

IT Administrator

The magazine for professional system and network administration

Special Edition for K-iS Systemhaus Group



Source: Vlad Kochelavski - 123RF

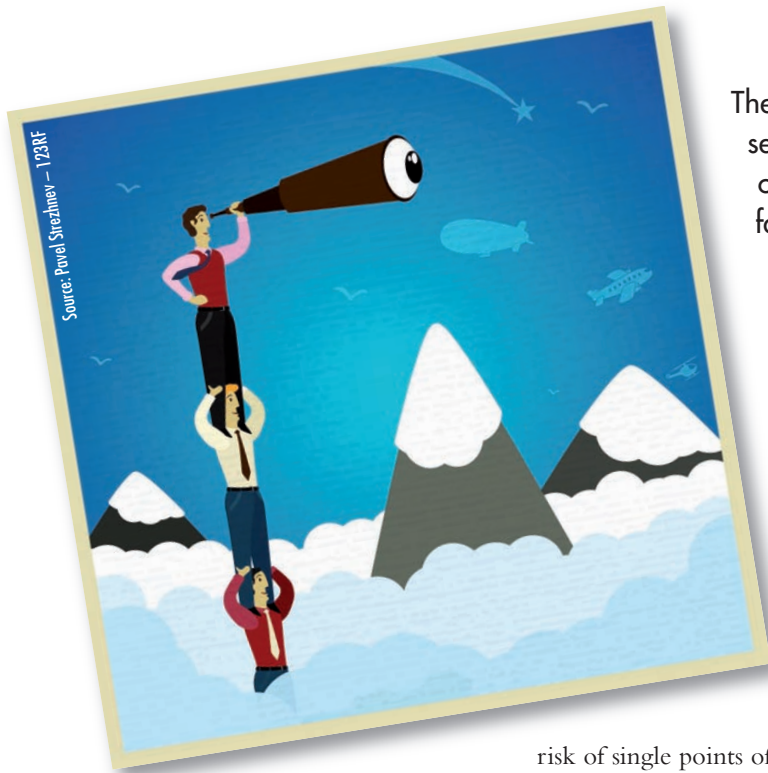
Tested:

steadyPRINT 5.0

**Tested: steadyPRINT 5.0**

Clear view of the printing environment

by Jürgen Heyer



The administration of numerous printers on multiple print servers in a Windows environment often proves to be a complex matter. Thus, the compensation of print server failures, for example, is time-consuming and the use of terminal servers implies additional complexity. At this stage, steadyPRINT wants to provide relief by a central and comprehensive printer management with dedicated assignments and a fail-safe operation. IT-Administrator magazine has tested the software to verify whether it provides more transparency with regard to the printer management in the Windows net and to terminal servers.

During the installation of the environment, we soon realized that a simple setup alone was not enough. Instead, a hand full of single steps, precisely described in the manual, had to be carried out. At first, the SQL-server as of version 2005 has to be set up manually. According to the manual, we used the free express-version for testing. The installation in a mixed mode is important as steadyPRINT subsequently needs the sa-user. Following the SQL installation, a small program has to be run which creates the steadyPRINT database on the SQL server as well as an additional user which the print servers use for the da-

The complexity of the printer management under Windows is dependent on several factors: the number of users and printers as well as the extent of how often users have to access different printers. Moreover, the quantity of the different printer models which need their own printer drivers plus the number of required print servers are decisive. The complexity is also increased by the use of terminal servers as in terminal sessions every user wants to use the nearest printer. Furthermore, several printers might not be available due to print server failures.

In order to face all those different challenges in the printer environment, steadyPRINT serves as an interesting tool. The software includes a comprehensive and central printer management and offers an integrated reliability so that the

risk of single points of failure is reduced. If a print server is not available, a backup print server is activated ensuring that the printing function can still be used.

Installation with some manual work

steadyPRINT consists of four components: the steadyPRINT Agent, Service, Center and Server. A prerequisite for its use is that at least one print server from Windows 2003 or higher is operated in the environment and that the users don't send their print jobs directly to the network printers but to a print server. Agent and Service have to be installed on the Clients, i.e. the terminal servers and workstations, Center and Service on the print servers. The steadyPRINT Center thus serves as the central administration surface. The manufacturer recommends installing the software on each print server so that a continuous administration is guaranteed in case a single print server fails.

