



Anywhere, any device printing

UniPrint tames the printing beast



Quick show of hands: How many of you out there have had to manage networked printers for any length of time? Now, how many of you have learned the hard way that network printer management can be a major chore for both administrators and users alike? On the user side, when someone clicks the Print button, he has the very reasonable expectation that his document will print on a printer that is relatively close to him and not in some office on the other side of the world. From the perspective of the printer administrator, there are more serious issues with which to contend in a typical printing environment, including:

- Many companies do not have the exact same printer model in every office in every location within the organization. This creates the need to maintain many different print drivers on the server and client sides. The drivers need to match up.
- Not every print driver respects the fact that it's running in a shared environment.
- Some print drivers, such as those created for consumer-grade printers, aren't designed for shared environments and can create problems with the server and for the user.
- When printing across the WAN, bandwidth can be a limiting factor, if printing works at all.
- Printer names on the network are inconsistent, leading to user confusion which leads to productivity drain as users struggle to locate printers. It also leads to waste as people accidentally print to the wrong device.
- Ensuring that all necessary printers are available on on-demand desktops, such as those made available in a VDI-based environment. In shared desktop environments, such as Terminal Services, Citrix or the aforementioned VDI-based environments, users can be logging on from anywhere and making sure they're connected to local printers is difficult.
- Users that have to print to Windows-based printers from UNIX, AIX, AS/400, IBM Power Series, System z, and Linux systems are difficult to support.
- As a result of all of these challenges, the IT Service Desk spends an inordinate amount of time servicing printing issues.

Only through the use of a comprehensive print solution, such as UniPrint Suite 7, can organizations rein in the printing beast, which improves user productivity, helps control helpdesk chaos and enables a more functional organization.

UniPrint has been doing this since 2000, when the company released its very first universal print driver for Citrix, so they certainly have experience when it comes to this challenge!

UniPrint Suite 7 consists of six printing solutions that can be integrated with one another:

- **UniPrint Server.** Provides a simple, fast and reliable printing solution for Citrix (XenApp, Presentation and MetaFrame Servers)/Terminal Server environments.
- **UniPrint Gateway Edition.** Virtually eliminates the need for printer drivers on both the clients and Citrix/Terminal Servers. With "clientless printing", thin-client users can print as easily as fat-client users. This product sits beside everything else and acts as a middle man between the client and print server.
- **UniPrint Terminal Server Edition.** Provides a simple, fast and reliable printing solution for Microsoft Remote Desktop Services (Terminal Services) environments.

- **UniPrint Gateway Terminal Server Edition.** A slightly modified version of UniPrint Gateway Edition targeted at just Terminal Servers/Remote Desktop Services servers.
- **UniPrint Host Edition.** Enables fast and flexible printing from mainframe, midrange and other Non-Windows host systems - such as UNIX, AIX, AS/400, IBM Power Series, System z, and Linux - to Windows-based printers. It eliminates the need for expensive investment in specialized hardware, extra software, and major reprogramming on the host side.
- **UniPrint VDI Edition.** Businesses that deploy Virtual Desktop Infrastructure can consolidate their system and minimize network administration can also count on more efficient printing for their workforce. This edition is vendor-agnostic and supports any VDI environment.

Specifically, the individual products in UniPrint Suite 7 come together to do the following:

- Solves all printer driver incompatibility issues with one universal printer driver
- Enables easy access, fast printing, and secure delivery
- Simplifies printer driver management
- Improves server stability
- Saves bandwidth consumption – up to 90%
- Supports thin and fat, local and remote clients connecting to Citrix/Terminal Servers or operating in VDI environments
- Converts print data to PDF files, saving up to 90% bandwidth consumption
- Allows remote deployment and centralized management across the network
- Enables "clientless" printing to networked and locally-attached printers
- Provides end-to-end print data protection
- Enables printing from non-Windows system to Windows-based printers

My lab

Here's a look at the environment that I will be using for this review:

- Domain Controller: Windows Server 2008 R2 with SP1
- Remote Desktop Server: Windows Server 2008 R2 with SP1 and UniPrint Server 7
 - For the UniPrint Server component, make sure you have the Terminal Services/Remote Desktop Services role installed before you continue – this is necessary only if you're planning to use Remote Desktop Services, of course
- Printer: HP printer connected directly to Windows 7 machine

To be clear, for the purposes of the review, I am installing UniPrint into a Remote Desktop Services environment that is running Windows Server 2008 R2 SP1.

