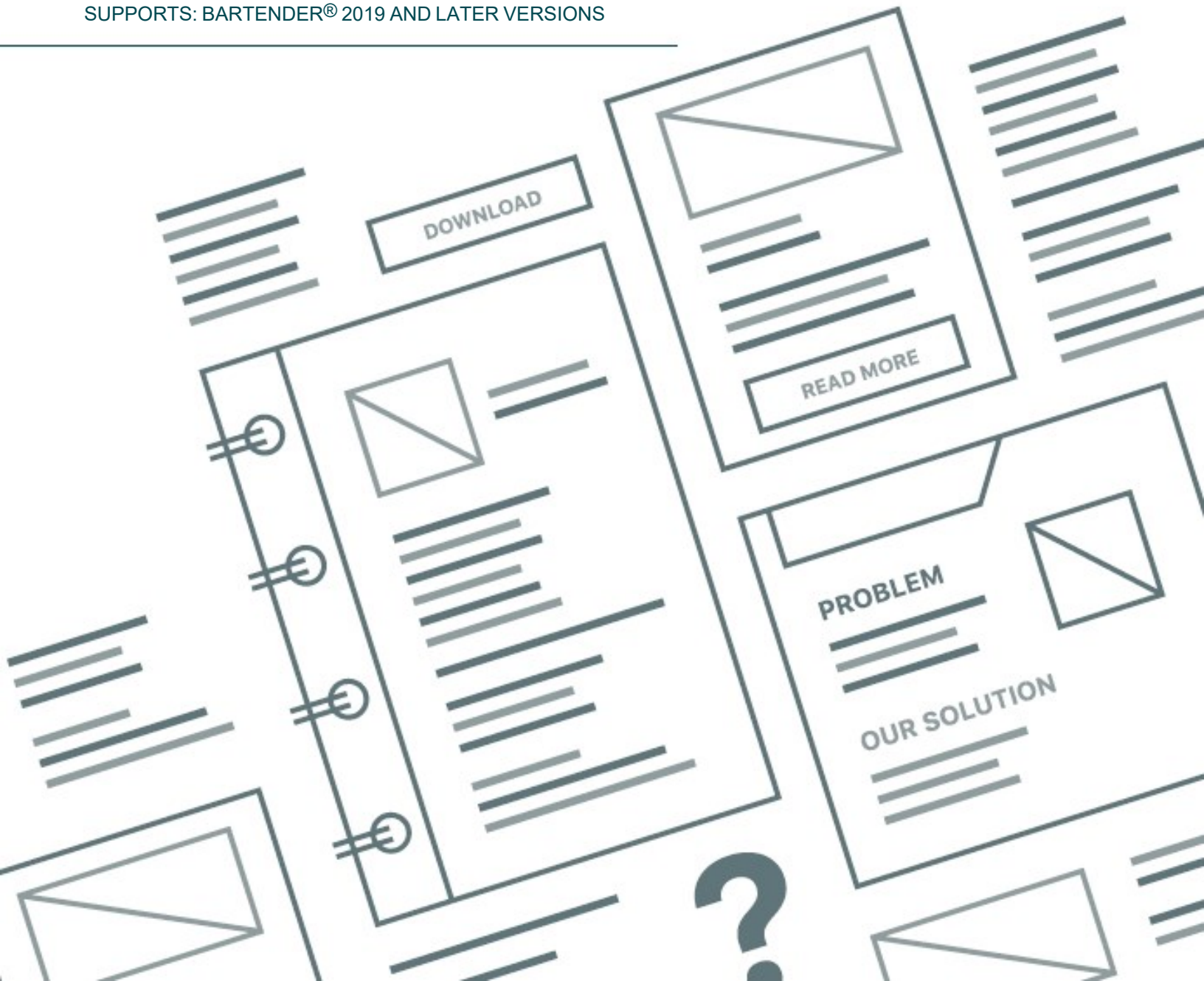
BarTender®
BY SEAGULL SCIENTIFIC

Technical Document
English

Printer-Based Licensing

UNDERSTANDING PRINTER-BASED LICENSING FOR BARTENDER®

SUPPORTS: BARTENDER® 2019 AND LATER VERSIONS



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Introduction to Printer-Based Licensing

Licensing for BarTender software is managed by controlling the maximum number of printers that can be used per license. Available printers can be connected to a local computer or located anywhere on a LAN or WAN network. The maximum number of printers that you can use depends on the licensed edition of BarTender that you are running.

