

Double Hop Configuration for Citrix Environments

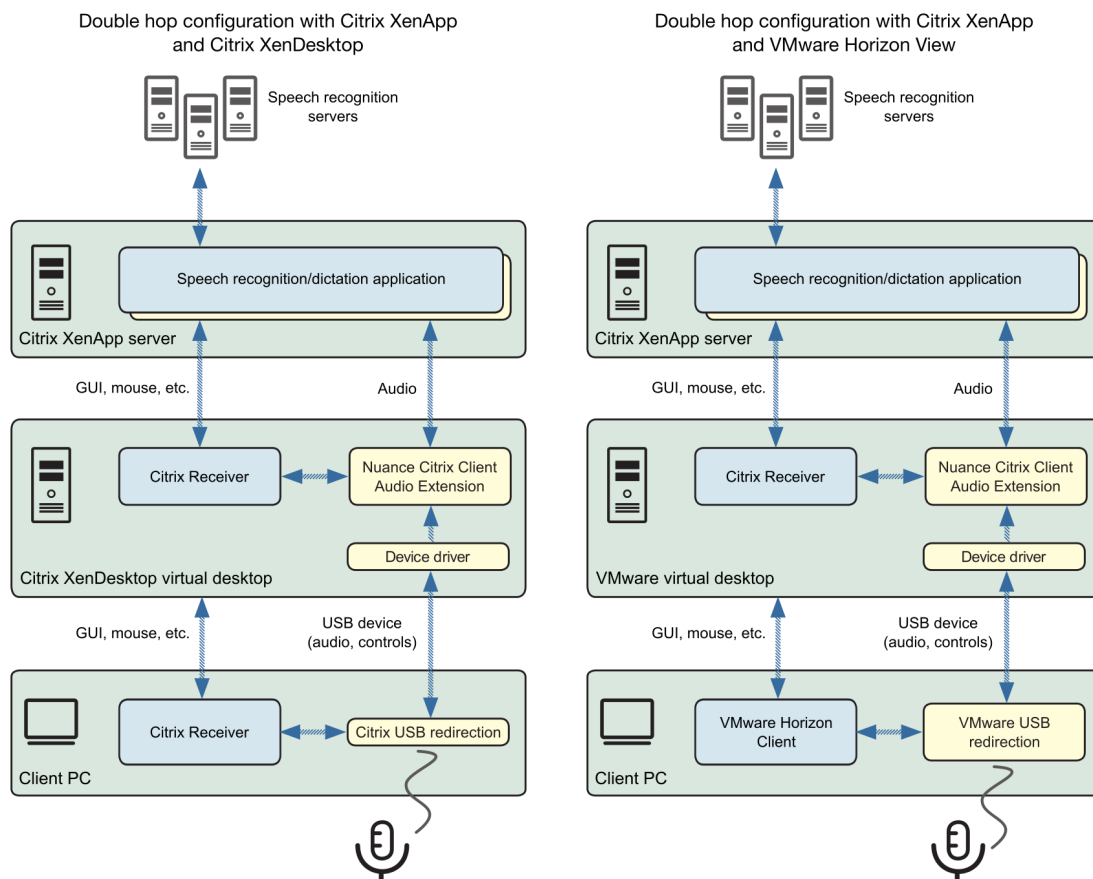
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Overview

In a Citrix environment, the speech recognition/dictation application can be delivered via Citrix XenApp to a XenDesktop or VMware Horizon View virtual desktop, which is then streamed to the user's PC.

To deliver audio data from the microphone to the application, use USB redirection from the client PC to the virtual desktop and use the Nuance Citrix Client Audio Extension from the virtual desktop to the Citrix XenApp server.



Requirements

Citrix XenApp server

- Citrix XenApp 7.x
- One of the following speech recognition applications:
 - Dragon Medical One Desktop Application
 - Dragon Medical Direct
 - Dragon Case and Care
 - Applications based on Dragon Medical SpeechKit (.NET and COM editions)
 - Applications based on SpeechMagic SDK
- For Nuance PowerMic: Nuance PowerMic Citrix Server & Virtual Desktop Extension

Virtual desktop

- One of the following desktop virtualization systems:
 - Citrix XenDesktop 7.x
 - VMware Horizon View 6
- One of the following guest operating systems:
 - Windows 7
 - Windows 8.1
 - Windows 10
- Citrix Receiver 4.3 or higher
- Nuance Citrix Client Audio Extension
- For Nuance PowerMic: Nuance PowerMic Citrix Client Extension

Client device

- USB microphone. Depending on your system, USB 3.0 ports might not be supported.
- For more information on the USB redirection requirements for specific virtualization platforms, see the documentation delivered with your product.