Components and some prerequisites

There are three primary components that comprise UniPrint 7. These are the UniPrint Spool Server, UniPrint Server and UniPrint client components. As you move into more advanced scenarios, such as VDI, the other UniPrint components I listed earlier come into play. Before you get started with the installation of the product, UniPrint recommends that you take the following actions:

Disable client printer mapping on your Remote Desktop Services machine in order to improve overall stability.

- Go to Start > Administrative Tools > Server Manager.
- Expand Roles > Remote Desktop Services and choose RD Session Host Configuration.
- Under Connections, right-click RDP-Tcp and, from the shortcut menu, choose Properties.
- Choose the Client Settings tab.
- On this tab, under Redirection, choose Windows Printer and Default to main client printer, as shown in Figure 1.

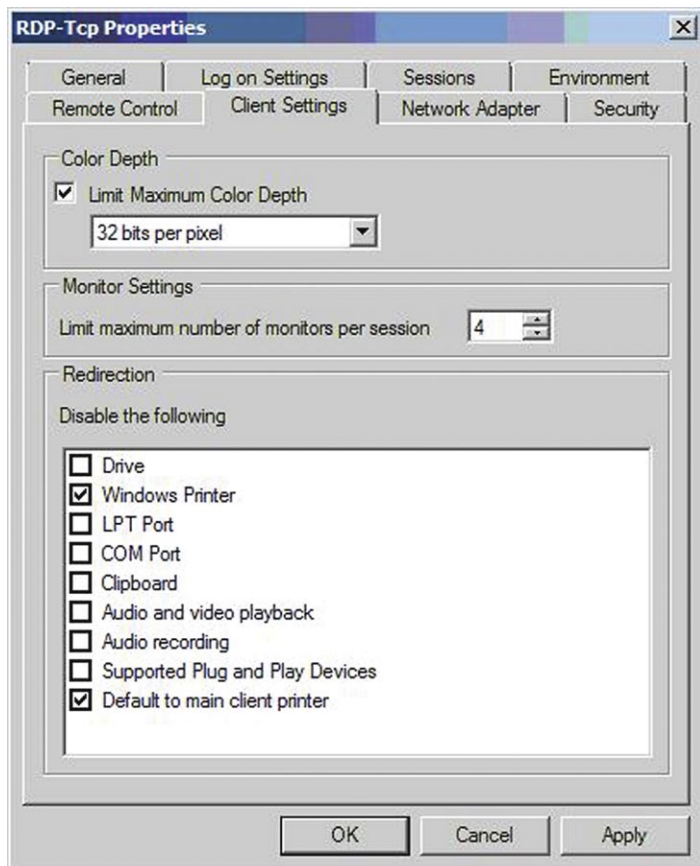


Figure 1: Change default redirection settings

In addition, UniPrint recommend that you do the following (from UniPrint documentation):

- Wherever possible, use PCL5 drivers on the connecting client devices (and print servers) as these drivers are generally more stable than their PCL6 counterparts.
- Remove all printer queues and drivers from the Citrix/Remote Desktop Server, or XenDesktop/View images running UniPrint Server.
- Enable PostScript emulation on all print queues, for improved graphics performance.
- Install and use the UniPrint Adobe Plug-in; allowing instances of Adobe Acrobat/Reader running on the server to print directly without re-rendering the print job to PDF format.
- The UniPrint Servers and Spool Servers must be installed near each other, on separate physical/virtual devices, but generally in the same centralized data center.
- The UniPrint Print Server component should be located as logically close to the most commonly used print device as possible. In most cases this requires multiple print servers; which has the added advantage of load distribution.
- In the case of branch offices, a Print Server should be deployed to each location, to reduce bandwidth usage over WAN links. Note: This is why the UniPrint Server can actually run on a client OS – such as Windows 7 – as well as a server OS.
- To further optimize bandwidth, if possible, enable Font-replication between the application server and the print server, and configure the printers Font options as "No font embedding".