All editions of BarTender allow an unlimited number of users per license.

BarTender Licensing Service

The BarTender Licensing Service (BLS) is a Windows system service that runs unattended and enforces printer licensing by monitoring the printers that BarTender uses. It does not print items or communicate with printers in any way. BLS must be installed on at least one computer on your network in order to print BarTender documents.

WAN Considerations

If you plan to implement a system in which BarTender communicates with BLS over a WAN, refer to the WAN Usage Guidelines chapter of this technical document.

Using BarTender with Remote Desktop Services and Citrix Virtual Apps

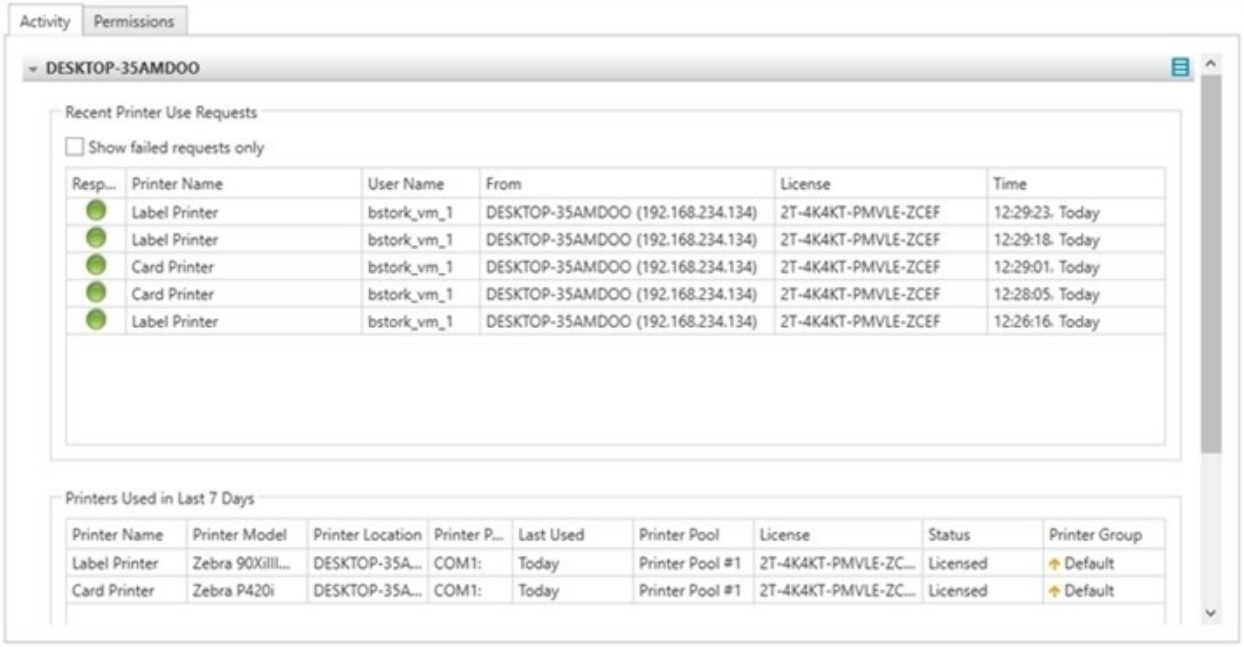
If you plan to use BarTender with Windows Remote Desktop Services (RDS) or with Citrix Virtual Apps, refer to the Using BarTender with Remote Desktop Services and Citrix Virtual Apps chapter of this technical document.

