



Bluebeam Revu in a Citrix Environment

Version 2020

Table of Contents

Introduction	3
Compatibility	3
Installation and Licensing	3
Managing your Open and Enterprise Licenses in a VDI Environment	4
Persistent virtual desktops	4
Persistent virtual desktops created from a master image or template	4
Non-persistent virtual desktops	5
Published Applications	6
Managing your Open and Enterprise Licenses in a Published or Shared Application Environment	6
Using Multiple Servers	7
Frequent Server Reimaging	8
Restricting Access to View Mode Only	8
Files and Folders used by Revu	8
User Settings & Preferences (Reset Settings)	9
Resetting the Revu settings	9
Log and Temporary Files	9
Recovery Files	10
Sets Cached Files	10
Bluebeam Studio™ File Caching	10
Hardware Rendering	11
Using the Bluebeam PDF printer and plugins	12
Published Desktop	12
Published Application	13
Plugins for Microsoft Office.....	13
Enabling the PDF Printer	13
Disabling Plugins for Microsoft Office for Non-Bluebeam Users	14
RDP (Remote Desktop Protocol) and other virtual environments	14

Bluebeam® Revu (“Software”)

© 2020 Bluebeam, Inc. All Rights Reserved.

Patents Pending in the U.S. and/or other countries.

Bluebeam® and Revu® are trademarks or registered trademarks of Bluebeam, Inc.

All other trademarks or registered trademarks are the property of their respective owners.

Introduction

This guide contains information for IT Administrators and assumes that the reader has a firm understanding of fundamental concepts, such as software installation, and Citrix® Administration. Its purpose is to provide guidance when configuring, using and licensing Bluebeam® Revu® in different Citrix virtual environments.

Further details about Revu installation, configuration and licensing can be found on the [Bluebeam Technical Support site](#).

Compatibility

Revu 2019 is [certified Citrix Ready®](#) for XenApp 7.18 and XenDesktop® 7.15 LTSR, as well as XenDesktop 7.14, 7.16, 7.17, and 7.18, on Windows Server 2016 R2.

The Revu.exe application is the only part of the Revu suite that is certified for installation in a Citrix environment. Other parts of the Revu suite can be used but aren't officially supported.

When Revu is used as part of a virtual desktop, all features – such as PDF creation using the Bluebeam PDF printer and application plugins – operate and perform as they would when installed on a physical system. In a published or shared application environment, additional steps must be taken to enable and manage processes outside of the Revu application, such as PDF creation via the PDF printer and Office plugins.

Note: *Although some customers have successfully deployed and used Bluebeam Revu in other virtual environments – such as terminal services, VMware®, Windows RDS or Microsoft® App-V – these use cases aren't officially supported.*

Please refer to the [Revu Compatibility](#) page for additional hardware and software requirements.

Installation and Licensing

Because [Perpetual](#) and [Enterprise](#) licenses are per-user and not concurrent licenses, Open Licensing is the recommended method for licensing in any virtual environment. In order to maintain compliance with the End User License Agreement (EULA), licenses need to be purchased for all users who might have access to Revu.

Note: *The Enterprise and Open licenses require an active internet connection to allow communication with the Bluebeam license server.*

For more information on licensing, see our [Licensing & Registration](#) page.

Managing your Open and Enterprise Licenses in a VDI Environment

When deploying Revu on your master images for persistent and non-persistent VDI, don't register Revu on the master or host images; instead use Delayed Authorization. This can be done by (1) installing Revu via our MSI package and using the DA=1 option or (2) using the Bluebeam Administrator command line option (see Migrating Multiple Revu Installations to a New License).

Delayed Authorization lets you include the serial number and product key during the installation. However, the registration process is deferred until after the desktops are deployed and users launches Revu and performs their first save operation. This will ensure each virtual desktop is registered individually.

For non-persistent virtual desktops, Revu **MUST** be unregistered on each virtual desktop before it's destroyed. Failure to unregister Revu will leave the virtual desktop name registered on our license server occupying a seat on the license. This desktop name would then need to be manually unregistered from our license server (Perpetual) or Revoked from the license gateway (Enterprise).