Network requirements

Nuance Citrix Client Audio Extension: Virtual desktop to Citrix XenApp server

- Minimum bandwidth for audio data:
 - CELP: 19.2 kbps
 - Speex: 28 kbps
 - PCM 8 kHz: 128 kbps
 - PCM 16 kHz: 256 kbps
- Network latency must not exceed 50 ms.

USB redirection: Client PC to virtual desktop

- Minimum bandwidth for audio data: 352 kbps (PCM 22 kHz)
- Minimum bandwidth for full USB redirection: 440 kbps

Procedure

1. Make sure your system fulfills the [requirements](#).
2. For Citrix XenDesktop virtual desktops: [Configure USB redirection](#) in Citrix Studio and on the client PC.
For VMware virtual desktops: [Configure USB redirection](#) on the virtual desktop.
3. For Nuance PowerMic: [Install the Nuance PowerMic Citrix Server & Virtual Desktop Extension](#) on the Citrix XenApp server where your application is installed.
4. [Install the Nuance Citrix Client Audio Extension](#) on the virtual desktop.
5. For Nuance PowerMic: [Install the Nuance PowerMic Citrix Client Extension](#) on the virtual desktop.

USB redirection - Citrix XenDesktop

To enable USB redirection from the client PC to a XenDesktop virtual desktop, do the following:

1. In Citrix Studio, [create a policy to allow USB redirection](#) for a specific device and for specific users.
2. Enable USB redirection [on the client PC and virtual desktop](#).

Creating a USB redirection policy

Proceed as follows:

1. On the Delivery Controller for your XenDesktop system, start Citrix Studio.
2. In the tree view, click **Policies**.
3. Click **Create Policy**.
4. On the **Settings** page, select **(All Versions)** and **USB Devices** in the two drop-down boxes.
5. Select **Client USB device redirection** and click **Select**. The corresponding dialog box is displayed.
6. Select **Allowed** and click **OK**.
7. Select **Client USB device redirection rules** and click **Select**. The corresponding dialog box is displayed.
8. Enter the device ID as follows (PowerMic II example): *ALLOW: VID0554 PID1001*. Click **OK**.
For a list of USB devices and their corresponding IDs, see: [Device IDs](#).
9. Click **Next**.
10. On the **Users and Machines** page, assign the delivery group for the new policy and click **Next**.
11. On the **Summary** page, enter a name for the new policy; for example: *Allow USB redirection - delivery group*
12. Click **Finish**.

Configuring the client PC and virtual desktop

For information on configuring USB redirection for Linux thin clients, see the documentation delivered with the product.

To configure USB redirection for Microsoft Windows clients, do the following:

1. Make sure the audio device is connected and switched on.
2. Create a new registry setting (PowerMic II example):
 Key (64-bit Windows): HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\GenericUSB\Devices\VID0554 PID1001
 Key (32-bit Windows): HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\GenericUSB\Devices\VID0554 PID1001
 DWORD value: AutoRedirect = 1
3. Start Citrix Receiver and connect to the virtual desktop.
4. In the desktop viewer toolbar, click **Preferences**.
5. Open the **Connections** tab.
6. Under **Microphones and Webcams, Session Settings**, select **Connect automatically**.
7. Disconnect from the virtual desktop, restart Citrix Receiver, and reconnect to the virtual desktop.
8. In the desktop viewer toolbar, click **Preferences**.

9. Open the **Devices** tab.
10. Enable the microphone you want to use. The device drivers are installed on the virtual desktop.
11. In the desktop viewer toolbar, select **Devices** and make sure the device you want to use is listed.

Device IDs

The following device IDs are used when creating a USB redirection policy:

Microphone	ID
Nuance PowerMic II	VID0554 PID1001
Nuance PowerMic III	VID0554 PID1001
Nuance PowerMic II with barcode scanner	VID0554 PID1002
Philips SpeechMike Air	VID0911 PID0BB8
Philips SpeechMike Premium	VID0911 PID0C1C
Philips SpeechMike II	VID0911 PID149A
Philips SpeechMike II with barcode scanner	VID0911 PID14A4
Philips SpeechMike III	VID0911 PID0C1C
Foot control	ID
VEC foot controls	VID05F3 PID00FF
Philips Foot Control FSW2320	VID0911 PID0910
Philips Foot Control FSW2330	VID0911 PID091A

USB redirection - VMware Horizon View

To configure USB redirection from the client PC to a VMware virtual desktop, do the following:

1. Start VMware Horizon Client and connect to the virtual desktop you want to use.
2. Install vdm_agent.adm in the Group Policy Editor of the virtual desktop; the file is located on the Connection Server at C:\Program Files\VMware\VMware View\Server\extras\GroupPolicyFiles. For more information on how to install ADM files, see: <https://technet.microsoft.com/en-us/library/cc739134.aspx>.
3. In the Group Policy Editor, browse for Computer Configuration/Administrative Templates/Classic Administrative Templates (ADM)/VMware View Agent Configuration/View USB Configuration and double-click **Include Vid/Pid Device**.
4. Enable this setting and enter the [device-specific string](#).
5. Disconnect from the virtual desktop and close VMware Horizon Client.
6. Connect the microphone/control device to the client PC.
7. Start VMware Horizon Client and connect to the virtual desktop.
8. On the VMware Horizon Client menu bar, click **Connect USB Device**, then select **Autoconnect USB Devices** or connect individual devices from the list.

Device specific strings

The following strings are entered when creating a group policy:

Microphone	Device-specific string
Nuance PowerMic II and III	o:vid-0554_pid-1001
Nuance PowerMic II with barcode scanner	o:vid-0554_pid-1002
Philips SpeechMike Premium	o:vid-0911_pid-0c1c
Philips SpeechMike II	o:vid-0911_pid-0c1c
Philips SpeechMike II with barcode scanner	o:vid-0911_pid-14a4
Philips SpeechMike III	o:vid-0911_pid-0c1c
Foot control	Device-specific string
Philips Foot Control FSW2320/00	o:vid-0911_pid-1844
Philips Foot Control FSW2330/00	o:vid-0911_pid-091a

To configure more than one device in one string, use a semicolon as a separator. For example, to configure a Nuance PowerMic II with barcode scanner and a Nuance PowerMic II, enter the following:

```
o:vid-0554_pid-1002;vid-0554_pid-1001
```


Audio channel installation

Install the Nuance Citrix Client Audio Extension on the virtual desktop.

Note: Make sure that Citrix Receiver 4.3 or higher is already installed on the virtual desktop; see: [Requirements](#). Citrix Receiver must not be running during the installation of the Nuance Citrix Client Audio Extension.

Proceed as follows:

1. Log on to the virtual desktop as an administrator.
2. Open the Nuance Citrix Audio and Button Extensions\Client\Client Windows folder.
3. Double-click Nuance Citrix Client Audio Extension.exe.
4. Follow the installation wizard.

Remarks

- If you upgrade the Citrix client, you must reinstall the Nuance Citrix Client Audio Extension.
- Microphone buttons and other controls require a separate channel. For more information on Nuance PowerMic support, see: [PowerMic control channel installation](#).
- The extension does not need to be installed on the Citrix XenApp server; the required server binaries are already included in the application folder.

PowerMic control channel installation

For Nuance PowerMic, install the server and client components of the Nuance PowerMic Citrix Extension. This configures a custom channel to route button controls from the Nuance PowerMic to the hosted application.

Server component

Install the Nuance PowerMic Citrix Server & Virtual Desktop Extension on the Citrix XenApp server where your speech recognition application is hosted.

To install the Nuance PowerMic Citrix Server & Virtual Desktop Extension, do the following:

1. Log on to the Citrix XenApp server as an administrator.
2. Open the Nuance Citrix Audio and Button Extensions\Server & Virtual Desktop folder.
3. Double-click Nuance PowerMic Citrix Server & Virtual Desktop Extension.exe.
4. Follow the installation wizard.

Client component

Install the Nuance PowerMic Citrix Client Extension on the virtual desktop.

Note: Make sure that Citrix Receiver 4.3 or higher is already installed on the virtual desktop; see: [Requirements](#). Citrix Receiver must not be running during the installation of the Nuance PowerMic Citrix Client Extension.

Proceed as follows:

1. Log on to the virtual desktop as an administrator.
2. Open the Nuance Citrix Audio and Button Extensions\Client\Client Windows folder.
3. Double-click Nuance PowerMic Citrix Client Extension.msi.
4. Follow the installation wizard.

Remarks

- If you upgrade the Citrix client, you must reinstall the Nuance PowerMic Citrix Client Extension.
- Firmware upgrade is not supported in a Citrix environment.
- In some cases the focus is lost and PowerMic buttons are not recognized if the application is started in the background after a session is reconnected. Press ALT + TAB until the focus is regained.

Troubleshooting

Known issues

Nuance PowerMic II devices connected via Citrix USB redirection: After session reconnect the first **Record** button press is ignored. **Solution:** Upgrade the PowerMic II firmware to version 2.05 or higher.