How the Licensing Service Manages Printer-Based Licensing

BarTender Licensing Service (BLS) runs unattended on any computer on the network and performs the following functions:

- Monitors and tracks all printing activity by all copies of BarTender that are installed on a network, keeping track of the total number of printers that are being used
- Authorizes BarTender print requests based on the number of printers that are being used

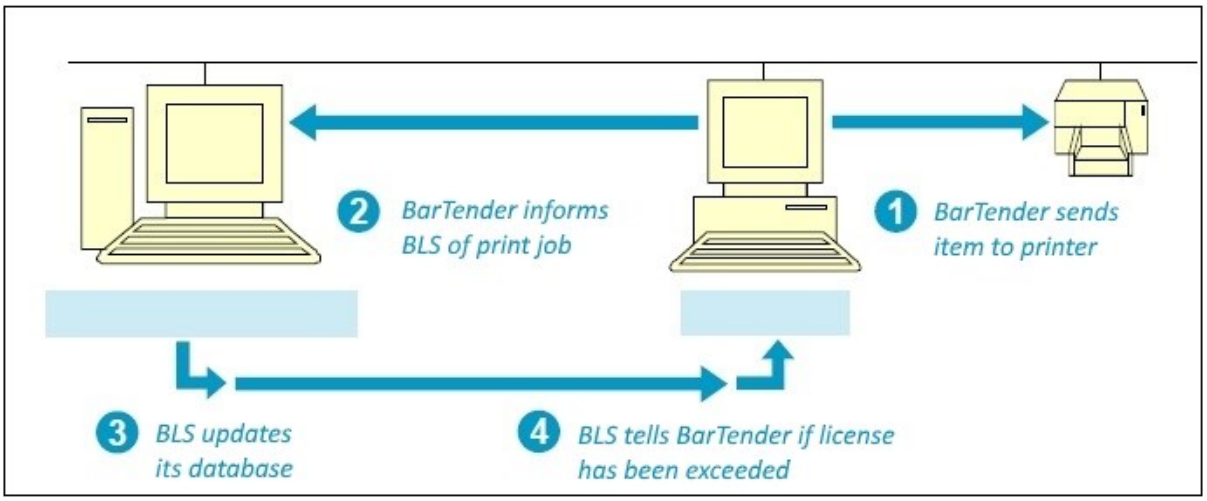
You can use the **Printer Usage** page in Administration Console to monitor the printer-related activity that BLS collects and to manage printer permissions.



BLS does not require either a dedicated computer or a server operating system. You can optionally run a copy of BarTender on the same computer.

Print Jobs and Printer License Management

The following illustration describes the process that occurs when BarTender starts a print job.



1. BarTender sends the print job by using the local or network printer driver that is installed on the workstation. Typically, to maximize performance, the print job starts without waiting for any communication with BLS.
2. At the same time that the print job is sent, BarTender also sends a message to BLS that contains the printer's name, model, location and printer port.
3. BLS adds the printer to the used-printers list if the printer is not already in the list. If the printer is in the list, then BLS updates the printer's **Last Used** field.
4. BLS updates its list of the total number of used printers and available printers. If the new total of used printers exceeds the allowable limit, then the BarTender license enters a license violation state. (For more information, refer to the License Violation Handling: Printer Limit Exceeded section that follows.)

A printer that is added to the used-printers list remains there until it has not been used for seven days, at which point it is automatically removed from the list and is no longer counted as a printer that is used by the license.

> BarTender uses the printer model, location and port to distinguish printers, not the printer name.

License Violation Handling: BarTender Licensing Service Not Found

In the event that BarTender suddenly cannot communicate with BLS, BarTender does not immediately lose the ability to print. Instead, a 72-hour grace period begins so that you have time to resolve the problem without losing the ability to design templates or print items. (This grace period applies only to loss of communication with BLS and not to the printer license limit being exceeded.

For more information about how a printer-limit license violation is managed, refer to the License Violation Handling: Printer Limit Exceeded section that follows.)

