 127.0.0.1/32
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

acl ipp_access port 631
http_access allow all
miss_access allow all
http_access allow CONNECT ipp_access
http_reply_access allow all
icp_access allow all
miss_access allow all
ignore_expect_100 on

```

- 4 Set the proxy port on the client to 3128.
- 5 Restart Squid.

Password Caching

When users change their passwords, secure printers might continue printing with the old password for up to 10 minutes. This is caused by caching inside the iPrint LDAP authentication module, and affects only the users created inside the local eDirectory tree on iPrint Appliance.

To resolve this issue, see [Section 11.5.10, “Secure Printer Continues Printing after Changing the User Password \(Local Appliance eDirectory Users Only\),”](#) on page 206.

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 104](#) 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.

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*.

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.

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).

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

- ◆ [“Creating a Printer Driver Profile” on page 127](#)
- ◆ [“Modifying a Printer Driver Profile” on page 127](#)
- ◆ [“Copying a Printer Driver Profile” on page 128](#)
- ◆ [“Deleting a Printer Driver Profile” on page 128](#)
- ◆ [“Associating a Printer Driver Profile with a Printer” on page 128](#)

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 128](#).

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 > Drivers Platform*.
- 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.

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.

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 129](#)
- ♦ [“Deleting Print Jobs” on page 129](#)
- ♦ [“Changing the Order of Print Jobs” on page 130](#)

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.

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 131](#).

- ♦ [“Configuring a Custom Banner” on page 130](#)
- ♦ [“Associating a Custom Banner to a Printer” on page 131](#)
- ♦ [“Using eDirectory Attributes with Custom Banners” on page 131](#)

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 131](#).

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 Trustees*.
- 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*.

NOTE: If your client, printer, and server are not all configured for the same language, you might experience problems with the output of your banner pages, such as the job name being corrupted. If you are working in this type of mixed environment, you should consider not using banner pages.

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=	<p>Any of these specifies the hostname / IP address for the physical printer to be supported by this gateway instance.</p> <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>
HOSTNAME=	
HOST=	
IPADDRESS=	
PRINTERNAME=	<p>The printer / queue name for LPR protocol print sessions to the physical printer. The default value is PASSTHROUGH.</p>
PRINTER=	
USERNAME_CN	<p>Passes only the user name for LPR communication.</p> <p>For example, if the user name is <i>admin</i> and container is <i>novell</i>, then on passing this parameter, the user name passed is "<i>admin</i>". If this parameter is not passed, the user name is passed in FQDN format (<i>admin.novell</i>).</p>
USERNAME_TRUNCATED	Truncates the length of the user name to 31 characters as per standard LPR protocol.
GETCOMMUNITYSTRING=	<p>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".</p>
GET=	

Gateway Load Parameters	Description
SQUERYACTIVE=	Specifies the interval between SNMP requests to the physical printer while the printer is idle. The default value is 300 seconds (5 minutes).
SPOLL=	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.
JPOLL=	Sets the job polling interval (in seconds). NOTE: When the JPOLL option is not set, the job polling interval is 2 seconds.
NOSNMP	Disables SNMP requests for this gateway instance to its respective physical printer.
WAITONPRINTER=	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 NOSNMP or the NULL parameter, the minimum default is 15 minutes. If SNMP is active, the minimum default is 5 minutes.
THROTTLE=	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.
KYOCERA=	Sets the Printer Manufacturer (Make) attribute for this Printer Agent to "Kyocera".
RICOH=	Sets the Printer Manufacturer (Make) attribute for this Printer Agent to "Ricoh".
TROY=	This has no effect.

- 5 Click *OK* to save the changes.

Configuring LPR Printers

To complete the LPR 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.

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.

To set up an iPrint printer to accept LPR print jobs, you need to enable LPR/LPD printing for the 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](#).

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.

8.3.5 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/7/8/8.1/2012/2012 R2 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.

NOTE: iPrint Client Management does not support dynamic groups.

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 “[Configuring iCM for Windows / Active Directory \(AD\) environments without Novell Client](#)” on page 137.

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:

- ♦ “[Understanding the Schema Update](#)” on page 136
- ♦ “[Deploying iPrint Client Management](#)” on page 137
- ♦ “[Configuring iCM for Windows / Active Directory \(AD\) environments without Novell Client](#)” on page 137
- ♦ “[Managing iPrint Client Settings](#)” on page 137
- ♦ “[Automatically Installing Printers](#)” on page 138
- ♦ “[Using Advanced Settings](#)” on page 139
- ♦ “[iCM in OES Environment](#)” on page 140
- ♦ “[iCM with iPrint Appliance](#)” on page 141

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.

Deploying iPrint Client Management

- 1 Distribute the iPrint Client version 4.26 or later.

For more information, see . If the iPrint Client is has already been distributed, see [“Updating the iPrint Client” on page 167](#).

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 [“Managing iPrint Client Settings” on page 137](#) or [“Automatically Installing Printers” on page 138](#) for more information.

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 prerequisites 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

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.

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 to the *Default Printer* field.

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

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	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. 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.
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.

iCM in OES Environment

Traditionally iCM was used in the following methods:

- ♦ ["iCM with Novell Client" on page 140](#)
- ♦ ["iCM without Novell Client" on page 140](#)

iCM with Novell Client

In OES iPrint, when a user logs in to the corporate eDirectory using the Novell Client, the iCM settings are pushed to the user's machine.

iCM without Novell Client

In iPrint Appliance, users cannot login directly using the Novell Client. This is because iPrint Appliance syncs only user names from the corporate eDirectory, but not the passwords. For iCM to work with iPrint Appliance, you can use one of the following methods:

- ♦ Novell Client users continue to login to the existing corporate eDirectory instead of iPrint Appliance. This way, the existing OES server is used for desktop printing, and the iCM settings are available only in the source eDirectory.

Limitation: In this method, the iCM settings are fetched only from the source eDirectory. Any iCM setting changes made on iPrint Appliance are not applied.

- ◆ Use iCM without Novell Client. In this method, the local Windows/AD credentials must match the eDirectory credentials. This method is suitable for an AD environment where users are synced from AD to the local eDirectory so that the credentials are automatically matched. For more information, see [“iCM with iPrint Appliance” on page 141](#).

Limitation: In this method, the iCM setting are fetched only from iPrint Appliance. iCM setting changes made on the existing corporate eDirectory must be manually added on iPrint Appliance.

iCM with iPrint Appliance

iPrint Appliance does not support traditional iCM with the Novell Client. iPrint Appliance supports iCM using Windows Local/AD credentials.

Depending on your environment, you can deploy iCM in the following ways:

Apply iCM Settings from the Original Tree

In this configuration, iCM settings are applied from the original tree if iCM is not migrated from OES, and OES iPrint is still used for desktop printing and iCM. You can use this configuration with or without the Novell Client.

The limitation of using this configuration is that the iCM settings are fetched only from the source eDirectory. Any iCM changes made locally on iPrint Appliance are not applied.

Apply iCM Settings from iPrint Appliance eDirectory

In this configuration, iPrint Appliance is used for desktop printing, and iCM settings are created on the appliance only.

With Novell Client: With iPrint Appliance, users cannot login directly using the Novell Client because iPrint Appliance syncs only user names from the corporate eDirectory, but not the passwords. Therefore, iCM cannot be used with Novell Client. iCM can be used against the source eDirectory server.

Without Novell Client: To fetch iCM settings from iPrint Appliance, you can use iCM without the Novell Client. In order for iPrint clients to use the Windows Local/AD credentials for iCM, the following conditions must be met:

- ◆ You must set the iPrint Appliance address set as the primary PSM address on the client by using the command `iprintcmd -S <iPrintAppliance IP Address>`.
- ◆ The client's Active Directory user name must match their iPrint Appliance credentials. If you import users from Active Directory to iPrint Appliance, the credentials are automatically matched.
- ◆ In order for iCM to work with imported users and groups, you must enable browse/read rights and inheritance for iCM for the following attributes, using iManager:
 - ◆ iPrintPrinterIPPURI
 - ◆ iPrintiCMClientFlags
 - ◆ iPrintiCMClientProxyURI
 - ◆ iPrintiCMClientTrayURI
 - ◆ iPrintiCMPrinterFlags
 - ◆ iPrintiCMPrinterList

- ♦ iPrintiCMTrustedSiteList
- ♦ Group Membership

IMPORTANT: For the user accounts imported from OES, iCM settings are not migrated. You must reassign the iCM settings on iPrint Appliance for the OES user accounts.

To configure the iCM attributes:

- 1 On a Web browser, use either the DNS name or the IP Address to access iManager. For example, <https://10.0.0.1/nps> or <https://iprint.example.com/nps>.
- 2 Specify `admin` as the user name.
- 3 Specify the password, then click *Login*.
- 4 In the left pane, under *Roles and Tasks*, click *Rights*.
- 5 Click *Modify Trustees*.
- 6 Under *Object name*, click the search icon, then choose the entire tree.
- 7 Click *OK*.
- 8 Click the *Assigned Rights* link next to the *Public* domain.
- 9 Click the *Add Property* button in the upper right of the table.
- 10 In the *Add Property* pop-up window, select *Show all properties in schema*.
- 11 In the *Property name* box, select the attributes listed above, then click *OK*.
- 12 Select the *Inherit* check box next to the attributes you added.
- 13 Click *Done*.

For more information on using Windows Local/AD credentials for iCM, see the [“Configuring iCM for Windows / Active Directory \(AD\) environments without Novell Client”](#) on page 137.

8.4 iPrint Printer Status

The iPrint Printer Status tool provides a global view of your print system. The tool displays the current status of Printer Agents, and lets you configure settings and generate reports about your print system.