UniPrint Spool Server installation

Regardless of how you intend to use the UniPrint Suite, you need to start by installing the Spool Server component. The Spool Server is the solution's licensing validation component and when installed in a Gateway environment, routes print jobs, among other duties.

To install the Spooler component, find the UniPrint Spool Server folder in your UniPrint download and run setup.exe. I'm not going to show every screen that is a part of the Spooler installation but will show the one screen that needs some manipulation.

When you get to the Select Features page of the installation wizard, choose to not install the PrintPAL Server. The reason: We will not be installing the Gateway in this demo. We will be using UniPrint in a Remote Desktop Services environment for this lab.

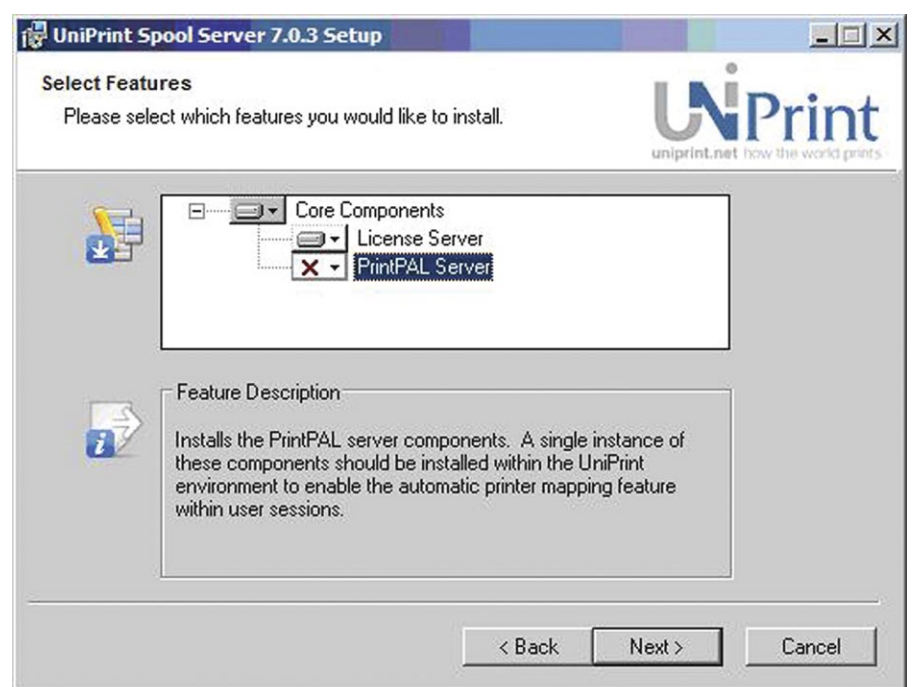


Figure 2: Choose your Spool Server features

Install the UniPrint license

Once you've purchased UniPrint, you'll receive instructions on how to retrieve your license. Once you'd done so, you'll receive a license file that needs to be installed on the Spool Server.

- Go to Start > All Programs > UniPrint Suite > UniPrint Management Console.
- Click the Add License button (Figure 3).