Purpose of the Connectivity Grace Period

Certain types of system failures can interrupt communication between BarTender and BLS, such as a network failure or a hardware failure on the server that hosts BLS. Although events such as these are rare, BarTender cannot differentiate these events from an attempt to use an unlicensed copy of BarTender. This grace period ensures that mission-critical production can continue without interruption. The provided 72 hours (3 full days) should be enough time for a BarTender administrator to reestablish communications with BLS before printing becomes unavailable.

Initiating a Connectivity Grace Period Countdown

Regardless of the source of the connectivity failure between BarTender and BLS, as soon as a copy of BarTender loses contact with BLS, the 72-hour grace period begins. BarTender continues to function as usual during the grace period except for some notifications that might be generated.

When the BLS Connection Is Restored

BarTender can detect that its connection with BLS is restored at any of the times that it typically checks for BLS, such as the following:

- When a print job is started
- When an attempt is made to export a printer code template

In addition, BarTender periodically polls BLS, so it eventually detects the restored connection and resets the grace period countdown clock. Thereafter, if the connection with BLS is lost again, a full 72-hour grace period countdown is again initiated.

When the Connectivity Grace Period Expires

If no communication with BLS is established for 72 hours after a copy of BarTender begins the grace period countdown, a variety of BarTender functions become unavailable, including printing to a connected or remote printer, printing to a file, and exporting printer code templates.

Connectivity Grace Period Notifications

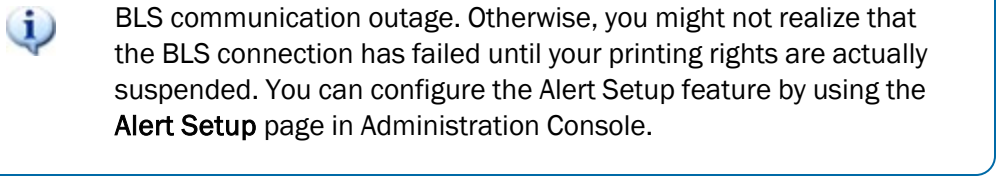
When loss of communication with BLS causes your copy of BarTender to begin the grace period countdown, BarTender does not generate warning notifications with every print job. You receive the notifications at the following times:

- At the start of the grace period, after which you have three days of typical operation remaining
- At two days remaining before the grace period ends
- At one day remaining before the grace period ends
- At one hour remaining before the grace period ends

You also receive a notification if and when communication with BLS is restored.

Enabling Connectivity Grace Period Notifications when Automating BarTender

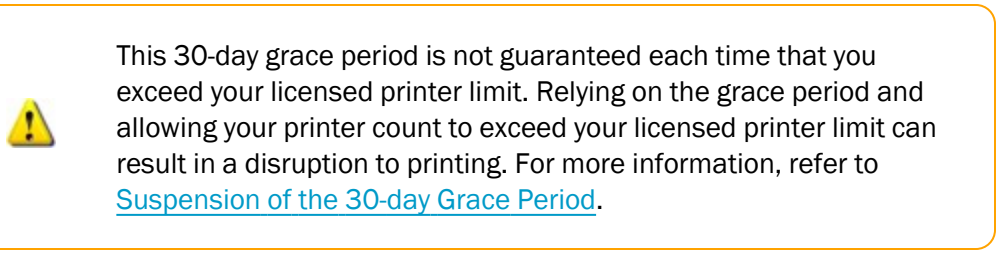
When you run BarTender manually, you automatically receive grace period notifications as pop-up windows. However, when you run BarTender automatically under the control of other software, all pop-up windows are turned off. Therefore, in order for you to know that a grace period countdown has begun, you need to configure the BarTender Alert Setup feature to log the messages or to send them to you by using email.



