Pull Printing

Reduced Waste. Greater Flexibility. Increased Security.

PrinterLogic

Overview

Being able to release a document for printing when—and only when—you are ready to retrieve it can save money, prevent waste, and ensure that sensitive information stays confidential. This process of on-demand release is known as pull printing.

This white paper explains how broad implementation of pull printing functionality in your organization's print environment provides new opportunities for flexible print options, significant cost savings, and essential security. It then identifies the specific advantages of using Pull Printing from PrinterLogic to enable your end users to select when and where a document will be printed.

The average employee prints 34 pages per day with one in seven pages never being retrieved from the printer.

The True Cost of Printing

Printers are among the most widely used devices in any organization. They are accessed by virtually every department, employee, and even automated systems. Yet, despite their obvious utility, printers are expensive to operate.

A study by the Minnesota Office of Environmental Assistance concluded that the average office worker uses nearly 10,000 sheets (about two cases) of printer paper per year. With an average price of $40 per case, this adds up to about $80 per employee per year—just for paper alone. Now add the cost of ink, toner, storage, copying, postage, disposal, and recycling, and you're looking at about 31 times the original cost of the paper, or $2,480 per employee per year[1].

Some of this expense stems from misuse. On average, an employee prints 34 pages per day—with one page in every seven never being retrieved from the printer[2]. This means nearly five pages per day per employee are left at the printer as waste and for anyone to view.

Along with waste from abandoned documents, there are other reasons why printing is so expensive. For example, have you ever printed a document only to find a typo? Or maybe you've printed something in color that was meant to be black and white?

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—Gartner

Curiously, most errors like this are not even identified on the hard copy. Instead they are spotted on-screen while waiting for the printed output and then fixed before printing a second, third, or even fourth time. You can imagine the waste that results from avoidable mistakes and oversights like these.

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All told, Gartner says that printers, their associated supplies, and their operating costs represent 5% of the typical corporate IT budget[3]. Regardless of your organization's size, this is significant because these costs increase proportionally with each additional employee.

The Cost of Security Risks in Printing

The cost of consumables and operation is easily quantified by looking at a company's bottom line. But what is the cost to the company when information is leaked on intellectual property, corporate secrets, personal information, mergers, or medical and legal records?

Security is a real issue because employees frequently print a document and then fail to retrieve it from the printer. What if they contain important or even confidential information? Who could see that information? Every department in a company has information that is considered sensitive and should never be left in the open for anyone to view.

Unfortunately, many IT professionals struggle to find a solution for this risk. Some rely on employees to proactively govern their printed content to prevent confidential information from getting into the wrong hands. Some even view risk as the cost of doing business.

Shared Network Printers and the Enterprise

Most organizations use shared network printers save money. Sharing allows everyone in the network to print, copy, fax, and scan from a single device. Giving each employee a discrete USB printer on his or her desk is not practical. Your IT department would be dealing with printers full-time when they should be managing other high-priority devices.

Shared network printers have become the de facto standard in many environments. They have a lower per-page cost and are generally managed and fixed by a contractor, making them much less expensive. While these shared printers save time and money, they also create waste and risk if not managed properly. The solution to this is pull printing.

What Is Pull Printing?

In the typical printing process, the end user clicks "Print" and the print job is sent to a specific printer. In environments where employees move about, have many printing options who are in a VDI environment, managing printers and printer drivers become complicated and frequently results in a help desk call. Pull printing allows end users to send the document and find a printer near them, when they are ready.

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Pull printing makes printing a deliberate two-step process by design. In the first step, the end user sends the print job to a universal printer driver. Then the user releases that print job when they are ready to claim it. This can be the printer closest to their desk, the one that has certain features, or the one that is the least busy.

