ThinPrint®

WHITE PAPER

Printer Assignment Made Easy

How to make sure that all employees always have the right printer at their disposal, with minimum effort

Contents

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How to make sure that all employees always have the right printer at their disposal, with minimum effort

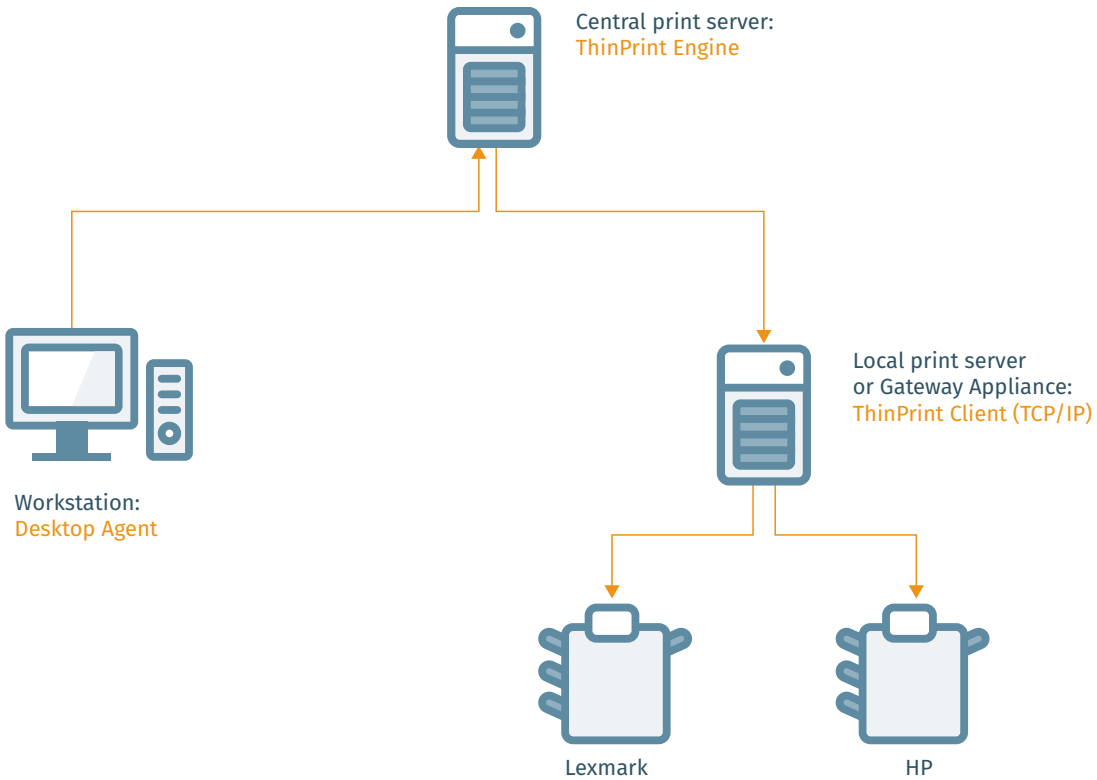
For the users, it is a given. If they click on the print command, the exact printer of their choice should be available. No matter where they are at or what device they are working with. The technology required to provide the service makes no difference to the user.

This expectation poses considerable challenges for the IT department. Whatever the architecture, whatever the device, and wherever the user is, the right printer should always be usable with all desired options.

Questions about printer mapping, or the right way to assign the right printers, fill numerous forums.

The conditions for successfully allocating the printers and the resulting challenges in printer mapping differ depending on the usage scenario.

Network printing in the company



In a company where users work on their desktops or workstations within a Microsoft Windows network, you can choose between user-based or machine-based allocation (or a combination of both). Machine-based means that no matter who logs on to this desktop, every user can use the printers defined for this computer. Possible scenarios here would be classrooms with alternating groups, workstations, and any facility without permanently assigned workstations or with shift work.

If there is a manageable number of workstations, it may be a good idea to manually install the appropriate printers locally on an IP port. But with a growing number of workstations that quickly becomes too time-consuming, and a software-controlled solution is required.

