

Dell™ Proximity
Printing Solution
Administrator's Guide



Notes and Cautions



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

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Contents

- Dell Proximity Printing Solution 5
 - Introduction 5**
 - Requirements for setting up DPPS 5**
 - Server Operating System 5
 - Server Hardware Requirements 6
 - Client Hardware and Software Requirements 6
 - Server Installation 7**
 - Installing DPPS Client 7**
 - Downloading DPPS Client 7
 - Installing DPPS Client 8
 - Updating DPPS Client. 8
 - DPPS Administrator Mode Interface 9**
 - Connecting to the Server. 9
 - Menu Options. 10
 - Using the Main Interface 12**
 - Floor Manager 12
 - Managing Buildings 12
 - Managing Floors 14
 - Managing Printers 16
 - Icon Manager 23**
 - Adding an Icon 24
 - Adding a Filter 24

Configuring Assistance Settings	25
DPPS Client Mode Interface	26
Connecting to the Server	26
Selecting Your Home Printer	26
Sending Print Jobs	27
Managing Active Print Jobs	28
Auto-Print Options	29

Dell Proximity Printing Solution

Introduction

The Dell™ Proximity Printing Solution (DPPS) allows you to configure your network printers so that end users can easily select a printer closest to them while printing their documents.

Requirements for setting up DPPS

- A physical or virtual server to install DPP server. For more information on DPP server requirements, see "Server Hardware Requirements" on page 6.
- A WiFi® network with reasonably distributed access points for the proximity printing feature.
- Network based printers.

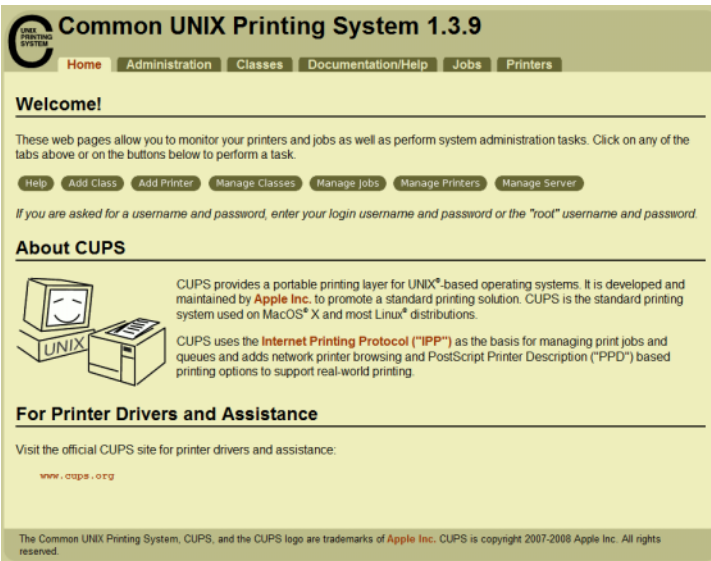


NOTE: DPP does not support USB printers.

- An IT professional with advanced knowledge of:
 - a** Linux
 - b** Microsoft® Active Directory® (AD)
 - c** Domain Name Services (DNS)
- A network infrastructure with
 - a** Microsoft Active Directory
 - b** Domain Controller (DC)
 - c** Domain Name Services

Server Operating System

The DPPS server uses Ubuntu Linux distribution for printer management utilizing Common UNIX Printing System (CUPS) 1.3.9. This allows for portability across multiple OS clients and a simple unified interface for server interactions.



Server Hardware Requirements



NOTE: The specifications mentioned below are approximate and also relatively apply to virtual machines.

Processor	2 GHz dual-core or 3 GHz single-core processor
Memory	2 GB (4 GB recommended for a large database)
Free hard disk space	10 GB

Client Hardware and Software Requirements

Processor	No special requirements beyond what is necessary to run the installed operating system
Memory	No significant requirements beyond what is necessary to run the installed operating system
Free hard disk space	25 MB hard disk space for installing the DPPS client. Some free hard disk space is also needed for the DPPS map cache
Operating system	Windows [®] XP SP2 or higher, Windows Vista [®] SP1 or higher, Windows 7

Server Installation

The DPPS server uses Linux as the base operating system. See the *DPPS Installation Guide* for more information on supported Linux releases and installation instructions.

Installing DPPS Client

You can download and install DPPS client from the Dell Support website at support.dell.com.

Downloading DPPS Client

- 1** Go to support.dell.com.
- 2** Click **Start Here** under any of the options.
- 3** Click the icon below **Drivers and Downloads**.
- 4** Click **Select Model**.
- 5** Click **Printers**.
- 6** Click **Imaging Solutions**.
- 7** Click **Dell Proximity Printing Solution (DPPS)** and then click **Confirm**.
- 8** Find the appropriate entry and click **Download**.
- 9** Follow the on-screen instructions to download and save the MSI file to your computer.

Installing DPPS Client

- 1 Open the file that you downloaded or were provided by your IT team. The **Dell Proximity Printing Solution - InstallShield Wizard** appears.
- 2 Click **Next**. The message **Ready to Install the Program** appears.
- 3 Click **Install**. The message **InstallShield Wizard Completed** appears.
- 4 Click **Finish**.

To run DPPS client as an administrator, start the program with the **-admin** switch. For troubleshooting, you can additionally specify **-debug** and **-debughttp** switches. The **-debug** switch enables logging all activities. The **-debughttp** switch shows a connection dialog with all active and inactive connections to the server, when you click the network connectivity icon.

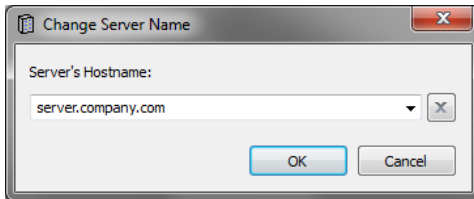
Updating DPPS Client

You can update the DPPS client on the server by performing a package update. Once the server has an updated client, end users connecting to the DPPS server are automatically notified to update the client on their computers.