For more information about the iPrint Printer Status tool, see the [Novell iPrint Appliance 1.1: Novell iPrint Appliance Health Monitor Administration Guide](#).

8.5 iPrint Printer Import / Migration

The iPrint Printer Import link provides information on how to migrate printers from an existing OES iPrint system or iPrint Appliance.

For more information about importing printers, see the [Section 5.4.1, “Migrating Printers from an OES iPrint System,”](#) on page 50.

8.6 iPrint Map Creation

You can use the iPrint Map Designer to create a map displaying the location of printers. Users can identify and install the printers that are nearest to their location.

- ♦ [Section 8.6.1, “Setting Up Location-Based Printing,” on page 143](#)
- ♦ [Section 8.6.2, “Customizing the iPrint HTML Interface,” on page 145](#)

8.6.1 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/ippdocs/filename.htm`. 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.

- ♦ [“Creating Location-Based Maps with iPrint Map Designer” on page 143](#)
- ♦ [“Creating Customized Printer Lists” on page 145](#)

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.

The iPrint map pages now display browser-specific user instructions during printer installation. If you have upgraded to iPrint Client 6.0.0 for Windows, it is recommended that you recreate your map pages.

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/7/8/8.1 operating systems
- Microsoft Internet Explorer 5.5 or later
- Novell iPrint Client installed on the workstation
- ♦ [“Creating a Map for Printing” on page 143](#)
- ♦ [“Adding Printers from Different Print Managers” on page 144](#)
- ♦ [“Copy Maps to iPrint Appliance” on page 145](#)

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.
- 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.

Copy Maps to iPrint Appliance

On successful creation of maps, you must copy the maps to the location `/var/opt/novell/iprint/htdocs` on the iPrint Appliance.

Users can access the maps by specifying the URL `http://server_DNS_or_IP_address/ipdocs/filename.htm` in their browsers.

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.

8.6.2 Customizing the iPrint HTML Interface

You can edit any of the HTML files provided in `var/opt/novell/iprint/htdocs/examples/example1/` or you can create your own files to customize iPrint for your environment.

- ♦ 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.

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

- ♦ 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`

8.7 Ganglia

Ganglia is a scalable, distributed monitoring system that allows you to gather important metric data about the performance of your iPrint Appliance. The default metrics that you can monitor are processor, disk, load, memory, network, and process.

Ganglia is not enabled by default. To monitor iPrint Appliance using Ganglia, you must enable Ganglia Configuration in the Appliance System Configuration page of the iPrint Appliance Management Console. For information in how to enable Ganglia Configuration, see [Section 7.5, "Ganglia Configuration,"](#) on page 86.

To view Ganglia monitoring of your iPrint Appliance system:

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.

- 2 Click the *Ganglia* icon.

An overview of all the nodes in the cluster, including information such as processor utilization, memory, load, and so forth is displayed.

- 3 In the *Grid-Node* drop-down list, select a node that you want to monitor.

or

Scroll to the bottom of the page and click a node to get server information for your iPrint Appliance.

For information about how to configure Ganglia for your environment, including changing from multicast mode to unicast mode, see [Section 7.5, “Ganglia Configuration,” on page 86](#).

8.8 What's Next

iPrint Appliance is now configured for printing through desktop and laptops. You can start printing to iPrint printers.

9 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 9.1, "Installing the iPrint Client," on page 147](#)
- ◆ [Section 9.2, "Installing Printers," on page 156](#)
- ◆ [Section 9.3, "Updating the iPrint Client," on page 167](#)
- ◆ [Section 9.4, "Managing Print Jobs from the Client," on page 167](#)
- ◆ [Section 9.5, "Windows Client: Using Additional Features," on page 168](#)
- ◆ [Section 9.6, "Using iprntcmd on Linux and Macintosh," on page 176](#)
- ◆ [Section 9.7, "Windows Client: Additional Features," on page 177](#)
- ◆ [Section 9.8, "Macintosh Client: Additional Features," on page 181](#)
- ◆ [Section 9.9, "Uninstalling the Novell iPrint Client," on page 185](#)
- ◆ [Section 9.10, "Printing from LPR Print Systems to iPrint," on page 186](#)

9.1 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 9.1.1, "Linux: iPrint Client," on page 147](#)
- ◆ [Section 9.1.2, "Macintosh: iPrint Client," on page 151](#)
- ◆ [Section 9.1.3, "Windows: iPrint Client," on page 152](#)

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

9.1.1 Linux: iPrint Client

- ◆ ["Linux: iPrint Client Requirements" on page 147](#)
- ◆ ["Linux: Controlling Access to the Workstation Print System" on page 148](#)
- ◆ ["Linux: Distributing the iPrint Client" on page 149](#)

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 9-1 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.

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 requeued 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 149](#)
- ♦ [“Delivering the Client through Distribution Software” on page 150](#)

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.

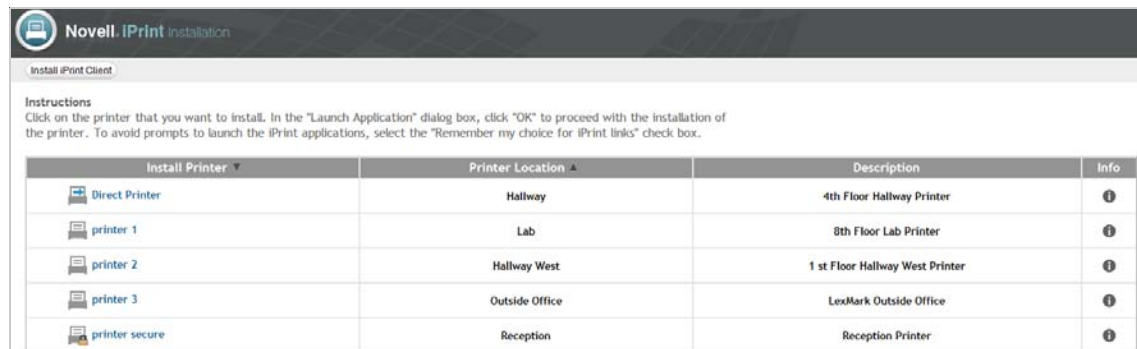
To use your Web browser to install the iPrint client RPM package to your desktop or directory:

`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.

NOTE: If you try to add a printer on a Mac client, the printer might get installed even if there are no Mac drivers associated with the printer. This is because the Mac client looks for an alternate associated Linux driver.

- 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 150](#).

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.

9.1.2 Macintosh: iPrint Client

- ♦ “Macintosh: iPrint Client Requirements” on page 151
- ♦ “Macintosh: Distributing the iPrint Client” on page 151

Macintosh: iPrint Client Requirements

Mac OS X Versions	Supported iPrint Client Versions for Mac
10.8 or later	6.0 or later
10.7	5.8
10.6 or earlier	5.0.6

For supported browser, see [Section C.11.1, “iPrint Client Supported Browsers,”](#) on page 219.

Macintosh: Distributing the iPrint Client

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

- ♦ “Installing the iPrint Client from iPrint Printer List Web Page” on page 151
- ♦ “Delivering the Client through Distribution Software” on page 152

Installing the iPrint Client from iPrint Printer List Web Page

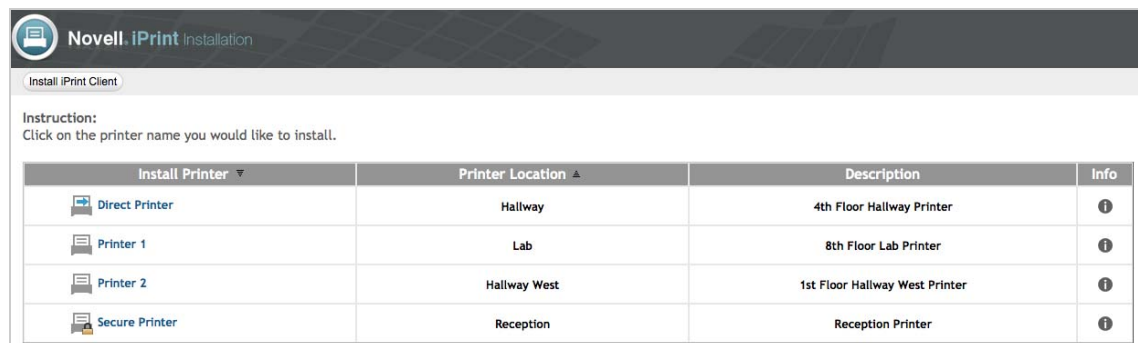
You can download and install the iPrint Client from the iPrint Printer List Web page that resides on the server where the Print Manager is loaded.

- 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 \(http://www.linuxprinting.org/macosx/hpijs\)](http://www.linuxprinting.org/macosx/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.

9.1.3 Windows: iPrint Client

- ◆ “System Requirements” on page 152
- ◆ “Windows: Printer Driver Profile Requirements” on page 152
- ◆ “Windows: iPrint Client Support Matrix” on page 153
- ◆ “Windows: iPrint Client Installation and Uninstallation Files” on page 153
- ◆ “Deprecated iPrint Client Files” on page 154
- ◆ “iPrint Client Files Location” on page 155
- ◆ “Windows: Distributing the iPrint Client” on page 155

System Requirements

- ◆ Windows 10 32-bit and 64-bit
- ◆ Windows 8.x 32-bit and 64-bit
- ◆ Windows 7 32-bit and 64-bit
- ◆ Windows Vista 32-bit and 64-bit
- ◆ Windows Server 2012 R2
- ◆ Windows Server 2008 R2
- ◆ Web browser with JavaScript enabled, such as Microsoft Internet Explorer 7 or later.
- ◆ Ensure that you apply the following hotfixes from Microsoft if your Vista has not been upgraded to SP1 or later:
 - ◆ [941542 \(http://support.microsoft.com/en-us/kb/941542/en-us\)](http://support.microsoft.com/en-us/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 Server 2003
- ◆ Windows Vista (32/64-bit)
- ◆ Windows Server 2008 (32/64-bit)

- ♦ Windows 7 (32/64-bit)
- ♦ Windows 8.x (32/64-bit)
- ♦ Windows 10 (32/64-bit)

Windows: iPrint Client Support Matrix

Table 9-2 Windows iPrint Client Support Matrix

Client Version	Windows 2000	Windows XP (32-bit)/ 2003	Windows Vista/2008	Windows 7	Windows 8	Windows 8.1	Windows 10
4.38 or later	Yes	Yes	No	No	No	No	No
5.04	No	No	Yes	No	No	No	No
5.12	No	Yes	Yes	No	No	No	No
5.20	No	Yes	Yes	Yes	No	No	No
5.30	No	Yes	Yes	Yes	No	No	No
5.40	No	Yes	Yes	Yes	No	No	No
5.52	No	Yes	Yes	Yes	No	No	No
5.60	No	Yes	Yes	Yes	No	No	No
5.64	No	Yes	Yes	Yes	No	No	No
5.74	No	Yes	Yes	Yes	No	No	No
5.78	No	Yes	Yes	Yes	No	No	No
5.82	No	Yes	Yes	Yes	No	No	No
5.86	No	Yes	Yes	Yes	Yes	No	No
5.90	No	Yes	Yes	Yes	Yes	No	No
5.92	No	Yes	Yes	Yes	Yes	No	No
5.94	No	Yes	Yes	Yes	Yes	Yes	No
5.96	No	Yes	Yes	Yes	Yes	Yes	No
5.98	No	Yes	Yes	Yes	Yes	Yes	No
5.99	No	Yes	Yes	Yes	Yes	Yes	No
6.0.0	No	No	Yes	Yes	Yes	Yes	No
6.1.0	No	No	Yes	Yes	Yes	Yes	No
6.2.0	No	No	Yes	Yes	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 9-3 *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 9-4 on page 154 .
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-su.exe	Uninstalls the iPrint Client. A screen displays the progress of the uninstall, but requires no user intervention.

Table 9-4 *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.

Deprecated iPrint Client Files

Starting from iPrint Client 6.0.0 for Windows, the following iPrint Client files have been deprecated:

Table 9-5 *Deprecated iPrint Client Files for Windows*

iPrint Client Filename	Description
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-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.

NOTE: Even though these files are deprecated from iPrint Client 6.0.0 for Windows and later, you can perform all the functionalities associated with them using the iPrint Client File `nipp.zip`.

iPrint Client Files Location

Starting with iPrint Client 6.0.0 for Windows, `C:\Program Files\Novell\iPrint` is the default location where the iPrint Client files are installed.

Third-party applications that require leveraging iPrint binaries can use the following registry key to get the install location:

Registry Key: `HKEY_LOCAL_MACHINE\SOFTWARE\Novell-iPrint\ [szInstallDir]`

Windows: Distributing the iPrint Client

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

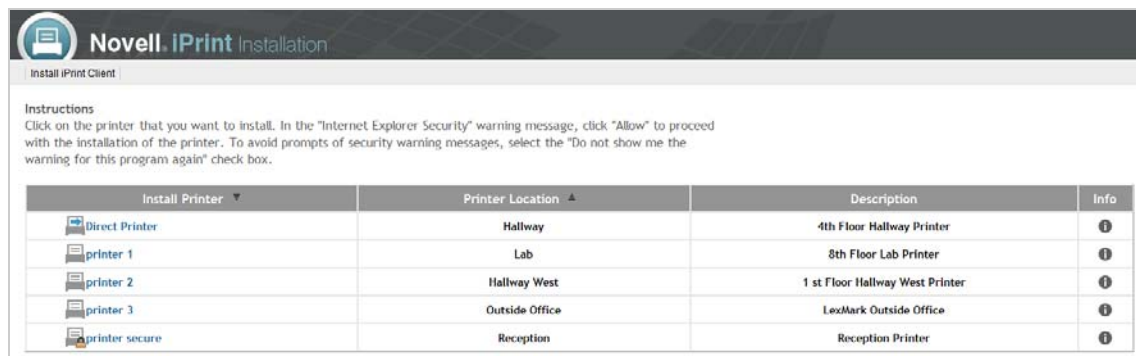
- ◆ [“Installing the Client from the iPrint Printer List Web Page” on page 155](#)
- ◆ [“Delivering the Client through Distribution Software” on page 156](#)

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 153](#) 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.

9.2 Installing Printers

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

- ♦ [Section 9.2.1, "Using the iPrint Printer List Web Page on Windows," on page 156](#)
- ♦ [Section 9.2.2, "Using the iPrint Printer List Web Page on Macintosh," on page 160](#)
- ♦ [Section 9.2.3, "Creating Location-Based Printing Web Pages," on page 166](#)
- ♦ [Section 9.2.4, "Uninstalling iPrint Printers," on page 167](#)

NOTE: To manage iPrint in iManager and to install printers with iPrint Clients, turn off pop-up blocking or allow the URL.

9.2.1 Using the iPrint Printer List Web Page on Windows

You can install the iPrint printers using the following browsers:

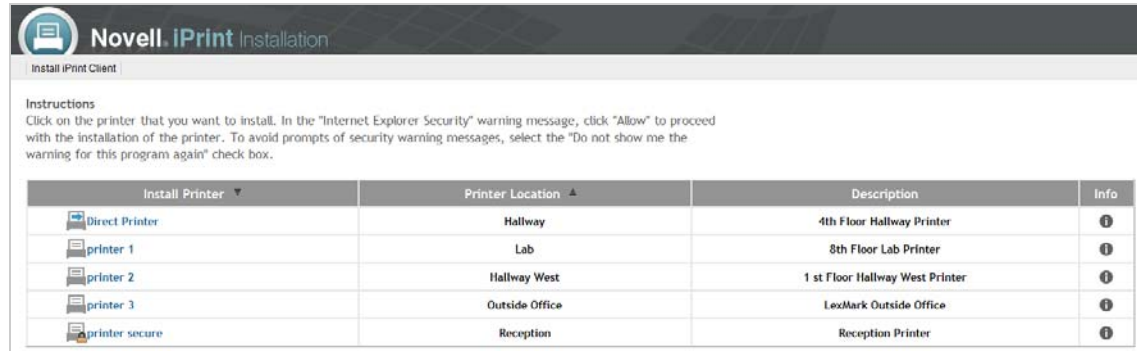
- ♦ ["On Microsoft Internet Explorer" on page 157](#)
- ♦ ["On Mozilla Firefox" on page 158](#)
- ♦ ["On Google Chrome" on page 159](#)

On Microsoft Internet Explorer

- 1 Launch the browser, and use either the DNS name or the IP address to access the iPrint Printer List web page.

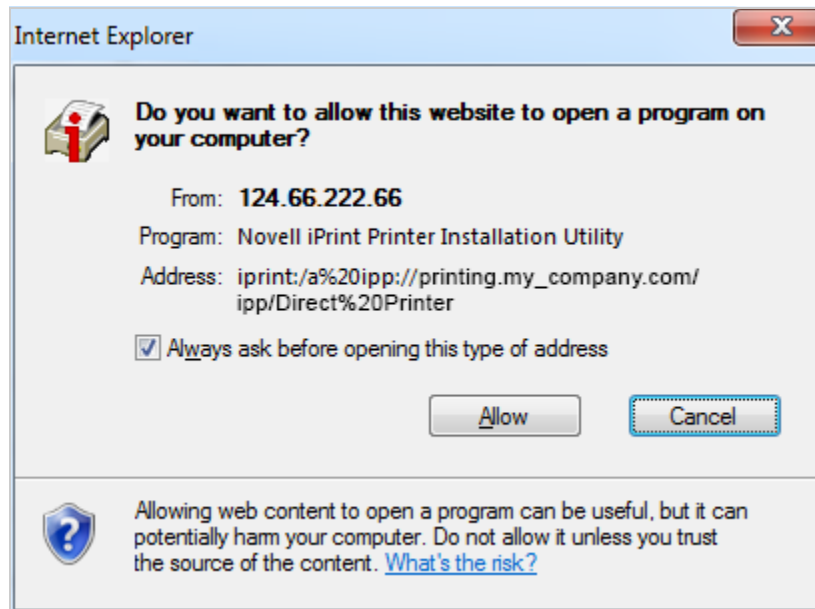
For example, `http://server_IP_address_or_dns_name/ipp`.

All the available printers are listed on the iPrint Printer List web page.

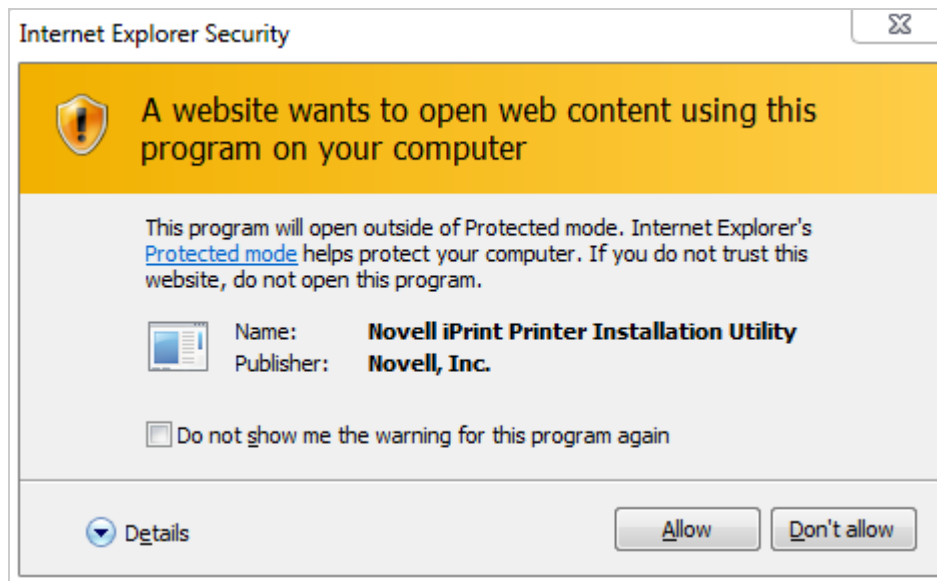


