

Printer and Driver Management



PrinterLogic

Business Problem

From an end user's perspective, printing is easy—click Print and pick up the document at a nearby printer. What they don't know is all that's involved to make printing *appear* easy in enterprise environments where IT departments juggle hundreds of printers and thousands of workstations assigned to those printers across multiple locations. Keeping printing simple and problem free for end users can be challenging and frustrating.

Managing a diversified fleet of printers is a particular challenge. “When we opened three new facilities and configured 20 to 30 printers per site, we simply exported the data from PrinterLogic and changed the names to reflect the new location. This has cut deployment time from three days to one hour.”

Manufacturers provide a global printer driver to resolve this problem for their printers, but organizations still have to manage each of the drivers from the different manufacturers on their fleet. Then, getting those drivers to disparate workstations is another hurdle, especially considering the variety of operating systems (including Windows, Mac, and Linux) and virtual desktop environments (like Citrix and VMware). To solve this deployment headache, organizations rely on group policy objects (GPOs), but they really complicate the problem. GPOs require elevated permissions to manage, create slow logon times, and can cause deployment and printing problems because of their broadly hierarchical nature. They are error prone because IT has to create them, test them on different versions of Windows, and then revise them to target numerous departments, printers, and drivers. Another frustration is their limited reach within an organization—a GPO can reach a Windows operating system, but not Mac, Linux, or Citrix. This limitation requires IT to manage multiple deployments for varying operating systems, each requiring a different IT approach.

—Jeff Alway, IT Support Service Manager, Laser Spine Institute

All of this is managed within a print server infrastructure, which further complicates deployment, requires additional management, consumes IT resources, drives up costs, and creates printing risk through a single point of failure. Security updates, feature enhancements, and even renaming or moving a printer inside a print server environment requires IT touching everyone's workstation, either manually or with a script, in addition to renaming it on the print servers. And if that printer needs to be totally replaced with a different brand or different make of the same brand, a new printer driver has to be deployed again using GPOs.

Further frustrations surface when end users travel to various offices. When they need to print, they almost always call the help desk for support because users seldom know all the information required by the native Add Printer dialog, such as the printer type, printer name, print server hosting the printer, and so on. If the help desk is not available immediately, the end user can be blocked from completing a vital task, such as printing a proposal, contract, or letter to be signed in a meeting.

Each of these issues, and more, make managing and deploying printers and drivers a major pain point for IT.

How PrinterLogic Web Stack Solves Printer and Driver Management

PrinterLogic simplifies printer and driver management by eliminating the print server and converting your environment to centrally managed direct IP printing. The solution provides a web-based Admin Console to configure printer drivers, define deployment rules, and solve the complexity of getting the right driver to the right workstation without complicated scripting and GPOs—all from a single interface. It supports many versions of Windows¹ (including 32-and 64-bit), Mac, Linux, and virtual desktop environments (Citrix and VMware). And it supports native or universal printer drivers, giving IT organizations the most flexibility and compatibility for printer driver configuration and management.

To get started, install PrinterLogic Web Stack (formerly Printer Installer) software in the data center and then push out the PrinterLogic Web Stack Client to end-user workstations. The client installs printer drivers, configures printers, and collects print job data without having to elevate permissions. It also converts all existing printers that were connected to print servers into centrally managed direct IP printers. The default printer and customized printer settings—including name, comments, location, and printer drivers—remain intact through the conversion.

After printers are imported, the printing details are centrally managed through the Admin Console. On the left of the console is a treeview where IT admins organize printers. Best practice dictates this is done by the printer's physical location, organizing them by country, state or region, building, and floor. IT staff and end users use the treeview to find and select any printer in the fleet. PrinterLogic Web Stack also features the Self-Service Installation Portal—a tool that empowers end users to install printer drivers on their own without help desk support or local admin rights.

“We went from about 2,500 printer-related tickets in a year down to three or four. Soft costs, in particular, went down massively.”

—Chris Nilsson, Director of Technology Integration, Lamar CISD

Going forward, IT can use the Admin Console to add new printers, update printer drivers, or simply rename a printer, without complex scripting and GPOs. What used to take hours will take only minutes.