At least one print server with Microsoft Windows Server 2003, 2008 or 2008 R2 (32/64 bit), Active Directory from Microsoft Windows Server 2003 or higher, Microsoft SQL database from version 2005 (also express version), Client operating system from Microsoft Windows XP Professionals! (32/64 bit), Microsoft .NET-Framework 3.5

System requirements



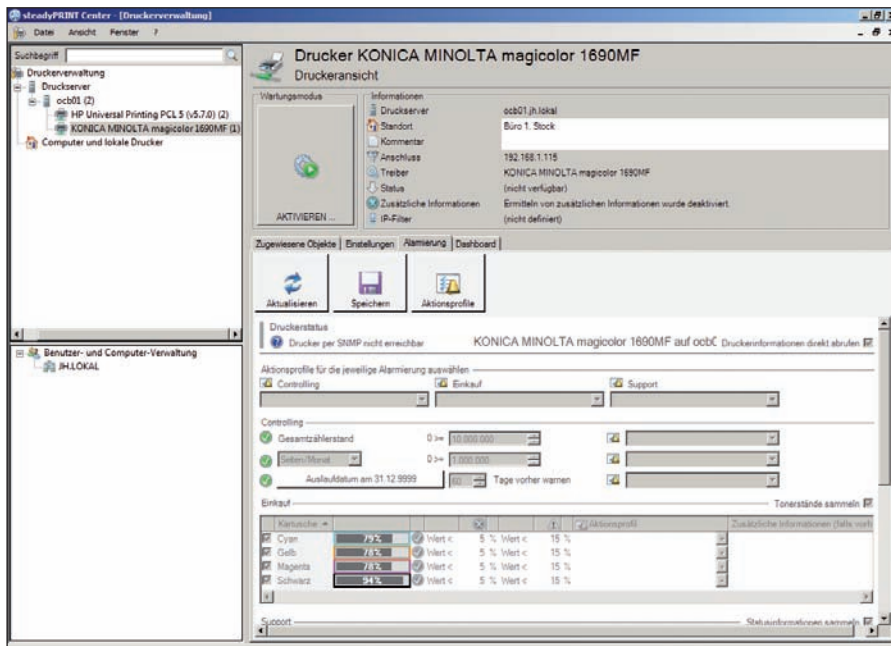


Figure 1: steadyPRINT reads out the status of all printers and provides information when counts are exceeded and consumables run low

database access. This user must also be specified during the setup of the Client components. Finally, the components directly access the SQL database which thus plays a central role and should be installed on a highly available platform. Subsequently the steadyPRINT Server as well as the administration surface (Center) has to be installed on the first print server. A domain user with administrative rights has to be specified so that the status and the print spooler of the print server can be queried.

What surprised us was that the administration surface was not complete after the installation and that we were faced with the installation of another web server so that the Center which informs the administrator of the printer's status and error messages was shown in the steadyPRINT dashboard. As a prerequisite for installation, the dashboard requires at least Windows Server 2008 R2. We were glad that we selected this version as the basis but would have appreciated to receive this information at an earlier stage. Moreover, the SQL server 2012 Native Client had to be installed which was no problem for us. The Dashboard itself is supplied as a ZIP packed directory which needs to be unzipped and copied to any place on the server. For the respective adjustment of

the paths, we then had to call a script from the chosen installation directory. Furthermore, the TCP/IP protocol had to be activated on the SQL server and the SQL port had to be set to a fixed value (default 1433). At last, we had to adjust two files within the web server directory structure so that the dashboard could reach the SQL server and subsequently call a script in order to start the web server. At this point, the Center view was complete and we could query the printer states. To sum up, in our view the installation did not run as smoothly as expected and a higher degree of automation would be desirable.

The installation on the Client side with the steadyPRINT Agent and Service, however, was much easier as, apart from the installation directory, only the database instance and the database user including password had to be specified.