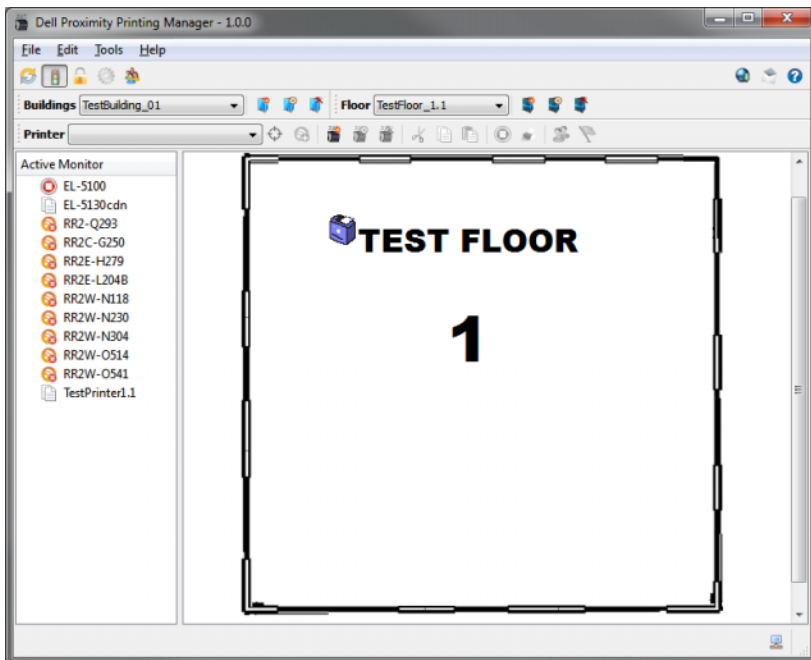
DPPS Administrator Mode Interface

Connecting to the Server

You must set the server address when you launch DPPS client for the first time. On the **Change Server Name** window, type the DPPS server name and click **OK**.



After you set the DPPS server address, the DPPS client automatically connects to the local DPPS server and downloads the necessary maps and information to your computer. Once the information is downloaded, you can utilize the administrator mode of the DPPS client to manage printers across multiple buildings and icons associated with the printers.



If you open DPPS using a computer that does not have an active Kerberos ticket, the authentication fails and you are prompted for your credentials. After you type your Active Directory account information, DPPS generates a Kerberos ticket for itself.

Menu Options

The following commands are available in the main menu of DPPS client. The **Enabled** in column indicates which mode of DPPS client is the command enabled in.

Menu Options			
Item	Details	Shortcut Key	Enabled in
File			
New			Admin
Building	Create a new building.		
Floor	Create a new floor to associate with the current building and include a map file.		
Printer	Creates a new printer and associates it with the current floor.		
Refresh View	Refreshes the utility by downloading information from the DPPS server.	F5	Admin
Move Job	Moves the currently selected job to a different DPPS printer.	Ctrl+M	Client
Cancel Job	Cancels the current print job.	Ctrl+Del	Client
Shutdown	Closes the program.	Ctrl+Q	Both
Edit			
Building	Change the name of the current building.		Admin
Floor	Change the name of the current floor and optionally upload a new map file.		Admin
Printer	Change the information of the current printer.		Admin

Menu Options *(continued)*

Item	Details	Shortcut Key	Enabled in
Tools			
Set Server	Allows you to change the address of the DPPS server.	Ctrl+S	Both
Use Automatic / Manual Credentials	If this option is enabled, DPPS client uses your Microsoft Windows (or other Kerberos) login credentials. If this option is disabled, you are prompted for your username and password		Both
Use Active Monitor	Provides a list of printers that are considered to be in a failed state.		Admin
Lock/Unlock Printers	Determines whether or not the printers can be moved on the map.		Admin
Icon Manager	Opens the Icon Manager window		Admin
Set Home Printer	Allows you to set your home printer for printing without a wireless connection.	Ctrl+Home	Client
Printer Selection Options	Open the Auto-Print Options window.		Client
Pop-ups Stay on Top	The windows displayed by DPPS client are displayed over other windows.	Ctrl+P	Client
Hide Tray Icon When Idle	Unless DPPS client needs attention, the system tray icon remains hidden.	Ctrl+H	Client
Customize Buttons	This allows you to change the size of the icons and set whether or not to display the text for the buttons.		Both
Help			
Help	Opens the help documentation.	F1	Both
Request for Assistance	Send an E-Mail to the support team.		Both
Check for Updates	Checks for DPPS client updates.		Both
About Dell Proximity Printing Solution	Opens the About window showing information about DPPS client.		Both

Using the Main Interface

The main interface has three primary sections—main menu and the toolbar, the Floor Manager, and the Active Monitor.

Floor Manager

The Floor Manager appears in the administrator mode of DPPS client. Using the Floor Manager interface, you can graphically manage the DPPS server.

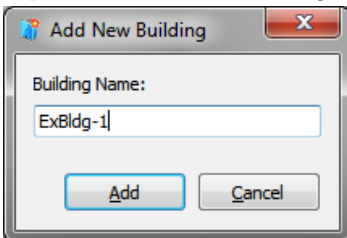


Managing Buildings

Buildings are used to organize floors, which store printers based on a co-ordinate system overlaid on an image of a map.

Adding a Building

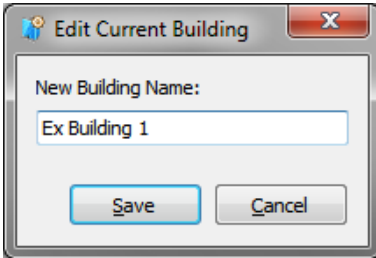
- 1 Click File →New →Building or click  on the toolbar. The Add New Building window appears.
- 2 Type the name of the building and click Add.