Note: *It's highly recommended you use Open Licensing in any VDI environment.*

If Revu is registered (Perpetual and Enterprise only) on a master image that is used to deploy persistent and non-persistent virtual desktops, and those desktops receive new machine names, the Revu license will:

- Detect a new machine name
- Unregister Revu on that virtual desktop
- Put Revu on a 15-day trial

Persistent virtual desktops

If you're planning to install Revu in a persistent virtual desktop environment, you'll be able to use any of the licensing models and manage the license like you would on a physical machine. A Perpetual license is required to be manually released when the desktop is de-commissioned.

Persistent virtual desktops created from a master image or template

When the persistent virtual desktops are created from a master image or template where Revu is already installed, the registration can be pre-configured on the master using the Delayed Authorization option. This allows you to enter the serial number and product key when Revu is installed on the master, but the registration isn't completed until Revu is run for the first time on a newly created desktop.

Note: *Opening Revu on the master image after installing with Delayed Authorization will register the image and break the purpose of Delayed Authorization.*

Note: If you do launch Revu on the Master Image to test basic functionality, before you create any desktops from this master be sure to reset the Delayed Authorization by using the script described on our support page, "[Migrating Multiple Revu Installations to a New License](#)." Run the Delayed Authorization script directly on the Master Image. Failure to do so can cause an issue where an unregistered desktop or master can cause all desktops and masters to become unregistered.

Non-persistent virtual desktops

Open licenses are ideal for non-persistent set-ups. In these environments, Revu is not registered on the virtual desktop's master image. Enterprise licenses aren't a good fit for these environments because a license will only be released once it has been left inactive for 15 days.

Note: The term "inactive" means no internet connectivity for 15 days. If there is internet connectivity the license will continue to ping our license server and keep the seat active. If a desktop is destroyed with an Enterprise license still registered, the seat won't auto-release for 15 days and therefore the license should be manually unregistered prior to destroying the desktop.

If a Perpetual license is used (not recommended) it MUST be manually unregistered before destroying the desktop. Failure to unregister Revu will leave the virtual desktop name registered on our license server occupying a seat on the license. This virtual desktop name would then need to be manually unregistered on our license server (Perpetual) or Revoked from the license gateway (Enterprise).

Note: In the case of revoking an Enterprise License, the virtual desktop would never ping the license server again because it was non-persistent and (1) the seat will be immediately released on Revoke and made available to be registered again (2) that virtual desktop machine name will remain in the "Pending Revoked" status until the default 15-day offline grace period has expired.

With an Open license, Revu will register its license automatically when Revu or a Revu plug-in is launched. With a Perpetual license, the license will register when the user saves a document or uses a plugin. In the cases of both Open and Perpetual licenses, only one seat of Revu is registered, so customers must have as many seats on the license as users who will be accessing the shared copy of Revu.

Published Applications

Open licenses are supported in this environment. Perpetual and Enterprise licenses aren't recommended.

An Open license is recommended for this environment because licenses are checked out when Revu is opened, then automatically released after the user closes Revu. This allows for easy management and usage tracking of Revu and the license.

Note: *Both Perpetual and Enterprise license models aren't ideal for this type of environment due to both being node-locked and registered on our licensing server where Revu is only registered once. All users are using the same seat of Revu, so license owners would need to ensure there are as many seats on the license as there are users who will be accessing, or have the potential to access, the shared copy of Revu.*

Managing your Open and Enterprise Licenses in a Published or Shared Application Environment

When deploying Revu on a Published or Shared server, don't register Revu on the master image. Instead use Delayed Authorization for Perpetual and Enterprise Licensing. It's highly recommended to use Open Licensing for this type of setup. If you create clones or deploy multiple servers from the master image and use Delayed Authorization, you can then register each server except the master.

With an Enterprise License, Revu takes up one seat for each published or shared application it's installed on. If a server with an Enterprise License is inactive for 15 days, the seat will automatically be released from the Citrix environment and made available once again.

Note: *All users who launch the shared Revu application will be using the same registered copy of Revu (Perpetual or Enterprise License). If Revu is registered and a Server is cloned and given a new machine name, Revu will detect the machine name has changed. Then, Revu will unregister and place itself in a 15-day trial period.*

Customers must have enough seats on the license to cover as many users who may be accessing the shared copy of Revu.