All printers in a well-planned center

Even with the first start of the steadyPRINT Center, the central administration tool provided a clear impression. The main view is threefold with two windows on the left side and a big one on the right side. The lower of the two windows on the left side show the AD structure in order to assign objects. The upper window

which is practically empty at the beginning shows a tree structure with managed print servers and printers. The big window on the right side is responsible for the detailed view of the object which is selected in one of the left windows.

The first task after the installation is to add the print servers to be managed as well as the appropriate printers. For this purpose, each print server including its DNS name or the IP address has to be indicated whereupon all installed printers are listed. The administrator now has the opportunity to select the required printers for import in order to avoid further problems with unnecessary objects as the standard MS XPS Document Writer. There could also be single printers that are not to be centrally managed. For each imported printer, steadyPRINT is now trying to read out and specify system information, a feature that was successfully tested. In our laboratory, for example, we use a color printer and within the steadyPRINT Center we could – among other things – check the toner levels. A link can also be found on the surface so that a web server which might be integrated in the printer can be accessed.

Once the printers are imported, they are assigned to the users. Printer connections are created by assigning Active Directory Objects via the user and computer administration in the steadyPRINT Center. For this purpose, the Active Directory is accessed by the Center and mapped respectively. Changes to the assignments have an immediate impact on the affected workstations and Clients on which the Agent is installed; a continuous notification of the changes takes place. Thus, a modification of the printer assignments for a special user results in an appropriate adjustment according to the configuration.

The administrator can simply define printer connections by marking a printer in the tree view and selecting the option “assign printer” in the context menu. Now the required object, which is subsequently displayed in the assignment list of the respective printer, can be selected from the AD. Assignments can be done via user, computer and group objects. In this con-



text, the administrator can granularly define the rights according to the list by not only sharing but also denying printers. A denied printer does not only mean that the printer is no longer connected to a user but that the user is not even able to establish a local printer connection via the Agent.

Furthermore, steadyPRINT distinguishes between workstation- and terminal server connections. For each AD-object the administrator can define whether it is to be specifically connected to a terminal server or a workstation. This way, a user connection can be done in different ways, either locally or in a terminal server session.

Finally, steadyPRINT offers IP filter settings for print servers, folders and printers so that printers can be made available for single IP areas. User Clients not located in the specified IP area will neither be assigned to the printer nor will they be displayed in the Agent. This enables the administrator to realize location-based printer assignments by mapping company locations as folders to which the respective IP areas are then assigned. By the way, when setting IP filters it is possible to allow exceptions for single users, computers or groups by removing the filter.

With the Agent installed on the workstations, steadyPRINT performs an inventory of computers and local printers. An inventory is done every time the Agent is started. The computers with their local printers will be found again under a separate tree node in the tree view of the steadyPRINT Center. For a better overview, the local printers are assigned to the Clients and the Clients to the networks. Should there be special cases where systems have several network connections to different nets, steadyPRINT creates a separate entry for each area. Clients without printers are not shown in the tree structure as they are not relevant and adversely affect the overview.

The administrator can set one or more default printers for users, computers and groups. In the same way a default printer can be provided for folders and print servers.