 **NOTE:** You must use a unique name for each building.

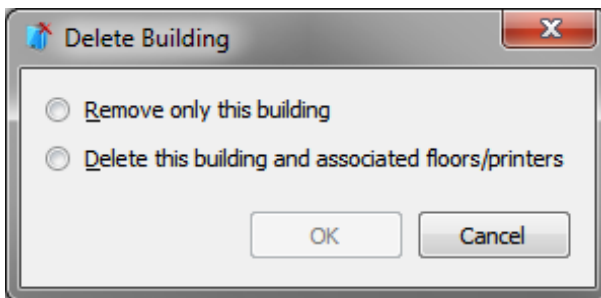
Editing a Building

- 1 Click Edit → Building.
- 2 Type the new name for the building and click Save.



Deleting a Building

- 1 Click the delete building icon  on the toolbar. The **Delete Building** window appears. You can choose from the following options:
 - a Remove only this building — Removes the specified building but the floors remain on the server with their attached printers. You can manually re-associate the orphaned floors with a new building.
 - b Delete this building and associated floors/printers — Removes the specified building along with any associated floors and printers.



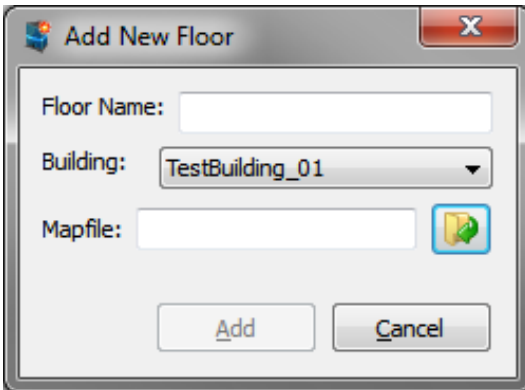
- 2 Choose the desired option and click Confirm.

Managing Floors

Floors are associated with buildings and store images of maps. The floors allow you to position printers on a co-ordinate system.

Adding a Floor

- 1 Click File → New → Floor or click  on the toolbar. The Add New Floor window appears.



- 2 Type the floor name.



NOTE: You must use a unique name for every floor in a building. If you have multiple buildings, you can use the format *Building Name–Floor Name* to name the floors so that you can easily distinguish them.

- 3 Select the building to which you want to associate this floor.

- 4 Click  to browse and select a map image of the floor.



NOTE: The map image must be in .png format and must be already scaled to the needed size. It is recommended that you scale the image so that you can easily fit multiple printers next to each other relative to their actual location.

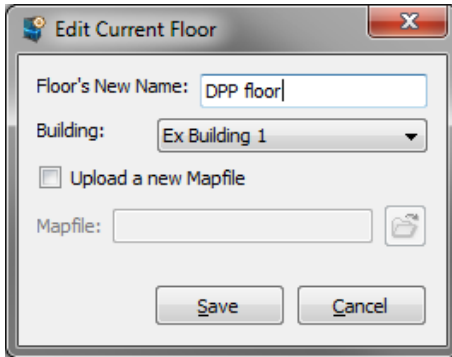


NOTE: It is recommended to use black and white images for maps showing only the walls, entrances and physical objects on the floor. Images with more objects are of larger size and take longer to load on end user's computer.

- 5 Click Add.

Editing a Floor

To edit any property of a floor, click **Edit → Floor**. The **Edit Current Floor** window appears.



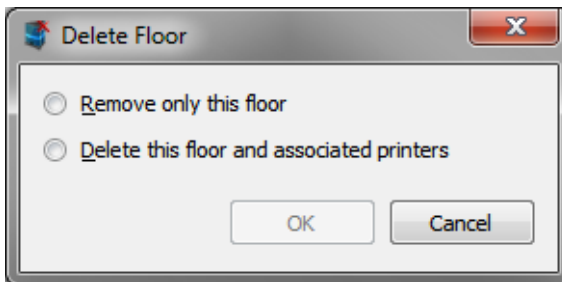
Edit the required fields and click **Save** to save your changes.



NOTE: If you also need to upload a new map image for this floor, check the box **Upload a new Mapfile**, and click  to browse and select the new map image.

Deleting a Floor

- 1 Click the delete floor icon  on the toolbar. The **Delete Floor** window appears. You can choose from the following options:
 - a Remove only this floor — Removes the specified floor but the associated printers remain on the server. You can manually re-associate the orphaned printers with a new floor.
 - b Delete this floor and associated printers — Removes the specified floor and any associated printers.



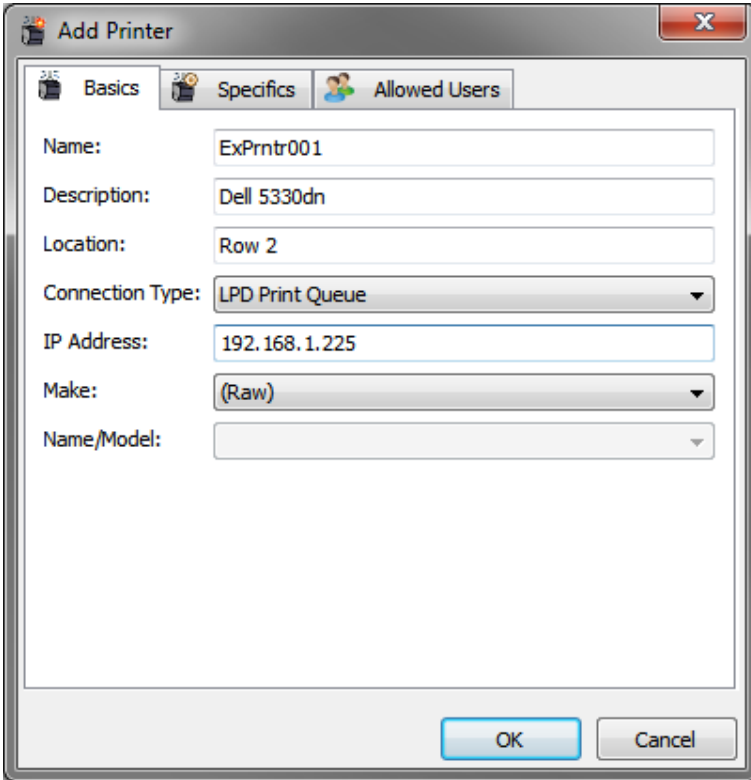
- 2 Choose the desired option and click **Confirm**.