If the Server is ever re-imaged, Revu will need to be unregistered first (Perpetual or Enterprise only). Failure to unregister Revu will leave the server name registered on our license server occupying a seat on the license. This server name would then need to be manually unregistered on our license server (Perpetual only) or Revoked from the license gateway (Enterprise only).

Note: *In the case of Revoking an Enterprise License, the server would never ping the license server again because it was non-persistent and (1) the seat will be immediately released on Revoke and made available to be registered again (2) that server name will remain in the "Pending Revoked" status until the default 15-day offline grace period has expired.*

With an Open License, Revu is not actually registered on the server; it activates each time a user launches the application. This means that the administrator doesn't need to audit, restrict number of authorized users, or manage the registration and un-registration process.

Note: *Open Licenses are only available in Revu eXtreme. When considering Open vs. Enterprise license models, be sure to factor in the license management cost between the two models. Enterprise Licensing was not designed for virtual environments and requires a more manual management process. Open Licensing alleviates that burden.*

IMPORTANT: In the case of Enterprise licenses, only one seat of Revu is registered, so customers should ensure there are as many seats on the license as users who access the shared copy of Revu. In a Published or Shared environment, Bluebeam may require a note on the license indicating the environment type used and may also require audits of usage.

Using Multiple Servers

When Revu is installed on multiple servers, it must not be registered on each server. It's best to use Delayed Authorization. If Revu is registered on a master image and the registered server is then cloned or deployed, this links the licenses of the master with its clones; therefore, if one server is unregistered or revoked, that change is applied to all servers. This will cause all users to lose access to a registered copy of Revu.

To prevent master images from being registered, you can:

- Install Revu as a trial by clicking the "Use as Trial" button in the "Bluebeam Registration" window at the end of the installation.
- Omit the serial number and product key if you're deploying using the MSI
- Register Revu after cloning or deploying with a Bluebeam Administrator command line option. For details, see Migrating Multiple Revu Installations to a New License, which describes the process.
- Include the "DA" delayed authorization option if installing using the MSI. This lets you include the serial number and product key during the installation. However, the registration process is deferred until the first time Revu requires a license.

Note: *If Revu is registered and a Server is cloned and given a new machine name, Revu will detect the machine name has changed and unregister itself and put the license in a 15-day trial period.*

Note: *Open licensing is highly recommended for multiple-server environments as it eliminates the need to manage how Revu licensing is deployed on each server.*

Frequent Server Reimaging

If the Citrix server is frequently reimaged, using an Open license is highly recommended. Open licenses won't cause any license management issues like Perpetual and Enterprise license models.

Note: *If there are multiple servers based on this master and Perpetual or Enterprise license models were used it's possible that when one server is unregistered all servers will unregister.*

Note: *If Revu is registered and a Server is cloned and given a new machine name, Revu will detect the name has changed, unregister itself, and put the license in a 15-day trial period.*

Restricting Access to View Mode Only

You can allow groups of users to use Revu in either View and or Markup Modes. This setting can be useful if you want to restrict a group of users to View Mode so they don't consume a Revu license. This method is compatible with the Open license model.

The below registry key is not part of the default Revu installation, but you can write a separate script or Group Policy to push this key per-user as they log into the server to access Revu. This key is per-user under HKEY_CURRENT_USER.

Create a new registry key of type DWORD in "HKEY_CURRENT_USER\Software\Bluebeam Software\<<RevuVersion>

Set the value to an integer value of 1 and Revu will start in View Mode. The option to switch to Markup Mode is hidden, as well as the option to register/unregister. To allow the user to switch to Markup Mode, either delete the registry key or set the value to 0.

Files and Folders used by Revu

All the folders where Revu installs files are fixed; the Suite installer doesn't allow the install destination to change. Revu installs to these folders:

Program Files\Bluebeam Software\Bluebeam Revu\2019

Program Files (x86) \Bluebeam Software\Bluebeam Revu\2019

Program Files\Common Files\Bluebeam Software\2019

Program Files (x86)\Bluebeam Software\Bluebeam Revu\2019

ProgramData\Bluebeam Software\Bluebeam Revu\2019

On a physical machine, Revu saves files in several locations that store customizations to the Revu interface, custom tools, and cached files to improve performance and

reduce internet bandwidth. Studio Projects store the work-in-progress of checked out files.