There are two types of pull printing: release printing and secure printing. Each type enables a user to send a print job and then release it for printing at a later time. The important difference is the printer that is selected to print the job. Secure printing sends a print job to a specific printer using its discrete printer driver. Release printing instead uses a universal printer driver, which allows the job to be released at any printer in your organization.
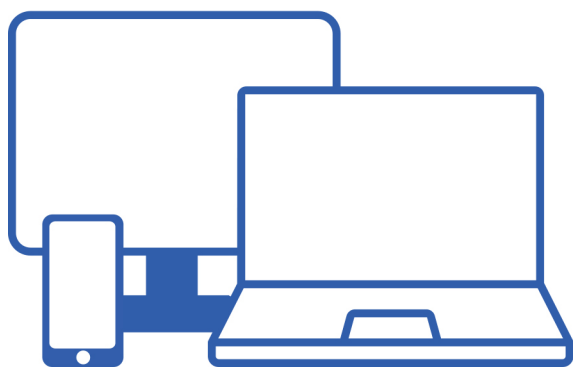
1   Print from any device using PrinterLogic Pull Printer
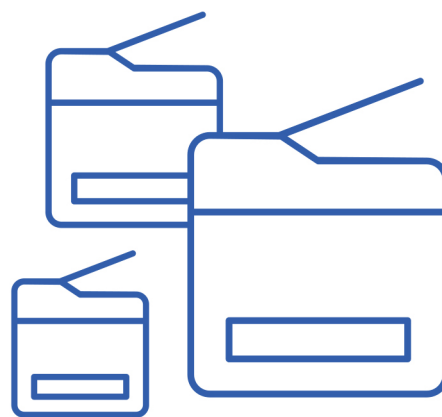
2   Release to any network printer

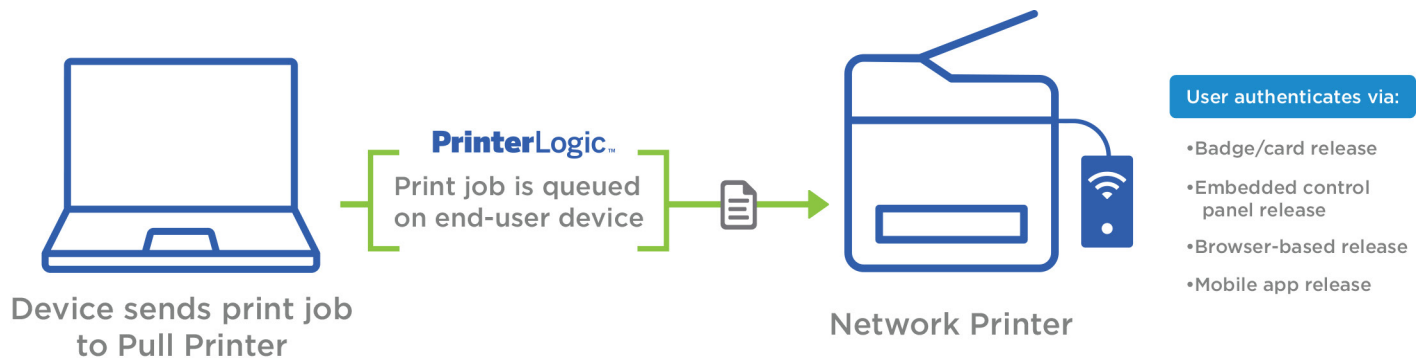## Should I Use Release Printing or Secure Printing?

That depends. Let's say you are a traveling employee and you arrive at a remote office. Instead of searching for a printer and downloading the driver, which invariably requires a call to the service desk, you can use release printing and print to a universal driver. Next time you walk by a printer, you use a release mechanisms—for instance, swiping your badge—to authenticate and print your job on that specific printer. Employees do not need to be concerned about finding a printer and installing a specific driver, making it easier for them to print to just about any networked printer.

However, if you have a printer near your workstation that you regularly use to print your documents, then you can use secure printing. For example, if you work in the Human Resources Department and you print a document that displays an employee's salary and Social Security Number, you can send the document to a designated printer. When you are ready, you can release the print job, which will print at that printer only.

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The PrinterLogic Solution

PrinterLogic's robust enterprise print management solution completely eliminates the need for print servers while delivering centralized management and a self-service portal that empowers end users to perform routine printer installations without contacting the service desk. Adding the Pull Printing module gives IT a seamless way to achieve all the benefits described above.

The following diagram outlines PrinterLogic's Pull Printing features.

User authenticates via:
- Badge/card release
- Embedded control panel release
- Browser-based release
- Mobile app release

PrinterLogic™
Print job is queued on end-user device

Device sends print job to Pull Printer

Network Printer

Here you can see how the end user can send a print job to a Pull Printing-enabled printer from almost any device. Rather than immediately putting the document in the printing queue, the workstation "holds" the document until the end user is present at the printer. The end user one of several authentication methods to validate that he or she is the person who submitted the print job. Successful validation releases the print job for printing.

PrinterLogic's Pull Printing Release Options

There are four authentication mechanisms by which endusers can release a print job.