User-based allocation – no matter where a user logs in, he should always get assigned a suitable printer – also requires program logic.

Microsoft Windows standard applications can be used to distribute and deploy the printers via GPOs (Group Policy Objects). Unfortunately, the control guidelines needed quickly get out of hand and cause immense administrative effort when you consider which scenarios can easily occur:

- The user is in his office.
- An employee is supposed to have access to all department printers, except for the A3 printer.
- The user changes location and wants to print there. For example, in a conference room.
- A certain application requires a special, dedicated printer.
- The user would like to use a different default printer than his coworkers because he always picks up his print jobs on the lower floor on his way.
- The user also prints in his home office, in a remote desktop session, with different default settings.

Another drawback: Allocating printers via GPO slows down the user login process substantially.

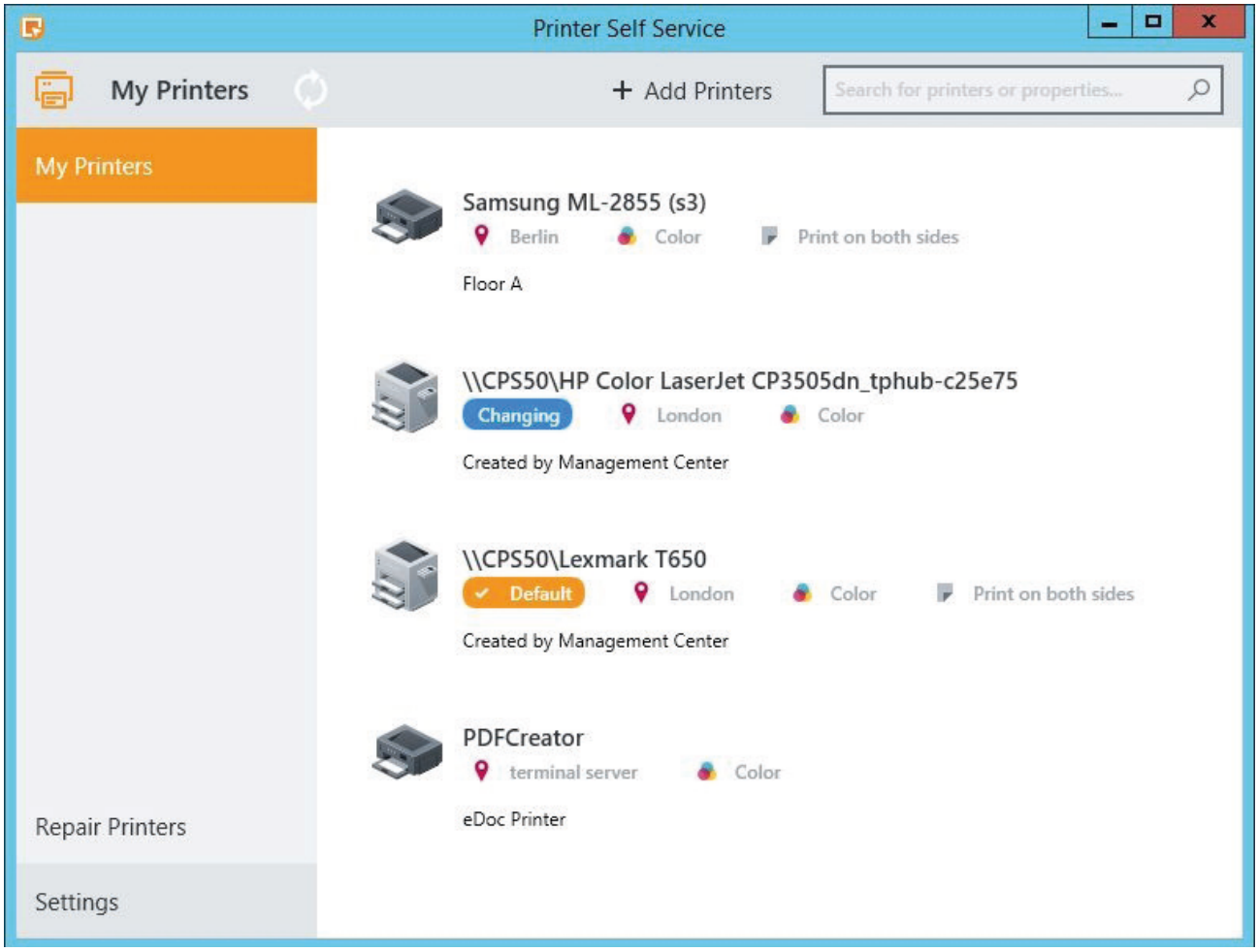
ThinPrint offers very low-maintenance printer allocation that, despite any special rules, remains clear and comprehensible even in large environments. Possible criteria for assigning printers or entire printer groups are IP addresses / IP range, client name, user or AD groups.

