ThinPrint®

High Availability Printing

Achieve Increased Reliability & Security When Printing

ThinPrint

White Paper

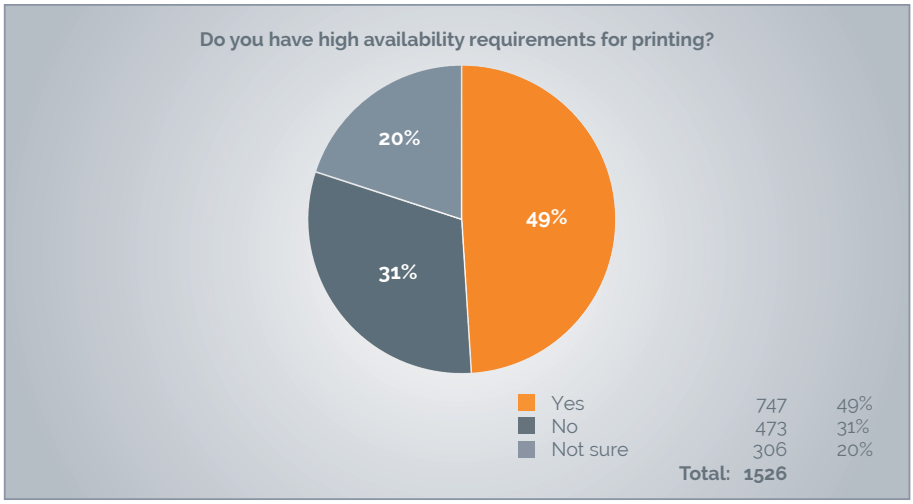
Contents

High Availability Printing

High Availability (HA) is a system's ability to ensure the full continuation of IT processes even in the case of a partial system failure. With HA there is only a slight delay due to the failure of one component of the system. This allows the entire application to be used in the event of a fault.

However, when it comes to printing, high availability is often unavailable. Since Windows Server 2012, print server clusters can no longer be formed, meaning there is no longer any high availability for printing. Only the use of the right print management solution currently allows for complete HA with very high failover levels.

ThinPrint, provider of the world's leading print management software, surveyed over 1500 attendees on high availability printing at VMworld 2016 in both Las Vegas and Barcelona. For 49% of respondents, high availability is very important when it comes to printing, but the majority take the wrong measures when it comes to its implementation.[1]



Results of a survey among visitors at VMworld 2016 conducted by ThinPrint.

1 See ThinPrint Survey on Virtualization and High Availability Printing) (press.thinprint.com/thinprint-survey-revels-dangerous-lack-of-knowledge-on-virtualization-and-high-availability-when-printing – November 29, 2016)

Limited High Availability Printing with Windows Server 2016

Up to now, there were hardly any attempts made by manufactures to fully achieve high availability printing for companies. In most cases, Windows Server 2012 and Windows Server 2016 are currently deployed.

These two solutions are primarily based on the Hyper-V virtualization technology. This is a technology that is predominantly run on x64 and x86 processors and essentially allows complete isolation of individual systems. In addition, Hyper-V provides numerous security functions that can be executed at the hardware level.

The use of Windows Server 2012 and Windows Server 2016 only ensures failover when it comes to hardware errors. Other error sources are not adequately covered. Because of this, only very limited HA has been possible so far when using Windows Server 2012 or Windows Server 2016.

Windows Server 2016 takes an unfavorable approach

The Windows Server 2012 and 2016 solutions currently focus exclusively on avoiding hardware errors in an attempt to make the printing process highly available. The basic structure of these two solutions is based on the established Hyper-V safety mechanisms.

In practice, however, it has been shown that only a small number of the occurring errors actually affect the hardware. Once the hardware has been set up completely, serious errors occur in very few cases. However, software errors are far more common. While faulty hardware is usually immediately ready for use again due to the replacement of the damaged components, faulty software often leads to a system failure and long waiting times.

One of the main causes of print failures in the enterprise are conflicts among the printer drivers used. For additional waiting time and serious damage, faulty spoolers are often to blame. As a result, print jobs are no longer stored properly and can be lost before they are processed. Finally, problems with the network that has been set up are responsible for many failures and long waiting times.

Print servers require individual solutions

Both solutions, Windows Server 2012 and Windows Server 2016, are server operating systems designed to cover as broad a range of potential usage scenarios as possible. These solutions are primarily geared to data and file services and should ensure HA.

However, these systems only work to a limited extent on print servers because print servers have very different requirements than data services. For this reason, individual approaches from third parties are generally required to solve the above mentions issues.

Far-reaching problems due to print-specific failures

Print-specific failures usually pose an enormous risk to enterprises. Often they cause high levels of damage and longer downtimes before they are resolved. One of the most critical problems is the occurrence of faulty spoolers. In most cases, a complete reboot of the spoolers is required and under certain circumstances, even a server reboot may be necessary. Both methods result in the loss of all stored print jobs. In this instance, all unprocessed print jobs must be recorded and reset. This results in enormous waiting times, and high losses, for the company.

With the elimination of the print server cluster with Windows Server 2012, lack of high availability for print servers became apparent. For this reason, companies have required professional, third-party software from vendors such as ThinPrint to ensure high levels of availability for their print servers.

Full High Availability Printing with ThinPrint

In contrast to the Windows Server 2012 and 2016 approaches, ThinPrint offers businesses and organizations of any size full HA when printing. ThinPrint, founded in 1999, remains the world's leading provider of print management software and services for businesses, and delivers true high availability printing.