- 2 Click on the printer that you want to install.

(Optional) Depending on the version of the Internet Explorer you are using, you may be prompted with a security warning message, click *Allow*.



The Internet Explorer Security warning message dialog box is displayed.



- 3 Click *Allow* to proceed with the installation of the printer.
- 4 (Optional) To avoid future prompts to launch the iPrint applications, select the *Do not show me the warning for this program again* check box.

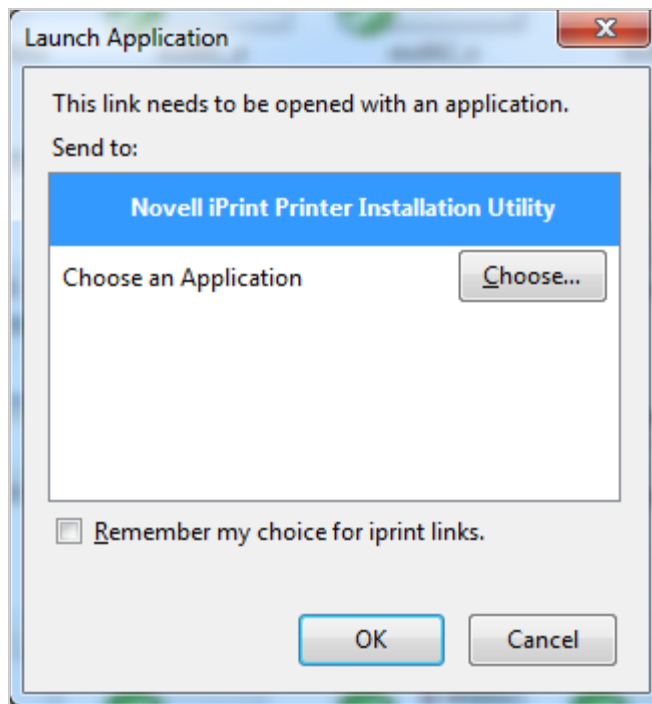
On Mozilla Firefox

- 1 Launch the browser, and use either the DNS name or the IP address to access the iPrint Printer List page.
For example, `http://server_IP_address_or_dns_name/ipp`.
All the available printers are listed on the iPrint Printer List web page.

The image shows a screenshot of the Novell iPrint installation web page. The title is "Novell iPrint Installation". Below the title, it says "Install iPrint Client". There are instructions: "Click on the printer that you want to install. In the 'Launch Application' dialog box, click 'OK' to proceed with the installation of the printer. To avoid prompts to launch the iPrint applications, select the 'Remember my choice for iPrint links' check box." Below the instructions is a table with the following data:

Install Printer ▼	Printer Location ▲	Description	Info
Direct Printer	Hallway	4th Floor Hallway Printer	
printer 1	Lab	8th Floor Lab Printer	
printer 2	Hallway West	1 st Floor Hallway West Printer	
printer 3	Outside Office	LexMark Outside Office	
printer secure	Reception	Reception Printer	

- 2 Click on the printer that you want to install.
The Launch Application dialog box is displayed.



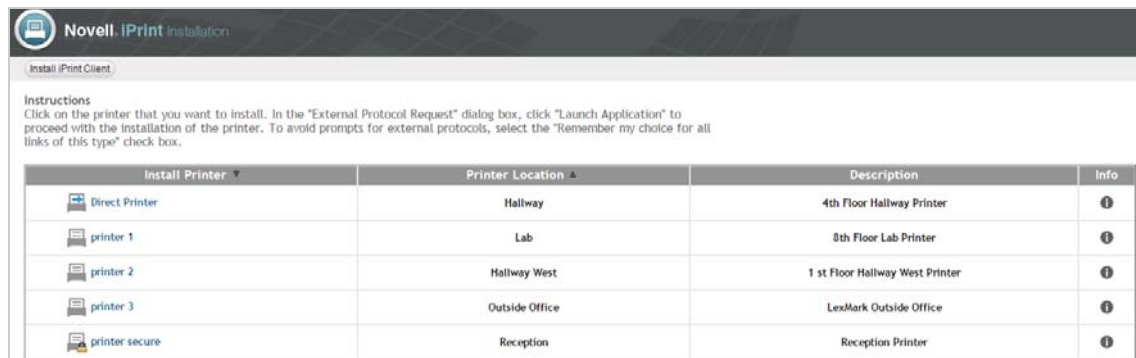
- 3 Select *Novell iPrint Printer Installation Utility* in the *Launch Application* dialog box, then click *OK* to proceed with the installation of the printer.
- 4 (Optional) To avoid future prompts to launch the iPrint applications, select *Remember my choice for iPrint links* check box.

On Google Chrome

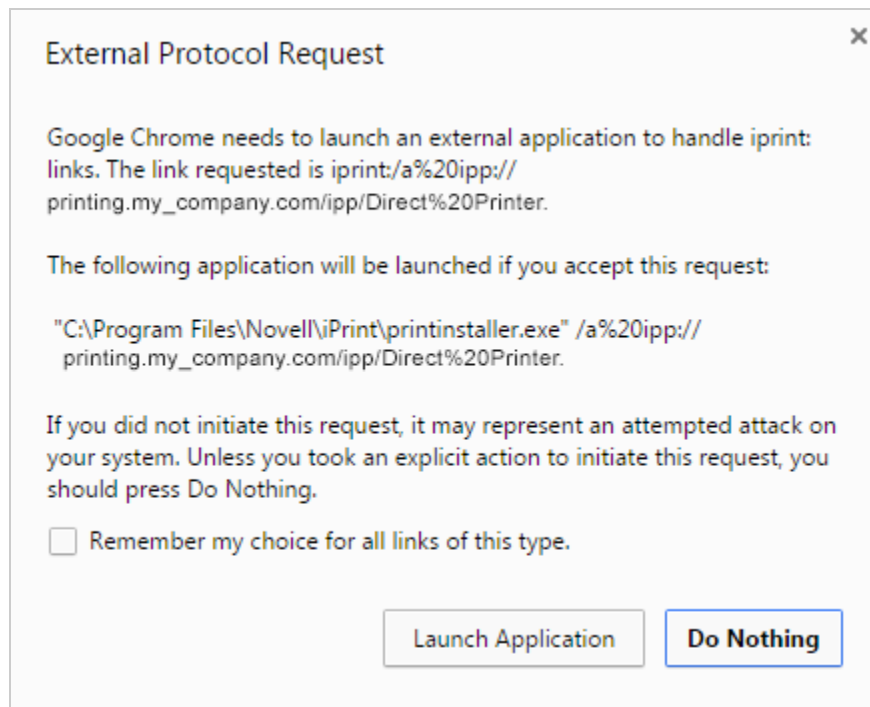
- 1 Launch the browser, and use either the DNS name or the IP address to access the iPrint Printer List page.

For example, http://server_IP_address_or_dns_name/ipp.

All the available printers are listed on the iPrint Printer List web page.



- 2 Click on the printer that you want to install.
The External Protocol Request dialog box is displayed.



- 3 Click *Launch Application* on the *External Protocol Request* dialog box to proceed with the installation of the printer.
- 4 (Optional) To avoid future prompts to launch external protocol links, select the *Remember my choice for all links of this type* check box.

If the iPrint Client is not installed, install it when you are prompted.

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.

9.2.2 Using the iPrint Printer List Web Page on Macintosh

You can install the iPrint printers using the following browsers:

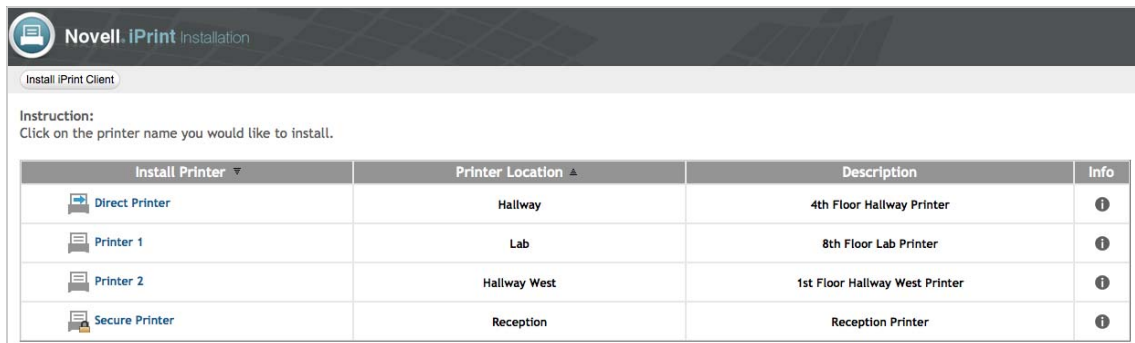
- ♦ "On Safari" on page 160
- ♦ "On Mozilla Firefox" on page 162
- ♦ "On Google Chrome" on page 164

On Safari

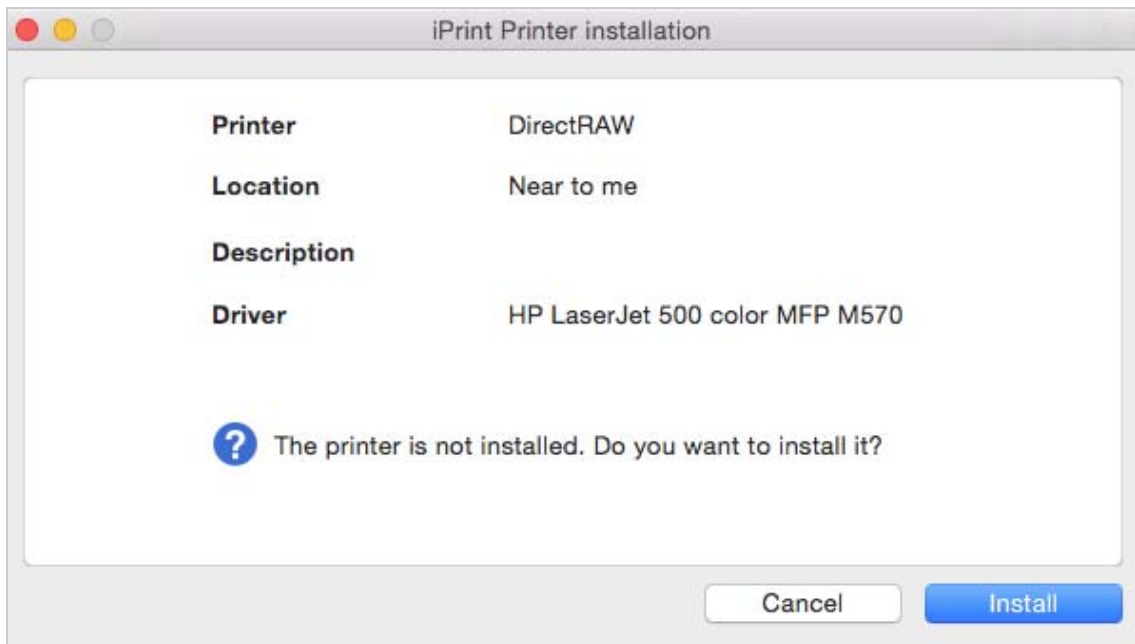
- 1 Launch the browser, and use either the DNS name or the IP address to access the iPrint Printer List page.

For example, `http://server_IP_address_or_dns_name/ipp`.

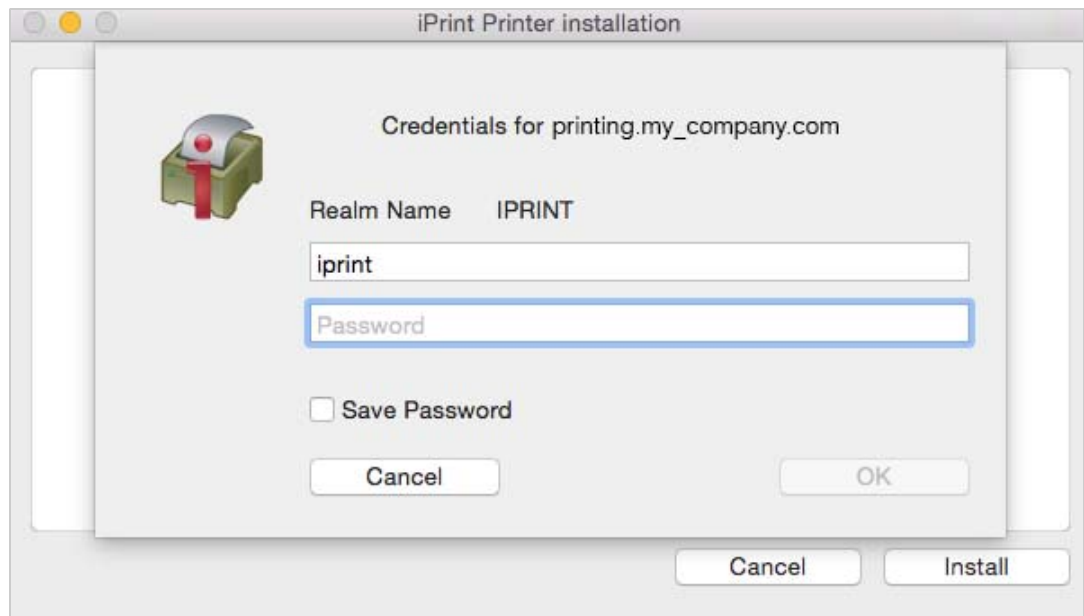
All the available printers are listed on the iPrint Printer List web page.



- 2 Click on the printer that you want to install.
The iPrint Printer Installation dialog box is displayed.



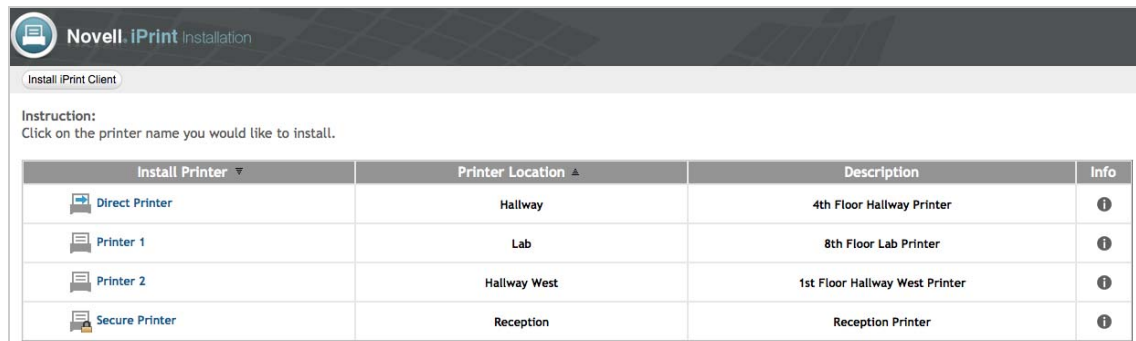
- 3 Click *Install* to proceed with the installation of the printer.
 - 3a If you are installing a secure printer, the iPrint Printer Installation dialog box prompts for user credentials.



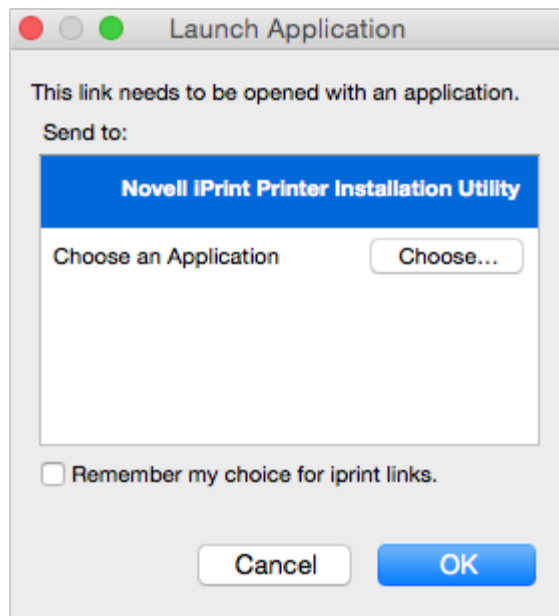
- 3b Specify user credentials.
- 3c (Optional) To avoid future prompts, select *Save Password* check box.
- 3d Click *OK* after you have specified your credentials.
- 4 Click *OK* when the printer installation is complete.

On Mozilla Firefox

- 1 Launch the browser, and use either the DNS name or the IP address to access the iPrint Printer List page.
For example, `http://server_IP_address_or_dns_name/ipp`.
All the available printers are listed on the iPrint Printer List web page.

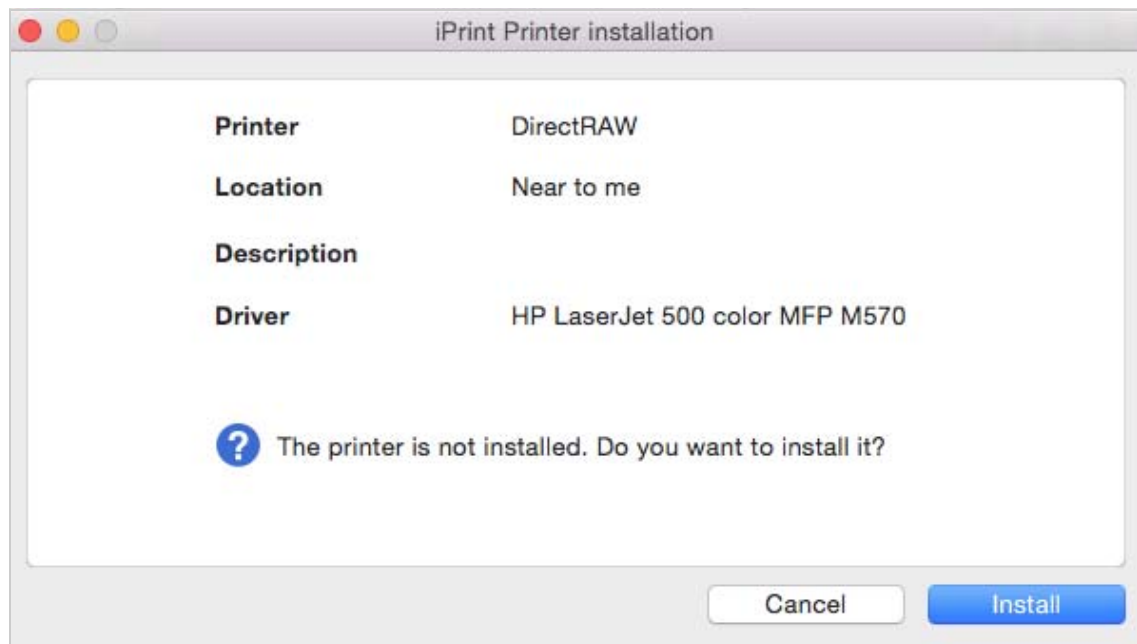


- 2 Click on the printer that you want to install.
The Launch Application dialog box is displayed.

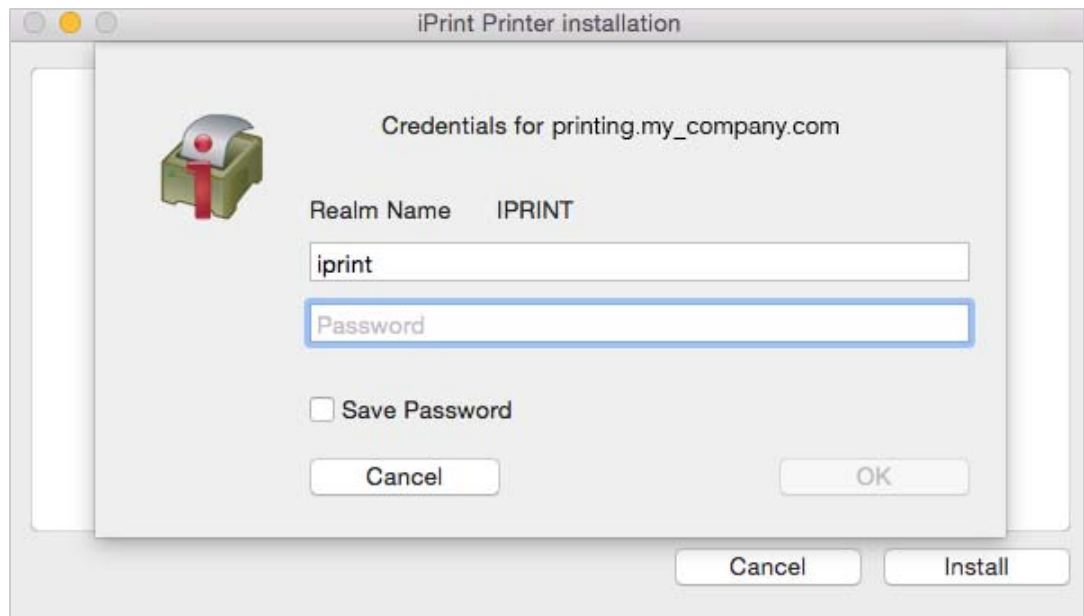


- 3 Select *Novell iPrint Printer Installation Utility* in the *Launch Application* dialog box, then click *OK* to proceed with the installation of the printer.
- 4 (Optional) To avoid future prompts to launch the iPrint applications, select *Remember my choice for iPrint links* check box.

The iPrint Printer Installation dialog box is displayed.



- 5 Click *Install* to proceed with the installation of the printer.
 - 5a If you are installing a secure printer, the iPrint Printer Installation dialog box prompts for user credentials.



- 5b Specify user credentials.
- 5c (Optional) To avoid future prompts, select *Save Password* check box.
- 5d Click *OK* after you have specified your user credentials, then click *OK* to proceed with the installation of the printer.
- 6 Click *OK* when the printer installation is complete.

On Google Chrome

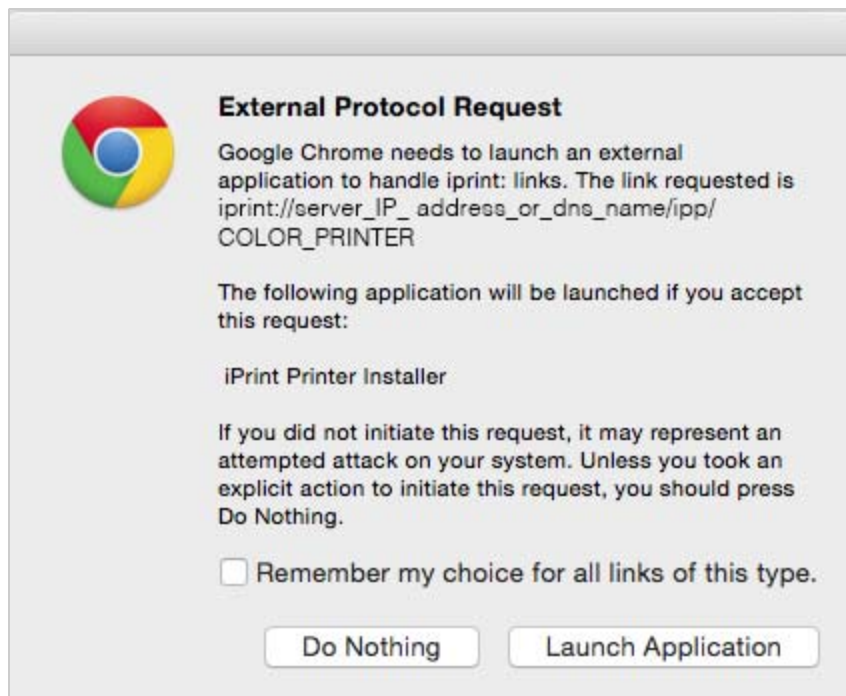
- 1 Launch the browser, and use either the DNS name or the IP address to access the iPrint Printer List page.

For example, http://server_IP_address_or_dns_name/ipp.

All the available printers are listed on the iPrint Printer List web page.

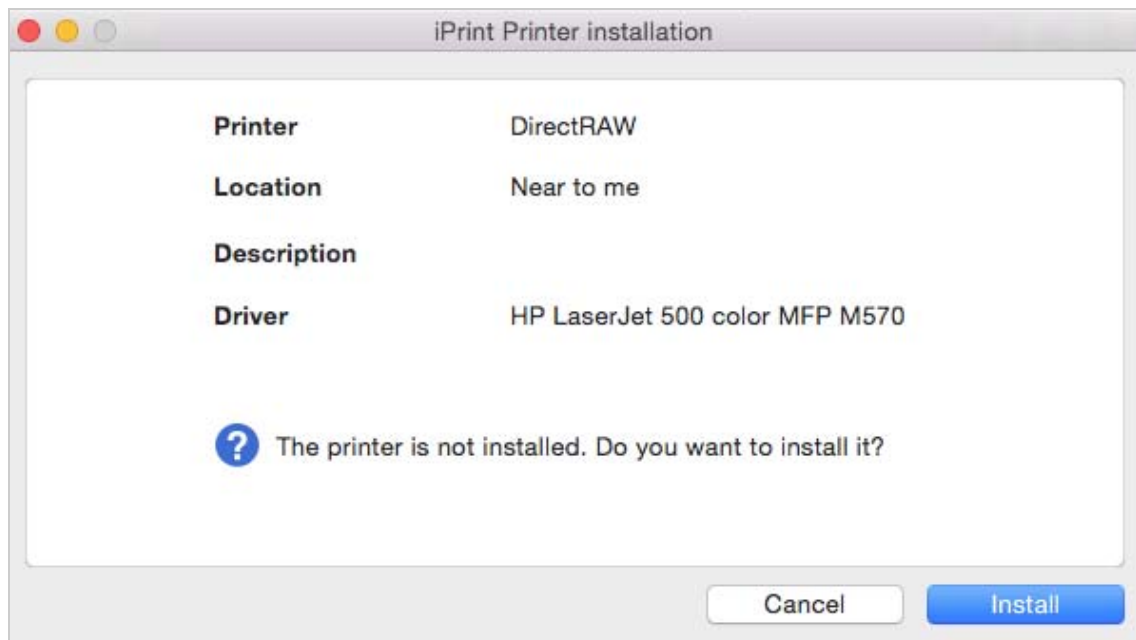
Install Printer ▾	Printer Location ▲	Description	Info
Direct Printer	Hallway	4th Floor Hallway Printer	
Printer 1	Lab	8th Floor Lab Printer	
Printer 2	Hallway West	1st Floor Hallway West Printer	
Secure Printer	Reception	Reception Printer	

- 2 Click on the printer that you want to install.
The External Protocol Request dialog box is displayed.

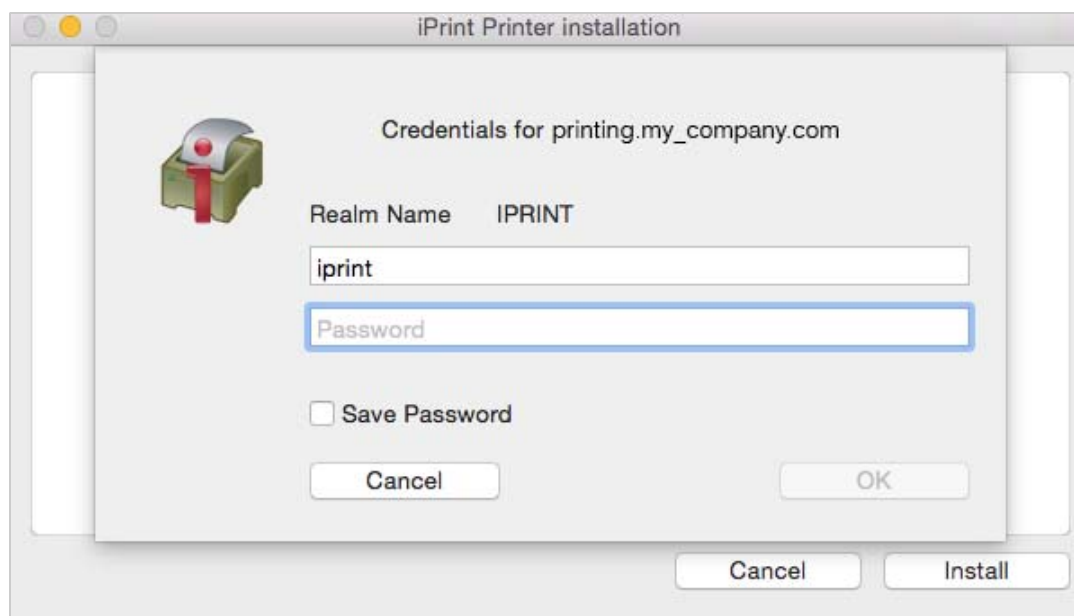


- 3 Click *Launch Application* on the *External Protocol Request* dialog box to proceed with the installation of the printer.
- 4 (Optional) To avoid future prompts to launch external protocol links, select the *Remember my choice for all links of this type* check box.

The iPrint Printer Installation dialog box is displayed.



- 5 Click *Install* to proceed with the installation of the printer.
 - 5a If you are installing a secure printer, the iPrint Printer Installation dialog box prompts for user credentials.



5b Specify user credentials.

5c (Optional) To avoid future prompts, select *Save Password* check box.

5d Click *OK* after you have specified your user credentials, then click *OK* to proceed with the installation of the printer.

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.

9.2.3 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 145](#).

You use the iPrint Map Designer to create maps of printer location through drag-and-drop feature. 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 143](#).

NOTE: The iPrint map pages now display browser-specific user instructions during printer installation. If you have upgraded to iPrint Client 6.0.0 for Windows, it is recommended that you recreate your map pages.

9.2.4 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.

Hold down the Shift key 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. Right-click or Control-click the *iPrint* icon, then click *Printers*.
 2. Select the printer that you want to uninstall.
 3. Click *Uninstall* to uninstall the printer.

Hold down the Shift key 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 9.9, “Uninstalling the Novell iPrint Client,” on page 185](#).

9.3 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 173](#), 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 forcefully updated on your workstation.

9.4 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, right-click or control-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*.

9.5 Windows Client: Using Additional Features

- ◆ [Section 9.5.1, “Updating the iPrint Client,” on page 168](#)
- ◆ [Section 9.5.2, “Using the iPrint Client Icon,” on page 168](#)
- ◆ [Section 9.5.3, “Configuring the iPrint Client Settings,” on page 168](#)
- ◆ [Section 9.5.4, “Implementing iPrint by Using the Command Line,” on page 171](#)
- ◆ [Section 9.5.5, “Managing Global Actions through Iprint.ini,” on page 173](#)

9.5.1 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 173](#) for more information.

9.5.2 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 lets 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 169](#).

9.5.3 Configuring the iPrint Client Settings

- ◆ [“Using a Proxy Server” on page 169](#)
- ◆ [“Managing Passwords for Remote iPrint Servers” on page 169](#)
- ◆ [“Managing iPrint's Notification Area Icon” on page 169](#)
- ◆ [“Managing Print Job Notifications” on page 170](#)

- ♦ [“Setting Up iPrint on Terminal Servers” on page 170](#)
- ♦ [“Configuring the iPrint Client to work in a Windows / Active Directory Environments without the Novell Client” on page 171](#)

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 9.5.2, “Using the iPrint Client Icon,” on page 168](#).

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 170](#)
- ♦ [“Configuring iPrint for Terminal Server Clients” on page 170](#)

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*.

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 `iprintcfg 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 `iprintcmd -S <IP/DNS>` command, in combination with a remote-policy pushing engine like ZENworks.

9.5.4 Implementing iPrint by Using the Command Line

`iprintcmd.exe` is a DOS command line utility that lets you install iPrint printers without a web browser and capture LPT ports to iPrint printers. This command is useful when you have legacy applications that require output to an LPT port or when you want to add printers through a login script.

Using `iprintcmd.exe` to Install iPrint Printers

If you need to install an iPrint printer but cannot use a Web browser, you can use the `iprintcmd.exe` command at a DOS prompt. The `iprintcmd.exe` command can install, remove, or set a printer as the default printer.

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

Table 9-6 Parameters Used with `iprintcmd`

Parameters	Description
<code>-a --addprinter options printer_uri</code>	Installs the specified printer. You can replace <i>options</i> with any or all of the following: <ul style="list-style-type: none">◆ <code>no-gui</code>: Does not display the printer installation dialog box when installing a printer.◆ <code>default</code>: Installs the specified printer as the default printer.◆ <code>temp</code>: The installed printer is removed when the workstation is rebooted. NOTE: These options are available only in the Windows Client.
<code>-d --delprinter printer_uri</code>	Removes the specified printer.
<code>-f --fetchdriverlocal printer_uri</code>	Pulls drivers from the server and stores them in the local cache directory, such as the <code>c:\ndsp\drv_cache</code> directory.
<code>-g --getdefault</code>	Displays the default printer installed on the workstation.

Parameters	Description
-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>	Sends a printer-ready file to the specified iPrint printer. 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 --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>]	Uploads printer drivers. IMPORTANT: INF-Filepath and model-name are mandatory only for Windows XP platforms.
-w --trustedwebsiteforInternetExplorer <i>printer_installation_page_uri</i>	Adds the specified URI of the printer installation page to the trusted site list for Internet Explorer. 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. For example, <i>http://printing.my_company.com/ipp</i> .
-c	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
```