Printer Assignment with Printer Self Service

ThinPrint's **Printer Self Service** offers another very practical method for making printers available to employees.

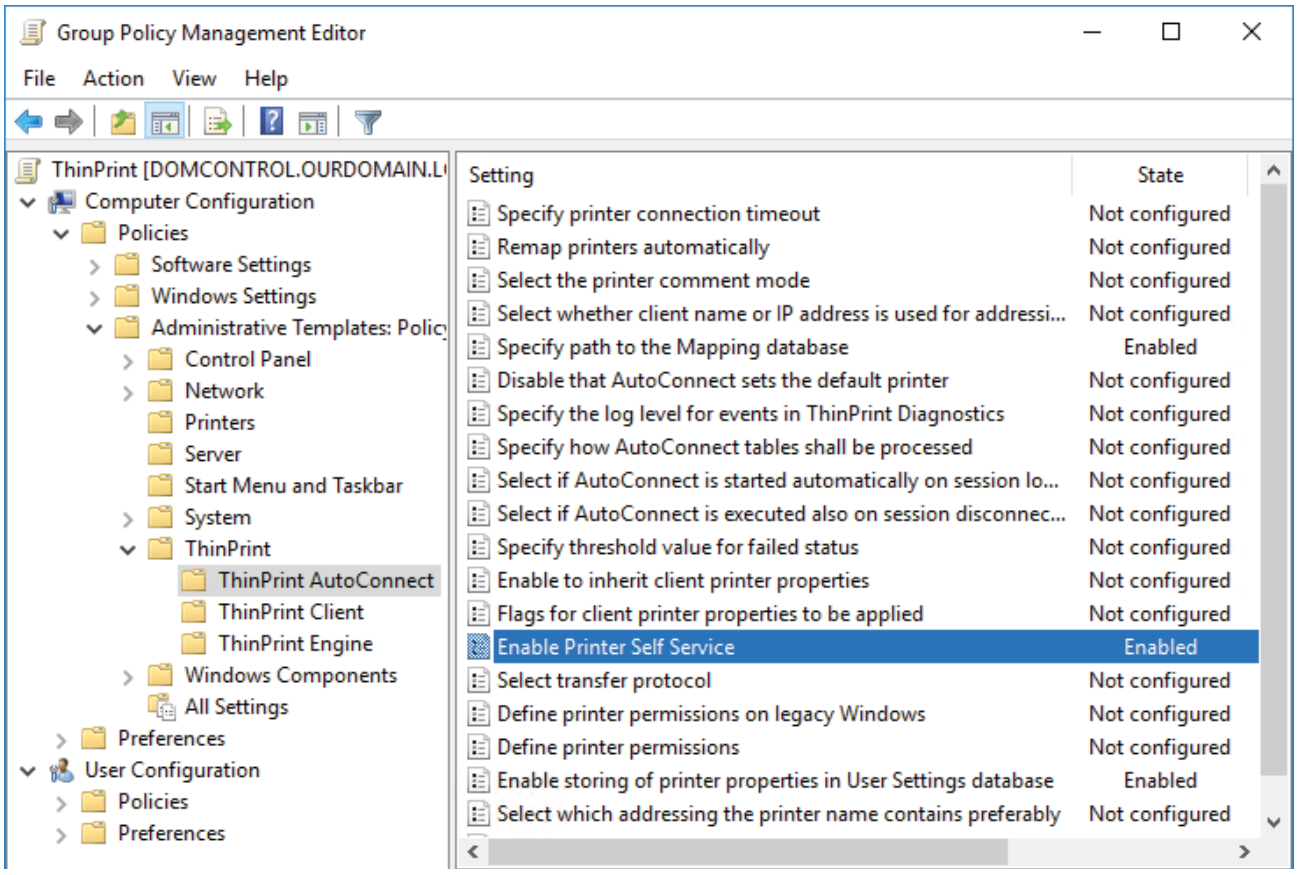
Users can pick out the right device for themselves and connect with one click, independently and without any outside help.

