

# Using NiceLabel with VDI and Application Virtualization

Instructions for Citrix XenDesktop/XenApp Environments

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# Introduction

After reading this document, you will know how to use NiceLabel software in Citrix XenApp/XenDesktop environments. These instructions explain how the printing and licensing mechanisms work in such environments, and provide technical guidance for configuring your NiceLabel software.

## Citrix XenApp and XenDesktop

XenApp is an application virtualization solution that helps you optimize productivity by enabling universal access to virtual apps, desktops, and data from any device. Earlier versions of the product were named WinFrame, MetaFrame, and Presentation Server. XenDesktop includes the same set of functionalities as XenApp, and adds the option for implementing a scalable Virtual Desktop Infrastructure (VDI) solution.

## Glossary

These terms commonly describe Citrix printing solutions and associated configurations:

- **Client printers.** Any printer device that is configured at the user endpoint with installed Citrix Receiver client. This term generally refers to printers that are physically attached to the endpoint. The term may also include network printers configured at the endpoint.
- **Network printers.** Any network accessible printer. These printers are generally managed and assigned to users by the IT administrators. Network printers may be configured on a XenApp server, a virtual desktop, or directly at the user endpoint.
- **Citrix Universal Printer.** A generic printer created at the beginning of a session. This generic printer is not tied to a printing device. When using the generic printer, the resulting print job is sent to the local endpoint from where the user can print with any available client printer.
- **Session printers.** Any printer that is created within the Citrix session. Such session may include client printers, network printers, and generic universal printers.
- **Citrix Universal Print Driver (UPD).** A set of generic printer drivers that can be used for any printer device as an alternative to the standard printer vendor/model-specific drivers. The Citrix UPDs with support for EMF and XPS printing formats are included with the virtual desktop agent (VDA) and installed by default. Citrix UPD can also support additional printing formats such as PostScript, PCL, and PDF. This requires installation of additional drivers.
- **Citrix Universal Print Server (UPS).** An optional server component that is installed on a Windows print server to process the print jobs from Citrix sessions. One of main benefits of using the Citrix UPS is that it allows the use of Citrix UPD for network printers configured on the VDA.
- **Printing pathway.** There are two possible routes for a print job to be sent from the Citrix session host (VDA) to a printer device – through the client or through a network print server. Those paths are referred to as the client printing pathway, and the network printing pathway.
- **Virtual Desktop Infrastructure (VDI).** Refers to the process of running a user desktop using a virtual machine that runs on a server in the datacenter. VDI represents a powerful form of desktop virtualization because it enables fully personalized desktops for each user with all the security and simplicity of centralized management.

# Printer Drivers

When users log into Citrix to either run NiceLabel in a Citrix session (XenApp), or to connect to the published desktop (XenDesktop), the printer drivers that are visible in their sessions can be merged from two sources:

- Drivers installed on the server
- Drivers installed on the client

## Citrix Ready Certification

NiceLabel printer drivers are certified for Citrix Ready Program.

<https://citrixready.citrix.com/euro-plus/nicelabel-printer-driver.html>



*"The Citrix Ready Program showcases verified products that are trusted to enhance Citrix solutions for mobility, virtualization, networking and cloud platforms. The Citrix Ready designation is awarded to third-party partners that have successfully met test criteria set by Citrix, and gives customers added confidence in the compatibility of the joint solution offering."*

## Server Printers

Server printers are the printer drivers installed on the server with installed NiceLabel software which is published for Citrix sessions. This document refers to this server computer as the "host". The "host" is not the main Citrix server on which you run the Delivery Controllers and StoreFront, but the computer with installed Virtual Delivery Agent (VDA).

The drivers for network printers can be installed directly on the host, or can be registered from a computer with print server role. After the NiceLabel software starts running in a Citrix session, the server printer drivers can be mapped in the session. This also means that NiceLabel software can use these drivers.

**This is the recommended setup for all network-connected label printers in your environment.**

## Client Printers

Client printers are the printer drivers installed on the local client's computer. This document refers to this user endpoint as the "client". After the NiceLabel software starts running in a Citrix session, the client printers can be mapped in the session, and NiceLabel can also use them.

Two types of printers can be available on the client:

- **Locally connected printers.** Typically, you would install the printer drivers for the printers connected to local ports, such as USB or LPT.
- **Network-connected printers.** The client might also have the drivers installed for the network printers. These printers also become visible in a session, which means that NiceLabel can use them for printing. However, due to the way how Citrix reports technical details about the printer driver in the session, NiceLabel cannot uniquely identify network printers. Each Citrix session consumes a new printer seat for the same physical printer.