Managing Printers

Adding a Printer

To add a new printer to a floor:

- 1 Click File → New → Printer or click  on the toolbar.
The Add New Printer window appears showing the Basics tab.



The screenshot shows the 'Add Printer' dialog box with the 'Basics' tab selected. The fields are filled with the following information:

Field	Value
Name:	ExPrntr001
Description:	Dell 5330dn
Location:	Row 2
Connection Type:	LPD Print Queue
IP Address:	192.168.1.225
Make:	(Raw)
Name/Model:	

At the bottom right, there are 'OK' and 'Cancel' buttons.

- 2 Type the printer name.



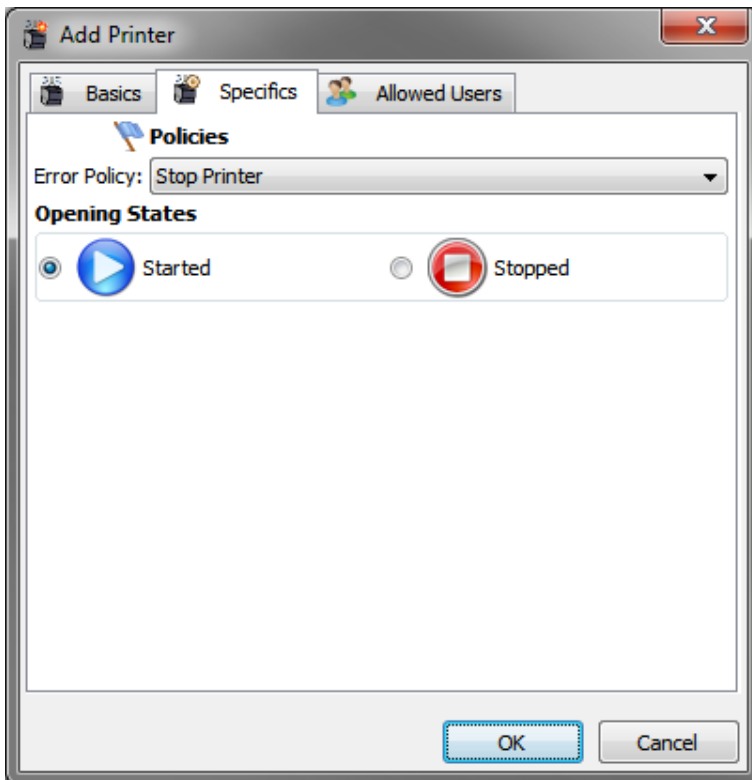
NOTE: To avoid confusion for the end users, ensure no two printers have the same name.

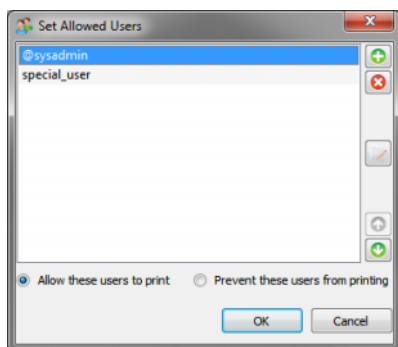
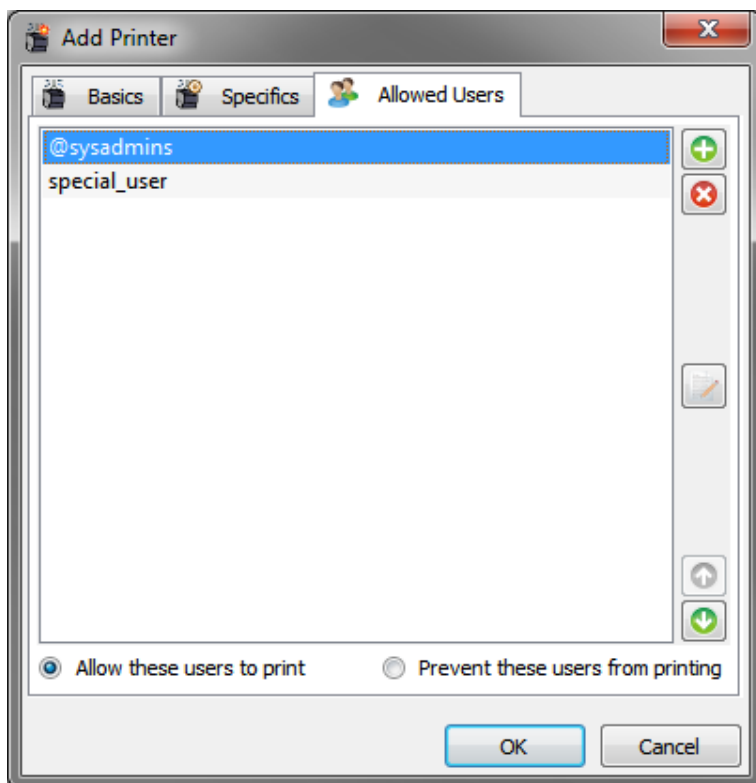
- 3 Type a description for the printer. This description is used by the Icon Filter to associate an icon to the printer.
- 4 Type a printer location (optional).