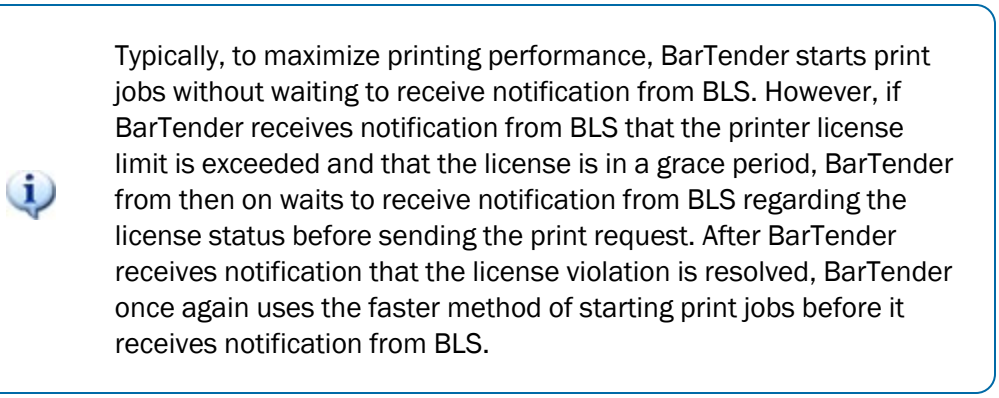
We strongly recommend that you configure the Alert Setup feature to send an email message so that you receive prompt notification of a BLS communication outage. Otherwise, you might not realize that the BLS connection has failed until your printing rights are actually suspended. You can configure the Alert Setup feature by using the **Alert Setup** page in Administration Console.

License Violation Handling: Printer Limit Exceeded

It is not uncommon to exceed your maximum allowable printer license count for legitimate reasons. For example, suppose that you brought 10 new printers into a printing operation that was already running close to its maximum allowable printer count. You wouldn't want to have print jobs denied just because you disconnected old printers that you no longer needed (or that had failed) and then started using new printers. For this reason, the BLS provides a limited-use, 30-day grace period that allows you to temporarily exceed your licensed printer count so that you can continue business operations while you complete any printer upgrades or purchase a BarTender license that allows you to use more printers.



This 30-day grace period is not guaranteed each time that you exceed your licensed printer limit. Relying on the grace period and allowing your printer count to exceed your licensed printer limit can result in a disruption to printing. For more information, refer to Suspension of the 30-day Grace Period.



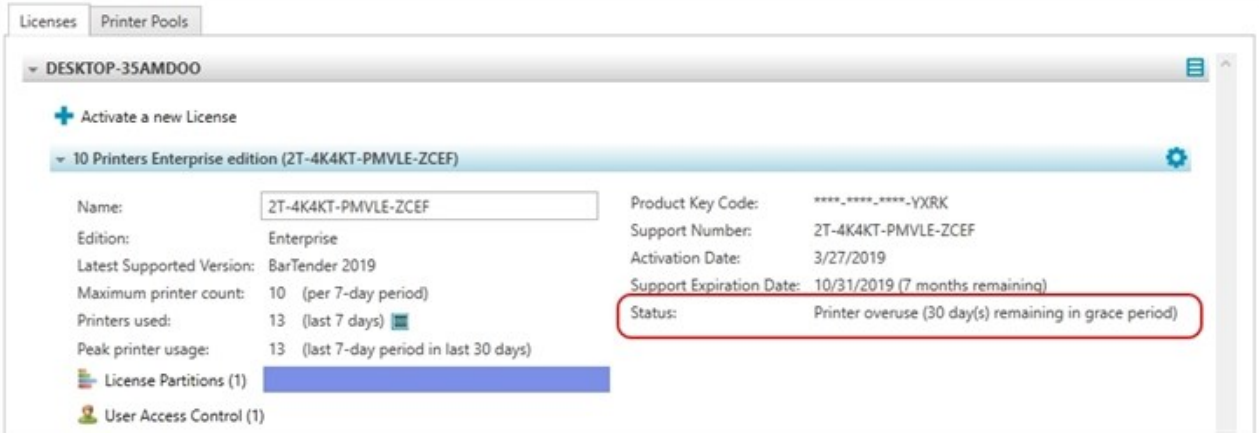
Typically, to maximize printing performance, BarTender starts print jobs without waiting to receive notification from BLS. However, if BarTender receives notification from BLS that the printer license limit is exceeded and that the license is in a grace period, BarTender from then on waits to receive notification from BLS regarding the license status before sending the print request. After BarTender receives notification that the license violation is resolved, BarTender once again uses the faster method of starting print jobs before it receives notification from BLS.