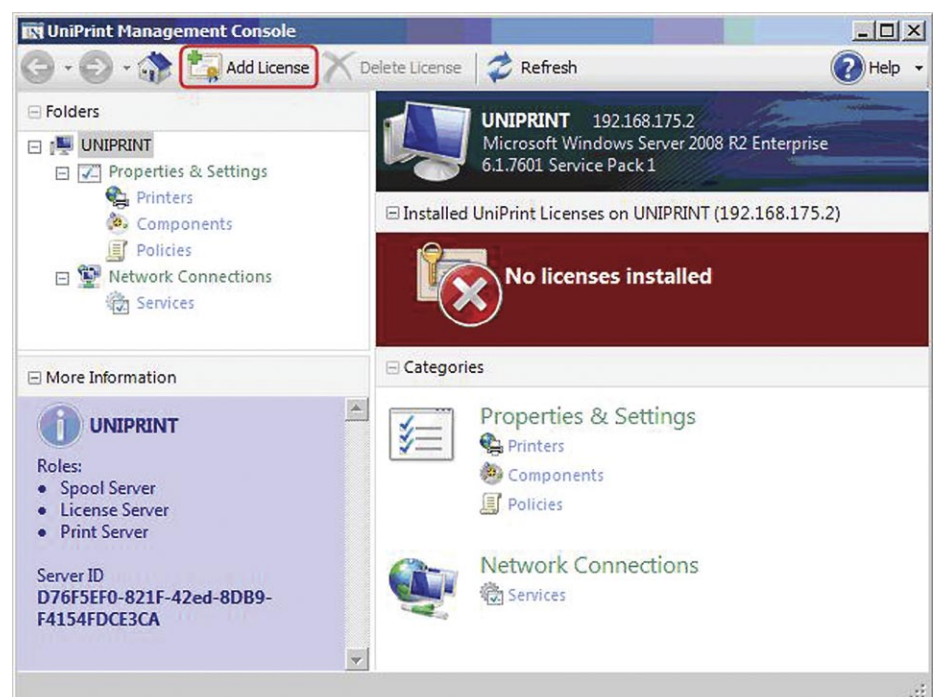


Figure 3: Add a UniPrint license

Locate the license file you received from UniPrint and add it. When you're done, UniPrint will be licensed, as shown in Figure 4.

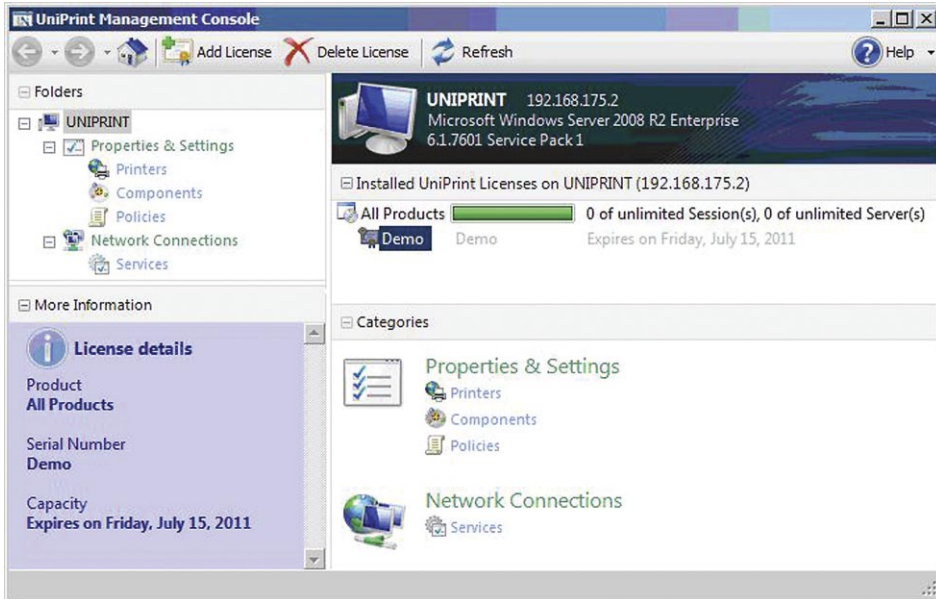


Figure 4: The UniPrint Server is now licensed

UniPrint Server installation

With the Spooler installed, it's time to move on to the installation of the UniPrint Server itself. This is the component that includes the Universal Print Driver which renders print jobs as PDF compatible files which, as mentioned before, are quite a lot more efficient than raw print files. When using UniPrint VDI, the UniPrint Server component is installed inside the virtual desktop image which is running a Windows desktop operating system such as Windows XP, Windows Vista or Windows 7.

UniPrint recommends that you not install the UniPrint Server component on the same server to which you've installed the Spooler and the Print Server (if you're using the Print Server). For testing, though, I will install this component to the same server. During the installation, I was asked to provide the IP address for the Spool Server. In my lab, this is 192.168.175.2. However, rather than having to go through the onerous task of typing that whole IP address, I simply clicked the Auto Locate button and let the installer do the work. See for yourself in Figure 5.

