



Using BarTender with Remote Desktop Services and Citrix XenApp

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Overview

This paper explains how to use BarTender with Windows Remote Desktop Services and with Citrix XenApp. It discusses printing and licensing issues in these two environments for each of the BarTender editions.

Remote Desktop Services

Remote Desktop Services (formerly known as Terminal Services) is a Windows Server feature that enables a client computer to connect to the server in such a way that the client's keyboard, mouse, and monitor become, in effect, directly connected to the server machine.

For more information on Remote Desktop Services, search on "Remote Desktop Services" or "Terminal Services" at Microsoft's web site: www.microsoft.com.

Citrix XenApp

Citrix XenApp (formerly known as Citrix MetaFrame Server) is a thin client product that is built on top of Remote Desktop Services, allowing users to connect to corporate applications. For more information, see the Citrix web site: www.citrix.com.

Printer Redirection

Remote Desktop Services provides printer redirection, which sends print jobs from a server to printers installed locally on a client computer. There is a brief discussion of it in the [Client Print Queues](#) section of this document. For more information on printer redirection, search on "Remote Desktop Services" or "Terminal Services" with "Printer Redirection" at www.microsoft.com to find knowledge base articles, FAQs, and other types of documentation on this feature.

Printing

When a user logs into a Remote Desktop Services session, the list of printers available to them comes from two sources: the printer drivers installed on the server, and the printer drivers installed on the client. The drivers that are installed on the server are referred to as server print queues, while the drivers that are installed on the client are called client print queues.

Server Print Queues

If a printer is attached directly to the server, or is connected to the server via TCP/IP, the printer driver can be installed on the server. This creates a server print queue, which effectively makes the printer available in all remote desktop sessions.

Client Print Queues

Client print queues are created by printer redirection, a feature available with both Remote Desktop Services and Citrix XenApp. Printer redirection routes printed output from a remote desktop session to a printer available on the client computer, creating an automatic client print queue. A matching printer driver is installed on the server, all print code is generated on the server, and the resulting print code is redirected to the printer available on the client computer.

When a client logs into a remote desktop session, the server will attempt to create print queues for each of the printers that are installed on the client. A client print queue can also be used for printers that are on the server's local network, in order to make the printer available only to a particular user's sessions.



Printer redirection does not support bi-directional communication, which is used to establish a two-way connection between the client and the server. If your printing procedure depends on receiving data from the printer, such as printer status information, printer redirection cannot be used.

Universal Printer Drivers

Universal printer drivers allow you to print to almost any printer, regardless of make or model. By installing a single universal driver, you eliminate the hassle of installing multiple printer-specific drivers on the server.

In Citrix XenApp, client print queues can be automatically created using the Citrix Universal Printer or Citrix Universal Printer Drivers. The Citrix Universal printer is an auto-generated printer object that replaces all printers appearing in the user's session. This installed printer can be used to print to almost any printer that you want to use.

The Citrix Universal Printer Drivers are generic printer drivers that can be used to print to most printers. Rather than adding a single printer object as with the Citrix Universal Printer, a single driver is installed. You can then create multiple automatic print queues using the universal printer driver.

The universal printer driver for Remote Desktop Services is called Remote Desktop Easy Print. The Easy Print driver provides support for multiple models of printers, without needing to install multiple drivers on the terminal server.

Installing Printer Drivers on the Server

If the server has local access to the driver that is installed on the client, the client's driver is automatically used.

If the server does not have access to the driver, then you will need to install a printer driver on the server that has the same name as the driver on the client machine. Once this is done, the print queue will be created automatically each time the client logs in.

In Windows Server 2008, select **Print Management** from the **Administrative Tools** menu. Expand the **Print Servers** node, right-click on **Drivers**, select **Add Driver**, and follow the instructions.

In Windows Server 2003, you can accomplish this by opening the **Printers Folder** in Windows, and selecting **Server Properties** from the **File** menu. Then, select the **Drivers** tab, press the **Add** button, and follow the instructions.

BarTender Editions

BarTender is available in the Basic, Professional, Automation, and Enterprise Automation editions (see below). The Basic and Professional editions are licensed per user, and the Automation editions are licensed per printer. All editions will run under Remote Desktop Services and Citrix XenApp. Licensing issues specific to each of the editions are documented below.

Basic and Professional Editions

The Basic and Professional editions of BarTender can be run by only one user at a time. If BarTender is already running in one user's session, a second user logged into the server will not be able to run the application.

Automation and Enterprise Automation Editions

The two Automation editions of BarTender allow unlimited users to run the BarTender application. Therefore, it can be run simultaneously in any number of user sessions. Instead of user-based licensing, the Automation editions are licensed by the number of printers that are actively used. Licenses can be purchased for 3, 5, 10, 15, 20, and more printers. The license system is managed by the Seagull License Server (SLS) software. Details about this system can be found in the "Licensing for BarTender's Automation Editions" white paper:

<https://www.seagullscientific.com/support/white-papers>

Using Seagull License Server Remote Assistant to Manage Printer Licensing

Seagull License Server (SLS) Remote Assistant is a software utility that should be installed on remote clients to prevent Seagull License Server from over-counting printers when you are using an Automation edition of BarTender in a Citrix XenApp or Remote Desktop Services environments.