In a Citrix environment, these settings should be stored in a user's folder on the server to provide a persistent environment for the user and so work won't be lost.

User Settings & Preferences (Reset Settings)

Profiles provide an easy way to store a user's favorite toolbars, menus and other display settings within Revu. The Revu and user created tools sets store tools and symbols that can be used quickly.

Profiles, configuration files, and the "Recents" list are stored in the following folder:

```
%AppData%\Bluebeam Software\Revu\2019\  
or  
C:\Users\\AppData\Roaming\Bluebeam Software\Revu\2019\
```

Custom tool sets for your environment can also be stored in a central location so they can be accessed by all users. See the [Revu Enterprise Administrators Guide](#) for more information.

Note: Bluebeam doesn't test folder redirection of user settings, like %APPDATA%

Resetting the Revu settings

The Revu settings can be reset back to the defaults. Revu will restore the original profiles and tool sets the next time it starts.

- In a virtual desktop, users' settings can be returned to the default using the [Admin tab in Bluebeam's Preferences](#).
- Note: There are other methods that can be used to reset Revu. Refer to the [Bluebeam Administrators Guide](#).
- This can be done with in a virtual app environment by deleting or renaming the folder %AppData%\ Bluebeam Software\Revu. Custom tool sets and profiles can be backed up by copying them before they're deleted.

Log and Temporary Files

Revu log and temporary files are written to a folder in the TEMP folder:

```
%TEMP%\Bluebeam Software\  
or  
C:\Users\\AppData\Local\Temp\Bluebeam Software\
```

Exporting from Revu to external formats, like Word and Excel, writes temporary files to:

`%TEMP%\`

Recovery Files

Revu creates recovery files in the folder `%TEMP%\Bluebeam Software\Revu\`. Files in this folder allow unsaved work to be recovered if Revu closes unexpectedly. This folder should be maintained in the user's folder on the server to enable crash recovery.

Sets Cached Files

Revu creates cached files for Sets thumbnails in the folder `%TEMP%\Bluebeam Software\Revu\`. These files are required to build the Thumbnails for Sets.

Reference: You can learn about Revu's Sets functionality [here](#).

Bluebeam Studio™ File Caching

Revu saves network bandwidth and lets users work offline by storing copies of Project and Session files in a persistent location within the user's environment. These files need to be stored in a persistent location in the user's environment so that they remain accessible between Revu sessions.

Sessions stores pending updates for offline files, and the markup information is uploaded to Studio the next time the user connects to Studio. Projects stores locally-saved changes for checked-out files, which are uploaded to Studio when the server copy is updated.

Note: *These cached files should not be removed until confirming that the user doesn't have any Sessions with pending offline changes or checked-out Project files.*

Studio Sessions and Projects store files in the following location:

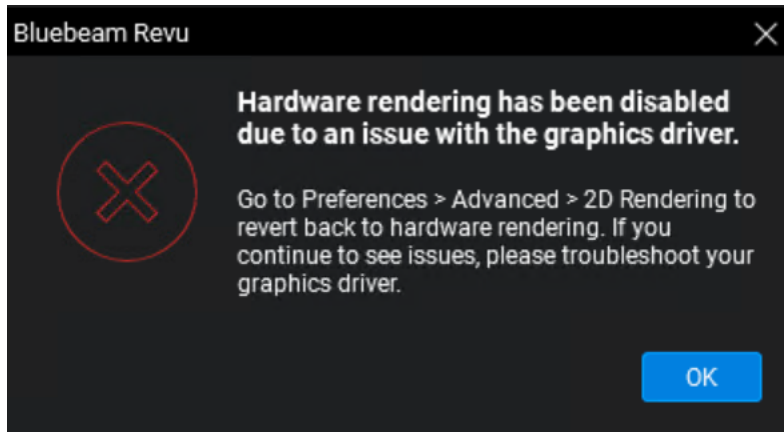
`%LocalAppData%\Revu\`

Example: `C:\Users\<user name>\AppData\Local\Revu\`

Reference: You can learn about Revu's Studio offline functionality [here](#).