- 5 Select a connection type used by the printer. Selecting this option simplifies the configuration process as it automatically adds the necessary connection information. **LPD Print Queue** is the recommended option. You may use a different option depending on your network setup.
- 6 Select the printer manufacturer in the **Make** dropdown and then select the printer model in the **Name/Model** dropdown. The DPPS server can store all the necessary drivers for various models of printers so they do not need to be installed locally on the your computer. If you cannot find the desired manufacturer, select **Raw** to choose a generic driver.

 **NOTE:** **Raw** is tested to work with most features of most printers, however some specific functions may be unavailable depending on the printer.

You can optionally configure more settings on the **Specifics** and **Allowed Users** tab of the **Add Printer** window.





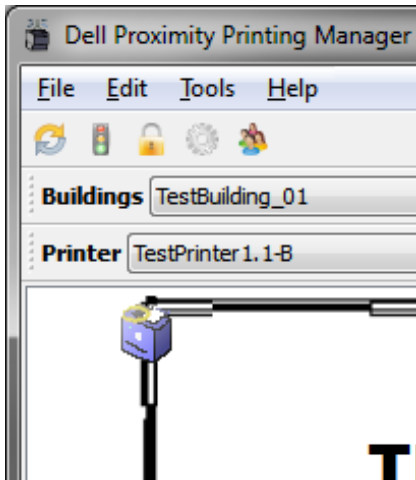
Change your desired settings and click **OK**.

The new printer appears on the top-left corner of the map.

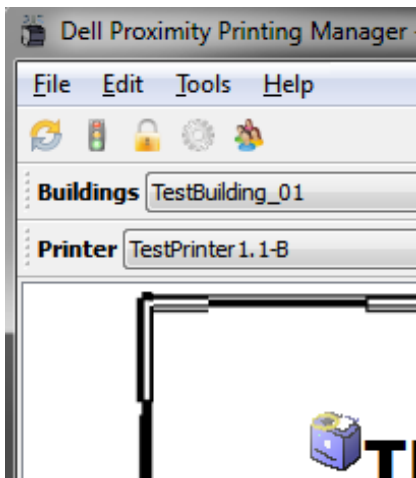
Mapping the First Printer

After you add a printer, you can position the printer at a desired location on the map.

- 1 The newly added printer appears on the top-left corner of the map with the **No Admin Scans** icon 🚫 on it.



- 2 Click and drag the printer on the map as close as possible to its physical location.



- 3 Select the printer icon and click  or right-click the printer icon and click **Add Admin Scan**. The following messages appear from the system tray and in the DPPS client's status bar:
 - Checking proximity to printers. Please wait.
 - Sending scan to server.
 - Scan successfully sent.
 - 4 Verify that the scan was successfully sent to the server using one of the following methods:
 - a The **No Admin Scans** icon  disappears from the printer icon once the scan is successfully sent to the server.
 - b Position the mouse pointer over the printer icon and read the tool tip that appears. You should see **Scans: 1 [Admin: 1 User: 0]**. If the number of scans is less than 1, you will need to run the admin scan again.
-  **NOTE:** It is recommended that you initially create at least five admin scans per printer at different times of the day to ensure that the averaging calculations are accurate.
-  **NOTE:** If no admin scans are associated with a printer, it will not be read correctly by end user scans and the printer will not be recommended to users even if they are standing right next to it.

Mapping Additional Printers

You can map additional printers using one of the following methods:

- 1 Create copies of existing printers: DPPS allows you to create copies of existing printers. This method reduces the time taken to add new printers as you do not have to re-enter all the fields.
- 2 Manually create new printers: Right-click the point on the map where you would like to create a new printer and click **Create New Printer**.
- 3 Click **File → New → Printer**. The **Add New Printer** window appears. For more information on adding printers using this method, see "Adding a Printer" on page 16.

Restricting Access to Printers

You can specify the users/user groups that can print to specific printers by:

- Adding the users/user groups while adding the printer.
- Editing the printer properties after you create the printer.

Adding a User or a User Group

1 Click .

2 If you are adding a single user, type the Kerberos authenticated login name, without the domain information. If you are adding a user group, prefix the user-group name with @.

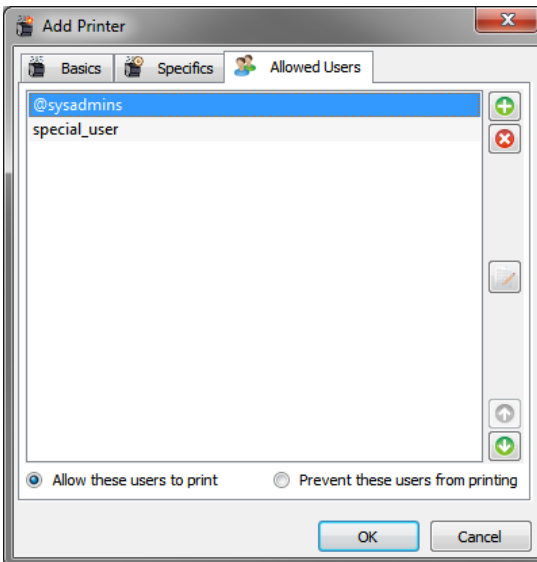


NOTE: If you type a single user name with the domain information, CUPS may not recognize the account.



NOTE: For information on adding users to a user group, see the CUPS documentation.