See chapter **Best Practice** on page 8 to learn how to solve this issue.

## Mapping Printer Drivers

The printer drivers installed on the host that runs the published NiceLabel software are always mapped into the Citrix session, as they are already available on that host.

The printer drivers installed on the client can be mapped in Citrix session using two methods. The choice depends on whether the printer driver from the client is also available on the host, or not:

1. If the client printer driver is also installed on the host, the printer driver from the host is used.
2. If the client printer driver is not installed on the host, the Citrix Universal Printer is used.

Furthermore, visibility of client drivers that you want to use in a session is configurable through **Policies** in the **Citrix Studio**. For example, you can merge all local drivers into the session, you can merge just the default printer, or you can merge just network printers. These are the typical scenarios.

### NiceLabel "Vendor" Printer Driver

If printer drivers for all the printers in the environment are available on the host, those exact drivers are used for the printer drivers that are mapped from the client.

When installing a printer driver, two processes execute on the computer. First, the printer driver is installed. You would see this printer driver listed in **Print Management** console, but you do not see the printer icon in **Devices and Printers**. Second, that printer driver is associated with the printer. You would see the printer icon in **Devices and Printers** and the printer becomes visible in applications.

When you use Windows **Add printer wizard** or NiceLabel **PrnInst wizard**, the printer driver and associated printer icon are both installed on Citrix host, which makes the printer accessible from applications. Additionally, this driver installed on the host will also be available in the Citrix session and use the port as configured on the server.

To map your local printer into Citrix session and use NiceLabel "vendor" printer driver from the host, but your local port (as configured in your locally installed driver), do the following:

1. On the host, install the same NiceLabel printer driver as you have installed locally on your client.
2. On the host, open Devices and Printers.
3. Right-click the printer you have just added and select **Delete**. This will remove the printer driver icon, but keep the driver files on the host.

This procedure allows you to ensure printer driver availability on the host. If a client requests specific printer drivers in the session, the printer driver is already available on the host.

**NiceLabel recommends using this printer driver deployment method.**

## Citrix Universal Printer / Citrix Universal Printer Drivers

In case a client wants to map a local printer driver in the Citrix session, but the matching NiceLabel printer driver is not installed on the host, Citrix still maps the driver in the session. In this case, Citrix just does not use the NiceLabel printer driver. The session uses the Citrix Universal Printer. This is an auto-generated printer object that replaces the printers appearing in the user's session that do not have a matching driver installed on a host.

The Citrix Universal Printer is an optimal solution if using office laser and inkjet printers. These are all printers using which you print the documents in graphical mode (GDI) and are therefore not a good match for NiceLabel printer drivers. The vendor information and NiceLabel driver-specific properties are no longer available in the driver. NiceLabel software does not recognize the driver as NiceLabel driver and disables the advanced features. You can still print labels, but strictly in using the GDI mode. Internal functionalities of printers, such as label sensors, controlling the cutter, using built-in barcode rendering, using printer internal counters, date/time stamps etc., are no longer available.

**NiceLabel does not recommend using the Citrix Universal Printer Driver.**

# Licensing

NiceLabel multi-user products are supported in Citrix environment.

For on-premise NiceLabel products, the multi-user NiceLabel license key is bound to a Windows domain<sup>1</sup> name, to which all computers belong. You can install NiceLabel software on as many servers and clients as you want, and activate them using the same license. NiceLabel multi-user license does not count the number of your installations, but the number of printers that are used for label printing.

For Cloud-based NiceLabel products, the same license is used no matter the Windows domain name and they also count the number of printers that are used for label printing.

The unique identifier for a **printer seat** is a combination of the driver model name and its location. When the users print labels with NiceLabel to the same physical device, one license is consumed. Likewise, printing with a network-connected printer also consumes a license.

For details about licensing, see the [NiceLabel 2017 Licensing](#) document.

In a Citrix environment, NiceLabel cannot retrieve all information about the printer driver, specifically the location information (port name and/or IP address). This happens if the client merges local printer drivers into the Citrix session. Without the location information, the same printer used in different Citrix sessions is not recognized as the same device and consumes a printer seat with every printing.

To learn how to configure system to correctly count the printers in use, see chapter **Best Practice** on page 8.