They will see the printers probably best for them sorted by location in the self-explanatory app or they can pick their favorite printers based on their properties like location, name or which ones have the specific functions desired, like color or duplex printing. New printers are labeled as such to make it easier for users to find them.



In the Printer Self Service console, the user can independently map printers himself.

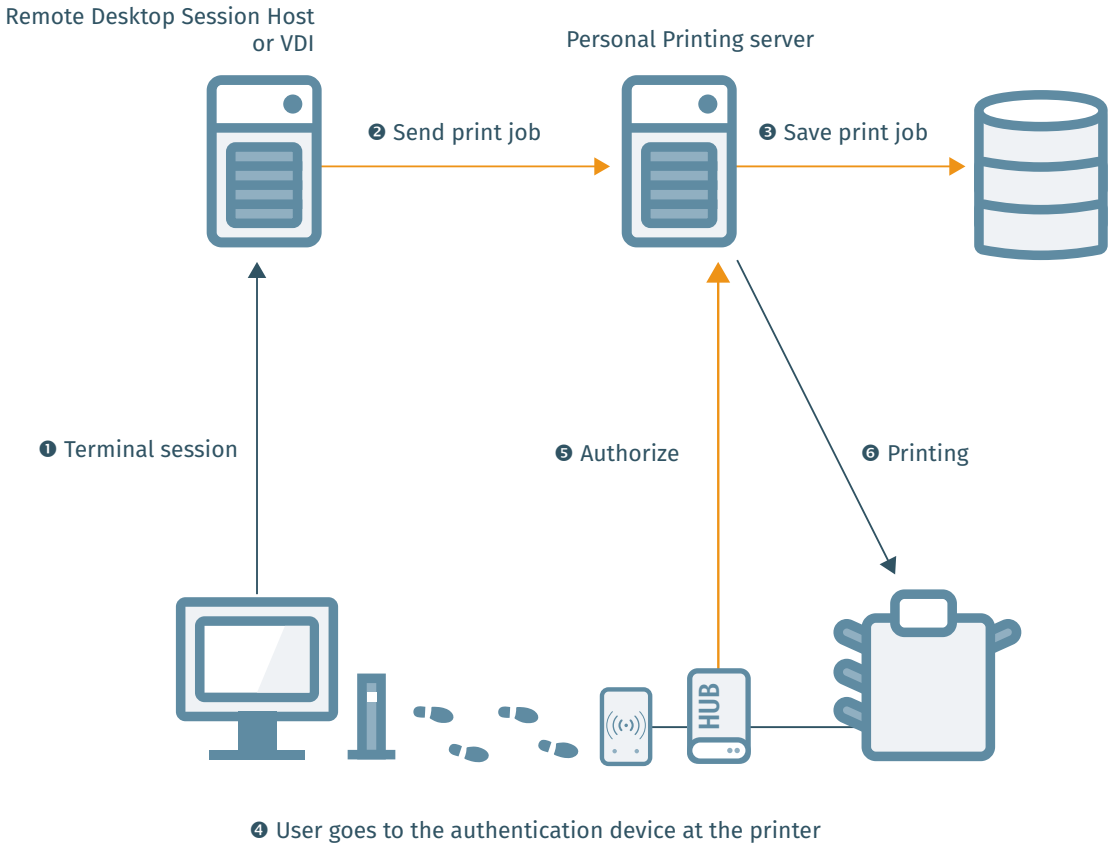
The users also set their default printer and default properties themselves – all of course only if approved by the administrator.