When you are using an Automation edition of BarTender, Seagull License Server identifies unique printers by processing information received from the printer itself. For locally installed printers, this information includes the printer model and port; for network printers, this includes the printer's IP address and TCP port. However in Citrix and Remote Desktop Services environments, Seagull License Server is unable to retrieve some of this information from the server, including the port or IP address. If the printer is using a universal driver, it is not even possible to obtain the printer model of the printer in use. Without this information, when a printer is used from multiple clients, Seagull License Server may not recognize it as a single printer. This will cause the printer to be listed in Seagull License Server multiple times, effectively reducing the number of printers available in your license.

When installed, SLS Remote Assistant obtains detailed information directly from the printers installed on the client computer. Each time a print request is initiated from a client, Seagull License Server will request this information from the SLS Remote Assistant. Using the additional print information, Seagull License Server can accurately differentiate between printers based on printer model, port, and IP address.

The SLS Remote Assistant must be downloaded and installed on each client computer. The number of times that the SLS Remote Assistant must be installed on each client differs depending on whether you are using a Citrix XenApp environment or a Remote Desktop Services environment:

- In a Citrix XenApp environment, you install the SLS Remote Assistant just one time on the client computer. The client can then be used by multiple users.
- In a Remote Desktop Services environment, you install the SLS Remote Assistant on the client computer for each user who will use the client machine.

Installing the SLS Remote Assistant

You can download the SLS Remote Assistant installer package directly from the Seagull Scientific website or from your BarTender installation CD.

In addition to installing the SLS Remote Assistant by running the installer package on the client, system administrators can install the SLS Remote Assistant on multiple computers across the network with minimal to no user interface by using a silent install command along with their own deployment scripts and software.



If you plan to use Citrix XenApp, you must install and run Citrix Receiver before you install the SLS Remote Assistant. Specifically, you must install Citrix Independent Computer Architecture (ICA) virtual channel version 12.0 or later. You can download Citrix Receiver directly from the following Citrix website:

<http://www.citrix.com/go/receiver.html>

To install the SLS Remote Assistant from the installer package

1. If you plan to use Citrix XenApp, ensure that Citrix Receiver is installed and running.
2. Download the SLS Remote Assistant installer package from the "Other Software Downloads" section of the Seagull Scientific website:

<https://www.seagullscientific.com/downloads/label-software/other-software-downloads/>

Alternatively, download the installer package from the **Software Downloads** folder of your BarTender installation CD.



Ensure that you download the appropriate version of the SLS Remote Assistant for your system. Both 32-bit and 64-bit versions are available.

3. Run the installer package.

To install the SLS Remote Assistant by using the silent install command

1. If you plan to use Citrix XenApp, ensure that Citrix Receiver is installed and running.
2. Download the SLS Remote Assistant installer package from the "Other Software Downloads" section of the Seagull Scientific website:

<https://www.seagullscientific.com/downloads/label-software/other-software-downloads/>

Alternatively, download the installer package from the **Software Downloads** folder of your BarTender installation CD. Do not run the installer package at this time.



Ensure that you download the appropriate version of the SLS Remote Assistant for your system. Both 32-bit and 64-bit versions are available.

3. To open the Command Prompt window, type "cmd" (without the quotation marks) into the Windows "Search the web and Windows" box, and then select the Command Prompt desktop app or simply press `Enter` on your keyboard.
4. At the command prompt, enter the command parameters that you want by using the following syntax:

```
msiexec.exe /I “[MSI File Location, i.e. SLS Remote Assistant.msi]”  
[Install Mode] REMOVE=[Removed Features]
```

5. Press `Enter` to execute the command.

For more information about using silent install commands, refer to the "Silent Install" white paper:

<https://www.seagullscientific.com/support/white-papers>

Example Installation Scripts

To install SLS Remote Assistant while monitoring the installation process:

```
msiexec.exe /I “C:\SLS Remote Assistant.msi” /qb
```

To install SLS Remote Assistant only for a Remote Desktop Services environment, even if Citrix is installed:

```
msiexec.exe /I “C:\SLS Remote Assistant.msi” /qn REMOVE=Citrix
```

To install SLS Remote Assistant only for a Citrix environment:

```
msiexec.exe /I “C:\SLS Remote Assistant.msi” /qn REMOVE=RDP
```

Related Documentation

White Papers and Manuals

- Licensing for BarTender's Automation Editions
- BarTender System Security
- Silent Install

For downloadable versions, visit:

<https://www.seagullscientific.com/support/white-papers>

External Documentation

To learn more, please visit the Citrix website at <http://www.citrix.com> and the Microsoft website at <http://www.microsoft.com>.

- Citrix XenApp (WEB)
<http://www.citrix.com/products/xenapp/overview.html>
- Remote Desktop Services (WEB)
[http://msdn.microsoft.com/en-us/library/bb892075\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/bb892075(v=vs.85).aspx)