Initiation of the 30-day Grace Period

When the 30-day grace period is initiated, the status is displayed in Administration Console on both the **Licensing** page and the **License Setup** page.

The **Licensing** page in Administration Console displays a yellow status indicator for the license that is in the grace period. When you point to the status indicator, a status message indicates that your license is in a printer overuse state (meaning that the printer limit has been exceeded) and shows the number of days that you have to resolve the problem.

The **Licenses** tab on the **License Setup** page in Administration Console displays a status message that indicates that your license is in a printer overuse state and shows the number of days that you have to resolve the problem.



In addition, if the Alert Setup feature is correctly configured, an email message is sent that notifies an IT manager or other recipient of the license violation. Follow-up email messages are sent one time per day until the issue is resolved.

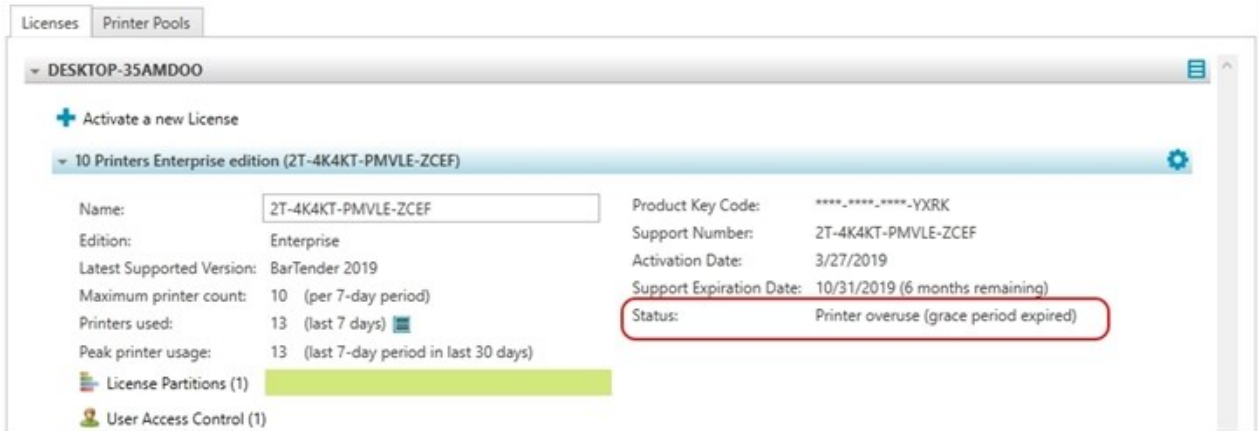
We strongly recommend that you configure the Alert Setup feature to send an email message for license violations so that you receive prompt notification of the printer overuse status. You can configure the Alert Setup feature by using the **Alert Setup** page in Administration Console.

Expiration of the 30-day Grace Period

If a full 30 days elapses without the printer-limit license violation being resolved, the grace period expires. When this occurs, the status is displayed in Administration Console on both the **Licensing** page and the **License Setup** page.

The **Licensing** page in Administration Console displays a yellow status indicator for the license that has the expired grace period. When you point to the status indicator, a status message indicates that your license is in a printer overuse state and that the grace period is expired.

The **Licenses** tab on the **License Setup** page in Administration Console displays a status message that indicates that your license is in a printer overuse state and that the grace period is expired.



BLS then begins to deny print jobs, starting with BarTender print jobs that are sent to the printers that are listed on the used-printers list that have the oldest value for the **Last Used** field. You continue to have access to the full number of printers that your BarTender printer license allows, but you can print to only the printers that were used most recently. By denying print jobs to the least active printers, BLS progressively returns your license to its allowed printer count.