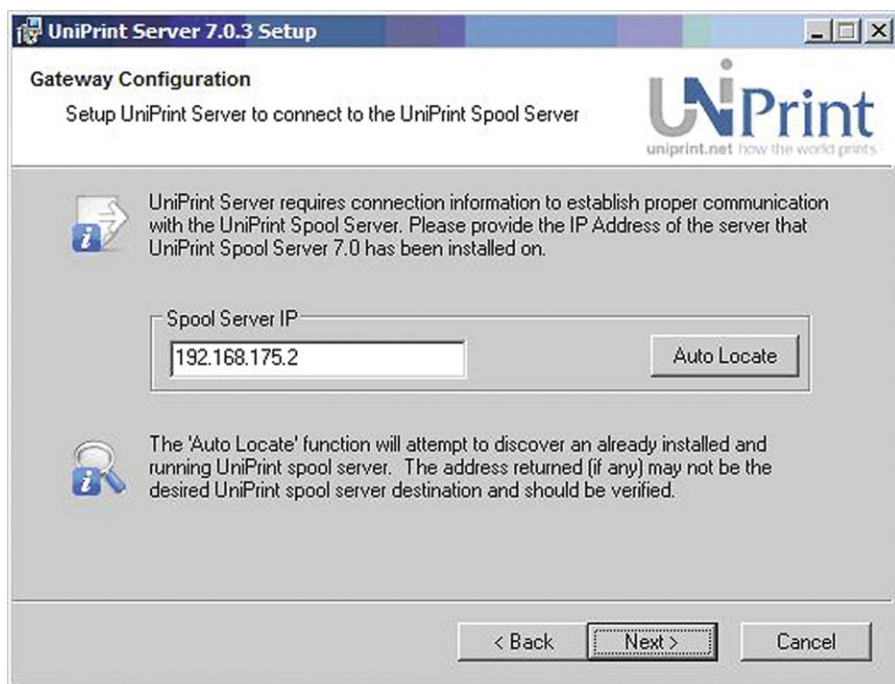


Figure 5: Provide the IP address for the Spool Server

The UniPrint Management Console gives you a way to manage your UniPrint environment. In my lab installation, I didn't need to do anything with this tool as I was able to get by with the defaults. Figure 6 gives you a look at some of the options available with the console, though. You can create email notifications, enforce use of group policies, manage session details and configure how individual services operate and at what level they log information (Figure 7).