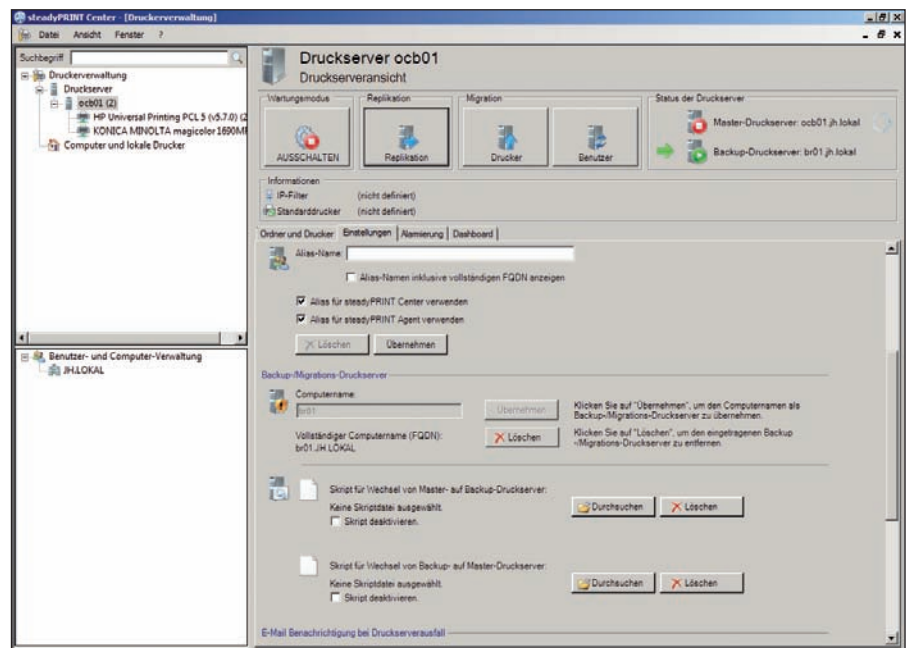


Figure 2: If a print server is switched into the maintenance mode, the backup print server is activated, when terminating the maintenance mode, the application is switched back.

If several default printers are set, a selection dialog will be shown. Moreover, steadyPRINT allows the definition of a default printer behavior via a priority list so that the default printer assigned to a user should have priority over a default printer assigned to the Client.

Detailed monitoring via profiles

Apart from the possibility to configure the print server connections and assignments as well as the IP filter for a print server, an additional access control via so-called Agent-profiles is integrated into steadyPRINT in order to control the access of users, groups and computers to the Agent settings. Here, the administrator can indicate which functions are activated in the Agent and which rights are assigned to a user (among others add, remove and reconnect printers), also whether or not he is allowed to install printer drivers on a Client and to carry out manual printer assignments.

Another type of profile is the e-mail profile by which the administrator can define who should be notified via which SMTP server. This profile works closely together with the so-called action profile which describes how often and at what intervals an alarm should be triggered in case of a printer problem. An e-mail profile is assigned to each action profile. The action

profiles again are assigned to the printers, separately for Controlling, Purchasing and Support. This way the controlling department can be informed when the leasing contract for a printer expires or count status or print output are exceeded. Purchasing is notified when the toner level falls below a specified status and Support is called when a technical problem occurs. Printer handling can thus be automated comprehensively and comfortably. Provided that a printer can be accessed via SNMP, this should be configured as only this way steadyPRINT receives all information and messages from the printer.

All in all, during the test we noticed that steadyPRINT offers versatile possibilities to assign printers, to indicate default printers and even to automate the entire printer management. Especially in large environments, administrators should precisely plan how to reasonably issue authorizations. This can in any case be done in a very granular way so that all imaginable constellations and also special user requirements might be realized. We liked that the user now has certain freedoms in optimizing the printer usage according to his needs. steadyPRINT can very reasonably be used in terminal server environments where it can easily be realized that many different users use the same session configuration but are nevertheless