9.5.5 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 173](#)
- ◆ [“Creating a Short Printer Name Profile” on page 174](#)
- ◆ [“Installing User Printers” on page 174](#)

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 a 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 9-7 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.

NOTE: The user printer feature is supported only on Windows NT/2000/XP/Vista/7/Server 2003 and 2008. This feature is not supported on Windows 8, Windows Server 2012 and higher versions.

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.

9.6 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 9-8 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 or --addprinter printer_uri</code>	Installs the specified printer.
<code>-d or --delprinter printer_uri</code>	Removes the specified printer.
<code>-d or --delprinter all</code>	Removes all printers. This option requires your confirmation before removing all the printers.
<code>-d or --delprinter all --force</code>	Remove all the printers. This option removes all the printers forcibly without any user intervention.
<code>-g or --getdefault</code>	Displays the default printer installed on the workstation.
<code>-h or --help</code>	Displays help for the command.
<code>-j or --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 or --listprinters</code>	Lists printers installed on the workstation.
<code>-L or --listprintersonserver psm-hostname or psm-address</code>	Lists iPrint printers on the specified Print Manager where <code>psm-hostname</code> or <code>psm-address</code> can be a DNS name or IP address.
<code>-p or --printfile printer-uri filepath</code>	Sends a printer-ready file to the specified iPrint printer.
<code>-P or --ppdlist</code>	Lists the PPDs installed on this workstation.
<code>-s or --setdefault printer_uri</code>	Sets the specified printer as the default.
<code>-t or --testpage printer_uri</code>	Prints a test page to the specified printer.

Parameters	Description
-u or --uploadids <i>ids_uri ppd with/without a wildcard</i>	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.
-U or --uploadbroker <i>rms_uri rms_name ppd with/without a wildcard</i>	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.
-v or --version <i>psm-hostname or psm-address</i>	Displays the server platform and version information where <i>server_uri</i> is the URI for the server.
-i or --info <i>printer-uri</i>	Displays the printer information.

Syntax

`iprntcmd 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:

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

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

For uploading PPD files from Mac and Linux clients, enter the following:

```
iprntcmd -u <ids-hostname or ids-address> <ppd path with/without wild cards>
```

When prompted for a username, examples of two acceptable formats are:

```
admin Or cn=admin,o=OrgName
```

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

9.7 Windows Client: Additional Features

- ◆ [Section 9.7.1, “Automatically Removing a Printer from the Client Workstation,” on page 178](#)
- ◆ [Section 9.7.2, “Auto Redirection of Printer,” on page 178](#)
- ◆ [Section 9.7.3, “Auto Driver/Profile Update,” on page 178](#)
- ◆ [Section 9.7.4, “Using the iPrint Client Icon,” on page 178](#)

9.7.1 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.

9.7.2 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.

9.7.3 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 [“Auto Driver/Profile Update” on page 116](#).

9.7.4 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 `iPrintcmd -T` command from your terminal.

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

- ◆ [“Printers” on page 178](#)
- ◆ [“Job Status” on page 179](#)
- ◆ [“Message Board” on page 179](#)
- ◆ [“Configuration” on page 179](#)
- ◆ [“About” on page 181](#)
- ◆ [“Find/Install Printers” on page 181](#)
- ◆ [“Hide Tray Icon” on page 181](#)

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 179](#)
- ♦ [“Using a Menu Link URL” on page 180](#)
- ♦ [“Using a Proxy Server” on page 180](#)
- ♦ [“Uninstalling an iPrint Printer When You Uninstall the iPrint Client” on page 180](#)
- ♦ [“Setting the Trace Level” on page 180](#)
- ♦ [“Keeping Driver Files on Upload or Download” on page 181](#)

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.