¹ Windows 7, 8, 8.1, 10 and Windows Server 2008 R2, 2012, 2016

Setup and Configuration of Printer Drivers

The PrinterLogic Web Stack Admin Console lets IT professionals manage printer details, such as printer names, locations, and properties. IT admins also manage drivers and create printing profiles based on cost saving measures, like duplex and grayscale. IT staff can easily deploy printer drivers through either auto deployment (using criteria such as Active Directory user name, computer, organizational unit, and IP address) or publish the Self-Service Portal where end users can intuitively install their own printers with a single click.

Step 1: Managing Printer Details

Once you have imported printers from print servers or defined your own, you can now manage them. Use the General tab to name the printer with a user-friendly name that lets IT and end users quickly identify the properties of the printer. This includes assigning a printer name and location as well as listing specific printer properties, such as whether it supports duplex or color printing. A print value can also be assigned for grayscale and color copies so you can track the expense associated with a particular printer.

In the Port tab, you assign an IP address or DNS name and port number to the printers.

The screenshot displays the PrinterLogic Web Stack Admin Console interface. On the left is a tree view of the organizational structure, including 'Example Company' with various regional folders like Australia, Canada, China, Germany, Japan, United Kingdom, United States, California, Los Angeles, and HQ. Under HQ, there are 'Floor 1' and 'Floor 2' folders. 'Printer01' is selected under 'Floor 1'. The main area is divided into two panels: 'General' and 'Port'.

General Tab:

- Printer Name:
- Location:
- Comment:
- Web Interface:
- Install URL:
- Supports Color:
- Supports Duplex:
- Print Job Costing: Choose a cost template for printer-specific Print Job Cost settings:
- Hide from Portal: ☐
- Custom: Fax:

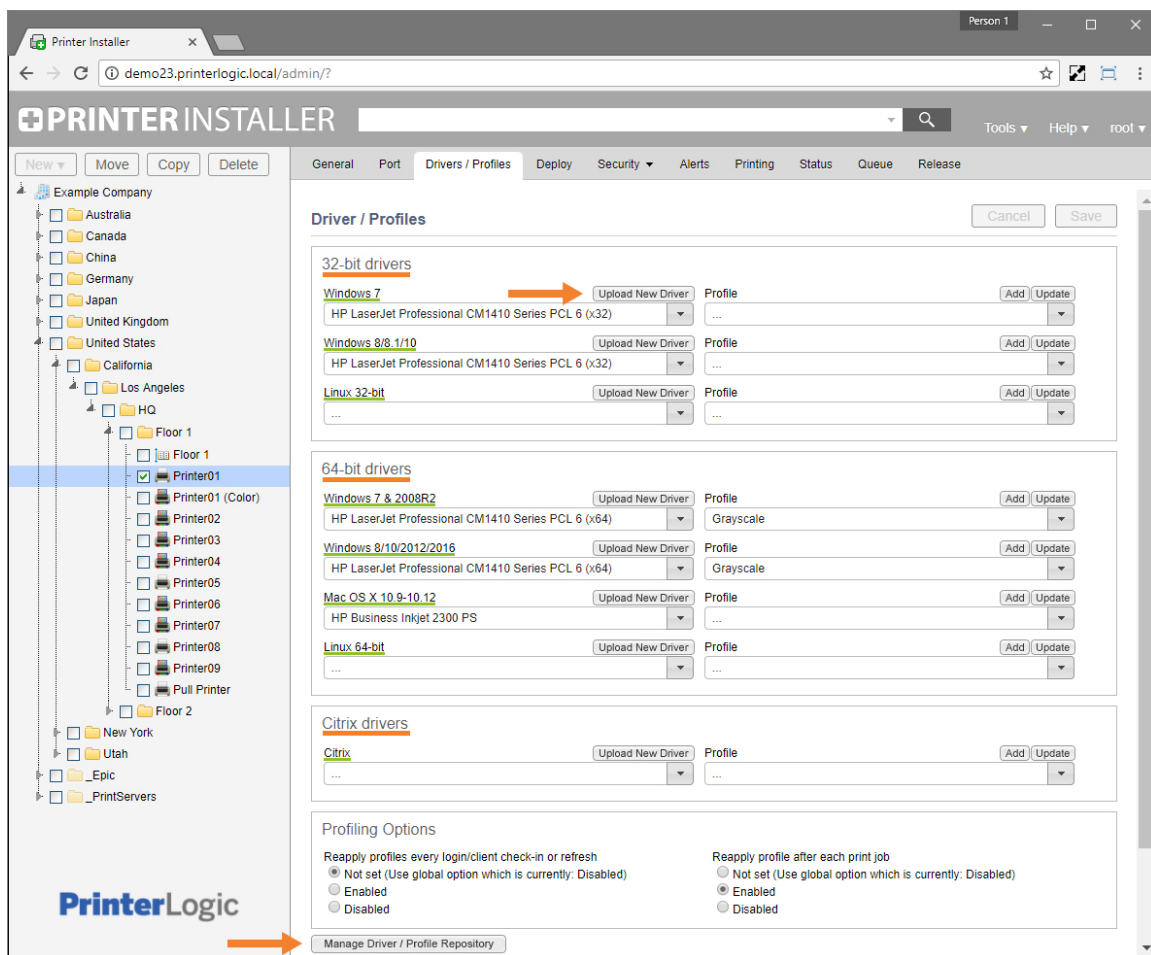
Port Tab:

- Port Name:
- Protocol: ☒ Raw ☐ LPR
- Port Number:
- SNMP Status: ☐ Enabled
- Community Name:
- SNMP Dev Index:

Step 2: Managing Printer Drivers

PrinterLogic Web Stack categorizes printer drivers by both 32-and 64-bit architecture and operating system. This built-in, multi-architecture support for Windows, Mac, and Linux end-user workstations (and even Citrix and VDI environments) ensures full-featured, dependable printing even in mixed-OS environments. You can see all drivers that are compatible with each architecture and operating system in a drop-down list. Because PrinterLogic Web Stack supports 32-and 64-bit drivers, both architectures can exist side by side while eliminating the concerns about the wrong driver being installed on the wrong architecture.

To add printer drivers, click “Upload New Driver.” The dialogs guide you through the process of selecting the printer drivers you have downloaded from the vendor’s website and uploading them to PrinterLogic Web Stack.



To see a complete repository of all printer drivers and their associated profiles, regardless of platform or operating system, click “Manage Driver / Profile Repository” to open the Driver / Profile Repository. Vendors continually provide new versions of their printer drivers. The repository offers a simple way to update existing drivers with newer versions—with the click of a button, you can upload, replace, or delete drivers. Leveraging the PrinterLogic Web Stack Client, any changes are automatically pushed out to workstations associated with that driver without using scripts or GPOs.