Hardware Rendering

By default, Revu 2019 installs with its Rendering Engine mode set to "Hardware". If "Hardware" is selected, but there is no GPU to use, Revu will give the following error when trying to render a PDF:



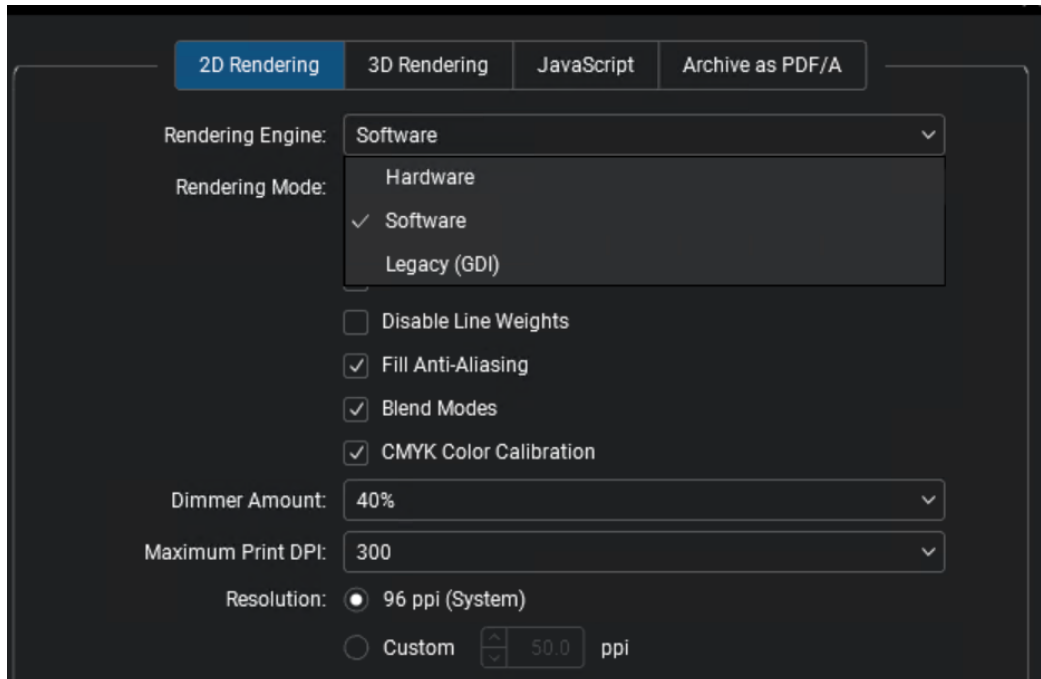
Note: GPU hardware must be present on the server to utilize the Hardware Rendering mode.

Note: Bluebeam doesn't test or support GPU hardware rendering in Citrix at this time. A single GPU may be used by a single user, but multiple users or GPU pass-through aren't tested or supported. For other errors not found in this guide, please see the [Bluebeam Support page](#) for specific error information.

After selecting "OK" in the error above, Revu will set the Rendering Engine mode to Software.

Unless this "Hardware" setting is changed on the Citrix server, XenApp users may experience the above error message whenever they open a file on their instance of Revu. XenDesktop users may only see the message once, because the Rendering Engine preference will be saved in the user's Revu settings.

If you want to set "Software" Rendering mode as default, refer to the [Deployment Guide](#) for details on pushing out Revu Preferences. Users can also change the Rendering Engine mode themselves via Revu's Preferences pictured here:



Using the Bluebeam PDF printer and plugins

The Bluebeam PDF printer and plugins for Microsoft® Office® can be used to create PDF files using the information below.

Note: *Neither the Bluebeam PDF printer or the Bluebeam plugins for Microsoft Office are certified or officially supported; however, there are some users who are successfully using them in these environments.*

The Bluebeam PDF printer and plugins create temporary files during the creation process. The user must have permissions to these locations so PDFs can be created.

