



Getting Started with LRS CloudPrint

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This document outlines the steps you will need to take to set up your user community and get the most out of your new printing service.

The topics covered in this document are:

- Devices, printers and pull printers
- Assigning roles and users/groups in Azure
- Enabling user login
- Preparing your printers and MFP devices
- Discovering printers and MFP devices so they will be available in LRS CloudPrint
- Manually adding any IPP/IPPS printers which cannot be discovered
- Deciding how your users are going to use the system - Direct print or Pull print?
- Mobile printing
- Deciding what restrictions (if any) are to be put on the use of your printers and/or pull printers
- Creating your printer and pull printer objects based on your discovered devices
- Client deployment and providing the necessary instructions to your users.

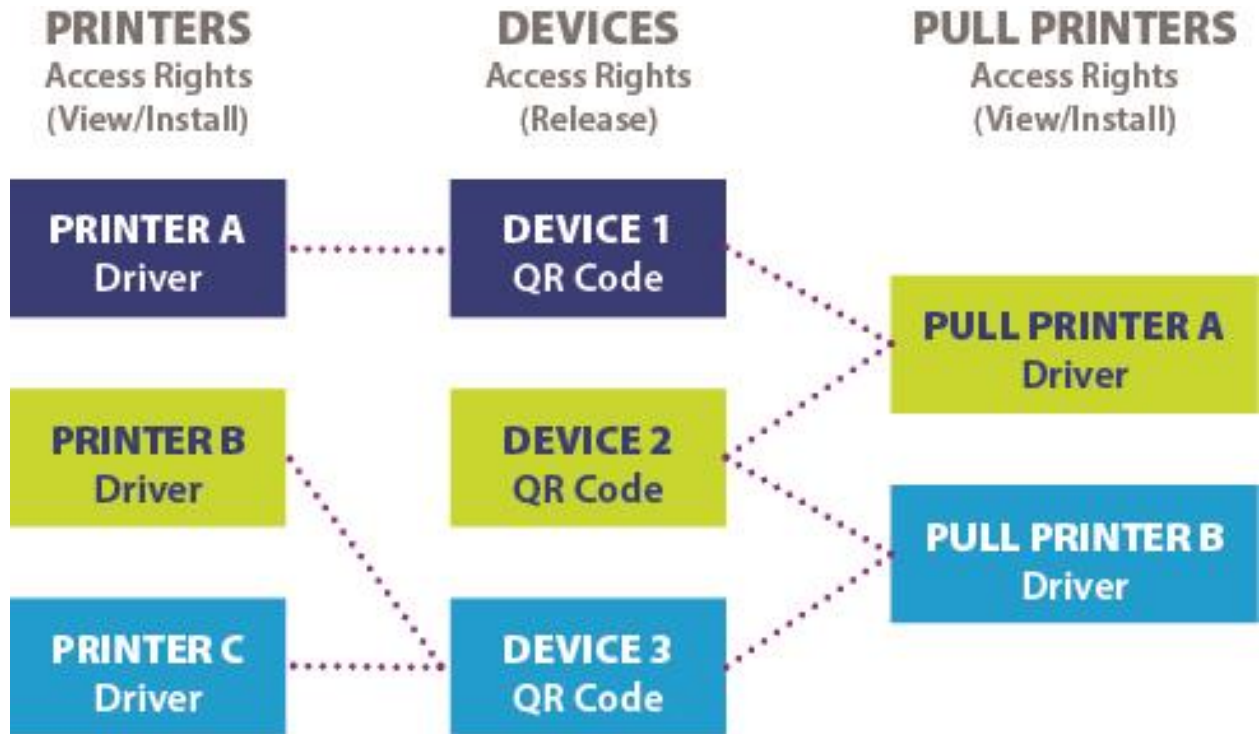
DEVICES, PRINTERS AND PULL PRINTERS

A device is the object in LRS CloudPrint which represents an item of printer or MFP hardware. It represents the destination where jobs are sent for printing. However, end-users have no direct access to devices; they can only submit jobs for print from their desktops using either printers or pull printers.

A printer is the object which a user can install or add to his/her desktop. In the case of LRS CloudPrint printers, this is done using the LRS CloudPrint portal page rather than the Windows add printer wizard. A printer has a single device associated with it which acts as the delivery mechanism for the print job. The user submits jobs to the printer, and they are delivered directly to the device by the client.