9.8 Macintosh Client: Additional Features

- ♦ [Section 9.8.1, “Automatically Removing a Printer from the Client,” on page 181](#)
- ♦ [Section 9.8.2, “Automatically Redirecting a Printer,” on page 182](#)
- ♦ [Section 9.8.3, “Automatically Updating a Driver/Profile,” on page 182](#)
- ♦ [Section 9.8.4, “Using the iPrint Client Icon,” on page 182](#)

9.8.1 Automatically Removing a Printer from the Client

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

9.8.2 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.

9.8.3 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 [“Auto Driver/Profile Update” on page 116](#).

9.8.4 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 182](#)
- ◆ [“Job Status” on page 182](#)
- ◆ [“Message Board” on page 183](#)
- ◆ [“Configuration” on page 183](#)
- ◆ [“About” on page 185](#)
- ◆ [“Find/Install Printers” on page 185](#)
- ◆ [“Hide Tray Icon” on page 185](#)

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 183](#)
- ♦ [“Using a Menu Link URL” on page 183](#)
- ♦ [“Using a Proxy Server” on page 184](#)
- ♦ [“Uninstalling an iPrint Printer When You Uninstall the iPrint Client” on page 184](#)
- ♦ [“Setting the Trace Level” on page 184](#)
- ♦ [“Keeping Driver Files on Upload or Download” on page 185](#)

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-xxxxxxx`. 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-xxxxxxx/download-xxxxxxx`. 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 `iprntcmd -T` command from your terminal.

9.9 Uninstalling the Novell iPrint Client

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

- ♦ [Section 9.9.1, "Uninstalling the Linux iPrint Client," on page 185](#)
- ♦ [Section 9.9.2, "Uninstalling the Macintosh iPrint Client," on page 186](#)
- ♦ [Section 9.9.3, "Uninstalling the Windows iPrint Client," on page 186](#)

9.9.1 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 9.2.4, “Uninstalling iPrint Printers,”](#) on page 167.

9.9.2 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.

9.9.3 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.

9.10 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 134 for more information.

10 Mobile Device Management (MDM)

iPrint App is now enabled for MobileIron.

10.1 Configuring MobileIron to Manage the iPrint App

iPrint App is enabled for MobileIron. You must configure MobileIron to manage the iPrint mobile app.

- ◆ [Section 10.1.1, “Supported Features,” on page 187](#)
- ◆ [Section 10.1.2, “Adding the iPrint App to MobileIron,” on page 187](#)
- ◆ [Section 10.1.3, “Pre-Populating Fields for iPrint Login,” on page 189](#)
- ◆ [Section 10.1.4, “Distributing the iPrint App to Devices,” on page 191](#)

10.1.1 Supported Features

iPrint mobile app provides an additional feature to pre-populate the following fields on the iPrint login screen on both iOS and Android devices:

- ◆ Server IP Address
- ◆ User ID
- ◆ Password

10.1.2 Adding the iPrint App to MobileIron

- ◆ [“Adding the Android iPrint App” on page 187](#)
- ◆ [“Adding the iOS iPrint App” on page 188](#)

Adding the Android iPrint App

To add the Android iPrint app to MobileIron, upload the *.apk file and then apply the Android label to the application:

- 1 Download the Novell iPrint for MobileIron Appconnect (*.apk) file from the [Novell downloads site \(http://download.novell.com/Download?buildid=aTGzeK7Yud4~\)](http://download.novell.com/Download?buildid=aTGzeK7Yud4~).
- 2 Upload the file to MobileIron:
 - 2a In the MobileIron Admin Portal, click the *Apps* tab.
 - 2b On the *App Distribution Library* tab, in the *Select Platform* drop-down list, select *Android*.
 - 2c Click *Add App*.

The Add App Wizard is displayed.
 - 2d Click *Next*, then specify the following information:

Distribution Type: Select *In-house App*.

Silently Install: If your device supports a silent install, select *Yes*. If the device does not support a silent install or if you are unsure, select *No*.

- App Upload:** Browse to and select the .apk file that you downloaded.
- 2e Click *Next*, then specify the following information:
 - App Name:** Novell iPrint is already specified for you. This cannot be changed.
 - Display Version:** The version is already specified for you. This cannot be changed.
 - Code Version:** The version is already specified for you. This cannot be changed.
 - Description:** Specify a short description for the app.
 - Override URL:** For information about this feature, see the blue information icon next to this field.
 - Featured:** Select whether you want to feature this app.
 - Category:** Select the category that most closely matches the app. You can add a new category as described in the dialog box.
 - 2f (Optional) Click *Next*, then click *Browse* to upload any screen shots that you have for the app.
 - The mandatory image size is displayed in the dialog box.
 - 2g Click *Finish* to close the Add App Wizard.
- 3 Apply the Android label to your application:
 - 3a From the *App Distribution Library* tab on the *Apps* tab, select the Novell iPrint app that you just created, then click *Actions > Apply To Label*.
 - The Apply To Label dialog box is displayed.
 - 3b Select the *Android* label, then click *Apply > OK*.

Adding the iOS iPrint App

To add the iOS iPrint app to MobileIron, import it from the [Apple Appstore \(https://itunes.apple.com/us/app/novell-iprint/id582808768?mt=8&ign-mpt=uo%3D4\)](https://itunes.apple.com/us/app/novell-iprint/id582808768?mt=8&ign-mpt=uo%3D4) and then apply the iOS label to the application:

- 1 Import the app from the Apple Appstore:
 - 1a In the MobileIron Admin Portal, click the *Apps* tab.
 - 1b On the *App Distribution Library* tab, in the *Select Platform* drop-down list, select *iOS*.
 - 1c Click *App Store Import*.
 - The App Store Search dialog box is displayed.
 - 1d In the *App Name* field, type *Novell iPrint*.
 - 1e In the *App Store* field, select the country appropriate to your location.
 - 1f Click *Search*.
 - 1g Click *Import* next to the Novell iPrint app, then click *OK* after it is imported.
 - 1h Close the App Store Search dialog box.
 - 1i From the *App Distribution Library* tab on the *Apps* tab, click the *Edit* icon next to the Novell iPrint app that you just imported.
 - The Edit App for iOS dialog box is displayed.
 - 1j Make any desired changes to the app details and icon, then click *Save*.
- 2 Apply the iOS label to your application:
 - 2a From the *App Distribution Library* tab on the *Apps* tab, select the Novell iPrint app that you just created, then click *Actions > Apply To Label*.

The Apply To Label dialog box is displayed.

2b Select the *iOS* label, then click *Apply > OK*.

10.1.3 Pre-Populating Fields for iPrint Login

Pre-populate the server URL and user ID fields for both the iOS and Android apps.

You must modify the app configuration for Android, and create a new app configuration for iOS.

- ♦ [“Creating the iOS iPrint App Configuration for MobileIron” on page 189](#)
- ♦ [“Key-Value Pairs” on page 190](#)
- ♦ [“Modifying the Android iPrint App Configuration for MobileIron” on page 191](#)

Creating the iOS iPrint App Configuration for MobileIron

- 1 In the MobileIron Admin Portal, click the *Policies & Configs* tab.
- 2 On the Configuration tab, click *Add New > AppConnect > Configuration*.
The New AppConnect App Configuration dialog box is displayed.
- 3 Specify the following information:
 - Name:** Provide a name for the configuration, such as *iPrint iOS Configuration*.
 - Description:** (Optional) Provide a description for the configuration.
 - Application:** Specify the iPrint iOS bundle ID, which is *com.novell.print*.
- 4 In the *App-specific Configurations* section, click the *Plus* icon to add a new field to the key-value pair table; you can then specify the key-value pair to be included in the configuration.
The key-value pairs that you can add are shown in [Table 10-1, “iPrint Key-Value Pairs,” on page 190](#). Key-value pairs that you add to the table represent the information that will be pre-populated for iPrint login.
- 5 Click *Save*.

Key-Value Pairs

Table 10-1 iPrint Key-Value Pairs

Key	Value
server	Specify the URL of your iPrint site. For example, iprint.acme.com.
server2	When specifying multiple servers, the subsequent servers will be server2, server3, and so forth. You can provide same or different user for each server.
user	Specify \$USERID\$ for MobileIron to automatically populate the app with the users' MobileIron user ID. Alternatively, you can specify an individual user's user ID.
password	Specify \$PASSWORD\$ for MobileIron to automatically populate the app with the users' MobileIron password. Alternatively, you can specify an individual user's password.
configlocked	The value is true or false. By default, the value is true and the app users will not be able to modify the iPrint app configuration on their devices.

Examples for Key-Value Pairs

- ♦ **Multiple Servers and Same Users:** If there are two iPrint servers and you want all the app users to print through both the servers, specify the server values and user and password as the key.

Table 10-2 Multiple Servers and Same Users

Key	Value
server	iprint.acme.com
server2	iprint2.acme.com
user	\$USERID\$
password	\$PASSWORD\$

- ♦ **Multiple Servers and Different Users:** If there are two iPrint servers and you want different set of app users to print through each server, specify the server values and subsequent user and password as the key. Use the key-value pair as server1 and user1, password1 and server2 and user2, password2.

Table 10-3 Multiple Servers and Different Users

Key	Value
server1	iprint.acme.com
user1	\$USERID\$
password1	\$PASSWORD\$
server2	iprint2.acme.com
user2	\$USERID\$
password2	\$PASSWORD\$

Modifying the Android iPrint App Configuration for MobileIron

- 1 In the MobileIron Admin Portal, click the *Policies & Configs* tab.
- 2 On the *Configuration* tab, in the *Name* column, click the name of the iPrint configuration for the iPrint app that you uploaded, as described in [“Adding the Android iPrint App” on page 187](#).
- 3 Click *Edit*.
The Modify AppConnect App Configuration dialog is displayed.
- 4 Specify the following information:
 - Name:** Provide a name for the configuration, or keep the default.
 - Description:** (Optional) Provide a description for the configuration, or keep the default.
 - Application:** Select *Novell iPrint* from the drop-down list.
- 5 In the *App-specific Configurations* section, keep or remove the key-value pairs that are shown in [Table 10-1, “iPrint Key-Value Pairs,” on page 190](#). Key-value pairs that remain in the table represent the information that will be pre-populated for iPrint login.
- 6 Click *Save*.

10.1.4 Distributing the iPrint App to Devices

You must distribute the iPrint app to devices in your organization via MobileIron if this is the first time your organization is using MobileIron with iPrint, or any time a new device enters the organization.

Some users might have independently download the iPrint app from the app store before their device is managed by MobileIron. Even in this scenario, you must push the app to their device via MobileIron. (These devices will lose any cached or downloaded files within the iPrint app after their device becomes managed and the iPrint app is pushed to their device.)

11 Troubleshooting iPrint Appliance

You might encounter the following issues when using iPrint Appliance.

NOTE: The iPrint Appliance print server maintains log files to help with debugging the server's activity. The log files are located at the following locations:

- ♦ Novell iManager: `/var/opt/novell/tomcat6/logs/catalina.out`
- ♦ Novell iPrint Mobile: `/var/opt/novell/log/iprintmobile/iprintmobile0.log`
- ♦ Management Console: `/var/opt/novell/jetty8/logs/jetty.stderrout.out`
- ♦ Export Backup: `/var/opt/novell/log/iprintmobile/backup.log`
- ♦ Upgrade Restore: `/var/opt/novell/log/iprintmobile/restore.log`
- ♦ Print Manager: `/var/opt/novell/log/iprint/ipsmd.log`
- ♦ Driver Store: `/var/opt/novell/log/iprint/idsd.log`
- ♦ eDirectory: `/var/opt/novell/eDirectory/log/ndsd.log`
- ♦ Apache: `/var/log/apache2/error_log`
- ♦ Avahi: `/var/log/messages`

-
- ♦ [Section 11.1, “Server Issues,” on page 193](#)
 - ♦ [Section 11.2, “LDAP Issues,” on page 195](#)
 - ♦ [Section 11.3, “Renderer Issues,” on page 196](#)
 - ♦ [Section 11.4, “AirPrint Issues,” on page 201](#)
 - ♦ [Section 11.5, “General Issues,” on page 203](#)

11.1 Server Issues

- ♦ [Section 11.1.1, “POODLE Security Vulnerability,” on page 193](#)
- ♦ [Section 11.1.2, “Processor Utilization Increases When 10,000 Users Are Imported from an External LDAP Source,” on page 194](#)
- ♦ [Section 11.1.3, “Unable to Backup iPrint Appliance 1.0,” on page 194](#)
- ♦ [Section 11.1.4, “Upgrading iPrint Appliance Does Not Automatically Export the License File,” on page 195](#)
- ♦ [Section 11.1.5, “Upgrade Progress Bar Continues Processing,” on page 195](#)

11.1.1 POODLE Security Vulnerability

LDAPS and HTTPS in eDirectory allow SSLv3 for secure communication, and SSLv3 has been found to have protocol vulnerability as per CVE-2014-3566. After applying the Appliance patches, ensure that you disable SSLv3 to prevent POODLE security vulnerability.

To disable SSLv3 through LDAP, add number 128 to the `ldapBindRestrictions` attribute on the LDAP server object.

11.1.2 Processor Utilization Increases When 10,000 Users Are Imported from an External LDAP Source

When syncing users from an external LDAP source, the processor utilization increases if you try to import 10,000 users.

The reason for this behavior is that the User Sync is scheduled to run every 8 minutes, by default. Therefore, each time the User Sync is started, which is every 8 minutes, the processor utilization increases to around 50%, and remains in that state for up to 5 minutes. The utilization might further increase if you import over 10,000 users.

To workaroud this issue, you can change the sync interval by editing the `crontab` file.

- 1 Launch the `crontab` file located at `/etc/crontab`.
- 2 Browse to the line where the sync interval is set to 8 minutes.

```
# run iprint migrate every 8 minutes
*/8 * * * * root /usr/bin/python /opt/novell/iprintmobile/python/migrate/
migrateUsers.pyc >> /var/log/ipmigrate.log 2>&1
```
- 3 Change the time to the desired time interval.

For information on scheduling time intervals for cron jobs, see the article about [Cron](#) on Wikipedia.

11.1.3 Unable to Backup iPrint Appliance 1.0

When using iPrint Appliance 1.0, you may not be able to create a backup if you have a Driver Store in excess of 6 GB. This is caused due to lack of disk space in the virtual machine.

To workaroud this issue, you must add an additional hard disk to your virtual machine, then backup iPrint Appliance 1.0. If your Drive Store is 10 GB in size, then you must add an additional 20 GB of hard disk space. The hard disk space must be twice the size of the `resdir` folder.

- 1 Power off the iPrint Appliance 1.0 VM.
- 2 In the vSphere client, right-click the iPrint Appliance 1.0, then click *Edit Settings*.
- 3 Click *Add*.
- 4 Select *Hard Disk*, then click *Next*.
- 5 Select *Create a new virtual disk.*, then click *Next*.
- 6 Specify the *Disk Size*, then click *Next*.
- 7 Click *Next* on the Advanced Options screen.
- 8 Click *Finish*.
- 9 Power on the iPrint Appliance 1.0 VM.
- 10 Create a partition using the `fdisk` command.
 - 10a Run the command `fdisk /dev/<disk name>`.
 - 10b When prompted for a command, specify `n`, then tap the *Enter* key.
 - 10c For partition, specify `p`, then choose the default option.
 - 10d When prompted for a command, specify `w`.
- 11 Create a file system using the command `mkfs.ext3 /dev/<disk name>`.
- 12 Stop the jetty service.

- 13 Mount the `/tmp` folder to the newly added hard disk using the command `mount /dev/<disk name> /tmp/`.
- 14 Start the jetty service.

After completing the procedure mentioned above, try backing up iPrint Appliance 1.0.

11.1.4 Upgrading iPrint Appliance Does Not Automatically Export the License File

When upgrading iPrint Appliance 1.0 to a higher version, the license file does not get automatically exported to the newer version. This issue is caused because the license file is not automatically backed up on the iPrint Appliance 1.0.

To work around this issue:

- 1 You must manually copy the license file located at `/opt/novell/filr/apache-tomcat/webapps/ssf/WEB-INF/` on iPrint Appliance 1.0 to your system.
- 2 Launch the Management Console of iPrint Appliance 1.1.
- 3 Go to *iPrint Appliance Configuration* > *License*, then upload the backed up license file.