- **Badge and card reading devices** built into the printer or placed near the printer can release print jobs at the simple swipe of the badge or card. This works with U.S. federal employee CAC and PIV identification.
- PrinterLogic's **embedded control panel release** enables end-users to log in and release a print job from the printer's LCD control panel using their Active Directory login, or using PIN Authentication.
- **Smartphone app release** allows users of iOS and Android devices to quickly and securely release print jobs, eliminating the need for a badge scan release system. PrinterLogic Print Release App available in the Apple App Store and Google Play Store.
- **Browser-based release** enables any device with browser access to connect to PrinterLogic's web-based application to release print jobs securely. Such devices include PCs, smartphones, tablets, and even a self-standing printer kiosk.

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Badge/Card Release

Registering a badge with the badge/card release feature of PrinterLogic will simplify the process of releasing a print job. Just walk over to the printer and swipe your badge or card to login. The badge/card reader might be built into the printer or connected to the printer via USB.

After swiping, the intuitive PrinterLogic embedded Control Panel Application will appear on the control panel of the printer following a successful authorization. Select one or more print jobs to release them. You can also delete unwanted print jobs.

We noted earlier that printers are a security risk. The U.S. Federal government takes printer security seriously. By Federal mandate, all agency employees and contractors are required to use their government-issued CAC/ PIV smart ID cards to authenticate and release print jobs. PrinterLogic fully supports the use of CAC/PIV badge scan for authentication and release of print jobs.

For printers that do not have a control panel, there is also simple badge release, which allows PrinterLogic to facilitate pull printing on any network printer. A badge scanner is connected to a networked device that is associated with the printer. When an employee's badge or smart card is scanned, either the last print job or every print job in the queue will be released automatically depending on how the administrator sets it up.

Embedded Control Panel Release

PrinterLogic's embedded Control Panel Application, accessible on the printer's built-in LCD, can also be used to authenticate the end user without a badge or card reader. This feature supports many of the most popular printer brands and models.

Authentication methods available to the PrinterLogic administrator are Active Directory (AD) credentials and a combination of numeric User ID (such as an employee number) and PIN. PIN Authentication is the simplest approach because it avoids longer,
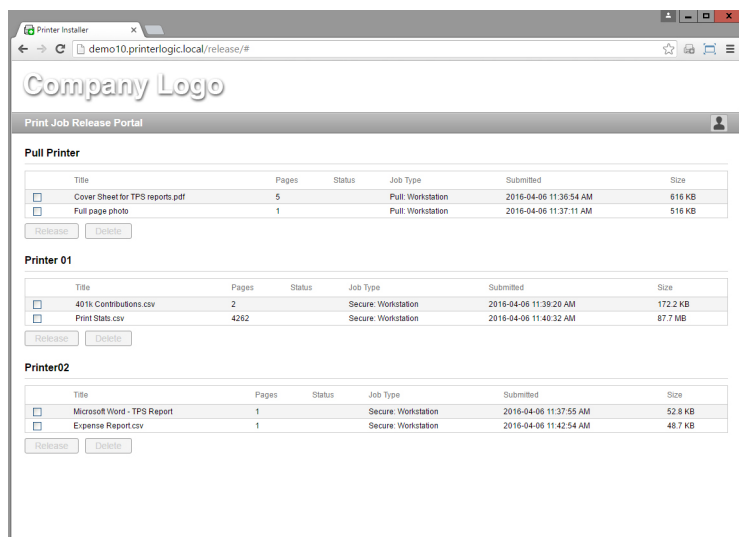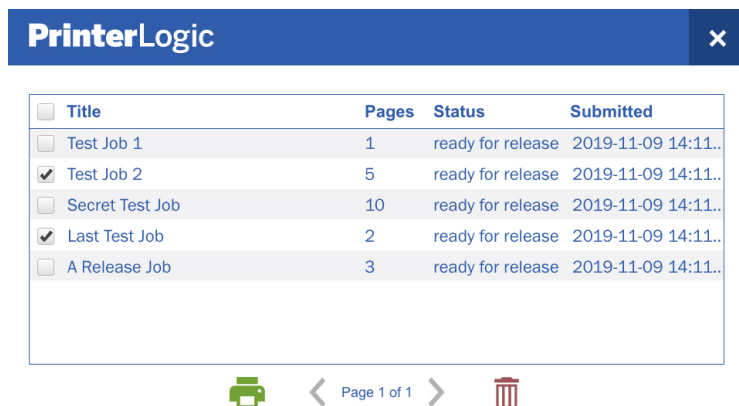
alphanumeric credentials used for AD. The User ID is set by an administrator, and once established, the PIN can be changed by the user.