A pull printer is like a printer in that it can be installed on the user's desktop. The difference is that rather than having a single device used for printing all jobs, it is associated with a list of devices, any of which can be used to release the jobs using a smart phone or tablet via an authenticated mobile release app or web page. The user prints the job to the pull printer and then walks up to any of the devices associated with the pull printer. The device has a unique QR code label which is read by the phone app, which then displays a list of the user's jobs which can be released at that device. The user chooses the jobs to print and they are submitted from his/her client to the device for printing.

The devices associated with a pull printer should be driver-compatible. The pull printer has a driver which is installed on the user's workstation, and all devices which might be used to release jobs from that pull printer should be compatible with that driver. If not, the printed results will be unpredictable. In LRS CloudPrint, pull printing does not provide any format conversions for the print file.



One device can be associated with any number of printers and pull printers. A printer can only ever be associated with one device. A pull printer can be associated with one or more devices.

ASSIGNING ROLES AND USERS/GROUPS IN AZURE ACTIVE DIRECTORY

There are some specific user roles which need to be assigned in Azure® Active Directory before you can begin administering the LRS CloudPrint service. These role assignments need to be carried out by someone with administrator privileges in Azure Active Directory, in the Microsoft® Azure Portal, in respect of LRS CloudPrint.

- An LRS CloudPrint User can print using LRS CloudPrint.
- An LRS CloudPrint Administrator has privileges to
 - Manage the printing system
 - Create devices and printers
 - Upload print drivers and printer configurations
 - Administer pending print jobs
- An LRS CloudPrint Service Owner has privileges to
 - Manage the account subscription
 - See license usage
 - Remove users
 - Redact user data in reports

NOTE: Service Owners do not need to be Administrators, but they must also have either the Administrator or the User role to be able to log in on the LRS CloudPrint Portal.

ENABLING USER LOGIN

Again, in the Microsoft Azure Portal, in the properties of the LRS CloudPrint application, make sure the following properties are set:

Enabled for users to sign-in?: YES

User assignment is required: NO

PREPARING YOUR PRINTER AND MFP DEVICES

It is not essential to rely on LRS CloudPrint's discovery mechanism, but for a tenant with more than a few printers or MFPs, it can reduce the time required to populate LRS CloudPrint with existing devices.

Before trying to "discover" any existing devices, the devices should be prepared for this step so that the information about them which ends up in LRS CloudPrint is as complete, accurate, and useful as possible.

All the following may already have been completed for each of your printer and MFP devices at installation time, but if not, it is important to do it now. Most printers and MFPs have a web-based user interface for configuring the device; this should be used to check the following settings for each device to be used in LRS CloudPrint:

- **Device name:** This will normally be the DNS name of the device, but there may be a separate "informational" area of the device setup where that name is automatically propagated, or where it (or some other name) should be added manually. The important thing is to give it a unique name so that LRS CloudPrint does not end up with a list of generic model names provided by the manufacturer.
- **Device location:** The informational area of the device's web setup should have a location field. This will also be picked up during Discovery and will be of use both to you as administrator when you set up printers in LRS CloudPrint, and to the users when they search for useful printers.
- **IPP (internet printing protocol):** This is the protocol used by LRS CloudPrint to submit print. It must be enabled on your printer or MFP for it to work with LRS CloudPrint. Most modern printers include it as an option, but it may need to be enabled in the protocols section of the device's web UI.
- **Bonjour® protocol:** This is used by the LRS CloudPrint clients to carry out discovery of devices and must be enabled for discovery to work. Some printers have a separate area within their web GUI where a specific name can be entered for discovery by Bonjour which might be different than the device name defined elsewhere.

DISCOVERING DEVICES

Discovery is carried out by the LRS CloudPrint client using the Bonjour protocol, which does not normally traverse routers. For devices on a particular site to be added into LRS CloudPrint, a client (currently, a Windows client) must be installed on that site. When it starts up it will automatically carry out a Bonjour discovery and all the detectable printers and MFPs will be added into LRS CloudPrint as available devices.