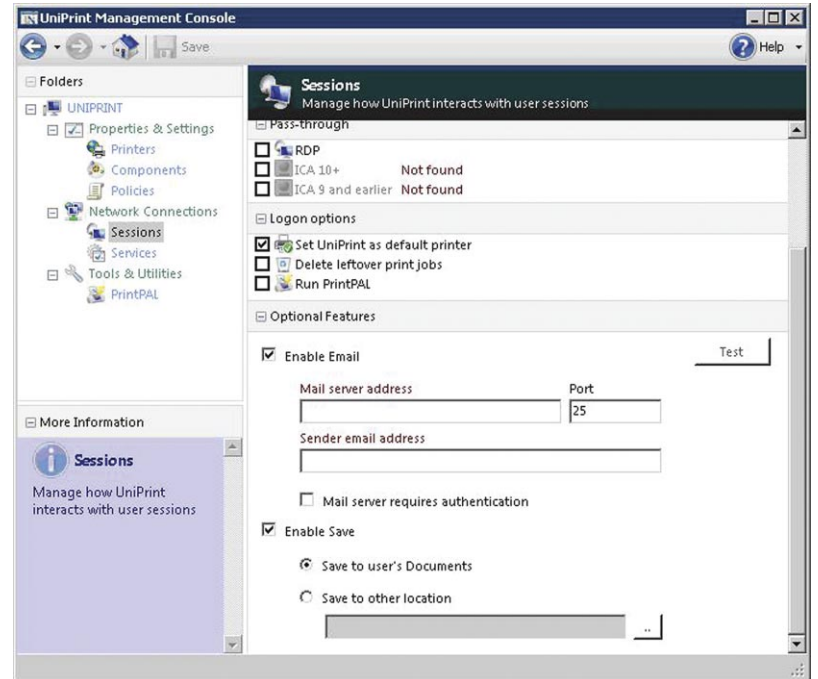


Figure 6: Session details in the console

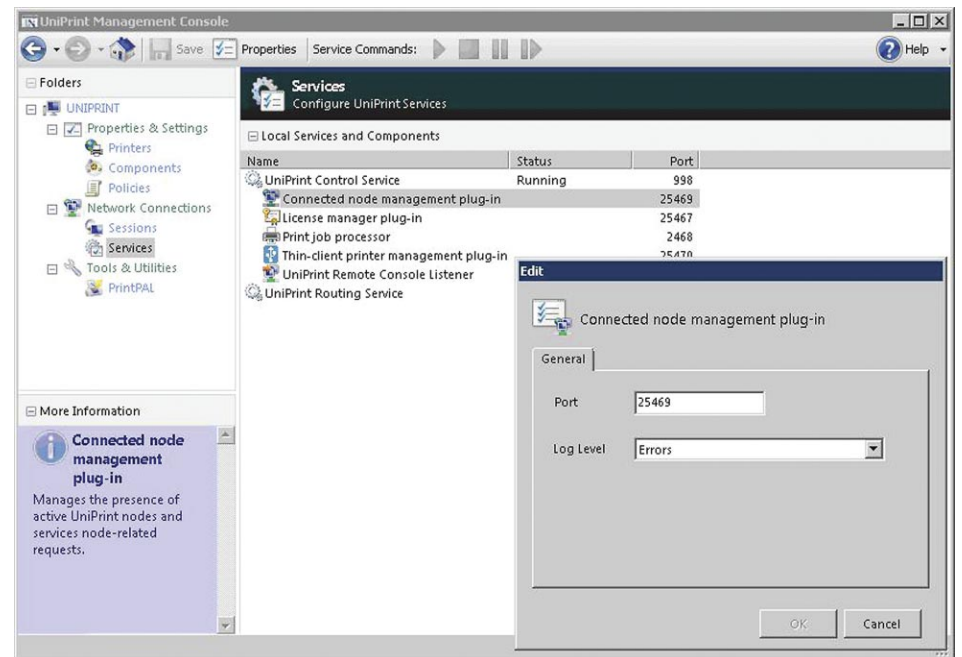


Figure 7: UniPrint service details

Add a printer

At this point, add a printer – any printer – to your client workstation just as you normally would. I've added an HP LaserJet printer to my lab client and labeled it as "HP Printer – Windows 7."

UniPrint client

On the same client machine that will connect via RDP (or ICA), install the UniPrint Client. The latest version can be downloaded from the UniPrint web site. During client installation, you will be asked to choose a feature set – RDP and/or ICA, as shown in the Figure 8 below.

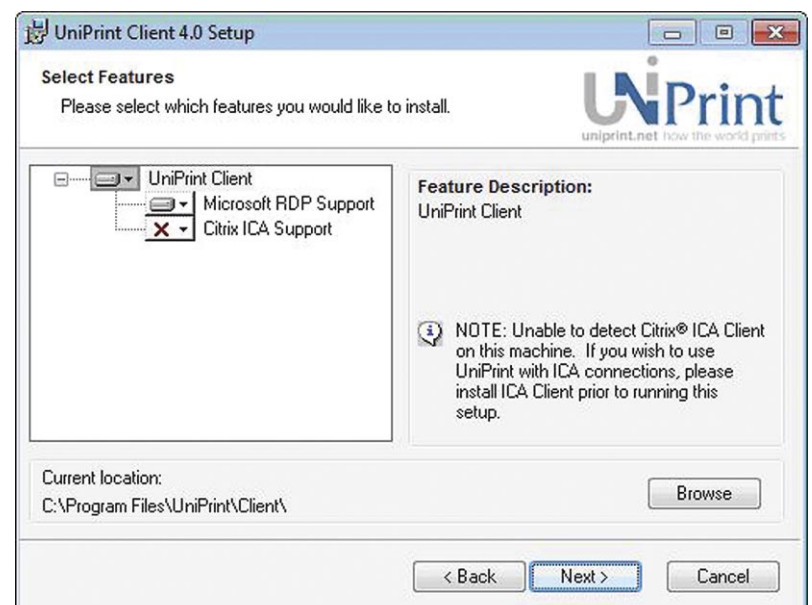


Figure 8: Choose your features

This is the only choice you need to make during installation. At this point, you're ready to begin testing.

