
Secure Printing with User-Based Printer Authentication

Manufacturer-Independent, Secure, Cost-Cutting Pull Printing
with Personal Printing from ThinPrint



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1. Is Printing a Security Risk?

The study “Print Security Landscape 2022,” conducted by market researchers Quocirca, showed that 68% of companies surveyed already had one or more cases of a print-related data protection breach in the year prior to 2022.¹ And despite being in the digital age, printing costs still have a significant impact on IT budgets. For example, for consumables like paper and toner, or costly quick-response maintenance contracts for out-of-service printers.

It is a frequently overlooked fact that printing devices are more than just simple output and copying machines. They have their own IP address, access to the network, are accessible via their own e-mail address and can even send data using that address. The potential dangers involved are substantial. Discover in this white paper, to what extent user-authenticated printing can reduce the burden on your IT budget and how it can increase the security of your corporate data.



¹ Fernandes, Louella; Quocirca, “Print Security Landscape 2022, Link: <https://quocirca.com/quocirca-print-security-landscape-2022/> (Accessed January, 2023).

2. Print Job Output at the Printer

Everyone has experienced it at one time or another: documents which are not intended to be seen by others are left at the printer.

Above all, if the information contained in the documents is confidential, such as HR data or salary details, it is serious if the printouts end up in the wrong hands. By the time the HR staff member has walked from the HR department to the printer, another person may have already checked the paper stack – in most cases without any malicious intent.

Time and time again, statistics prove that most security breaches occur within a company itself, and their cause does not lie in attacks from outside.

There are not necessarily criminal forces at work in such cases. Often, the breaches are entirely due to a mistake or lack of awareness that there is a problem.

Careful consideration should be given to the location where a printer is to be installed. Who should – and is permitted to – have access to the printer and how can measures be taken to ensure unauthorized parties cannot view printouts?

Often, company departments with sensitive documents, such as the HR department, are equipped with their own, local printer. This extra hardware is not only expensive and the source of constant running costs due to ink and paper consumption; the printers also have to be integrated into the network and administrated.

3. The Better Alternative: Introduction of User-Authenticated Printing

With user-authenticated printing or pull printing, users can only start and receive their printouts if they authenticate themselves at the printer, for example, via QR code, smartcard or PIN.

As a result, confidential documents cannot be left lying in the printer tray, and neither can they fall into the wrong hands.

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Another important secondary effect of secure printing: Pull printing helps to reduce paper consumption in businesses.

On average, an employee uses 10,000 sheets of paper a year, and according to a Lexmark study, 17% of the total print volume is unnecessary. The true cost of printing however is 13 to 31 times higher than the actual cost of the paper used. In numbers this means that one printed sheet of paper costs on average \$0.07. For one year, the costs accumulate to approximately \$650 per employee. With Personal Printing as a pull printing solution, savings of at least 10% can be made each year. That equates to savings of \$65 per user per year. The investment required is just \$18 per user per year resulting in annual savings of \$47.



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| Average printing costs per user, per year: | \$ 650 |
| Minimum cost savings with Personal Printing (10%): | \$ 65 |
| Personal Printing license per user, per year: | -\$ 18 |
| <hr/> | |
| Net savings per user, \$ 47 per year: | \$ 47 |

Advantages of ThinPrint Personal Printing: Printers can be used without additional hardware. ThinPrint's Personal Printing can be used universally – regardless of the printer model.

How it Works: Secure Printing with Personal Printing

Personal Printing is a software solution from ThinPrint that transforms any printer into a personal printer thereby guaranteeing confidential printing. To benefit from secure printing, you can register yourself conveniently and regardless of the printer in use: To do this, just scan your employee ID (smartcard or token) at the Personal Printing Release Station, a low-cost, compact hardware box. Nothing needs to be connected to the printer, as the connection between the Release Station & printer is established via our software. A print-out with your individual access code is issued. This is then used to register in the Personal Printing portal. If you want to print confidentially, simply select the Personal Printer as the printer.

If you want to print confidentially, you choose the Personal Printer as the printer. The print jobs that you send to the Personal Printer are encrypted via SSL and saved to the central print server.