- At your own location, browse to <https://app.lrscloudprint.com> and log in using your Azure Active Directory credentials. An empty page will be displayed where printers, pull printers and devices will be listed. At the bottom of the page will be a link for downloading the client.
NOTE: In the first LRS CloudPrint releases, the only discovery-capable client is that for Windows. You cannot carry out the discovery on anything other than a Windows PC. Click the download link and run the downloaded file and follow the directions regarding prerequisites.
- When installation has completed, the client will start up automatically, and after a short time will attempt to carry out a Bonjour discovery of available devices. Log in to the client using the login option in the system tray menu using your Azure Active Directory credentials so that the discovered device details can be uploaded to the Cloud. After a few minutes return to the Administrator Portal and click "devices", and you should see the newly acquired devices in the list.
- The above step will only discover devices on your own local network. To discover other devices on other nodes (separate network segments on the same site, or on remote sites), the above step needs to be repeated on a PC on each of the relevant networks. This can be done by a user on the remote network or by you if you have remote desktop access to a machine on that network.
REMEMBER: It is only necessary to install the client on a PC. It will run automatically when installation is complete, so there is no additional work required by the remote user who will be getting the LRS CloudPrint client (other than logging in).

MANUALLY ADDING MISSING DEVICES

Some IPP/IPPS printer or MFP devices within the organization may not be discovered automatically. This could be because the printer or MFP does not support Bonjour, Bonjour is not configured correctly on the device, or Bonjour is blocked on the network segment where the printer is connected. If Bonjour doesn't work, then the device can be added manually using the Create Device link in the devices page of the portal.

DIRECT PRINT OR PULL PRINT?

LRS CloudPrint supports both direct printing and pull Printing.

- **Direct printing:** The user prints a job and it is sent directly to the printer or MFP device.
- **Pull printing:** The user prints a job, walks up to the device, scans the QR code on the device using their mobile phone or tablet, and then releases the job using the app or web page launched by the QR code.

Direct printing is simple and quick. Pull printing has the advantages of security and waste reduction. A job can only be printed while the user is at the device, so the document is less likely to go astray. Any job which is submitted but not printed is cleared away by the system after a specified amount of time (the Time to Live or TTL). A mixture of direct and pull printing can be used. This might involve restrictions being placed on the use of direct printers (see the following section).

If pull print is used, the devices will need QR Code labels to be printed and attached to them. QR Codes for each device can be viewed and printed from the drop-down information window for each device on the Administrator Portal page.

MOBILITY PRINT

LRS CloudPrint includes apps (Android® and iOS®) for printing from mobile devices. The user shares their document to the LRS CloudPrint app and is given a choice of all printers and pull printers they have access to (see following section). There is a restriction that all mobile print jobs are rendered as PDF so the target printer must be capable of rendering PDF natively.

Users can obtain the LRS CloudPrint apps directly from the relevant online Store.

PRINTING RESTRICTIONS

LRS CloudPrint allows restrictions to be placed on the installation and use of printer and MFP devices by means of Azure Active Directory Group membership.

Devices have an Access Groups property which restricts the use of that device as a pull print release destination to members of the named group(s). If no group is specified, provided the device is associated with the pull printer where the jobs are submitted, anyone may release their jobs at the device.

Printers and pull printers have an Access Group property which restricts whether users can see the printers/pull printer on the list in the portal, and therefore whether they can install and use the printer/pull printer.

If you have any printer or MFP devices that you want restricted in this way, you should identify them and ensure that appropriate groups are defined as part of your Azure Active Directory to ensure the restrictions are applied.

CREATING PRINTERS AND PULL PRINTERS

Once you've created and carried out all the steps above you are now ready to start defining your printers and/or pull printers. Printers and pull printers are created using the links in the respective pages in the portal.

DISTRIBUTING AND DEPLOYING LRS CLOUDPRINT CLIENTS

End users will need an LRS CloudPrint client before they can install and use LRS CloudPrint printers and pull printers. Instruct users to browse to the portal page where they will be provided with a link at the bottom of the page to download the client for their desktop platform.

The LRS CloudPrint clients are continuously and automatically updated. Every time the client starts up, it will check that for updates. If it isn't utilizing the latest version, a new version will be downloaded and installed automatically. This saves the Administrator from having to update clients.