3 Click OK. The user/user-group appears in the list.

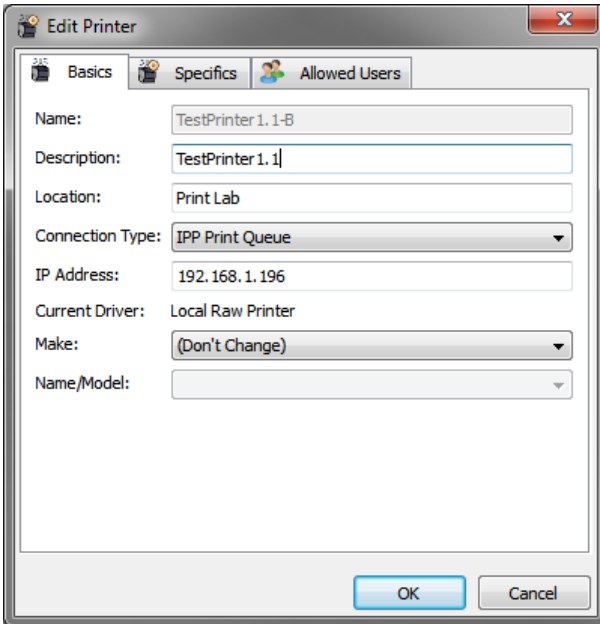


Removing a User or a User Group

- 1 Click on the user/user group that you want to remove.
- 2 Click  and confirm the message that appears.

Editing a Printer

To edit the settings for a printer, click **Edit → Printer**. The **Edit Printer** window appears.



The **Edit Printer** dialog box has three tabs: **Basics**, **Specifics**, and **Allowed Users**. The **Basics** tab is selected. It contains the following fields:

- Name:** TestPrinter 1. 1-B
- Description:** TestPrinter 1. 1
- Location:** Print Lab
- Connection Type:** IPP Print Queue (dropdown menu)
- IP Address:** 192.168.1.196
- Current Driver:** Local Raw Printer
- Make:** (Don't Change) (dropdown menu)
- Name/Model:** (empty dropdown menu)

At the bottom right are **OK** and **Cancel** buttons.

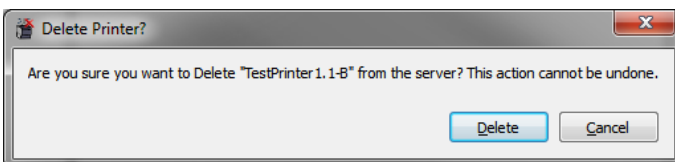
Edit the required fields and click **OK** to save your changes.



NOTE: The printer name cannot be edited in this version of DPPS.

Deleting a Printer

Click the delete printer icon  on the toolbar. The **Delete Printer** window appears.



The **Delete Printer?** dialog box contains the following text:

Are you sure you want to Delete "TestPrinter 1. 1-B" from the server? This action cannot be undone.

At the bottom right are **Delete** and **Cancel** buttons.

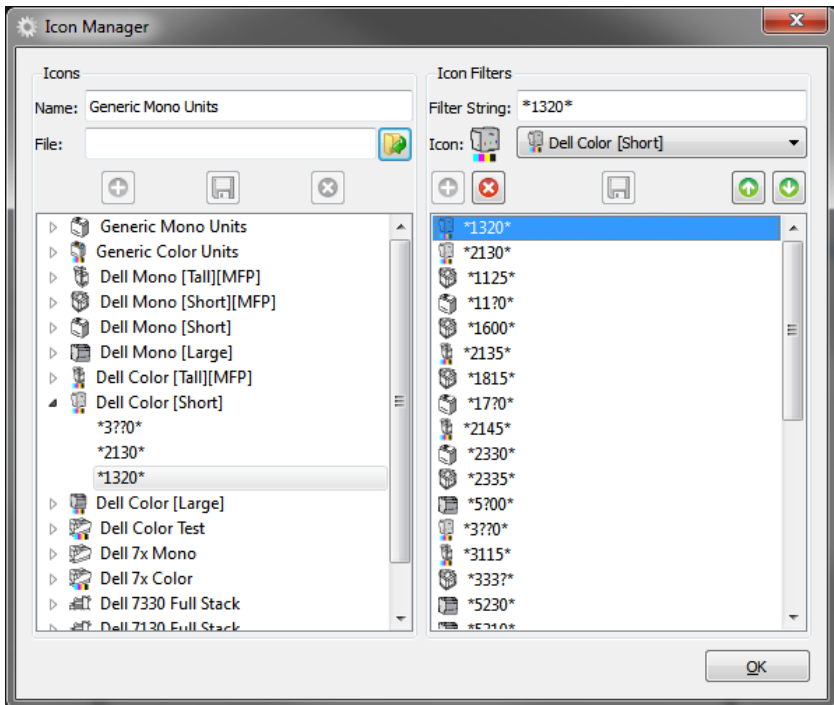


CAUTION: Deleting a printer using this method will remove the printer from the server. If you just want to remove the printer from the map, use the selector on the **Floor Manager** window and select **Cut From Map**.

Icon Manager

The Icon Manager appears in the administrator mode of Dell Proximity Printing Solution (DPPS) client. This utility allows you to manage the printer icons that appear on the map. You can add icons and then associate the icons with filters. The printers appearing on the map will automatically use the icons you specify if the printer description, defined while adding a printer, matches the filter string you specify in the Icon Manager.

To open the Icon Manager, click **Tools → Icon Manager**. The **Icon Manager** window appears.



Adding an Icon

To add an icon:

- 1 Type a name for your icon in the **Name** field.
- 2 Click . The file browser window appears.
- 3 Select your desired icon file and click .



NOTE: The icon file must be in .png format and 16x16 pixels in size. If the icon file does not have proper transparency set up in the alpha layer of the file, it may not show up correctly on maps.

Adding a Filter

To add a filter:

- 1 Type the string of the filter to use in the Filter String field.
-  **NOTE:** You can use * for wild card strings and ? for wild card single character.
- 2 Select an icon, that you want to associate with the filter, from the **Icon** dropdown and click .