11.1.5 Upgrade Progress Bar Continues Processing

When upgrading iPrint appliance using the iPrint Appliance Management Console, the progress bar continues processing. This issue is caused by the automatic update feature of the web browser.

To work around this issue, close all open browser sessions, relaunch the browser, then wait for the browser update to complete before upgrading iPrint Appliance.

11.2 LDAP Issues

- ♦ [Section 11.2.1, “Unable to Import All Users from the Active Directory Source Using LDAP Sync,” on page 195](#)
- ♦ [Section 11.2.2, “Active Directory Administrator Users Unable to Perform Administrative Tasks Post LDAP Import,” on page 196](#)
- ♦ [Section 11.2.3, “LDAP Import Fails to Import Administrator User from Active Directory Environments,” on page 196](#)

11.2.1 Unable to Import All Users from the Active Directory Source Using LDAP Sync

You might not be able to import all users from the Active Directory source using LDAP sync. By default, in Active Directory, LDAP search returns only 1,000 objects. This issue is caused by a default setting in Active Directory that limits LDAP searches to 1,000 results.

To work around this issue, you can use the `Ntdsutil.exe` tool to modify the `MaxPageSize` value to expand or limit the search, depending on the size of the Active Directory tree.

For more information, see the Microsoft support article on [How to view and set LDAP policy in Active Directory by using Ntdsutil.exe](#).

11.2.2 Active Directory Administrator Users Unable to Perform Administrative Tasks Post LDAP Import

Admin users migrated to iPrint Appliance through LDAP Import cannot perform administrative tasks such as managing iManager. This is because the LDAP Import feature imports only the user names but not the passwords. iManager fails to authenticate AD users with no passwords.

11.2.3 LDAP Import Fails to Import Administrator User from Active Directory Environments

When importing users from Active Directory environments, LDAP import fails to import the administrator user account.

The Active Directory administrator user is not required for iPrint Appliance. iPrint Appliance contains an in-built administrator account. The admin account of iPrint Appliance manages all users imported from Active Directory.

11.3 Renderer Issues

- ◆ [Section 11.3.1, "Upgrading iPrint Renderer From 1.0 or 1.0.1 to 1.1 Corrupts the iPrintRenderer.conf File," on page 197](#)
- ◆ [Section 11.3.2, "PowerPoint Job Fails to Print," on page 197](#)
- ◆ [Section 11.3.3, "Jobs Fails to Print," on page 197](#)
- ◆ [Section 11.3.4, "Remote Renderer Status is Inactive," on page 197](#)
- ◆ [Section 11.3.5, "Remote Renderer Status is Inactive After Appliance Upgrade," on page 198](#)
- ◆ [Section 11.3.6, "iPrint Rendering Service Hangs," on page 198](#)
- ◆ [Section 11.3.7, "Printer Drivers are Missing After Registering the Remote Renderer," on page 198](#)
- ◆ [Section 11.3.8, "Local Renderer Fails to Print the Password-Protected PDF Files," on page 198](#)
- ◆ [Section 11.3.9, "Printer Prints Junk Characters," on page 198](#)
- ◆ [Section 11.3.10, "Remote Renderer Fails to Start Because of Login Failure," on page 199](#)
- ◆ [Section 11.3.11, "Adobe Acrobat 11 Pro Hangs While Rendering PDF Files," on page 199](#)
- ◆ [Section 11.3.12, "Disk Space Gets Filled Up During Continuous Job Submission," on page 200](#)
- ◆ [Section 11.3.13, "iPrint Rendering Service Fails to Start If the Windows User Account Password Changes or Expires," on page 200](#)
- ◆ [Section 11.3.14, "iPrntRendCmd Stops Responding During Configuration or Other Command Line Operations," on page 200](#)
- ◆ [Section 11.3.15, "Unable to Remove Inactive Renderer Entries from the Management Console," on page 200](#)
- ◆ [Section 11.3.16, "Upgrade Option Missing for Remote Renderer," on page 201](#)

11.3.1 Upgrading iPrint Renderer From 1.0 or 1.0.1 to 1.1 Corrupts the iPrintRenderer.conf File

If you have upgraded the renderer from 1.0 or 1.0.1 to 1.1, the `iPrintRenderer.conf` file gets corrupted. On corruption of this file, the renderer also fails to uninstall.

To resolve this issue, do the following:

- 1 Replace the contents of the `c:/NDPS/Renderer/Conf/iPrintRenderer.conf` file with the following:

```
Word=doc,docx,rtf,docm,dotm
Excel=xls,xlsx,xlsm,xlsb
Powerpoint=ppt,pptx,pptm,ppsm
inBuiltPDFRenderer=pdf
#Adobe=pdf
```

- 2 On your client workstation, uninstall the Renderer.
- 3 Install the latest renderer. For more information, see [Section 6.3, "Installing and Configuring a Remote Renderer,"](#) on page 74.

11.3.2 PowerPoint Job Fails to Print

If the remote renderer configured with Microsoft Office 2013 is under continuous load, then it may fail to print PowerPoint jobs. This issue is not caused if the remote renderer is configured with Microsoft Office 2010.

To resolve this issue, stop and start the remote renderer.

11.3.3 Jobs Fails to Print

If the remote renderer is configured on Windows 8, Windows 8.1, Windows 2012, and Windows 2012 R2 server, then over the period of time, you might encounter consistent print failure. This is because the in-built pdf renderer might have stopped responding.

To resolve the issue, restart the remote rendering service using the following commands:

- 1 To stop the renderer, run `iprntrendcmd -q`
- 2 To start the renderer, run `iprntrendcmd -l`

11.3.4 Remote Renderer Status is Inactive

Sometimes the remote renderer status might change to Inactive and activating it from the Management Console also fails to change the status.

To resolve this issue, restart the renderer using the following commands:

- 1 To check the status of the service, run `iprntrendcmd -s`
- 2 To start the renderer, run `iprntrendcmd -l`

11.3.5 Remote Renderer Status is Inactive After Appliance Upgrade

If you have a remote renderer associated with the iPrint Appliance, then upgrading the iPrint Appliance changes the remote renderer status to Inactive. To resolve this issue, follow the steps from [Section 6.3.3, “Downloading the Remote Renderer,” on page 75](#) to [Section 6.3.5, “Registering the Remote Renderer,” on page 76](#) to download, install, and register the new renderer.

11.3.6 iPrint Rendering Service Hangs

The iPrint Rendering Service might hang with the service status “Stopping.”

This issue is caused when the remote renderer fails to restart when using the configuration or registration commands.

To work around this issue:

- 1 Launch the *Windows Task Manager*.
- 2 Click the *Processes* tab.
- 3 Check the *Show processes from all users* box.
- 4 Right-click *iPrint Rendering Service.exe*, then click *End Process*.
- 5 Start the remote rendering service by using the `iprntrendcmd -l` command or through the window services panel.

11.3.7 Printer Drivers are Missing After Registering the Remote Renderer

After registering the remote renderer, self-signed and un-signed drivers are not installed.

To resolve this issue, run the command, `iprntrendcmd -rt <FDN or IP Address>`

On the prompt, accept the certificate for each driver.

11.3.8 Local Renderer Fails to Print the Password-Protected PDF Files

The local renderer fails to print password-protected or corrupt PDF files.

You might get a message in the audit page that the job is complete or success message for email printing, if the local renderer uses the pre-packaged driver for printing.

11.3.9 Printer Prints Junk Characters

When trying to print a document, the printer might print only junk characters in the following scenarios:

- ♦ This issue is caused because the local renderer does not support all the font types. To resolve this issue, you can install the Microsoft TrueType fonts on your iPrint Appliance server.
 1. Log in as `root`.
 2. Type the following command to navigate to the `fonts` directory, then press Enter:

```
cd /opt/novell/iprintmobile/fonts/
```

3. Install the supported RPM files by typing the following command, then press Enter:

```
rpm -ivh *.rpm
```

The RPM files are now installed on the iPrint server.

4. Run the script to retrieve the fonts by typing the following command, then press Enter:

```
sh fetchmsttfonts-11.1-5.7.10-fetchmsttfonts.sh.txt
```

The fonts are downloaded from Sourceforge and installed on your iPrint server.

- ♦ Few of the Linux drivers might fail to print due to absence of certain filters. You can verify this information, using the command: `lpstat -p`

The command displays the status of the drivers. Change the driver for which you have received the failure messages. This is applicable only for local renderer.

- ♦ If the remote renderer is registered with Built-in-PDF Renderer for processing the PDF jobs, it might print junk characters for PDF files.

To resolve this issue, you need to reconfigure the remote renderer using `iprntrendcmd -c` command.

- ♦ If the remote renderer is not registered for PDF file processing, the printer might print only junk characters and not the actual content. This can be caused by an incompatible printer driver.

To work around this issue, use the drivers that are compatible with your printer.

11.3.10 Remote Renderer Fails to Start Because of Login Failure

The remote rendering service might not start if the credentials provided are incorrect, or if the user account does not have the *Log on as a service* rights.

To resolve this issue, you must assign the *Log on as a service* rights to the user account with which you want to set up the renderer, on the local machine:

- 1 Go to *Start > Control Panel > Administrative Tools > Local Security Policy*.
- 2 In the left pane, double-click *Local Policies*.
- 3 Click *User Rights Assignment*.
- 4 In the right pane, under *Policy*, double-click *Log on as a service*.
- 5 Click *Add User or Group*.
- 6 Add the user account to the list, then click *OK*.
- 7 Click *OK*, then close the Local Security Policy window.

11.3.11 Adobe Acrobat 11 Pro Hangs While Rendering PDF Files

When rendering PDF files using Adobe Acrobat 11 Pro, Adobe Acrobat might stop responding and not complete the rendering process.

To work around this issue, kill Adobe Acrobat from *Windows Task Manager*, then try again.

11.3.12 Disk Space Gets Filled Up During Continuous Job Submission

When handling a large number of print requests, the remote renderer might not be able automatically delete the converted job data, and the disk space allocated for the remote renderer might fill up.

To work around this issue, you must manually delete the stored jobs.

- 1 Launch the command prompt.
- 2 Stop the iPrint Rendering Service manually using the command `iPrntRendCmd -q`.
- 3 Delete the files in the jobs folder located at `C:\NDPS\Renderer\jobs`.
- 4 Start the iPrint Rendering Service using the command `iPrntRendCmd -l`.

11.3.13 iPrint Rendering Service Fails to Start If the Windows User Account Password Changes or Expires

The iPrint Rendering Service might not work if the password of the user account associated with the service changes or expires.

To work around this issue, you must update the new password for the iPrint Rendering Service on the Services utility.

- 1 Click *Start > Run*.
- 2 Specify `services.msc`, then click *OK*.
- 3 Right-click *iPrint Rendering Service*, then click *Properties*.
- 4 Click the *Log On* tab.
- 5 Under *This account*, update the new password, then click *Apply*.
- 6 Click *OK*.
- 7 Right-click *iPrint Rendering Service*, then click *Start* or *Restart* to start the service.

11.3.14 iPrntRendCmd Stops Responding During Configuration or Other Command Line Operations

When configuring or modifying the remote renderer, the `iPrntRendCmd` command might stop responding.

To work around this issue, close the command prompt that is currently open, launch a new command prompt window, and then try the `iPrntRendCmd` command again.

11.3.15 Unable to Remove Inactive Renderer Entries from the Management Console

On the iPrint Appliance Management Console, the inactive render entries might not automatically get deleted after uninstalling the renderer.

Ensure to complete all print jobs before performing the work around to resolve this issue:

- 1 Stop the Novell iPrint Mobile service through the Management Console.

For information on stopping or starting a service, see [Section 7.6.1, “Starting, Stopping, or Restarting System Services,”](#) on page 87.

- 2 Launch the terminal.
- 3 Run the command `iprintmobile_config_renderer -l` to get a list of renderers and their IDs.
- 4 Run the command `iprintmobile_config_renderer -r <rendererID>` to remove the inactive renderer.
- 5 Start the Novell iPrint Mobile service through the Management Console. Restarting

11.3.16 Upgrade Option Missing for Remote Renderer

The remote renderer on iPrint Appliance does not provide an upgrade option.

This is a known limitation of the remote renderer in the iPrint Appliance 1.1 and earlier versions.

To resolve this issue, follow the steps from [Section 6.3.3, “Downloading the Remote Renderer,”](#) on page 75 to [Section 6.3.5, “Registering the Remote Renderer,”](#) on page 76 to download, install, and register the new renderer.

11.4 AirPrint Issues

- ♦ [Section 11.4.1, “AirPrint Secure Printers Fails to Print,”](#) on page 201
- ♦ [Section 11.4.2, “AirPrint Printers Are Listed Twice During Printer Discovery,”](#) on page 201
- ♦ [Section 11.4.3, “AirPrint Printers Are Not Listed,”](#) on page 202
- ♦ [Section 11.4.4, “Print Job Submitted Using AirPrint Shows Processing Continuously,”](#) on page 202
- ♦ [Section 11.4.5, “AirPrint Errors and Symptoms,”](#) on page 202

11.4.1 AirPrint Secure Printers Fails to Print

If you are using iOS 7 or above devices, then AirPrint secure printers fails to print in the following scenarios:

- ♦ On upgrading the iPrint Appliance to 1.1
- ♦ On enabling a normal AirPrint printer as secure printer

To resolve this issue, using the iPrint Appliance Management Console, you must disable and enable the secure printer as AirPrint printer.

11.4.2 AirPrint Printers Are Listed Twice During Printer Discovery

iPrint AirPrint uses the same advertising medium (mDNS) as that of Apple’s AirPrint. Therefore, an AirPrint printer is listed twice during printer discovery.

To resolve this issue, disable the advertisement from iPrint Appliance.

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *iPrint Appliance Configuration* icon.
- 3 Under *Administration*, click *Printers*.

- 4 Select the printer for which you want to disable advertising. You can select multiple printers by holding the *Ctrl* key on your keyboard, then selecting the printers.
- 5 Click the *AirPrint* drop-down menu, then select *Disable Advertising*.

11.4.3 AirPrint Printers Are Not Listed

When trying to print, you might not be able to see any AirPrint printers listed.

To resolve this issue, try disabling and re-enabling the wireless connection on the iOS device. If you are still unable to view the printers, restart the Avahi service on the AirPrint server through the iPrint Appliance Management Console:

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *iPrint Appliance Configuration* icon.
- 3 Under *Administration*, click *Services*.
- 4 Select *Avahi*.
The *Action* and *Options* drop-down menus are activated.
- 5 Click the *Action* drop-down menu, then click *Restart*.

11.4.4 Print Job Submitted Using AirPrint Shows Processing Continuously

On iOS devices, when you submit a print job, the Print Center continuously shows that the job is processing. This issue occurs when a printer to which you are trying to print is redirected or not working.

To resolve this issue on a redirected printer, disable advertising on a redirected printer so that the printer is not displayed as an AirPrint printer. Advertise the target printer instead.

To resolve this issue on a printer that is not working, disable advertising and fix the printer before enabling advertising on the printer.

- 1 On a web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *iPrint Appliance Configuration* icon.
- 3 Under *Administration*, click *Printers*.
- 4 Select the printer for which you want to disable advertising. You can select multiple printers by holding the *Ctrl* key on your keyboard, then selecting the printers.
- 5 Click the *AirPrint* drop-down menu, then select *Disable Advertising*.
- 6 Fix the printer.
- 7 Click the *AirPrint* drop-down menu, then select *Enable Advertising*.

11.4.5 AirPrint Errors and Symptoms

When using AirPrint, users might receive a few error messages, or notice symptoms that might indicate issues with the printer or the network. The errors and symptoms are listed below, along with the possible cause.

Table 11-1 AirPrint Error and Symptoms

Error/Symptom	Possible Cause
The printer is paused	iPrint output printer queue paused.
Check the printer for errors	Network communication failed between iPrint Appliance and printer, or iPrint printer is shut down.
The printer is offline	iPrint Appliance is not reachable.
iOS 5.x: An error occurred printing this document	iPrint printer is deleted from PSM but still published as AirPrint printer on the network.
iOS 6.x and later: The printer is no longer available	
The printer is no longer available	iPrint printer is shut down.
The printer job is continuously under processing	Printer is redirected or not working.