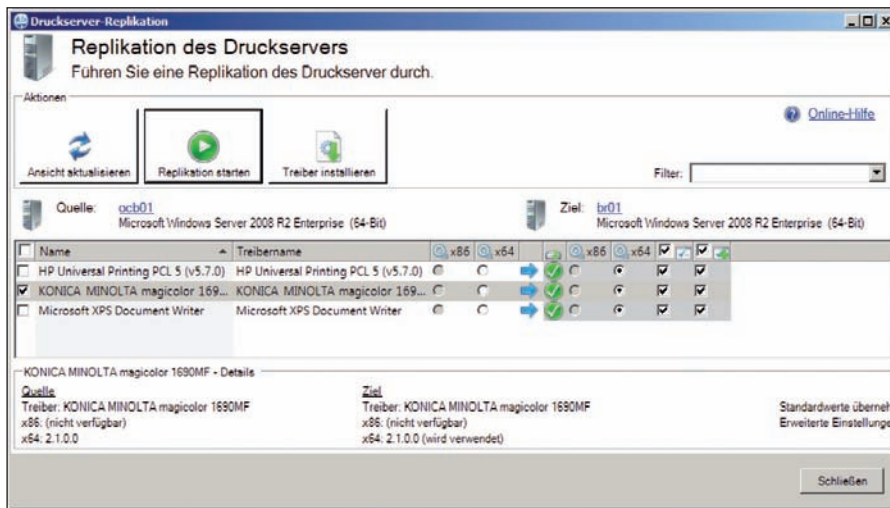


Figure 3: steadyPRINT automatically replicates the printer drivers to the backup print server and indicates the success of the process by colored symbols

assigned different printers. The advantage is that the complete printer configuration is shifted to steadyPRINT whereas nothing has to be configured on the part of the terminal server.

Reliable printing

An essential function of steadyPRINT is the reliable printing due to additional backup print servers. To each primary (main/master) print server the administrator defines a backup print server representing an exact copy. When assigning a backup print server the steadyPRINT Center controls if the monitoring service has been installed and activated. Furthermore, the Center compares the installed network printers with those of the main print server. Should one be missing, a status window indicates the lack.

Then the administrator has to initiate a manual printer replication in the Center which causes port, print processor and printer driver to be transferred from the primary to the backup print server. For this purpose the administrator receives a detailed overview of all printers on both sides as well as the necessary replication, marked by a red cross instead of a green checkmark. If the replication is complete, all printers have to have a green symbol. Provided that further printer drivers are installed on a print server or that updates occur in the course of time, the replication has to be performed again. In normal operation the monitoring ser-

vice on the backup print server continuously checks if the main print server is available. In case of a loss, the server service immediately converts the printer connections by changing the information within the SQL database. Then the notification service informs the terminal servers and workstations of the printer loss.

For testing and maintenance purposes, the administrator is able to switch the master print server into the maintenance mode and to switch back. During testing, the switch-over proved to work reliably and very quickly. Therefore the adjustment of printer connections can be performed in operation.

In addition to a replication, steadyPRINT is also able to perform a migration which becomes necessary when the printers are to be copied between servers with different operating systems, for example from Windows 2003 to Windows 2008 R2. Here, simple copying is of no help, compatible printer drivers have to be assigned to the target system instead. For this purpose, the Center performs a printer analysis and shows a migration view with highlighted printers.

Orange means that different drivers for the same printer were found on the source and target system, Red that no appropriate printer was identified on the printer driver. Now the administrator has to adjust the assignments respectively and, if necessary, install required drivers on the target system which can be done in the Center.

What we particularly liked here was that the manual explicitly refers to typical problems as for example incompatible printer processors and provides tips which files have to be copied where to be removed.

By the way, also a printer can be put into the maintenance mode in the same way as a print server. The users receive a message whose content might be adjusted by the administrator. The printer assignment will be removed from the Clients in order to prevent users from printing. When finishing the maintenance mode, steadyPRINT again sends a message and reconnects the printers. The maintenance mode is also recognizable in the Agent by a respective symbol.

On the whole we liked the possibilities steadyPRINT offers for replication and migration of printers. Both features represent an enormous relief in adjusting and/or copying the required drivers as well as converting print servers to new operating systems.

Customized freedom on Client side

Depending on what the administrator allows via the Agent profiles, a user can perform his own printer configuration at login, as for example changing the default printer. The website of the printer, if any, can also be accessed in order to add or remove printers. Printers that are assigned by the administrator only, cannot be changed. In the Agent view, the user is shown the local printers as well as those of the print servers.

In case a company uses Citrix and Citrix Client printers, even this configuration can be combined with steadyPRINT. The advantage of Citrix Client printers is that local client printers can be used in terminal sessions without having to install the respective printer driver on the XenApp Server. It is important, however, that the administrative driver installation on a terminal server is disabled in the Agent so that the steadyPRINT Agent on the Citrix Server does not independently install the printer driver. This procedure is described in detail in the manual.