Sorting Filters

Select the desired filter and click  or  to move the filter up or down the list. The printers use the icon of the first matching filter.

For example, printer XYZ-237 with a description of **Dell 5330 + 2 Trays** is posted on a map. In the filter list, you have four entries in this order:

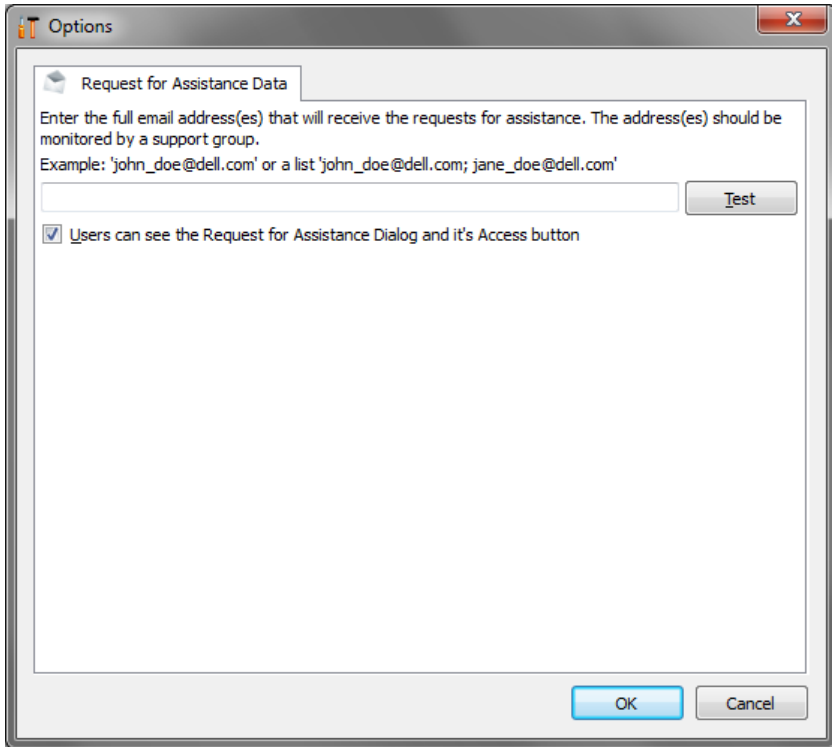
- 5330
- Dell
- *5330*
- *Tray*

According to this list of priorities, the first matching filter would be *5330* and the printer uses the icon for the filter names *5330*. The reason for this is the first two filters do not utilize wild card characters. Without the wildcards, the utility assumes that you want items labeled exactly 5330 or Dell, and not strings containing these words. The search doesn't proceed beyond *5330* to search *Tray* as the filter named *5330* has a higher priority rating.

Configuring Assistance Settings

You can configure whether the end users can send an E-Mail for support using the DPPS client interface, and specify the E-Mail address.

To configure E-Mail settings, click **Tools** → **Options**.
The **Options** window appears.



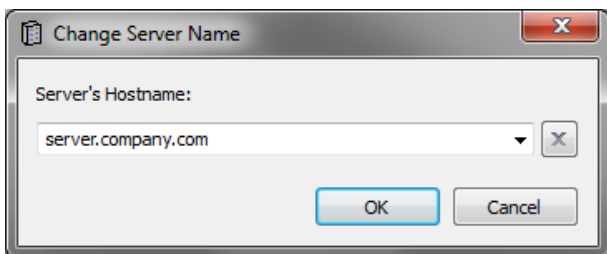
- Type the E-Mail address to which end users can send the E-Mails.
- Click on **Test** if you want to test the validity of the E-Mail address.
A test E-Mail is sent to the E-Mail address you typed.
- Specify whether end users can see the request for assistance option on the DPPS client interface.

Change the desired settings and click **OK**.

DPPS Client Mode Interface

Connecting to the Server

You must set the server address when you launch DPPS client for the first time. On the **Change Server Name** window, type the DPP server name and click **OK**.



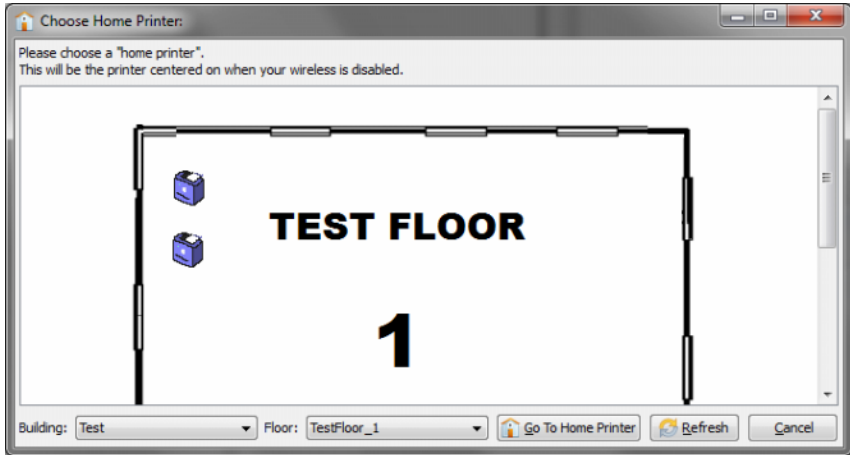
After the DPPS server address is set, the utility will automatically connect to the local DPPS server and download the necessary maps and information to your computer. After the information is downloaded, the client will prompt you to set your home printer.

Selecting Your Home Printer

After you specify a valid DPPS server address, a window appears showing the resource map where you can choose your home printer.



NOTE: The home printer will be automatically centered on by DPPS client if your computer is *not* connected to a wireless network, or if your computer is out of range of any of the printers added to the DPPS server, but still able to reach the DPPS server.