PIN Authentication is more convenient for the user, but still maintains pull-printing security because the combination of a User ID and PIN is unique.

Smartphone App Release

To release your print job, go to a nearby network printer, open the app on your smartphone, and use it to release the print job to the printer as shown by the screen images here. The PrinterLogic Print Release App works with any printer and is available in the Apple App Store and the Google Play Store.

Browser-based Release

The following image shows the Browser-based release portal. With this solution, you just log into your browser (e.g., http://printers.yourdomain.com/release).
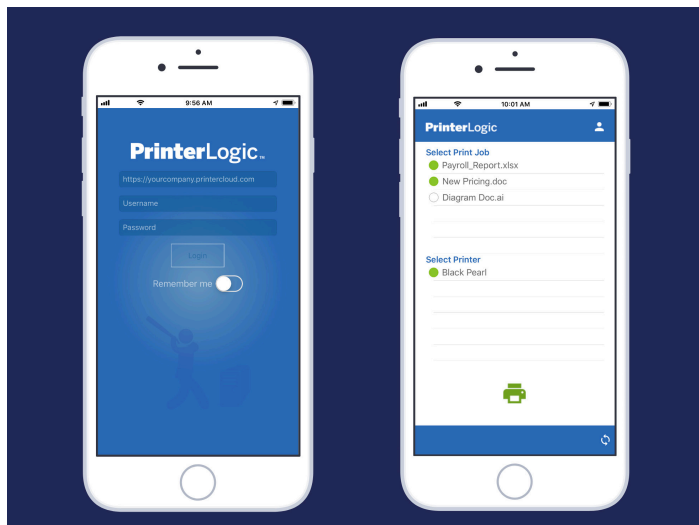
All you need to do to release a document is click the checkbox next to the document you want to print and then click the "Release" button.

Setting up Pull Printing with PrinterLogic

PrinterLogic provides easy pull printing configuration through its centralized admin console, which enables the IT manager or printer administrator to determine printer settings globally or individually. The settings can be adjusted by selecting a printer object in the printer tree and then clicking the General tab.

To create a pull printer, select the folder in the tree and click the "New" button. Choose TCP/IP Printer or right-click the folder and select New > TCP/IP Printer. Via the dialog box, all the user needs to do is give the printer a name, check the "Make Pull Printer" box, and assign a universal driver in the corresponding drop-down boxes.

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Pull Printing from PrinterLogic enables end users to print where and when they are ready. This integrated approach to print management gives employees flexible, convenient ways to release print jobs, and keeps it simple for IT to implement. It's a cost-effective and secure solution for your organization.

Conclusion

In addition to its Pull Printing capabilities, PrinterLogic completely eliminates the need for print servers and replaces their functionality with a highly efficient centrally managed direct IP printing architecture. The cost, complexity and error-prone nature of print servers is eliminated. Server crashes that can affect thousands of users are gone. In addition, the PrinterLogic architecture lets IT administrators manage every printer on the network from a single web-based console, including tools for simpler printer and driver management and provisioning. The solution includes a self-service installation portal for end users, which can dramatically reduce help-desk calls and the associated loss of productivity. The combined result of these features is high-availability, reliable printing, improved ease of use for employees, and advanced print management for IT administrators.

To find out more about PrinterLogic's Pull Printing solution, contact sales@printerlogic.com or call 435.652.1288 for a quick WebEx product demonstration, and a 30-day free trial.

Resources:

[1] "How to Stop Your Employees from Wasting $2,480 of Paper a Year," Tricerat.com. Last Modified May 5, 2014, http://www.tricerat.com/blog/ printing/stop-employees-wasting-2480-paper-year

[2] "Do your printed documents feel abandoned and unclaimed? Help is here", LinkedIn.com. September 15, 2015, http://www.linkedin.com/pulse/do-your-printed-documents-feel-abandoned-unclaimed-help-garry-dockree

[3] "Managing Business-Critical Print Devices in Manufacturing and Distribution Operations?", Lexmark, 2007, http://www.lexmark.com/en_US/solutions/industry-solutions/manufacturing-distribution/WhitePaper-DFM.pdf

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