Points to note:

- ◆ If the printer's input queue is paused, jobs are queued at the device print queue. To view the print queue on iOS devices, double-tap the Home button, then select the *Print Centre* app.
- ◆ For photo printing, paper types such as 4x6 and LETTER are available only on iOS 6.0 and above. When printing images on iOS 6.x, the paper type is displayed by default.
- ◆ On iOS 6.x, the duplex option is displayed dynamically by querying the printer for duplex availability status.
- ◆ AirPrint might display messages regarding the status of the printer such as empty input tray or printer jam, based on the status message from the printer's console. If the printer is in READY state without any warning/error messages, AirPrint does not display any printer error messages to the user.
- ◆ Before enabling AirPrint, ensure that the iPrint Appliance DNS name is resolvable by the iOS device.
- ◆ If a printer is not functioning, disable advertising on that printer to ensure that the printer is not displayed as an AirPrint printer, and users do not try printing to those printers.
- ◆ The remote renderer must be configured with iPrint Appliance to ensure that documents render correctly when printing using AirPrint.

11.5 General Issues

- ◆ [Section 11.5.1, "Unable to upload Xerox GPD and HP UPD driver from iManager," on page 204](#)
- ◆ [Section 11.5.2, "Fails to Print Jobs With Conversion Failure Error," on page 204](#)
- ◆ [Section 11.5.3, "iPrint Appliance Migration Target Server SSL Authentication Fails," on page 204](#)
- ◆ [Section 11.5.4, "RPC Error When Enabling Printers for Mobile Printing," on page 204](#)
- ◆ [Section 11.5.5, "Email Printing Fails When the Filename Includes Extended Characters Or Double-byte Characters," on page 205](#)
- ◆ [Section 11.5.6, "Unable to Configure Email Printing When SSL Is Enabled for IMAP/POP in GroupWise," on page 205](#)
- ◆ [Section 11.5.7, "DataStore Creation Fails," on page 205](#)
- ◆ [Section 11.5.8, "Garbage Characters Printed When Printing from Gmail on Internet Explorer," on page 206](#)

- [Section 11.5.9, ““Canceled by Operator” Messages in the Audit Logs,” on page 206](#)
- [Section 11.5.10, “Secure Printer Continues Printing after Changing the User Password \(Local Appliance eDirectory Users Only\),” on page 206](#)

11.5.1 Unable to upload Xerox GPD and HP UPD driver from iManager

The drivers cannot be uploaded due to out of memory issue. To resolve this issue, we recommend you to increase the Java heap size to 1GB for iManager.

Perform the following steps:

- 1 In the `/etc/opt/novell/tomcat6/conf/novell-tomcat6.conf` file append the variable `JAVA_OPTS` with the value `-Xmx1024M`.

```
# Use JAVA_OPTS to set java.library.path for libtcnative.so
#JAVA_OPTS="-Djava.library.path=/usr/lib"
#JAVA_OPTS="-Djava.library.path=/opt/novell/eDirectory/lib64"
#JAVA_OPTS="-Djava.library.path=/opt/novell/eDirectory/lib64:/var/opt/novell/tomcat6/lib"
#JAVA_OPTS="-Djava.library.path=/opt/novell/eDirectory/lib64:/var/opt/novell/tomcat6/lib:/usr/lib64 -Xmx1024M"
# What user should run tomcat
TOMCAT_USER="wwwrun"
TOMCAT_GROUP="www"
#TOMCAT_USER="tomcat"
#TOMCAT_GROUP="tomcat"
```

- 2 Execute the following command to restart tomcat:

```
rcnovell-tomcat6 restart
```

11.5.2 Fails to Print Jobs With Conversion Failure Error

If the printer drivers are faulty the jobs might fail with a conversion failure error.

To workaround this issue, reinstall the driver for that particular printer.

11.5.3 iPrint Appliance Migration Target Server SSL Authentication Fails

iPrint Appliance Migration target server SSL authentication might periodically fail.

To work around this issue, close the `miggui` application and launch it again.

11.5.4 RPC Error When Enabling Printers for Mobile Printing

When enabling printers for Mobile printing using the iPrint Appliance Management Console, you might encounter an RPC error.

To work around this issue, you can log out and log in to the iPrint Appliance Management Console if the browser session is open for a long time, or you can refresh the Printers page. If you are still seeing the RPC error, restart the Print Manager service, and then try to enable the printer for mobile printing.

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *iPrint Appliance Configuration* icon.

- 3 Under *Administration*, click *Services*.
- 4 Select *Print Manager*.
The *Action* and *Options* drop-down menus are activated.
- 5 Click the *Action* drop-down menu, then click *Restart*.

11.5.5 Email Printing Fails When the Filename Includes Extended Characters Or Double-byte Characters

Printing through email fails, if the name of the file includes either extended characters or double-byte characters.

To resolve this issue, rename the file to include only supported characters.

11.5.6 Unable to Configure Email Printing When SSL Is Enabled for IMAP/POP in GroupWise

If SSL is enabled for IMAP/ POP in GroupWise, you might be unable to configure email printing using the iPrint Appliance Management Console.

To work around this issue, you must manually import the GroupWise certificate into iPrint Appliance using the Management Console.

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, <https://10.0.0.1:9443> or <https://iprint.example.com:9443>.
- 2 Click the *Appliance System Configuration* icon.
- 3 Click *Digital Certificates*.
- 4 In the *Key Store* drop-down menu, select *JVM Certificates*.
- 5 Go to *File > Import > Trusted Certificate*.
- 6 Browse and select the GroupWise certificate, specify an *Alias* name, then click *OK*.
- 7 Click *Close*.
- 8 Click *Reboot* to reboot iPrint Appliance.

After iPrint Appliance reboots, configure email printing from the iPrint Appliance Management Console.

11.5.7 DataStore Creation Fails

When trying to create a DataStore, you might see a message: "Failed to parse the XML file: XML document structures must start and end within the same entity."

To work around this issue, run the configuration script located at `/opt/novell/iprintmobile/bin/config.sh`.

If you are still seeing the error, you must reinstall iPrint Appliance.

11.5.8 Garbage Characters Printed When Printing from Gmail on Internet Explorer

If you are using Gmail on Internet Explorer and you try to print an email, you might see garbage characters in place of line breaks. This is caused by a character encoding issue.

To work around this issue, you must change the default text encoding to UTF-8 in your Gmail settings.

- 1 Launch Internet Explorer, then go to www.gmail.com.
- 2 Sign in to Gmail with your user name and password.
- 3 Click the settings icon in the upper-right corner of the screen, then select *Settings*.
- 4 Under *General* settings, in the *Outgoing message encoding* section, select *Use Unicode (UTF-8) encoding for outgoing messages*.
- 5 Click *Save Changes*.

11.5.9 “Canceled by Operator” Messages in the Audit Logs

In the audit log files, you might see the following message:

```
Canceled by operator
```

This issue occurs if the files are not rendering correctly.

To work around this issue, ensure that the rendering service is active, and that the renderer is configured correctly.

11.5.10 Secure Printer Continues Printing after Changing the User Password (Local Appliance eDirectory Users Only)

When users change their passwords, secure printers might continue printing with the old password for up to 10 minutes. This is because of caching inside the iPrint LDAP authentication module, and affects only the users created inside the local eDirectory tree on iPrint Appliance.

To fix this issue, add the parameters `LDAPDNCacheTTL` and `LDAPDNCacheEntries` to the `iprint_g.conf` file, located at `/etc/opt/novell/iprint/httpd/conf/iprint_g.conf` as shown below:

To change the caching time to 30 seconds:

```
<IFModule mod_authnz_ldapdn.c>
    LDAPDNCacheTTL 30
</IfModule>
```

To disable caching:

```
<IFModule mod_authnz_ldapdn.c>
    LDAPDNCacheEntries -1
</IfModule>
```

After updating the `iprint_g.conf` file, launch the terminal window, and then restart the Apache service using the iPrint Appliance Management Console:

- 1 On a Web browser, use either the DNS name or the IP address to access the Management Console. For example, `https://10.0.0.1:9443` or `https://iprint.example.com:9443`.
- 2 Click the *iPrint Appliance Configuration* icon.
- 3 Under *Administration*, click *Services*.
- 4 Select *Apache server for Novell for iPrint*.
The *Action* and *Options* drop-down menus are activated.
- 5 Click the *Action* drop-down menu, then click *Restart*.

12 Known Limitations

You might encounter the following limitations when using iPrint Appliance.

- ♦ [Section 12.1, “General Limitations,” on page 209](#)
- ♦ [Section 12.2, “AirPrint Through iPrint Limitations,” on page 210](#)

12.1 General Limitations

- ♦ When using email printing commands, the `status`, `move`, `resume`, and `cancel` commands might not execute when used with the job name. If the commands do not execute with job names, use job id instead.
- ♦ Email printing to secure printers is disabled. This is to enhance the security of your print system.
- ♦ When you upgrade or export iPrint Appliance, the remote renderer status might be “Inactive.” To resolve this issue, you must unregister and re-register the remote renderer.
- ♦ To manage remote Driver Store, you must login to the remote machine via iManager.
- ♦ If you want to create a local user or a local group account in iPrint Appliance, ensure that you create the user or group account outside of the synced user’s context. This is because when you sync from an LDAP source to iPrint Appliance, the user and group entries are imported into the MySQL database of iPrint Appliance. By default, iPrint Appliance runs a sync to the MySQL database every 8 minutes. If the local user or group account is not found in the MySQL database, the account is automatically deleted during the next sync.
- ♦ Any configuration change in iPrint Appliance takes at least 20 minutes to get updated to the configuration file. If you export the iPrint Appliance configuration file within 20 minutes of modifying the configuration settings, and then import the configuration file into another copy of iPrint Appliance, the changes are not captured. In this case, you might not be able view the updated information in the iPrint Appliance. It is recommended that you wait at least 20 minutes after the last configuration change before you export the configuration file.
- ♦ The Novell iPrint app does not allow imported users to log in with the full user context.
- ♦ The remote renderer installation interface is not available in Slovak, Hungarian, Netherlands Dutch, or Catalan languages.
- ♦ When trying to print an image through the Gmail app on Android devices, you might see the message “Novell iPrint could not receive the document/image in a file format,” and the image might not print.
- ♦ When trying to unregister a renderer through the command line, you must provide the IP address of the renderer. You cannot unregister a renderer using the hostname.
- ♦ Before installing or uninstalling Adobe Acrobat X Pro on the Windows machine, you must stop the remote rendering service using the command `iprntrendcmd -q`. If you do not stop the remote rendering service, you might see a message that Microsoft Office applications are running, and you might not be able to proceed with installation or uninstallation.
- ♦ If a user account synced from an LDAP source to iPrint Appliance is renamed at the source, the user authentication fails. The user account is imported as a new object. Novell plans to address this issue in a future release.

- ♦ On performing LDAP import the following objects are not imported to the iPrint appliance:
 - ♦ Admin and default users
 - ♦ Empty groups
- ♦ On performing migration the following objects are not migrated to the iPrint appliance:
 - ♦ ACLs for driver store
 - ♦ iCM configuration of the admin user
- ♦ iPrint Appliance Migration target server SSL authentication might sometimes fail. To work around this issue, close the *miggui* application and launch it again.
- ♦ You might find warning logs in the `/var/opt/novell/log/iprintmobile/iprintmobile0.log` file. These logs are created if the file conversion takes more than two seconds. You can ignore this warning as there is no functionality loss.

12.2 AirPrint Through iPrint Limitations

- ♦ Users submitting AirPrint jobs to non-secure printers are logged as Guest users in the iPrint server audit log. This is because non-secure printers do not require user credentials to print.
- ♦ If a user is not authorized to use a secure printer, the printer does not print because of an authentication failure. The iOS device does not display any message to indicate the authentication failure.
- ♦ Users might be prompted for credentials for non-secure AirPrint printers.
- ♦ Secure printing to iPrint printers through AirPrint is supported only on iOS 6.x and later versions.
- ♦ "The printer is no longer available" message is displayed even if the printer is working fine.
- ♦ If you print to a secure AirPrint printer by providing your credentials, the credentials are stored, and you are not prompted for the credentials when you print to that printer in the future. This is the default behavior of AirPrint.
- ♦ Whenever a user prints to a secure printer, an "invalid request-URI" message is displayed in the Apache error logs.

A Email Service Parameters

- ◆ [Section A.1, “Incoming Mail Server Parameters,” on page 211](#)
- ◆ [Section A.2, “Outgoing Mail Server Parameters,” on page 212](#)

A.1 Incoming Mail Server Parameters

iPrint Appliance uses POP3 and IMAP protocols to access email servers to poll for email-based print jobs. The default POP3 and IMAP protocol ports are listed below:

Protocol	Port
IMAP	143
IMAP4 over SSL	993
POP3	110
POP3 (Secure)	995

The information in this table is captured from an email provider support pages. This is not an exhaustive list. Please refer to your email provider for additional information and compatibility.

Mail Server	Protocol	Address	Port	Notes
1&1	POP3	pop.1and1.com	995	
	IMAP4	imap.1and1.com	143	
AT&T	POP3	pop.att.yahoo.com	995	SSL-enabled
AOL Mail	IMAP	imap.aol.com	143	
Comcast	POP3	mail.comcast.net	110	
Google Gmail	POP3	pop.gmail.com	995	SSL-enabled
	IMAP		993	SSL-enabled
Hotmail	POP3	pop3.live.com	995	Secure Password Authentication (SPA)
Mac	POP3	mail.mac.com	143	
	IMAP4	mail.mac.com	143	
Netscape IMS	POP3	pop.3.isp.netscape.com	110	
Verizon	POP3	pop.verizon.net	110	
			995	SSL-enabled
Yahoo!	POP3	pop.mail.yahoo.com	465	SSL-enabled
			995	SSL-enabled

Mail Server	Protocol	Address	Port	Notes
Yahoo! Plus	POP3	plus.pop.mail.yahoo.com	995	SSL-enabled

A.2 Outgoing Mail Server Parameters

The iPrint Appliance uses SMTP protocols to send email to users who submit email-based print jobs in order to report their job status. The default SMTP protocol ports are listed below:

Protocol	Port
SMTP	25
SMTP (Secure via SSL)	465
SMTP (Secure via TLS)	587

The information in this table is captured from an email provider support pages. This is not an exhaustive list. Please refer to your email provider for additional information and compatibility.

Mail Server	Protocol	Address	Port	Notes
1&1	SMTP	smtp.1and1.com	587	
AT&T	SMTP	smtp.att.yahoo.com		Requires authentication
AOL Mail	SMTP	smtp.aol.com	587	
Comcast	SMTP	smtp.comcast.net	110	
Google Gmail	SMTP	smtp.gmail.com	465	SSL-enabled
			587	TLS-enabled
Hotmail	SMTP	smtp.live.com	587	TLS-enabled
Mac	SMTP	smtp.mac.com		
Netscape IMS	SMTP	smtp.isp.netscape.com	25	SSL-enabled
Verizon	SMTP	smtp.verizon.net	587	SSL-enabled
Yahoo!	SMTP	smtp.mail.yahoo.com	995	SSL-enabled
Yahoo! Plus	SMTP	smtp.mail.yahoo.com	465	SSL-enabled

B Best Practices

iPrint Appliance strives to provide a seamless printing experience. Following the practices listed below can ensure a highly efficient and highly available print system.

Print Manager: We strongly recommend not to create an additional Print Manager. The iPrint Initial Configuration Wizard creates a Print Manager. Only one Print Manager per appliance is recommended.

Spam Filters: When using email printing, the print command in the subject line might trigger spam filters. To avoid this issue, configure your email system to allow print-specific emails. Include the approved print users in the spam filter of your email system to prevent unwanted print requests.

Email Polling Interval: By default, the iPrint Appliance server polls the mail server for new email every 30 seconds. If you rely heavily on email printing, you must reduce the polling interval for faster response. However, you must ensure that your mail server is not overloaded by the frequent polling.

DNS Configuration (iPrint Appliance and Remote Renderer): We strongly recommend that you use a DNS resolvable host name for iPrint Appliance and remote renderer. This host name is used by client devices when printing and can cause failures if it is not resolved. The IP address assigned to the iPrint Appliance and remote renderer must have DNS host entry in the DNS server. Ensure that the DNS entries are in the same domain.

Time Sync: It is recommended that you sync the Virtual Machine host and the guest Virtual Machine time to the same source.

Connectivity between iPrint Appliance and External Renderer: We recommend that you have a high-speed connection between iPrint Appliance and the external renderer.

Connectivity between iPrint Appliance and Mail Server: If you rely heavily on email printing, we recommend that you have a high-speed communication link between iPrint Appliance and the mail server, in order to speed up the printing of email jobs.

Applications on Remote Renderer: For best performance, do not run any other applications on the remote renderer machine.