Testing

In my testing, I used RDP to connect to my Remote Desktop Services machine. For a simple test, I created a WordPad document and printed that document to the UniPrint printer, as shown in Figure 9. The UniPrint printer is the default printer in my installation and is the “meta printer” since it basically redirects a print job to a locally attached or otherwise connected printer.

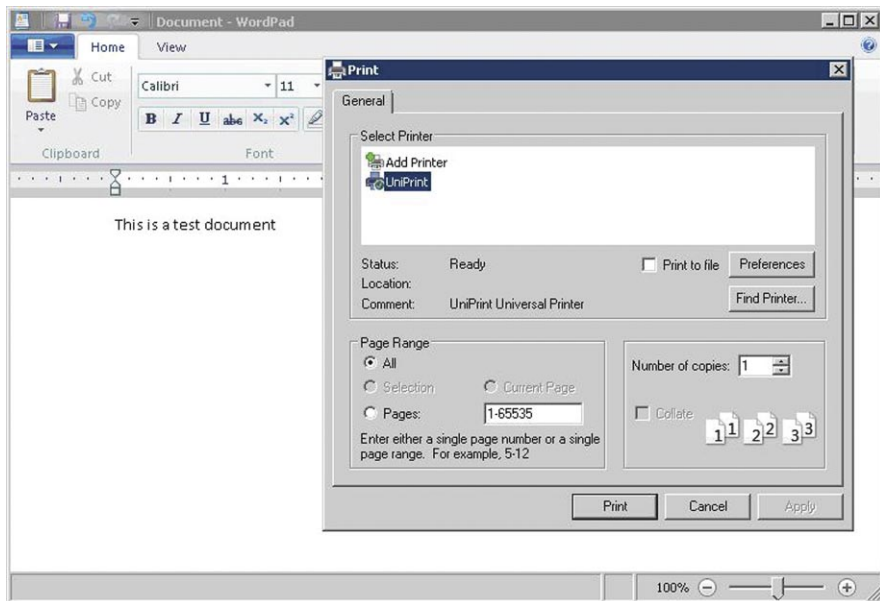


Figure 9: UniPrint is my default printer

In fact, as soon as I clicked the Print button, my document didn't print, but this is ok. Instead, the print job was redirected to my local UniPrint client (Figure 10), which knew what printers were locally connected. From this UniPrint Preview page, I was able to preview the document, and had the option to print it, save it, email it or just delete it. I chose to print the document and got the Print dialog box that you see in Figure 10. In this dialog box, notice that I printed to the printer that I previously created.

