

## Simply Better Printing – in Any IT Architecture

| Feature                                                      | Description                                                                                                                                                                                                                                                                  | Printing from desktop PCs | Printing with virtual desktops |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Intelligent high availability for print servers</b>       | With intelligent monitoring and management, another print server in the same group can automatically take over when the initial print server is unable to be used. In addition to overseeing print server availability, ThinPrint also conducts a print server health check. | ✓                         | ✓                              |
| <b>Server load balancing</b>                                 | By evenly spreading the print volume among the print servers in a group, load balancing ensures optimal printing performance.                                                                                                                                                | ✓                         | ✓                              |
| <b>Easy server maintenancing</b>                             | IT can set one or more print servers in maintenance mode. Transparent for users, their printers will be automatically re-connected to other print servers.                                                                                                                   | ✓                         | ✓                              |
| <b>Printer failover and load balancing</b>                   | If a ThinPrint Client is unavailable, it is automatically replaced by another one. ThinPrint Clients with identical configurations are also suitable for performance-enhancing, client-side load distribution.                                                               | ✓                         | ✓                              |
| <b>Printer Self Service</b>                                  | Employees can search for printers by printer name, feature and location, define their default and favorite printers and adjust settings themselves. The Printer Repair feature offers easy-to-use first aid.                                                                 | ✓                         | ✓                              |
| <b>V-Layer™ – keeps all desktops free of printer drivers</b> | A virtual printer driver, the ThinPrint Output Gateway, replaces all printer drivers on the desktop (Driver Free Printing). Original printer drivers are maintained only centrally on the print server.                                                                      | ✓                         | ✓                              |
| <b>Advanced Adaptive Compression</b>                         | Intelligent compression process that adapts to the print job content and the available bandwidth and reduces print data by up to 98%. The results are fast printing and no more bandwidth congestion because compression is applied at every point and with all protocols.   | ✓                         | ✓                              |

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| <b>User-defined compression</b>                             | Within the compression levels preset by the administrator, users can adjust specific compression.                                                                                                                                                                                                                                          | ✓                         | ✓                              |
| <b>ThinShare</b>                                            | Compression anywhere the ThinPrint Output Gateway virtual driver is used, without additional software installation. This enables the compression from a PC in a branch office to the central print server, for example. ThinShare also provides compression of print data on the wireless network, thereby avoiding bandwidth bottlenecks. | ✓                         | ✓                              |
| <b>Automatic printer mapping by AutoConnect</b>             | ThinPrint AutoConnect ensures that the desired printers are always available to users.                                                                                                                                                                                                                                                     | ✓                         | ✓                              |
| <b>Mixed 32-bit and 64-bit print environments</b>           | Reliable printing where mixed 32-bit and 64-bit operating systems are being used on servers, client PCs or virtual desktops.<br><br>Example: Migrating to 64-bit does not require any investment in new printer hardware, not even if there are no 64-bit printer drivers available for existing printers.                                 | ✓                         | ✓                              |
| <b>SSL/TLS encryption</b>                                   | TLS 1.3 encryption standard is used to ensure that security requirements are fully met and highly-sensitive documents are completely protected. ThinPrint software integrated into the hardware allows end-to-end encryption right to the printer.                                                                                         | ✓                         | ✓                              |
| <b>Support of remote print servers and print appliances</b> | Direct printing via TCP/IP – compressed and optimized for bandwidth – to remote print servers (e.g., in branch offices) or print appliances as the ThinPrint Hub.                                                                                                                                                                          | ✓                         | ✓                              |
| <b>Optimized native printing</b>                            | High-compression transmission of print data also when using original printer drivers.                                                                                                                                                                                                                                                      | ✓                         | ✓                              |
| <b>Support of various protocols when sending print jobs</b> | Optimized transmission of the print data over the protocols TCP/IP and LPR/LPD or ICA/HDX and RDP/RemoteFX                                                                                                                                                                                                                                 | ✓                         | ✓                              |