Printer Installer

demo23.printerlogic.local/admin/?#

Driver / Profile Repository

Filters: All drivers / profiles | Unused drivers

Buttons: Upload New Driver, Replace, Delete

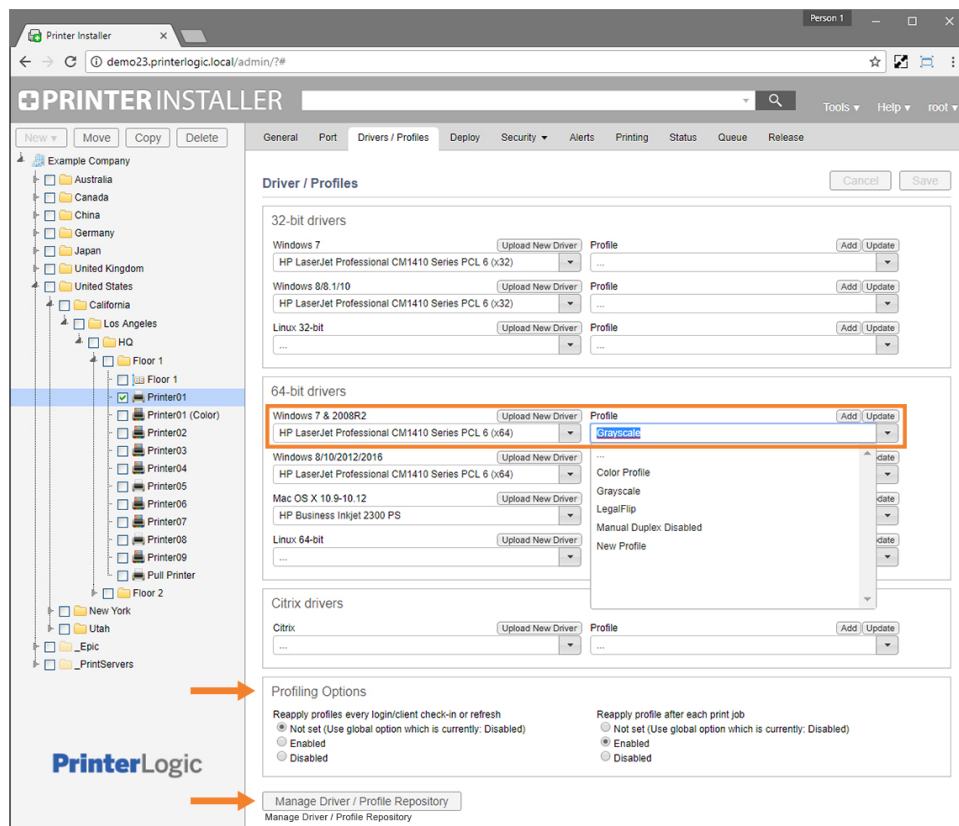
Driver Model Name	Driver Version	Driver Date	x86			x64			Citrix
			Win7	Win8 10	Linux 32-bit	Win7 2008R2	Win8 10 2012 2016	Mac OS X	
Citrix Universal Printer	-	-							
HP Business Inkjet 2300 PS	19.13	04/23/2015							
HP LaserJet 4/4M Plus PS 300 (WinXP x32 - Migrated from Novell)	02.00.12.02	1/18/2002							
HP LaserJet 5/5M PostScript (WinXP x32 - Migrated from Novell)	02.00.12.02	1/18/2002							
HP LaserJet 5Si Mopier PS (WinXP x32 - Migrated from Novell)	02.00.12.02	1/18/2002							
HP LaserJet CM1410 Series	19.9	08/20/2013							
HP LaserJet Professional CM1410 Series PCL 6 (x32)	61.103.09.8726	10/13/2010							
HP LaserJet Professional CM1410 Series PCL 6 (x64)	61.103.09.8726	10/13/2010							
Color Profile Grayscale This profile causes the printer to print in grayscale instead of color. LegalFlip Manual Duplex: Disabled New Profile			Edit or Copy / Export / Delete Edit or Copy / Export / Delete Edit or Copy / Export / Delete Edit or Copy / Export / Delete Edit or Copy / Export / Delete						
HP Universal Printing PCL 5 (v5.3) (x32)	61.115.01.10527	06/06/2011							
HP Universal Printing PCL 5 (v5.3) (x64)	61.115.01.10527	06/06/2011							
HP Universal Printing PCL 5 (v5.4) (x32)	61.118.01.11744	11/11/2011							
HP Universal Printing PCL 5 (v5.4) (x64)	61.118.01.11744	11/11/2011							
HP Universal Printing PCL 6 (x32 - Imported from IIV020)	61.115.01.10527	06/06/2011							
HP Universal Printing PCL 6 (x64 - Imported from IIV020)	61.115.01.10527	06/06/2011							
HP Universal Printing PCL 6 (v5.4) (x32)	61.118.01.11744	11/11/2011							
HP Universal Printing PCL 6 (v5.4) (x64)	61.118.01.11744	11/11/2011							
HP Universal Printing PCL 6 (v5.6.5) (x64 - Imported from IIV020)	61.150.02.15717	05/10/2013							

Step 3: Managing Profile Settings

IT can save money and simplify printing for end users by setting unique profiles for each printer driver, such as duplexing, color, DPI, paper size, paper source, and other finishing options.