Suspension of the 30-day Grace Period

To prevent misuse of the 30-day grace period, BLS might suspend the availability of the grace period when it detects repeated printer-limit license violations. When you exceed your printer limit and BLS suspends the 30-day grace period, you can continue to print to the printers that already exist for your license, but print jobs that are sent to the printers that exceed your license will be rejected.

If you find that your business processes repeatedly present a printer-limit license violation, and if you cannot revise your processes, we recommend that you purchase additional printer licenses so that you can avoid disruptions to printing. For more information about best practices for your printing environment, refer to the following article on the Seagull Scientific Support Portal:

https://support.seagullscientific.com/hc/en-us/articles/115013378747-Error-1401-You-have-exceeded-your-maximum-number-of-licensed-printers

WAN Usage Guidelines

BarTender and BLS are fully tested and qualified for WAN use. BarTender can perform a variety of important network functions on both LANs and WANs, including outputting data to printers, reading files, accessing databases, and communicating with BLS.

However, when BarTender communicates across a WAN, there are potential challenges. In particular, the available speed and reliability of many WANs can cause unacceptable performance problems that are beyond BarTender to control, as in the following:

- When BarTender is installed on multiple LANs but communicates with a single instance of BLS across a WAN, an entire building of BarTender users might not be able to print if a WAN link fails for more than 72 hours.
- Certain standard database operations, including some queries, can become unacceptably slow when data sources are bridged across a WAN.

As another example, when you browse the Internet, the pages that you view probably are displayed quickly on most days. However, on some days the connection may be very slow or it may not work at all. In these cases, the technical support team at your Internet provider typically suggests that you try again later in the day. Similarly, WAN performance problems are beyond our control.

How WAN Performance Affects BLS Performance

BarTender communicates with BLS at various times to confirm that BarTender use complies with your license. WAN usage introduces complications, such as the following:

- Firewalls settings may need to change to allow this type of communication.
- If a router between a LAN and WAN malfunctions, any copies of BarTender that are installed on the associated LAN cannot detect BLS if it is located on another LAN. BarTender provides a 72-hour grace period to resolve minor interruptions, but an extended interruption interferes with the ability to print.
- WAN links that are based on Internet connections can easily introduce the same intermittent performance problems that you experience when you browse the Internet. Even private WAN links are more susceptible to performance problems than conventional LAN connections.

Consult your system administrator about the reliability and performance capabilities of your WAN. You might choose to equip each LAN with its own dedicated BLS. Doing this might give you a faster and more fault-tolerant printing system compared to using a single BLS across an entire WAN.

For example, suppose that you have 30 printers that you want to use on three different LANS. In this case, you could install three separate 10-printer licenses of BarTender (one for each LAN), instead of a single 30-printer license for the WAN.

One copy of BLS (and its associated product key code [PKC]) comes with each BarTender license.

Using BarTender with Remote Desktop Services and Citrix Virtual Apps

You can install BarTender in both Windows Remote Desktop Services (RDS) and Citrix Virtual Apps environments. Windows RDS is a component of Microsoft Windows that you can use to connect to and control a remote computer or virtual machine (VM) over a network connection, and it can be used with BarTender for automation purposes. The Citrix Virtual Apps solution is a thin client that you can use with Windows RDS to connect to corporate applications.

We support running BarTender in these environments. However, if you are using BarTender with Windows RDS or with Citrix Virtual Apps, you might encounter issues in which duplicate printers appear when you restart your virtual desktop. The BarTender Licensing Service (BLS) counts these duplicate printers as licensed printers, which might cause false printer license violations.

To prevent BLS from over-counting printers when you are using BarTender with Windows RDS or with Citrix Virtual Apps, we recommend that you install the Seagull License Server (SLS) Remote Assistant.