When the printing process is initiated, a list of the user's outstanding print jobs can be viewed in the JobViewer via the web browser or via the Personal Printing App on the mobile device. Print

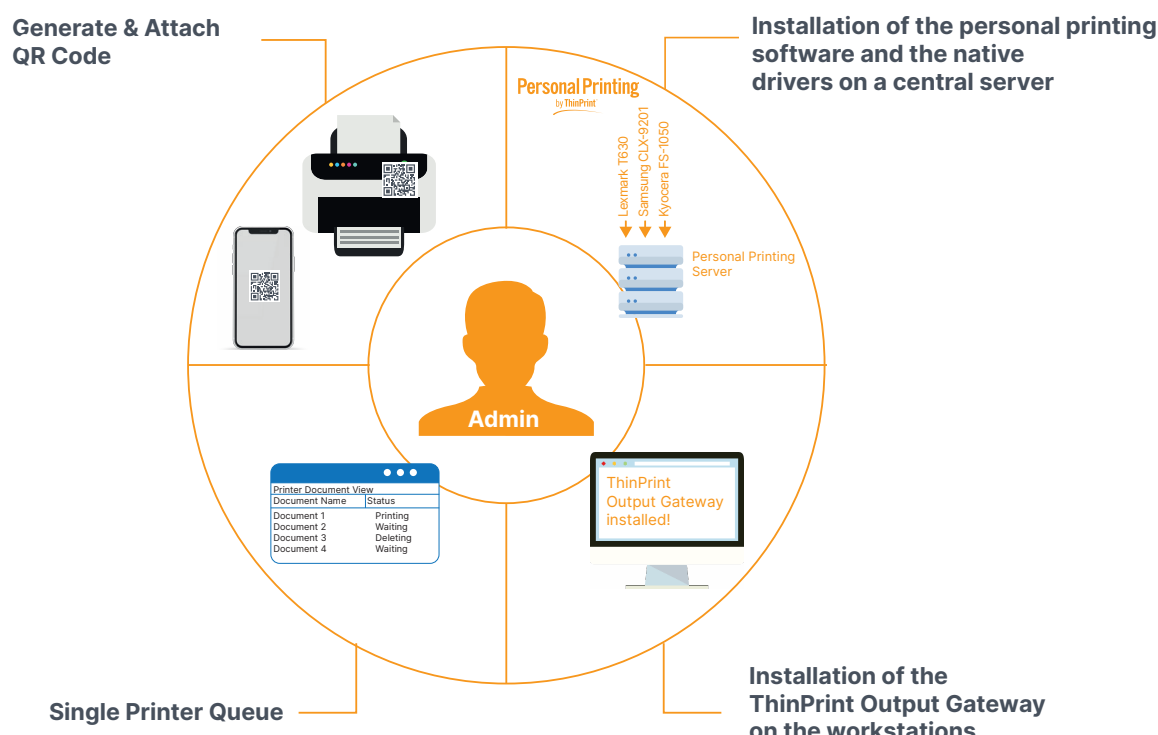
jobs that were incorrectly initiated or that are no longer required, can be deleted from this list. This can either be done by the user or automatically by the system after a time period set by the administrator (e.g. all uncollected print jobs can be deleted 24 or 48 hours after being initiated).

After you started the printing job, you can go to the printer of your choice and authenticate yourself. After that, the document will start printing out on the printer. A great way to save paper as documents left lying in the printer's tray are thus a thing of the past.

For the administrator, installation couldn't be easier:

- › The administrator installs the Personal Printing software on the server, which network and local printers access. The server is then transformed into a Personal Printing server.
- › During the printing process, the Personal Printer is addressed on the client side instead of each individual printer model. This is possible because the Personal Printer uses a virtual printer driver, the ThinPrint Output Gateway. The ThinPrint Output Gateway is installed on workstations, terminal servers or virtual desktops. Native printer drivers are not required here, but are only kept on the Personal Printing server. This means that print jobs can be processed on the server side with the original printer drivers installed there.
- › As a result, employees only need to be provided with one printer queue.
- › The user decides by authentication at the printer when the print job is printed. The easiest and most cost-effective method of authentication is smartphone and QR code authentication. Around 20% of employees in Germany, for example, use a company smartphone at work, according to Deloitte². All that the administrator must do is to attach a QR code to the printer, purchase of additional hardware is not necessary and any QR code generator on the internet can be used. There, the admin simply enters the name of the printer and its printer ID using the following syntax: printer ID: printer name, e.g. 1: HP Color LaserJet 4700.