ThinPrint provides an easy-to-implement, highly reliable print management solution which can be deployed in any company in a very short time, ensuring the highest level of protection against failures and malfunctions.

The highest levels of failover

The print solution provides both server- and client-side failover. On the server-side, ThinPrint ensures that another server from a predefined group automatically takes on a print job if one of the print servers fails. In addition, the system automatically responds to all print-specific problems and ensures that print jobs are not interrupted.

For client-side failover, clients that fail are always replaced by other clients. This ensures that a client failure has absolutely no impact on the printing process.

A flexible solution with performance-increasing load distribution

ThinPrint's server load balancing is responsible for distributing all print jobs evenly across all print servers in a group. This results in a significant increase in performance as well as an efficient use of resources and dramatically reduced waiting times. On the client side, the load distribution also achieves a significant increase in performance.

Maintenance during operation

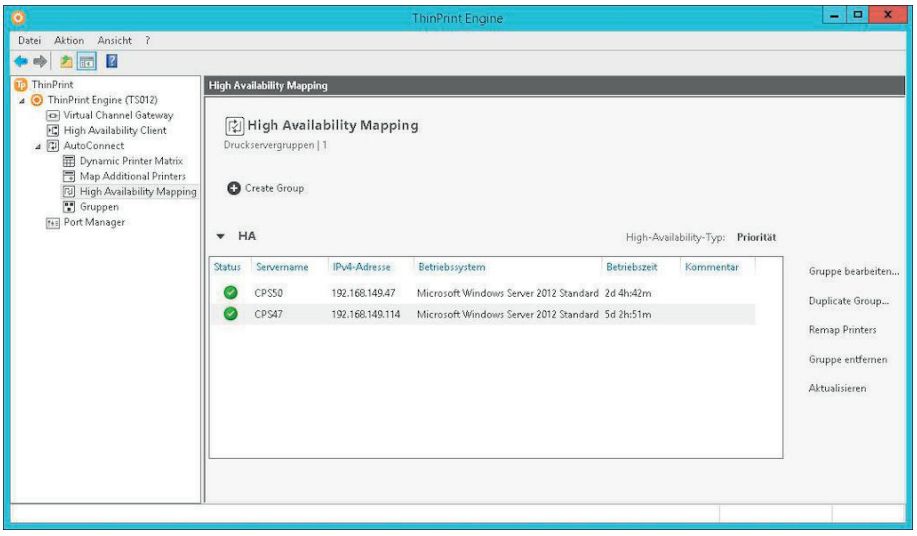
One of the main advantages of a full high availability system is that it can be maintained even during operation. In general, maintenance work results in high productivity limitations. With ThinPrint, on the other hand, you can maintain your print servers while they are running, without any delays in the operating sequence.

In order to maintain the functionality of the entire system, only individual servers are put into maintenance mode when maintenance work is being carried out. After a server has been put into maintenance mode, it can be worked upon as usual. New print jobs are then automatically distributed to the other remaining servers. After maintenance is complete, the server involved is simply reactivated and is then ready for use.

Reliable Print Management thanks to a Modern Printing Solution

With ThinPrint, companies can transform any printing environment into a highly available system. Find out more in the recording of our webinar on IT's Digital Revolution: **www.thinprint.com/en/resource/digital-revolution-printing-system-keep-pace**. The innovative ThinPrint technology benefits companies as a whole, IT administrators, employees and customers alike:

- Highest levels of failover on both the server- and client-side.
- The maintenance mode during operation ensures reliable printing for users at all times.
- Load distribution on the server- and client-side, together with other ThinPrint features, ensures maximum print performance.
- Avoidance of printing errors saves enormous amounts of time and costs..



With ThinPrint 11, servers can be grouped into one group. In the event of a failure, all printer mappings are automatically redirected to a different print server.

Most companies have so far not been able to benefit from the advantages of a high availability printing solution. In most cases, the Windows Server 2012 and Windows Server 2016 operating systems are used. However, the absence of the print server cluster function results in the lack of important protection when it comes to printing.

ThinPrint, on the other hand, protects against failures caused by hardware and software errors. The solution ensures both high availability and load balancing in any printing environment, as well as comprehensive server- and client-side failover. Several print servers with identical configurations can be set up, so that a different print server can always be used as a replacement should one server fail. In addition, a client is automatically replaced by another device should it fail.

ThinPrint's print management solution not only provides you with high-quality protection, but many other ways to make your organization's printing easier, cheaper, faster and far more efficient. Further interesting information on high availability printing can be found here: **www.thinprint.com/high-availability**

Additional white papers or questions:
You can download this and many other white papers on relevant IT subjects here: **www.thinprint.com/whitepaper**

What customers think of ThinPrint?
Independent, third-party research on how customers view ThinPrint products can be found at: **www.techvalidate.com/product-research/thinprint**

Any questions?
The ThinPrint experts are 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)

Cortado, Inc.
7600 Grandview Avenue, Suite 200
Denver, CO 80002, USA

Tel.: +1-303-487-1302

E-mail: info@cortado.com
www.cortado.com

Australia

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

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

Japan

Cortado Japan
20th Floor, Marunouchi Trust Tower Main,
1-8-3 Marunouchi Chiyoda-ku,
Tokyo 100-0005

Tel.: +61-(0)2-8079 2989
Fax: +81-(0)3-52 88 53 81

ThinPrint®

Follow ThinPrint: twitter youtube linkedin