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<sup>1</sup> The same license can also be used in other domains that have two-way trust relationship established to the main domain.  
[www.nicelabel.com](http://www.nicelabel.com)

# Best Practices

| Action   | Description   |
|--|---|
| <b>LICENSING</b>   |   |
| <b>Using NiceLabel multi-user products</b>                         | <p>Citrix provides the application delivery system for many concurrent users. NiceLabel is installed and deployed on one or multiple VDA computers.</p> <p>Only NiceLabel products with multi-user license key can be activated and used in the Citrix multi-user environments.</p>   |
| <b>Installing NiceLabel client with pre-configured license key</b> | <p>After the installation, you must activate the NiceLabel client. You can do this manually on each VDA.</p> <p>You can semi-automate the activation of clients by providing the license key in a text file next to the installer. After the installation completes, and you start NiceLabel for the first time, just confirm the activation process.</p> <p>Make sure the license is already activated and registered in your environment to let other NiceLabel clients use it for activation (e.g. you have already activate the license against the NiceLabel internet activation server). Best practice approach would be to activate the NiceLabel Control Center first as it is always up and running being a web server application.</p> <p>For more information, see chapter <b>Enforcing Configuration Options</b> in <a href="#">NiceLabel Installation Guide</a>.</p> |

|   |   |
|---|---|
| <b>PRINTERS</b>                               |   |
| <b>Using network-connected label printers</b> | <p>To print with network-connected label printers in a Citrix session:</p> <ul style="list-style-type: none"> <li>• Install the printer driver on the VDA host with installed NiceLabel software. You can also register the driver from the "print server" that you might have in the network. It is important that the printer driver is installed on the VDA host.</li> <li>• Do not map local printer drivers from the clients, even if the driver for network printer is installed locally. If you are mapping the locally installed printer driver for network printer, Citrix omits the port information. This disrupts NiceLabel licensing and the same printer consumes a printer seat for each user, instead of just for one printer seat. Set Citrix policy <b>Auto-create client printers</b> to <b>Do not auto-create client printers</b>.</li> </ul> <p>This configuration ensures that the client uses the printer driver that is installed on the host. The network printer consumes just one printer seat no matter how many users are printing labels with it.</p> |



|  |   |
|--|---|
|  | NOTE: The NiceLabel unique printer identification works because NiceLabel can read the name/location (IP address) from the driver on the server, unlike to the locally installed drivers mapped in the session.   |
| <p><b>When using locally-connected label printers (USB/LPT), do the following:</b></p> | <p>To print with locally-connected label printers (typically connected to LPT and USB ports) from Citrix session:</p> <ul style="list-style-type: none"> <li>• Make sure the NiceLabel printer drivers that are installed on client computers are also installed on the VDA host. Install exactly the same printer drivers that are installed on the clients.</li> <li>• Enable mapping of local printers into the Citrix session. Set the Citrix <b>Auto-create client printers</b> policy appropriately. You might want to auto-create all client printers, or just the specific ones.</li> </ul> <p>Having NiceLabel printer drivers installed on the host ensures that within the Citrix session, the client uses NiceLabel drivers and not the functionally limited Universal Printer.</p> |
| <b>WEB PRINTING</b>  |   |
| <p><b>Installing NiceLabel Web Client for all users (not per user)</b></p>             | <p>When providing the NiceLabel Web Client application for web printing inside the Citrix sessions, make sure you install the Web Client on the VDA host for all users.</p> <p>The default installation type is per user. The Web Client is installed in users's %AppData% folder in this case.</p> <p>To install the NiceLabel Web Client just once for all users (in the %ProgramFiles% folder):</p> <ul style="list-style-type: none"> <li>• Run installer with the command-line parameter ALLUSERSINSTALL:</li> </ul> <pre>NiceLabelWebClientSetup.exe ALLUSERSINSTALL</pre>  |
| <p><b>Configuring Web Printing server name for NiceLabel Web Client</b></p>            | <p>The very first time you start the NiceLabel Web Client, you must start it from the browser. This is when Web Client remembers the name of the PowerFormsWeb server.</p> <p>To perform this action in Citrix environment, publish the browser in Citrix session as well, so the users can perform their first-time logins from browsers.</p> <p>To skip the publishing of browser, you can provide the server name to NiceLabel Web Client in the command line:</p> <ol style="list-style-type: none"> <li>1. In <b>Citrix Studio</b>, add NiceLabel Web Client to the list of published applications.</li> </ol>   |

2. In **Location** properties, type the following for the **command line argument**:

```
nicelabelwebclient:?server=http://host/powerformsweb
```

3. Replace the <http://host/powerformsweb> address with the location of your PowerFormsWeb installation.

# References

- NiceLabel Installation Guide. [Download](#).
- NiceLabel Licensing. [Download](#).
- Citrix technical overview. [Link](#).

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