The administrator decides whether to activate the Printer Self Service for the users.

Printer assignment with the pull-printing solution Personal Printing

Another convenient printer mapping method, which also takes security and cost aspects into account, is ThinPrint's follow-me or pull-printing solution **Personal Printing**.



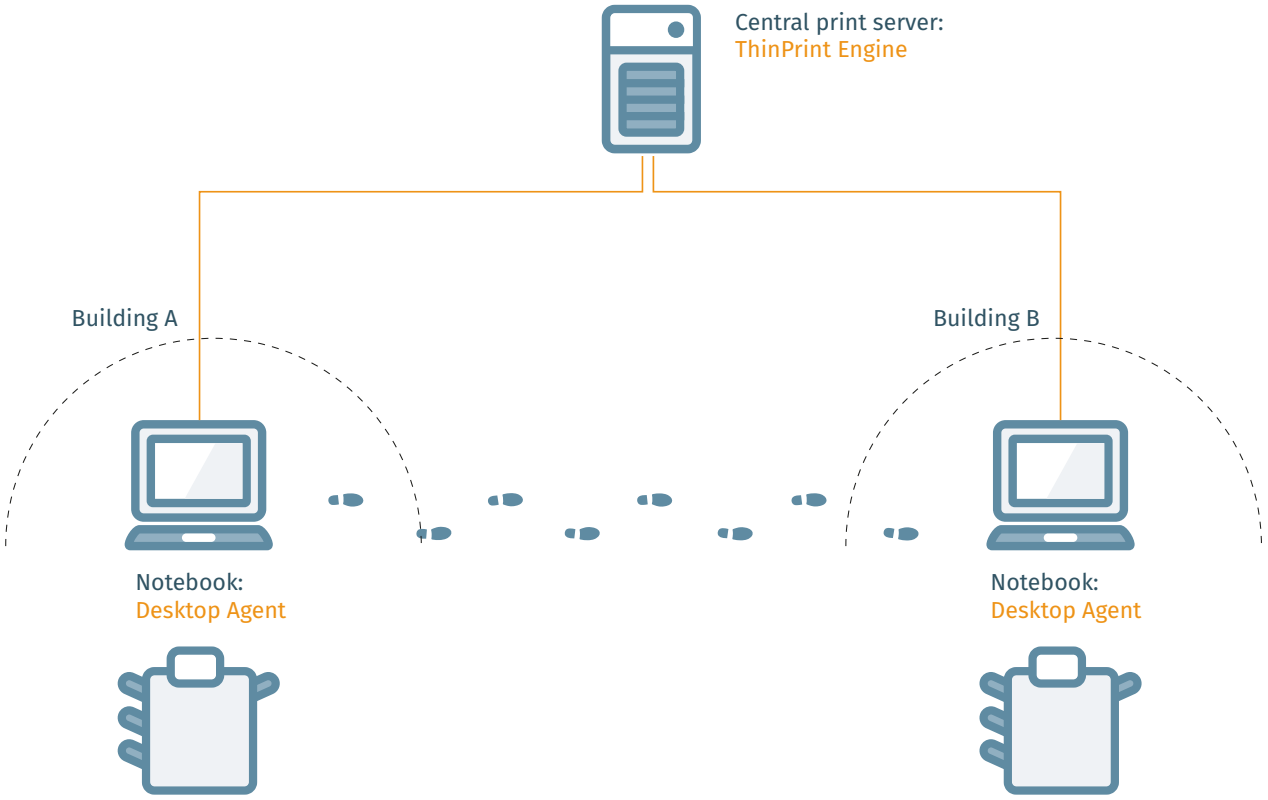
The mode of operation of Personal Printing

With this solution, the users select as their printer the Personal Printer, which was the only one installed by the administrator. They can then go to any printer and launch their printout directly at the printer through authentication. The authentication takes place, for example, by the user scanning a code affixed to the printer with his smartphone or using the smart card of the building's security system for example. Other additional effects include that it is ensured that only the authorized user gets his printout and printouts forgotten in the output tray are a thing of the past. The latter aspect in particular provides substantial savings of toner and paper and enables GDPR-compliant printing.