Importing Users from Active Directory Source Using LDAP Sync: You might not be able to import all users from the Active Directory source using LDAP sync. By default, only 1,000 users are returned from Active Directory. This is caused by a default setting in Active Directory that limits LDAP searches to 1,000 results. For more information, see the Microsoft support article: [How to view and set LDAP policy in Active Directory by using Ntdsutil.exe](#).

LDAP Import: Do not create local users under LDAP imported OUs.

Partitions and Replicas Option in iManager: In iManager, you might see the *Partition and Replicas* option. This feature is not required for iPrint Appliance. Therefore, it is not supported. We recommend that you not use it on the iPrint Appliance eDirectory.

Creating Local Users and Groups in iPrint Appliance: If you want to create a local user or a local group account in iPrint Appliance, ensure that you create the user or group account outside the synced user's context. This is because when you sync from an LDAP source to iPrint Appliance, the user and group entries are imported into the MySQL database of iPrint Appliance. By default, iPrint Appliance runs a sync to the MySQL database every 8 minutes. If the local user or group account is not found in the MySQL database, the account is automatically deleted during the next sync.

Remote Renderer Fails When Proxy is Enabled: If proxy is enabled on the Windows machine that is running the remote renderer, the renderer might fail to process print jobs. To work around this issue, you must disable proxy.

B.1 Best Practices for Mobile Printing

On iPrint Appliance 1.1, when you enable a printer for mobile printing, the server performs additional background tasks such as driver download, installation, and configuration. Though the printer is immediately enabled for mobile printing, the print jobs might go through the default driver configured for local and remote renderer(s). If the default driver is not compatible with the printer then it can lead to poor quality printing. It is recommended that you test the printer by issuing test prints to ensure that newly enabled printer is configured correctly.

Check the mobile server logs for any related errors to ensure that there are no failures with the printer configuration at the local or remote renderer(s). If you notice errors in the mobile server logs indicating a failure at the local or remote renderer(s), try following steps to resolve the issues.

- 1 Disable the printer for mobile printing to avoid users printing to it.
- 2 Ensure that the print manager is running.
- 3 Ensure that the Driver Store is running.
- 4 Ensure that the driver is present in the Driver Store for the renderer platform, and is associated with the printer.
- 5 Try installing the printer from the IPP page for the corresponding platform on which renderer configuration failed. This shows the exact error indicating the underlying problem.
- 6 Enable the printer for mobile printing after fixing the error.

C iPrint Appliance Support Matrix

This section provides information on the following.

- ◆ [Section C.1, “Mobile Server Support,” on page 215](#)
- ◆ [Section C.2, “Mobile Operating System Support,” on page 215](#)
- ◆ [Section C.3, “Directory Services Support,” on page 216](#)
- ◆ [Section C.4, “Management Console Support,” on page 216](#)
- ◆ [Section C.5, “MobileIron Support,” on page 216](#)
- ◆ [Section C.6, “Remote Renderer,” on page 217](#)
- ◆ [Section C.7, “Supported Document Formats By the Local Renderer and Remote Renderer,” on page 217](#)
- ◆ [Section C.8, “iPrint Appliance Server and Client Support,” on page 218](#)
- ◆ [Section C.9, “OES Source Platform Support for Migration,” on page 218](#)
- ◆ [Section C.10, “Clients for Email Printing,” on page 219](#)
- ◆ [Section C.11, “Supported Browsers for iPrint,” on page 219](#)

C.1 Mobile Server Support

Table C-1 Mobile Server Support

Features	Version
Email	<ul style="list-style-type: none">◆ Novell GroupWise 2012◆ Microsoft Exchange 2010◆ IBM Domino server 9◆ Lotus Notes

C.2 Mobile Operating System Support

Table C-2 Mobile Operating System Support for Apps

Type	Version
iOS	<ul style="list-style-type: none">◆ 7.x◆ 8

Type	Version
Android	<ul style="list-style-type: none"> ◆ Gingerbread (2.3.x) ◆ Ice Cream Sandwich (4.0.x) ◆ Jelly Bean (4.1.x, 4.2.x, 4.3.1) ◆ KitKat (4.4)
BlackBerry	<ul style="list-style-type: none"> ◆ OS 10
Windows	<ul style="list-style-type: none"> ◆ Phone 8 ◆ RT 8.1

C.3 Directory Services Support

Table C-3 Directory Services Support

LDAP Directory Service	Version
eDirectory	<ul style="list-style-type: none"> ◆ 8.8.x or later
Active Directory	<ul style="list-style-type: none"> ◆ Active Directory configured on Windows Server 2012 R2 Standard Edition ◆ Active Directory configured on Windows Server 2008 R2 Enterprise Edition

C.4 Management Console Support

Table C-4 Management Console Support

Access	Version
Browser	<ul style="list-style-type: none"> ◆ Internet Explorer 11,10, and 9 ◆ Firefox 30 or higher ◆ Chrome 35 or higher ◆ Safari 7 or higher ◆ iOS 6.x and 7.1 tablet with default browsers ◆ Android 4.x tablet with default browsers

C.5 MobileIron Support

Table C-5 MobileIron Support

MobileIron Core Version	iPrint Mobile App Version
6.0.x	1.1 mobile app for iOS and Android

MobileIron Core Version	iPrint Mobile App Version
7.5	1.1 mobile app for iOS and Android

C.6 Remote Renderer

- ◆ [Table C-6, “Operating Systems Support,” on page 217](#)
- ◆ [Table C-7, “Software Support,” on page 217](#)

Table C-6 Operating Systems Support

Support	Version
Operating System	<ul style="list-style-type: none"> ◆ Windows 8.1 64-bit ◆ Window 8 64-bit ◆ Windows 7 SP2 64-bit ◆ Windows 2012 R2 64-bit ◆ Windows 2010 (32-bit and 64-bit) Standard ◆ Windows 2008 R2 Enterprise 64-bit ◆ Windows Vista (32-bit and 64-bit)

Table C-7 Software Support

Support	Version
Microsoft Office	<ul style="list-style-type: none"> ◆ Ms Office 2013 (32-bit and 64-bit) Standard ◆ Ms Office 2013 32-bit Standard
Adobe Acrobat	<ul style="list-style-type: none"> ◆ Adobe Acrobat XI Professional

C.7 Supported Document Formats By the Local Renderer and Remote Renderer

Table C-8 Local Renderer Supported Document Formats

Software	File Formats
OpenDocument	ODT, ODP, ODG, ODS
Graphics	JPG, BMP, TIF, GIF, PNG
Others	TXT
	HTML (Static)
	Static HTML content refers to the HTML content that does not change or have dependencies on external files such as MySQL database and JavaScript.

Table C-9 Remote Renderer Supported Document Formats

Software	File Formats
Microsoft Word	DOC, DOCX, DOCM, DOTM, RTF
Microsoft Excel	XLS, XLSX, XLSM, XLSB
Microsoft PowerPoint	PPT, PPTX, PPTM, PPTX
Others	PDF

C.8 iPrint Appliance Server and Client Support

Table C-10 iPrint Appliance Server and Client Support

Support	Version
Hypervisor	<ul style="list-style-type: none"> ◆ Xen on SLES ◆ Citrix Xen ◆ Hyper-V ◆ ESXi 5.x ◆ ESX 4 ◆ VMware Workstation 9 and 10
Desktop iPrint Client	<ul style="list-style-type: none"> ◆ Windows 10 ◆ Windows 8.1 ◆ Windows 8.1 Surface Pro tablet ◆ Windows 8 ◆ Windows 7 ◆ Windows Server 2008 R2 ◆ Windows Server 2012 R2 ◆ Mac 10.7 or later
Appliance Installer (virtual m/c format)	<ul style="list-style-type: none"> ◆ OVF ◆ VHD ◆ XEN

C.9 OES Source Platform Support for Migration

Table C-11 Source Platform Support for OES iPrint Service

Services	NW 6.5 SP8	OES 2 SP3	OES 11	OES 11 SP1	OES 11 SP2	OES 2015
iPrint	✓	✓	✓	✓	✓	✓

If the source platforms are NW 5.1, NW 6.0 SP5, OES 1 SP2, OES 2 SP1 or OES 2 SP2, you must upgrade to the latest supported source platform as listed in the above table.

C.10 Clients for Email Printing

- ◆ Novell GroupWise 2012 and Novell GroupWise 2014
- ◆ Microsoft Outlook 2010
- ◆ IBM Lotus Notes 9
- ◆ iOS 5, 6, x, 7.x default mail client
- ◆ Mail clients on Android 2.3 or higher
- ◆ Windows Mobile 8
- ◆ Blackberry 7.1
- ◆ Windows 8 Pro default mail client on tablet
- ◆ Gmail

C.11 Supported Browsers for iPrint

The section provides information on which Web browsers are supported for different iPrint tasks and operations.

- ◆ [Section C.11.1, “iPrint Client Supported Browsers,” on page 219](#)
- ◆ [Section C.11.2, “Supported Browsers for the iPrint Plug-In and iManager,” on page 220](#)
- ◆ [Section C.11.3, “Supported Browsers for the iPrint Map Designer,” on page 221](#)

C.11.1 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 8.6 or later ◆ Mozilla Firefox 38.1 or later ◆ Google Chrome 43 or later
Windows XP	◆ 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 ◆ Google Chrome
Windows 7	◆ Internet Explorer 8 or later ◆ Mozilla Firefox 3.0.x or later ◆ Google Chrome

iPrint Client Platform	Supported Browsers
Windows 8/ Windows 8.1/ Windows 10	<ul style="list-style-type: none"> ◆ Internet Explorer 10 or later ◆ Mozilla Firefox 3.0.x or later ◆ Google Chrome

NOTE: Mozilla Firefox and Google Chrome browsers are supported only on iPrint Windows Client 6.0.0 and above for printer installation.

C.11.2 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:

- ◆ [“Uploading PPD Files Using iManager” on page 220](#)
- ◆ [“Uploading Windows Printer Drivers Using iManager” on page 220](#)

Uploading PPD Files Using iManager

iPrint Client Platform	Supported Browser	Upload PPD file to Driver Store on Linux
Windows	Internet Explorer 6.0 or later	Supported using the <i>Add from File</i> button.

NOTE: On Mac operating systems, PPD upload is not supported. PPD files for Mac can be uploaded using Internet Explorer on Windows. Alternatively, you can also upload the PPD files for Mac and Linux using the `iprntcmd` command from a terminal session. For uploading the PPD files for Mac and Linux, refer [Section 9.6, “Using iprntcmd on Linux and Macintosh,” on page 176](#).

Uploading Windows Printer Drivers Using iManager

Client	Supported Browser	Upload Windows Printer Driver to Driver Store on Linux
Windows	Internet Explorer 6.0 or later	Supported

C.11.3 Supported Browsers for the iPrint Map Designer

The iPrint Map Designer works only with Microsoft Internet Explorer 6.0 or later.

D TIDs for iPrint

This section contains the list of TIDs that are available for iPrint Appliance. These TIDs are located on the [Novell Technical Support](#) website and are listed in this document to provide easy access for the users.

TID No	Description
7015553	Accessing the Renderer's page displays RPC error
7013074	Local rendered jobs are cancelled or improperly rendered
7015506	Unable to contact the remote renderer
7015857	Renderer is not using the modified printer driver
7013428	Unable to resolve domain <iPrintApplianceDomain> when printing from a mobile device
7013185	Error "Check the printer for errors" is displayed when printing from a mobile device
7015684	Copy printer driver profiles from one iPrint Appliance to another
7015896	How to install VMware Tools on the iPrint Appliance
7015913	How to install iPrint printers using AD tools
7012895	When printing from an IOS device no AirPrint printers are found
♦ 7015852	Implementing a satellite Avahi listener to advertise iPrint printers
♦ 7015851	Implementing an Avahi reflector to advertise iPrint printers
♦ 7015848	Implementing a DNS-SD solution to advertise iPrint printers

E iPrint Commands and Utilities

This section contains information about iPrint commands and utilities.

- ♦ [“iprintcmd\(1\)” on page 226](#)

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 print manager, *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.

-c | --clearallpasswords

Clears all saved passwords.

-f | --fetchdriverlocal <printer-uri>

Fetches the printer driver on local machine.

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
```

or

```
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*
```

or

```
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
```

or

```
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*
```

or

```
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
```

or

```
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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F iPrint Appliance Documentation Updates

This section contains information about documentation content changes made to this guide since the initial release of Novell iPrint Appliance.

- ◆ [Section F.1, “September 2015 \(iPrint Appliance 1.1 Patch 3\),” on page 231](#)
- ◆ [Section F.2, “June 2015 \(iPrint Appliance 1.1 Patch 2\),” on page 231](#)
- ◆ [Section F.3, “April 2015 \(iPrint Appliance 1.1 Patch 1\),” on page 232](#)
- ◆ [Section F.4, “July 2014 \(iPrint Appliance 1.1\),” on page 232](#)
- ◆ [Section F.5, “February 2014 \(iPrint Appliance 1.0.1 Patch 1\),” on page 233](#)

F.1 September 2015 (iPrint Appliance 1.1 Patch 3)

F.1.1 What’s New or Changed in iPrint Appliance

Location	Update
Section 2.2, “What’s New (iPrint Appliance 1.1 Patch 3),” on page 17	This section is new

F.1.2 Windows 10 Support

The guide is updated with Windows 10 support in all the relevant sections.

F.2 June 2015 (iPrint Appliance 1.1 Patch 2)

F.2.1 What’s New or Changed in iPrint Appliance

Location	Update
Section 2.3, “What’s New (iPrint Appliance 1.1 Patch 2),” on page 17	This section is new

F.2.2 Managing iPrint Appliance

Location	Update
Section 7.9, “Field Patch,” on page 89	This section is updated with a <i>Download Log File</i> button to download the file.

F.2.3 Installing and Setting Up iPrint on Client Workstations

Location	Update
Section 9.2.1, “Using the iPrint Printer List Web Page on Windows,” on page 156	This section is updated with new installation steps and Google Chrome browser.
Section 9.2.2, “Using the iPrint Printer List Web Page on Macintosh,” on page 160	This section is updated with new installation steps and Google Chrome browser.

F.3 April 2015 (iPrint Appliance 1.1 Patch 1)

- ◆ [Section F.3.1, “What’s New or Changed in iPrint Appliance,” on page 232](#)
- ◆ [Section F.3.2, “Document Rendering,” on page 232](#)
- ◆ [Section F.3.3, “Installing and Setting Up iPrint on Client Workstations,” on page 232](#)

F.3.1 What’s New or Changed in iPrint Appliance

Location	Update
Section 2.4, “What’s New (iPrint Appliance 1.1 Patch 1),” on page 19	This section is new

F.3.2 Document Rendering

This chapter is updated with details of Secure and Non-secure communication.

F.3.3 Installing and Setting Up iPrint on Client Workstations

This chapter is new.

F.4 July 2014 (iPrint Appliance 1.1)

- ◆ [Section F.4.1, “Desktop Integration,” on page 232](#)
- ◆ [Section F.4.2, “iPrint Overview,” on page 233](#)
- ◆ [Section F.4.3, “What’s New or Changed in iPrint Appliance,” on page 233](#)
- ◆ [Section F.4.4, “Installing iPrint Appliance,” on page 233](#)
- ◆ [Section F.4.5, “iPrint Appliance Support Matrix,” on page 233](#)
- ◆ [Section F.4.6, “TIDs for iPrint,” on page 233](#)
- ◆ [Section F.4.7, “Print Commands and Utilities,” on page 233](#)
- ◆ [Section F.4.8, “Third-Party Materials,” on page 233](#)

F.4.1 Desktop Integration

The guide is revamped to include the desktop content.

F.4.2 iPrint Overview

This chapter is revamped for better user experience.

F.4.3 What's New or Changed in iPrint Appliance

This chapter is new.

F.4.4 Installing iPrint Appliance

Location	Update
Section 4.1.2, "Citrix Xen Configuration," on page 32	This section is new

F.4.5 iPrint Appliance Support Matrix

Location	Update
Section C.7, "Supported Document Formats By the Local Renderer and Remote Renderer," on page 217	This section is new

F.4.6 TIDs for iPrint

This chapter is new.

F.4.7 Print Commands and Utilities

This chapter is new.

F.4.8 Third-Party Materials

This chapter is new.

F.5 February 2014 (iPrint Appliance 1.0.1 Patch 1)

Location	Update
Chapter 6, "Document Rendering," on page 71	Updated the Remote Renderer chapter to include information about the in-built PDF renderer for iPrint Appliance 1.0.1 Patch 1.