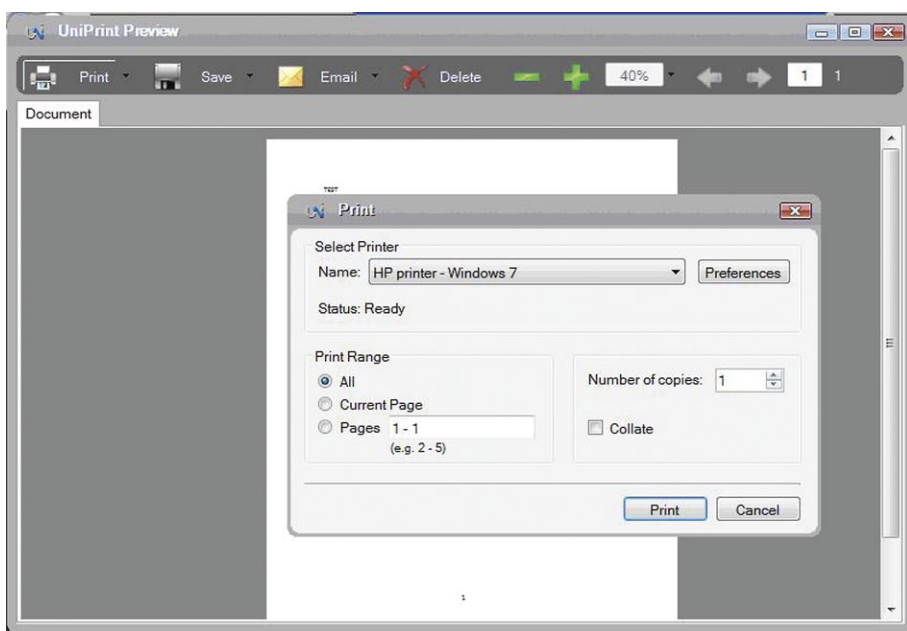


Figure 10: The print job is redirected to my locally attached printer

My impressions

I know the nightmare of managing printers. Although my lab testing was limited, I can clearly see the benefits to be had as environments scale up and out. The larger the environment, the harder it is to manage. UniPrint can definitely tame the printing beast.

Installation in this relatively simple scenario was a breeze once I located the Quick Start guide. If I had to complain about one area, it would be the product documentation. In these kinds of reviews, I like to follow the documentation on hand as if I were a novice user so that I can better gauge the overall user experience. Even though the Quick Start guide was helpful, I still found it lacking some steps that would have made it easier to get up and running more quickly. I would encourage UniPrint to take another look at the Quick Start documentation to ensure that there are no missing steps. It's entirely possible that I simply missed a screenshot since all of them were bunched together in the documentation.

As for how the product itself operates, it was flawless. It performed exactly as the promises that were made and I can definitely see that the user experience would be excellent once UniPrint was rolled out into general production. Really, it couldn't be easier! Click, click... print! That's the way it should be.

All of the hard stuff happens behind the scenes. Print files are transferred as PDFs between systems over the existing RDP or ICA channel and the document is printed with no loss of quality. In other words, although some complex operations are taking place behind the scenes to limit bandwidth consumption and lower overall costs, the user does not have to sacrifice quality.

As more and more companies move toward VDI in any form, UniPrint will prove to be must-have software for those that want to make printing as easy and seamless as possible. In closing, I give UniPrint Suite 7 a 4.5 on a 5-point scale, earning the product a WindowsNetworking.com Gold Award. Nice job, UniPrint!



WindowsNetworking.com
Rating 4.5/5

About Scott D. Lowe

Scott Lowe has worked in the technology field since 1994, starting his career as a jack of all trades handling networking duties, database administration/programming projects and help desk support. Scott has also held positions as the Associate Director of IT in charge of network services for a private college in upstate NY, the lead network analyst for the City of Gaithersburg, MD and as a Systems Engineer for Thomson Financial. In 2001, Scott assumed his first full-time management role as the Director of IT for the National Association of Attorneys General. Scott is currently the Chief Information Officer at Westminster College in Fulton, MO where he is a hands-on leader that provides primary support for the virtualization environment alongside his other responsibilities.

About UniPrint™

UniPrint pioneered the use of software-based universal printer driver technology to streamline and enhance printing in Server-based Computing (SbC) environments. Today, we are the recognized leader in printing virtualization.

The patented and award-winning UniPrint Suite provides a comprehensive range of enhanced-printing solutions for server-based, virtualized, and mainframe/non-Windows environments. UniPrint solutions optimize printing functionality, minimize printer management, and reduce bandwidth consumption. Using UniPrint, millions of workers in over 70 countries enjoy efficient and seamless printing. UniPrint is proud to be able to help customers in large and small, public and private sector organizations to increase productivity and reduce cost.

At UniPrint, we innovate to bring the right solution to our clients each and every time. Our mission is to develop solutions that best fit our clients' business needs, and that has been the key to our continued success.

For more information or a
free product trial,
please visit www.uniprint.net
or e-mail sales@uniprint.net.