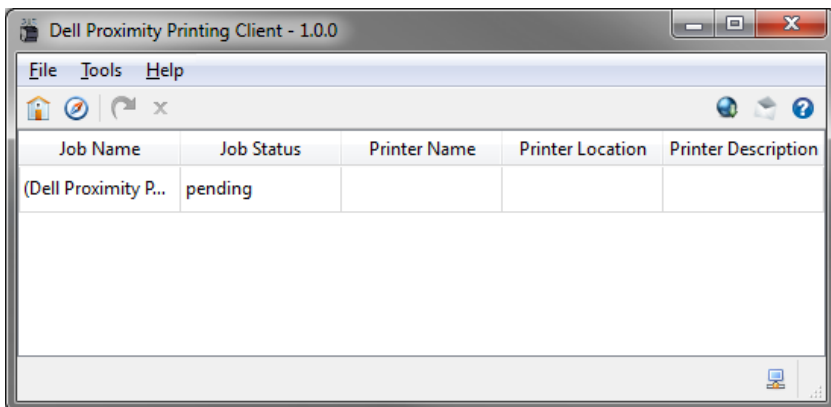
To set the home printer on the **Choose Home Printer** window:

- 1 Select your building in the **Building** dropdown.
- 2 Select your floor in the **Floor** dropdown. The floor map appears.
- 3 On the map, double-click the printer that you want to set as your home printer.

Sending Print Jobs

During the installation process, the DPPS installer adds a new printer named **Dell Proximity Printer** to your computer and sets this printer as the default printer.

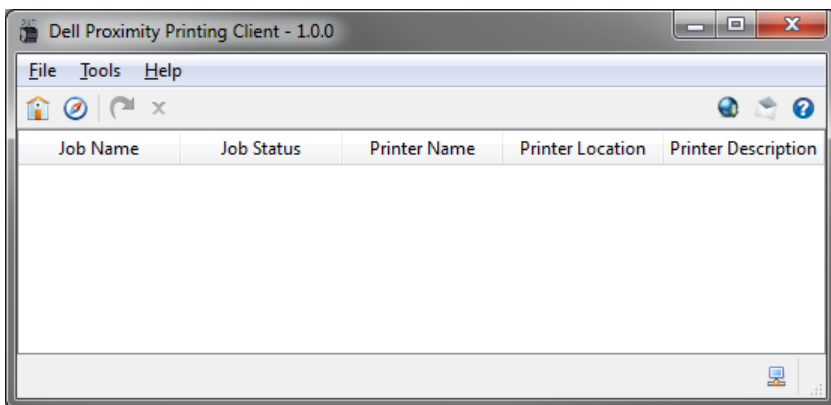
- 1 Open the document you want to print and start the print job using **Dell Proximity Printer** as the printer.
- 2 If the DPPS client is running, a window with the resource map appears. If the DPPS client is not running, the DPPS client starts in the background, processes the job, and then displays the resource map.
- 3 DPPS client highlights the most recommended printers on the map based on your location. Lighter shades indicate higher recommendations.
- 4 On the map, double-click the printer to which you want to print and the DPPS server pushes the print job to your selected printer. Alternatively, you can choose to print to a specific printer by right-clicking on the printer and clicking the appropriate option from the context menu.



 **NOTE:** You can point the cursor to a printer icon or right-click the printer icon to see its name.

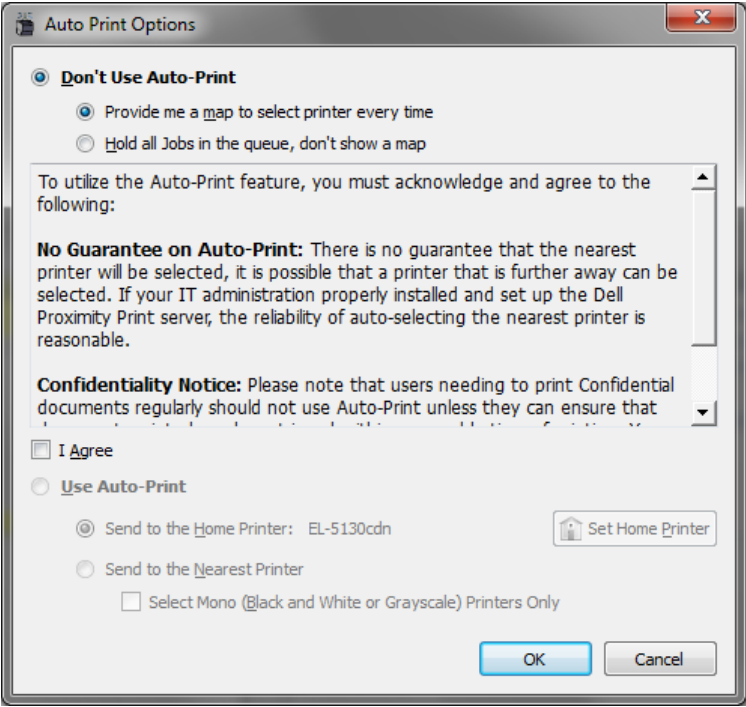
Managing Active Print Jobs

To view the active print jobs, double-click the DPPS icon in the system tray to display the job list window. This window allows you to cancel a job or move a job to another printer available on the map.



Auto-Print Options

The auto-print options allow you to configure the way print jobs are processed by the DPPS client.



Auto-Print Options

Option	Description
Provide me a map every time	Shows the map every time a print job is received. This is the default option.
Hold All Jobs in the Queue	Does not show the map and holds the job till you manually move it to a printer.
Always Send Jobs to the Home Printer	Sends all jobs to the home printer.
Send to the Nearest Printer Every Time	Does not show the map and automatically sends the print job to the most recommended printer based on the user's location. NOTE: Future release of DPPS client will allow you to send the print job to specific type of printers, such as monochrome or color printers.