Mobile laptop users want to print too

Many users in a company are mobile with their laptops and use them, for example, in meetings. And employees work with laptops even when visiting headquarters or a branch office. How does printer mapping work in these cases?

How can you find out where the user is located right now in order to assign him the printers that are near him? With appropriate network segmentation, it is possible with an allocated IP address, but this option is nullified for the Wi-Fi usage common to laptops because a company-wide wireless network is not usually segmented.



With Microsoft Windows 7, Microsoft tried to make printing more convenient for laptop users with location-aware printing, by being able to set an appropriate default printer for every network. The solution wasn't able to become widely accepted and was discontinued with Windows 10.

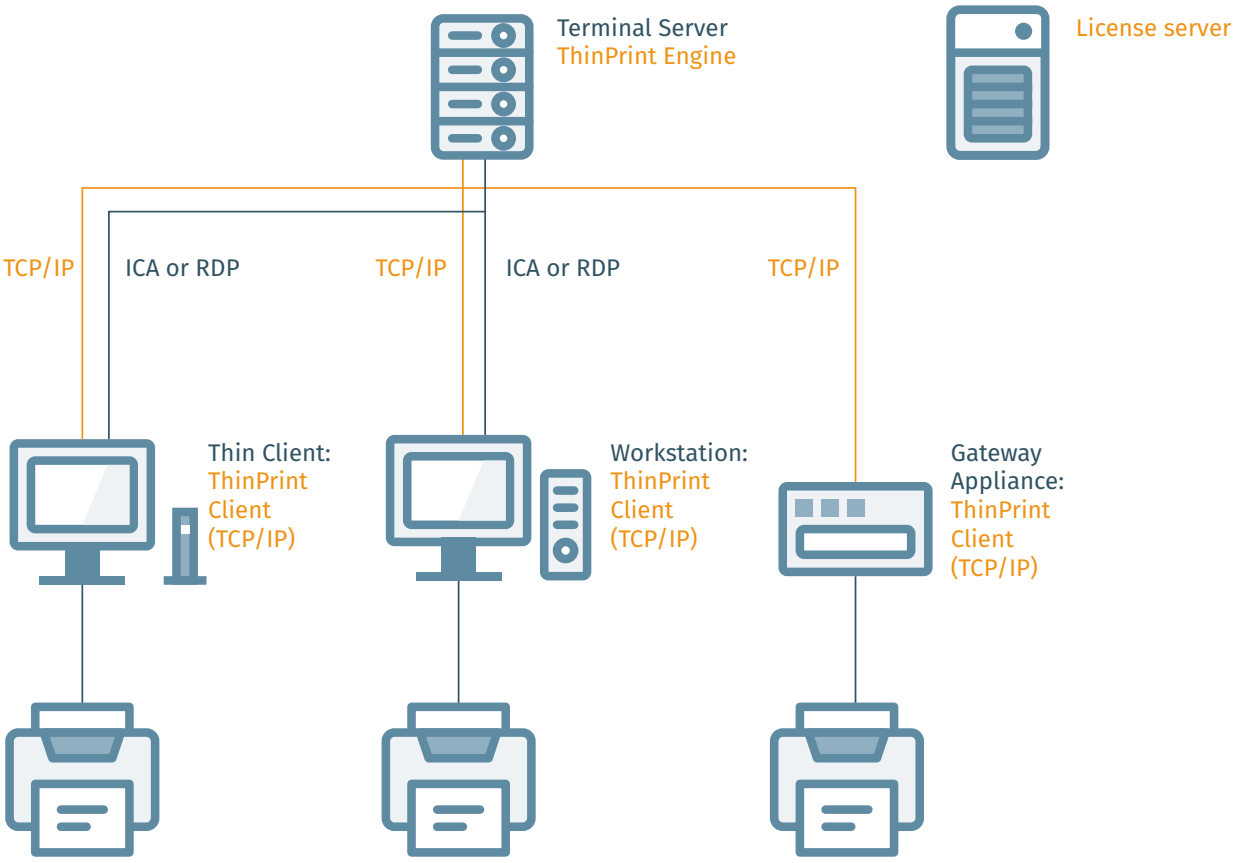
The solutions from ThinPrint already described above are ideal here.