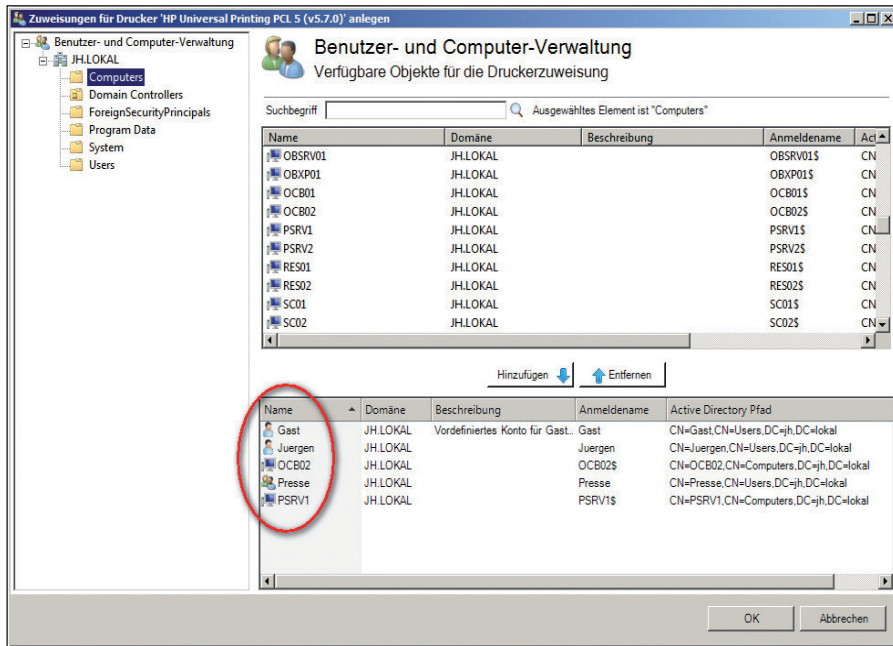


Figure 4: The printer assignments are comfortably realized via the AD-objects user, groups and computers

Conclusion

All in all the scope of performance of steadyPRINT as a comprehensive tool for printer management has convinced us. Once you have successfully managed the somewhat clumsy installation, steadyPRINT serves as an efficient and comprehensive printer management. We see primary advantages in complex environments with a lot of printing on the one hand and a special focus on printer reliability on the other hand. steadyPRINT combines a central administration of all printers with a very granular rights management so that adequate printers are available to each user.

At the same time steadyPRINT convinces with the concept of guaranteeing

print server reliability with backup print servers. Apart from a failover in case of a loss, even maintenance work can comfortably be bridged. It is important, however, that the used central SQL database which can be accessed by all components including the workstations enables high availability.

Next to reliability, steadyPRINT supports the migration of print servers to a new operating system and takes over the actual printer management. Whether consumables run low or any malfunction occurs, the responsible person will be notified by mail. In case of scheduled printer maintenance, all users are redirected to another device. (jp) **IT**

Product

Software for network printer management

Manufacturer

K+S Systemhaus GmbH & Co. KG
www.steadyprint.com

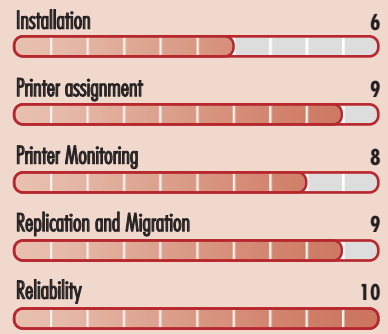
Price

steadyPRINT Standard for one print server is 1.790 Euro, the tested Platinum version is 2.890 Euro. For licensing several print servers, scale-prices are offered.

Technical Data

www.it-administrator.de/downloads/datenblaetter

IT Administrator judgement (max. 10 points)



This product is

optimal for complex environments in which one or more print servers are used and where a reliable printing is absolutely necessary

suitable to only a limited extent if the printing volume is low and printing is not a high priority. It has to be considered individually whether costs and effort are worthwhile.

not suitable for environments where printing is done directly without print server, either on local printers or network printers.

steadyPRINT 5.0