Bluebeam PDF printer:

`%AllUsersProfile%\Bluebeam Software\Print Jobs\
or
C:\Users\All Users\Bluebeam Software\Print Jobs\`

Office plugins create files in the above folder and:

`%TEMP%\Bluebeam Software\`

Published Desktop

When running Revu as part of a published desktop, all features – such as PDF creation and application plugins – operate and behave in the same way as when installed on a physical system.

Published Application

When running in a Citrix-published application environment, the Revu application (Revu.exe) is the only application in the Revu suite that is certified. Additional steps need to be taken to enable and manage processes outside of the Revu application, such as PDF creation via the Bluebeam PDF printer and plugins for Microsoft Office.

Note: *The CAD plugins aren't supported in a published application environment.*

Plugins for Microsoft Office

The plugins for Word, Excel, PowerPoint and Outlook can be used in a published app environment if Office and Revu are both installed on the same server; however, they're not officially supported.

Enabling the PDF Printer

The Bluebeam PDF printer and some versions of the plugins for Microsoft Office (see above) rely on the Print Monitor (BBPrint.exe), which is a separate application that's always running in the background when Revu is installed on a desktop system. In a published app environment, the BBPrint.exe application must be running as the user and available to the application using the printer or plugin.

An instance of BBPrint can be started with the application by using a script to launch BBPrint and the application together, or BBPrint can be started using a login script.

Starting BBPrint with the published application

One way is to start this process with a script when a user launches a published application. For example, point the command line for the published application (in this example, PowerPoint) to a .bat file containing commands to launch BBPrint.exe and the application. Below are examples that show starting different versions PowerPoint with BBPrint.exe:

Revu 2019 and PowerPoint 2016:

```
start "PrintMon" "C:\Program Files\Bluebeam Software\Bluebeam Revu\2019\Revu\BBPrint.exe"
```

```
start "PowerPoint" "C:\Program Files\Microsoft Office\Office16\PowerPnt.exe"
```

Starting BBPrint in a Login Script

Another option is to start BBPrint.exe as part of a user's login script so that BBPrint, Bluebeam PDF printer and plugins are always available.

Because there are numerous ways to configure and manage a server, there is no single way that will work for every use case. These suggestions are meant to educate server administrators about how the printer and plugins work so you can implement the best solution for your environment.

Note: *In a published application environment, there will be instances of BBPrint.exe running for each logged in user.*

Disabling Plugins for Microsoft Office for Non-Bluebeam Users

If there are some Citrix users that should have access to Microsoft Office, but not have access to these Revu plugins, they can be disabled globally for those users to prevent them from loading the plugins. Blocking a user's read access to the following registry keys will stop the plugins from loading.

RDP (Remote Desktop Protocol) and other virtual environments

- Renaming the default Bluebeam PDF printer name under the Printers & Scanners menu (Windows) is not supported. If the name is edited, and a user attempts to print, Revu won't be able to find the printer. The Bluebeam PDF printer will then attempt to reinstall, and the printer name will be reverted to its default.
- In the case of an RDP Session, it's best to use the default *Printer Redirection* if the user needs to select between printing directly on the RDP Session machine or their local/host machine.



Revu 2019

Office 32-bit and 64-bit

Word: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\WOW6432Node\CLSID\{A60EF190-192B-42CE-A5B3-40935DD42019}\InprocServer32

Excel: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\WOW6432Node\CLSID\{B5352C6B-5F84-4A81-A7F5-C63A83692019}\InprocServer32

PowerPoint: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\WOW6432Node\CLSID\{26CE225D-AA52-4337-B8D4-3089C0312019}\InprocServer32

Outlook: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\WOW6432Node\CLSID\{D00818B2-EB9F-4D2C-8F53-75413C9B2019}\InprocServer32

Office 64-bit

Word: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\CLSID\{A60EF190-192B-42CE-A5B3-40935DD42019}\InprocServer32

Excel: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\CLSID\{B5352C6B-5F84-4A81-A7F5-C63A83692019}\InprocServer32

PowerPoint: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\CLSID\{26CE225D-AA52-4337-B8D4-3089C0312019}\InprocServer32

Outlook: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\CLSID\{D00818B2-EB9F-4D2C-8F53-75413C9B2019}\InprocServer32