Printer Self Service (see page 5) – depending on the location, the user can quickly select the appropriate printer that is near him and meets his requirements.

Personal Printing (see page 7) – provides laptop users complete freedom in printer selection. No matter where you are, simply press "print" and go to the nearest printer – it works even across locations.

In this case, the IT department has no work at all with the printer allocation – and the laptop user also benefits from the certainty that their print job won't print out on just any printer and be read by others.

Printer assignment in remote desktop scenarios



In remote desktop environments there is an additional layer.

First, we have the clients from which the RDP session is launched. This is where the users work and also where the printers are on which the print job is supposed to be ultimately printed. The clients can be Microsoft Windows PCs, thin or zero clients and increasingly more often tablets, in most cases iPads.

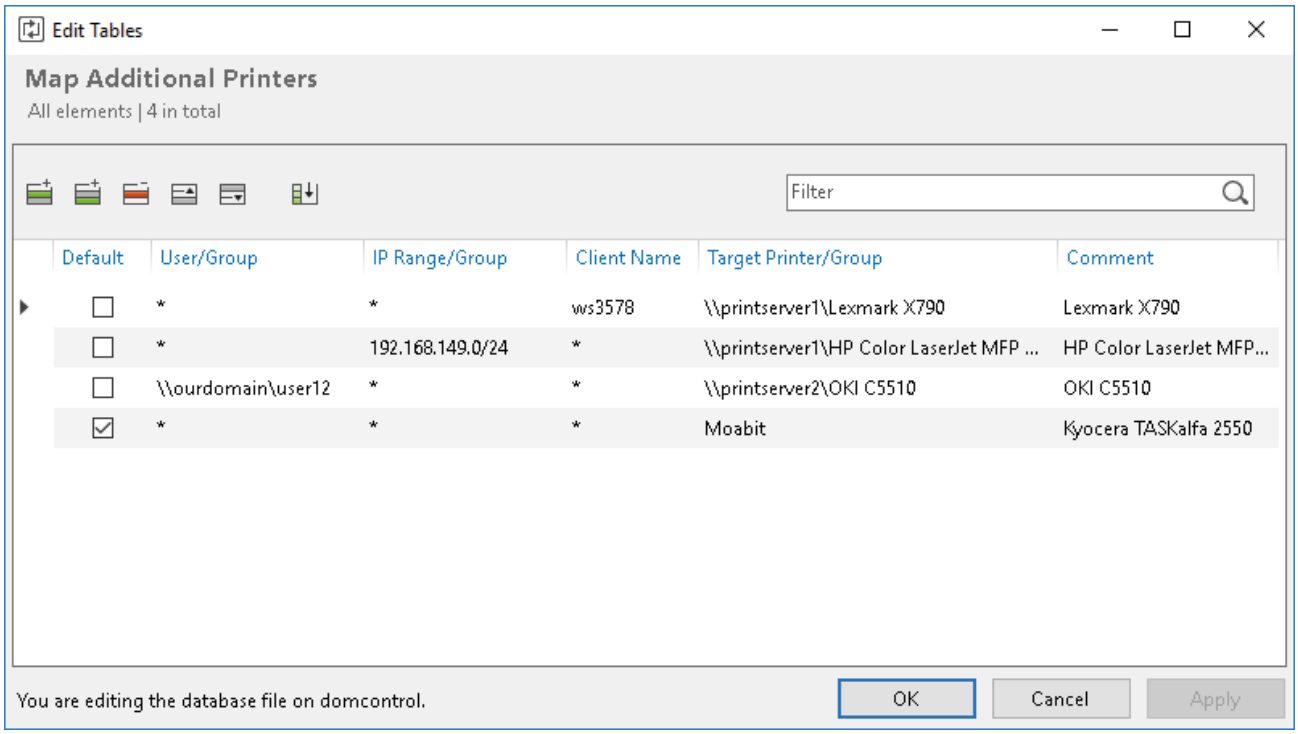
The next layer is the desktop, which is hosted somewhere on a server. Here the correct print objects must be created or mapped.