When printer drivers are imported from print servers, any profiles are included in the conversion. On the Drivers / Profiles tab, you can update those profiles or upload new ones. Click “Add” to create or modify a new profile based on the native printer driver. Clicking “Add” temporarily installs the printer driver and launches the preferences dialog for that printer. Simply select any preferences in the dialog (including paper tray, color or black and white, simplex or duplex, and print quality). These preferences are saved in the profile after clicking “Save.”

The Profile drop-down list reflects the current profiles created by admins for that particular driver. Selecting a profile then becomes the initial profile used when deploying the printer driver to workstations.



PrinterLogic Web Stack does not lock profiles, allowing users the flexibility to override profiles when necessary. However, in the Profiling Options section of the Drivers / Profiles tab, you can configure the profile to reset to the selected profile each time a user logs on or even after every print job. If a user or department continuously overrides profiles, those trends are visible in a usage report.

Step 4: Deploying Printer Drivers

PrinterLogic Web Stack deploys printer drivers using either auto deployment or the Self-Service Installation Portal. Auto deployment is a push installation using the PrinterLogic Web Stack Client. The Self-Service Portal is a pull installation and enables employees to install a printer on their own without help desk intervention. The portal also assists those who simply want to install an additional or even a different printer than what was originally installed through an auto deployment.

Auto Deployment

To manage deployment rules, select a printer in the treeview and click the Deployment tab. In the right pane, click "Add." A drop-down list lets you deploy printer drivers using Active Directory (user, computer, group, container, or OU), IP address range, hostname, MAC address, or a combination of these called Advanced Groups.

These flexible options provide the ability to target printer deployments using end-user details, like job function or physical details of the workstation. For instance, if you want to deploy printer drivers based on a laptop's proximity to the printer, you setup a deployment rule based on an IP address range. Now when the end user enters a specific location specified by the network segment, the printer is automatically installed or uninstalled when they leave.

The Advanced Groups option lets you use a combination of deployment options using and/or rules to help you accurately target the correct end users. For example, you can deploy a printer driver to employees in a Marketing group but exclude employees who are not physically in the corporate office building. Once an advanced group is defined and saved, you can access it again for future deployments.

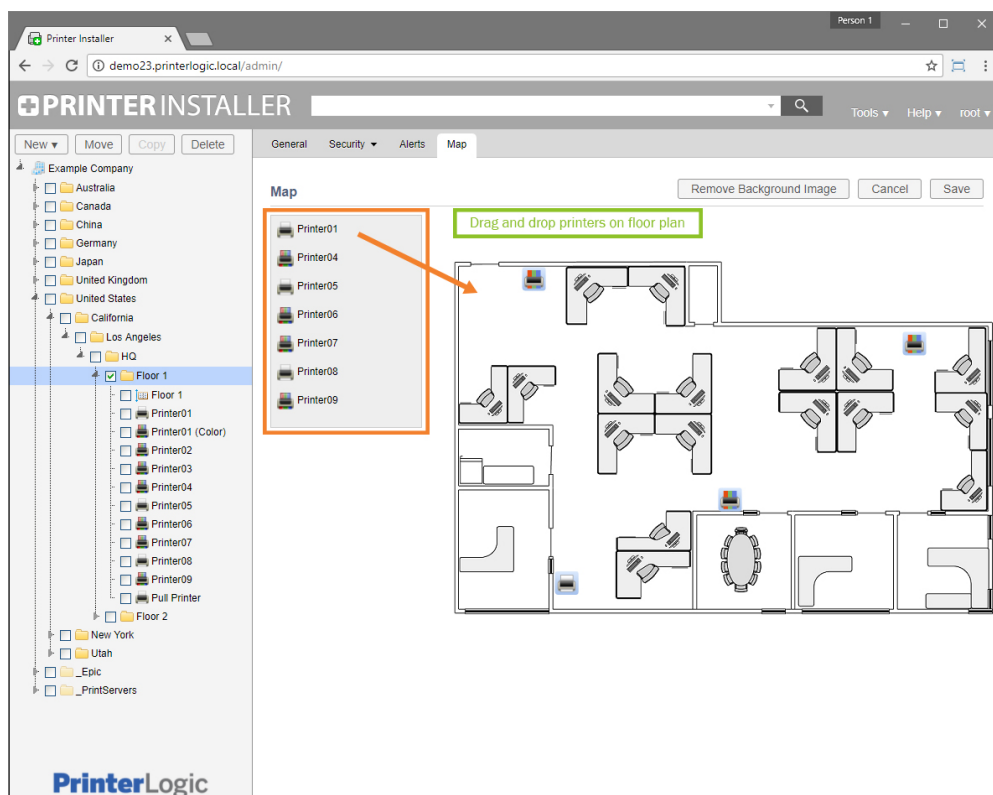
The screenshot shows the PrinterInstaller web application interface. On the left is a treeview showing a hierarchy of locations: Example Company, Australia, Canada, China, Germany, Japan, United Kingdom, United States, California, Los Angeles, HQ, Floor 1, and Printer01. The 'Printer01 (Color)' printer is selected. The main pane is titled 'Deploy' and contains a table of deployment rules. The table has columns for Name, Share, Users, Computers, and Set Default. The rules listed are: printerlogic/C102, printerlogic/dustin, printerlogic/PrinterLogic Users/ExampleOU, and printerlogic/TestGroup. The 'printerlogic/TestGroup' rule is highlighted with an orange box.