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| <b>Connection-oriented bandwidth management for print data</b>            | ThinPrint never exceeds the defined maximum bandwidth for printing, not even when multiple users print at the same time.                                                                                                                 | ✓                         | ✓                              |
| <b>One standardized interface (GUI) for all printers from all vendors</b> | The ThinPrint Output Gateway virtual printer driver provides a standardized, user-friendly print dialog box for all printers. This reduces help desk calls.                                                                              | ✓                         | ✓                              |
| <b>Support of the enhanced print options including finishing options</b>  | Thanks to the virtual printer driver, almost all print options and properties of the target printer – including finishing options of a multifunction printer like hole-punch, staples and binding – can be used in all IT architectures. | ✓                         | ✓                              |
| <b>Tracking Service/ Report Engine</b>                                    | Comprehensive collection and analysis of company-wide printing behavior and the resulting print costs.                                                                                                                                   | ✓                         | ✓                              |
| <b>ThinPrint Management Console</b>                                       | A central location for an instant overview of all ThinPrint users, printers and licenses in your print environment.                                                                                                                      | ✓                         | ✓                              |
| <b>Centralized configuration</b>                                          | Centralized configuration through seamless integration of all ThinPrint controls as a snap-in in the Microsoft Management Console. A number of high availability parameters can be set by group policy objects (per groups of machines). | ✓                         | ✓                              |
| <b>Printer mapping via Dynamic Printer Matrix</b>                         | Configuration tables provide automated printer allocation when mapping or setting up client printers. In this way, printers can be connected using a variety of user- or device-based criteria.                                          | ✓                         | ✓                              |
| <b>Creation of a secure client-side print tunnel</b>                      | Thanks to the ThinPrint Connection Service, network printers can be addressed in masked networks. Branch offices can operate without leased lines or VPN connection. Management is convenient via MMC-SnapIn.                            | ✓                         | ✓                              |
| <b>Centralized, dynamic setup and management of the print environment</b> | ThinPrint Management Services enable script-controlled, automated setup and management of complex ThinPrint environments and give a complete overview of hardware, drivers, clients, and branch offices.                                 | ✓                         | ✓                              |
| <b>Automated print processes thanks to VirtualCopy</b>                    | With just one click, send up to five copies of documents to different printers in various qualities also enabling e-copy archiving.                                                                                                      | ✓                         | ✓                              |

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| <b>ThinPrint Font Management</b>                    | Intelligent font management provides reliable printing results and significantly lower transmitted data.                                                                                                                                              | ✓                         | ✓                              |
| <b>SpeedCache</b>                                   | Repeating elements in a print job, such as logos and fonts, are only transmitted once, which significantly speeds up the printout.                                                                                                                    | ✓                         | ✓                              |
| <b>Port Pooling</b>                                 | Increased print performance through parallel transmission of multiple print jobs.                                                                                                                                                                     | ✓                         | ✓                              |
| <b>Preset cost-saving printer settings</b>          | Presetting printer settings like black-and-white or duplex printing per user or group lowers the print and paper costs.                                                                                                                               | ✓                         | ✓                              |
| <b>Unattended installation</b>                      | Unattended installation of ThinPrint components and license keys using Setup.exe or .msi file enables convenient rollout via SCCM, for example.                                                                                                       | ✓                         | ✓                              |
| <b>Dynamic licensing &amp; AD synchronization</b>   | Employees deactivated in AD, and not just deleted, can be removed from the ThinPrint license server. Usernames or email addresses which have changed in AD, can also be updated in the ThinPrint Management Console.                                  | ✓                         | ✓                              |
| <b>Multi-client licensing for service providers</b> | With only one ThinPrint license server, service providers have an instant overview of all their customer licenses, which can be managed from a central console. This also applies to IT departments managing multiple locations or a group structure. | ✓                         | ✓                              |
| <b>Integration of central print servers</b>         | A central print server unburdens the application servers and virtual desktops and simplifies the printer driver management.                                                                                                                           | ✓                         | ✓                              |
| <b>Virtual Channel Gateway</b>                      | Sends print jobs from central print servers through a virtual channel of an ICA/HDX or RDP connection to the clients when printing over TCP/IP is not possible (e.g., when printing in a home office).                                                |                           | ✓                              |
| <b>Mobile Session Printing from iOS Devices</b>     | Intuitive iPad and iPhone printing from any remote or virtual desktop session directly to locally available AirPrint™ printers.                                                                                                                       |                           | ✓                              |

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| <b>Session-in-Session support</b>                                              | Automatic creation of printers in environments in which users connect to the target computers through multiple sessions.                                                                                                         |                           | ✓                              |
| <b>Direct printing to thin clients or network printers</b>                     | Direct printing to thin clients or network printers – either without a session or over an existing one.                                                                                                                          |                           | ✓                              |
| <b>Integration of batch printing in the virtual channel</b>                    | Thanks to the Host Integration Service, integration of externally generated host print streams in Citrix Virtual Apps and Microsoft Remote Desktop Service environments and secure transmission over the ICA/HDX or RDP channel. |                           | ✓                              |
| <b>Support for Mac in virtual environments, including Driver Free Printing</b> | The ThinPrint Client for Mac allows you to integrate Mac devices into your virtual environment. Thanks to Driver Free Printing, the printer settings of the Mac client printers are carried over.                                |                           | ✓                              |
| <b>Support for Linux clients in virtual environments</b>                       | The ThinPrint Linux client allows you to integrate Linux computers into your ThinPrint environment (via RDP or TCP/IP) and use compression, encryption and other features.                                                       |                           | ✓                              |