² Deloitte, "Mobile Employee Survey – A Study on the German Market, 2019", Link: <https://www2.deloitte.com/content/dam/Deloitte/de/Documents/technology/enterprise-mobility-survey-2019.pdf>, page 10 (Accessed January 2023).



4. Authentication Methods

Authentication options with ThinPrint's Personal Printing solution are extremely flexible.

You can decide on the option that best meets your company's requirements. It can make sense for example to utilize existing hardware such as chip cards which are used as room cards, which can also be used for authentication at printers.

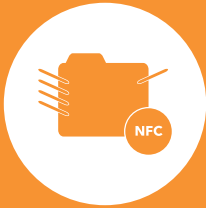
Users can identify themselves at the printer using their ID card, special RFID cards or authenticate by PIN. ThinPrint's Personal Printing cooperates with well-known hardware manufacturers. If the printer is already supported by the Personal Printing software, employees can directly sign in at the printer. Otherwise, they can authenticate via the Personal Printing Release Station – independently of the printer manufacturer. This little hardware box is placed in front of the printer. The employees then can use the smartcard for registration – all standard card systems are supported. For authentication they can also use mobile devices such as iOS or Android smartphones in combination with a barcode or NFC tag attached to the printer.

Authentication with Smartphones



Mobile authentication via QR-Code

To identify themselves with iOS or Android smartphones, users scan a QR-code attached to the printer, starting the printout.



NFC authentication

Near field communication technology allows for touch-free authentication at a short distance. Simply hold your smartphone over the NFC tag and printing starts automatically.

Free demo download

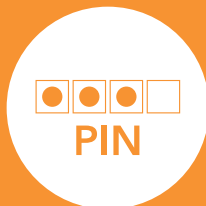
Test Personal Printing with your iOS or Android smartphones for 30 days:
www.thinprint.com/personalprinting

Additional authentication methods



Smartcard authentication

A Personal Printing Release Station is attached to the printer for smartcard identification. For this method, all printer models can be used, independent of the printer manufacturer.



PIN authentication

With certified printer models from ThinPrint partners, you can also identify yourself by entering an individual PIN directly on the printer's keypad or touchscreen display.

For user authentication via smartcard or PIN the Personal Printing Client is installed directly on the printers.

5. The Benefits of Personal Printing

- › **Security:** Confidential data is protected from third-party access thanks to authentication at the printer.
- › **Reduce printing costs:** Print jobs that you do not collect within a certain time can be deleted automatically from the print server. In this way, you reduce toner and printer consumption and protect the environment.
- › **Fast integration:** Avoid investments in expensive hardware. Personal Printing is a software-based solution and is fully scalable.
- › **Simple self-registration:** After scanning your employee ID card at the Personal Printing Release Station, an individual access code is generated. Self-enrollment can then be completed without any assistance from the IT team.
- › **Resource-efficient:** With Personal Printing, you no longer have to install printer drivers on desktops; they are managed centrally on a print server.
- › **Compatible with any device from any manufacturer:** Use any printer in your company. Personal Printing is compatible with printers from all manufacturers and transforms any printer into a Personal Printer.
- › **Reduce waiting times at the printer:** If your closest printer is busy, you can switch to other printers in the Personal Printing environment. Your documents will follow you to the printer of your choice.
- › **Flexible authentication:** Identify yourself using smartcards, QR codes, PIN or NFC.
- › **User-friendly:** Personal Printing is intuitive for both administrators and users, and is quick to set up and configure.
- › **Tracking:** With the tracking feature you gain an insight into your print-related savings. Print jobs, paper consumption and printers can be assigned to individual Active Directory groups, allowing costs as well as saving potentials to be quickly identified.

Download the software for 30 days free of charge including all features and get started with secure printing without any additional hardware:

www.thinprint.com/personal-printing

Do you have any questions?

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