Name	Share	Users	Computers	Set Default
<input type="checkbox"/> printerlogic/C102				No
<input type="checkbox"/> printerlogic/dustin				Always
<input type="checkbox"/> printerlogic/PrinterLogic Users/ExampleOU		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
<input type="checkbox"/> printerlogic/TestGroup		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No

Self-Service Installation Portal

The Self-Service Installation Portal reduces help desk calls and empowers the end user by letting them install printers on their own without admin privileges. The portal displays a list of printers that are available for installation. As an administrator, you can further enhance the portal by uploading a graphical floor plan of your choice. End users will see the list of printers and the optional floor plan map. To add a floor plan, select the desired floor in the treeview, and then use the features on the Map tab. Once the floor plan is added, drag and drop the printers assigned to that floor onto the image.

You can also define security parameters. For example, if your organization has a specialty printer that should not be widely installed, you can hide that printer (or folder) from the Self-Service Portal using the Security tab.



End users access the portal by clicking on the PrinterLogic Web Stack Client in their system tray or through a URL link that you can send through email or post on a corporate intranet. When they open the portal, they will see the list of printers and floor plan with printer icons. You can program the portal to open to the end user's current location, even if they are roaming. When they hover over a printer, a pop-up appears that lists the printer name, driver, location, and any comments. They click "Install Printer" in the pop-up, and that's it.

Conclusion

Print management consumes time and resources for IT departments. Tracking and managing printer drivers for diversified fleets and then deploying them to varying operating systems is challenging. Organizations rely on error-prone GPOs to help with deployment, but this method doesn't reach every operating system and requires extensive testing. Because printing is managed through print servers, all security updates, feature enhancements, and tasks (as simple as moving and renaming a printer) require IT to update any affected print servers and workstations with a script. Frustrations escalate when end users do not have the correct printers installed or visit other office locations and spend time on the phone with the help desk because they can't figure out how to install the right printer.

PrinterLogic Web Stack simplifies printer and driver management by eliminating the print server and converting your environment to centrally managed direct IP printing. From a single browser window, administrators can use the Admin Console to manage all printer drivers, regardless of manufacturer, in the printer driver repository. Printer drivers and profiles can also be viewed by operating system, platforms, and more. Adding or updating a driver requires a few mouse clicks, and then any changes are automatically pushed out to the workstations. No more GPOs and scripts. Leveraging the Self-Service Portal, end users can install printers with one click, maintaining productivity while saving the company help desk expense.

PrinterLogic Web Stack makes printing as easy as it should be—for end users *and* IT.