Using SLS Remote Assistant to Manage Printer Licensing

BLS identifies unique printers by processing information that is received from the printers themselves. 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 Virtual Apps and Windows RDS environments, BLS cannot 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, BLS might not recognize a single printer as a single printer when it is used by multiple clients. This condition causes the printer to be listed in BLS multiple times, which effectively reduces the number of printers that are available for your license.

The SLS Remote Assistant is a software utility that you can install on remote clients to prevent BLS from over-counting printers when you are using Citrix Virtual Apps or Windows RDS. The SLS Remote Assistant obtains detailed information from the printers that are installed on the client computer. Each time that a client initiates a print request, BarTender requests this printer information from the SLS Remote Assistant and then sends the printer request together with the printer information to BLS. By using the additional print information that the SLS Remote Assistant provides, BLS can accurately differentiate between printers based on the printer model, port, and IP address.

Installing the SLS Remote Assistant

You must download and install the SLS Remote Assistant on each client computer. The number of times that the SLS Remote Assistant must be installed on each client varies depending on whether you are using a Citrix Virtual Apps environment or a Windows RDS environment, as follows:

- In a Citrix Virtual Apps environment, you install the SLS Remote Assistant only one time on the client computer. The client can then be used by multiple users.
- In a Windows RDS environment, you install the SLS Remote Assistant on the client computer for each user who will who use the client computer.

System administrators can install the SLS Remote Assistant by running the installer package on the client. Additionally, they can install the SLS Remote Assistant on multiple computers across the network with minimal or no user interface by using a silent install command along with their own deployment scripts and software.

If you plan to use Citrix Virtual Apps, you must install and run Citrix Workspace app before you install the SLS Remote Assistant. (Citrix Workspace app has replaced Citrix Receiver.)

You can download the latest verion of Citrix Workspace app from the following Citrix website:

https://www.citrix.com/downloads/workspace-app/

To install the SLS Remote Assistant by using the installer package

1. If you plan to use Citrix Virtual Apps, make sure that Citrix Workspace app is installed and running.
2. Download the SLS Remote Assistant installer package from the "Downloads" section of the following Seagull Scientific website:
   https://www.seagullscientific.com/support/downloads/

Make sure 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 Virtual Apps, make sure that Citrix Workspace app is installed and running.
2. Download the SLS Remote Assistant installer package from the "Downloads" section of the following Seagull Scientific website:
   https://www.seagullscientific.com/support/downloads/

Make sure 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 box, and then click the Command Prompt desktop app or 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 run the command.

For more information about how to use silent install commands, refer to the *Silent Install* technical document:

https://www.seagullscientific.com/resources/white-papers/

Sample Installation Scripts for the SLS Remote Assistant (32-bit Version)

The following scripts install the 32-bit version of the SLS Remote Assistant. To install the 64-bit version, replace `SLS Remote Assistant.msi` with `SLS Remote Assistant x64.msi`.

To install SLS Remote Assistant while monitoring the installation process

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

To install SLS Remote Assistant without monitoring the installation process

```
msiexec.exe /I "C:\SLS Remote Assistant.msi" /qn
```

To install SLS Remote Assistant for a Windows RDS-only environment, even if Citrix is installed

```
msiexec.exe /I "C:\SLS Remote Assistant.msi" /qn REMOVE=CITRIX
```

To install SLS Remote Assistant for a Citrix-only environment

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

You must have Citrix Virtual Apps and Citrix Workspace app installed for the Citrix-only installation process to work.

To uninstall SLS Remote Assistant

```
msiexec.exe /I "C:\SLS Remote Assistant.msi" /qn REMOVE=ALL
```

Related Documentation

Technical Documents

- *BarTender Software Activation*
- *Silent Install*

To view and download technical documents, visit:

https://www.seagullscientific.com/resources/white-papers/

Manuals

- *Getting Started with BarTender*
  https://support.seagullscientific.com/hc/categories/200267887

BarTender Help System

- Installing BarTender
- Managing the BarTender Licensing Service
- Licensing
- Licensing Page

Other Resources

Please visit the BarTender website at *https://www.seagullscientific.com*.

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