If the client host is a Microsoft Windows PC, all major remote desktop vendors have implemented a solution to redirect the printers configured on clients into the session. All client printers are thus also available in the session. This is useful in any case for locally connected USB printers.

With network printers, the path from the remote desktop via the client to the print server and then to the printer is extended unnecessarily. This is where intelligent rules must be established that provide a kind of least-cost routing without additional administration.

For these requirements, ThinPrint provides a **Dynamic Printer Matrix**, in which IT experts can specify exactly who has which printer under which conditions.

If there are no printers installed on the client, as is usually the case with thin/zero clients and, of course, with tablets, the information to be provided by the client setting up the session must be used to decide which printer queue is to be made available.



The AutoConnect table Map Additional Printers can be used for thin clients, zero clients and tablets.

It can be flexibly defined whether print objects are to be installed on the terminal server or the printer server, and even USB printers can be outsourced to the print server with the printing process.

The administrator doesn't even have to be familiar with the print infrastructure of branch offices to do this – ideal conditions for a service provider.

Conclusion

Printer assignment is and remains a challenge in all environments. The complexity of the application areas is increasing solely due to the increasing number of different devices and the increasing prevalence of cloud infrastructures or a mix of on-premises and cloud infrastructures. Only in small homogeneous corporate networks can experts achieve their goal with the operating system's standard applications. However, with the growing demands of using mobile devices, heterogeneous networks and distributed structures, the requirements can hardly be met without the use of suitable special solutions.

Use case	Windows standard applications	ThinPrint Engine	ThinPrint Personal Printing
Classic networks with stationary computers	Adequate for smaller environments if applicable	Exact assignment with Auto-Connect, user- or machine-based Also possible: Users assign printers to themselves with Printer Self Service	Easiest assignment: One queue for all printers Follow-me printing for all printer models Increases security and lowers consumption costs
Classic networks with mobile laptop users	Inadequate	Printer Self Service recommended for changing locations within a network	Perfectly suited because of the follow-me principle One queue Every printer can be used
Remote desktop scenarios	Possible in simple structured environments with local printing at the client	Exact assignment with Auto-Connect, user- or machine-based, Complete concept for client and network printer Printer Self Service is recommended	Easiest assignment: One queue for all printers
Printer mapping for the customers of service providers	Inadequate	Recommended, also in conjunction with **ThinPrint Hub** and/ or Personal Printing and Printer Self Service	Easiest assignment: One queue for all printers Onboarding on customer side with Self Registration Independent of individual users' MPS contracts

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Do you have questions?

The ThinPrint Team is happy to help. Contact us via one of our local offices listed on the next page or send an e-mail to **info@thinprint.com**.

Headquarters

ThinPrint GmbH
Alt-Moabit 91 a
10559 Berlin, Germany

Tel.: +49 (0)30-39 49 31-0
Fax: +49 (0)30-39 49 31-99

E-Mail: info@thinprint.com
www.thinprint.com

USA (Colorado)

ThinPrint, Inc.
3858 Walnut Street, Suite 130
Denver, CO 80205, USA

Tel.: +1-303-487-1302

E-Mail: info@thinprint.com
www.thinprint.com

Cortado Pty Ltd. Australia
Level 12, Plaza Building,
Australia Square, 95 Pitt Street
NSW 2000 Sydney, Australia

Tel.: +61-(0)2-8079 2989

Cortado Japan Japan Niederlassung
6F Shinmakicho Building
1-8-17 Yaesu
Chuo-ku Tokyo
Post Code 103-0028
Japan

Tel.: +81 3 5542 1551

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