

Carl Stalhood

Filling gaps in EUC vendor documentation

Virtual Delivery Agent (VDA) 7.8

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🗨 26 Comments

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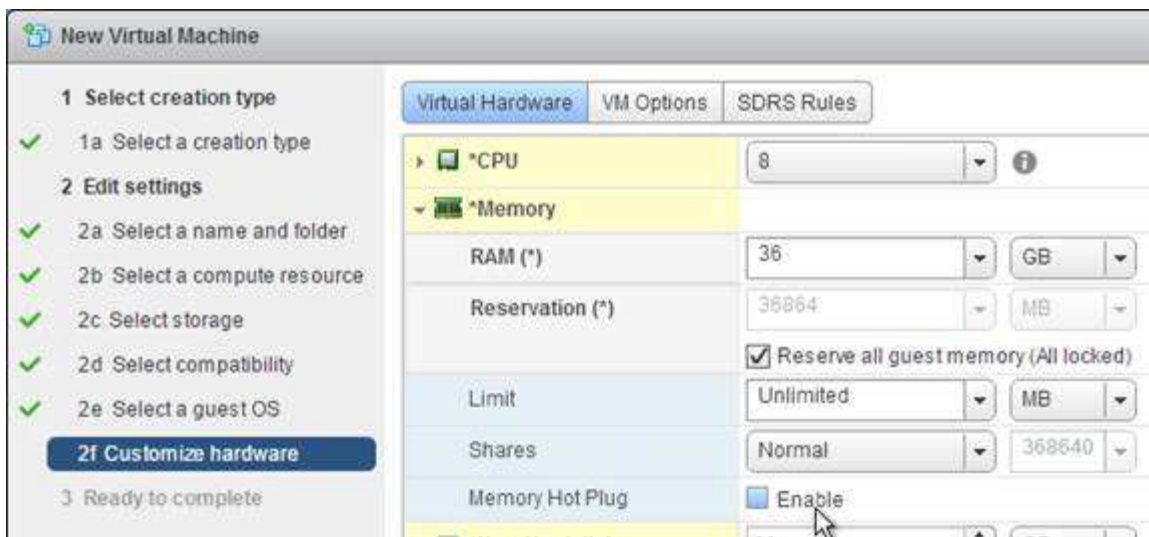
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💡 = Recently Updated

Hardware

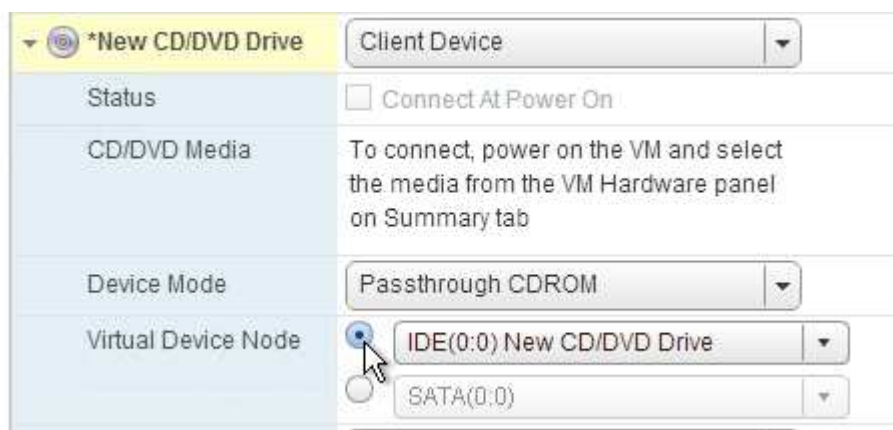
1. If vSphere 6, don't use hardware version 11 unless you have NVIDIA GRID. VMware 2109650 – [Video playback performance issue with hardware version 11 VMs in 2D mode](#)
2. For virtual desktops, give the virtual machine: 2+ vCPU and 2+ GB of RAM
3. For Windows 2008 R2 RDSH, give the virtual machine 4 vCPU and 12-24 GB of RAM
4. For Windows 2012 R2 RDSH, give the virtual machine 8 vCPU, and 24-48 GB of RAM
5. Remove the floppy drive
6. Remove any serial or LPT ports
7. If vSphere:
 - a. To reduce disk space, reserve memory. Memory reservations reduce or eliminate the virtual machine .vswp file.
 - b. The NIC should be VMXNET3.
8. If this VDA will boot from [Provisioning Services](#):
 - a. Give the VDA [extra RAM](#) for caching.
 - b. Do not enable Memory Hot Plug



c. For vSphere, the NIC must be VMXNET3.

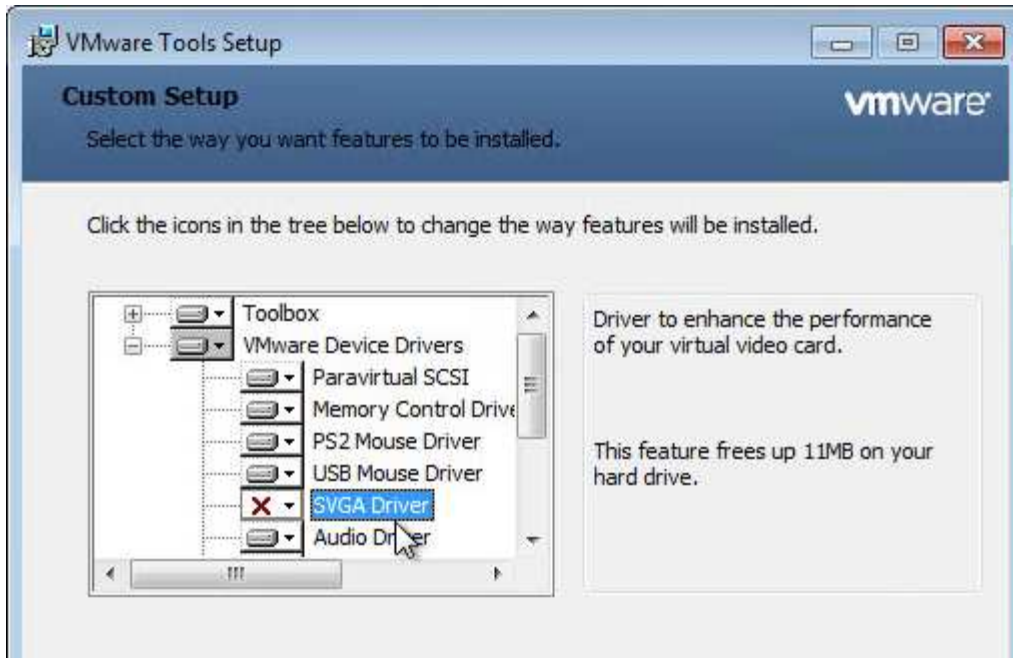


d. For vSphere, configure the CD-ROM to boot from IDE instead of SATA. SATA comes with VM hardware version 10. SATA won't work with Pvs.



9. Install the latest version of drivers (e.g. VMware Tools).

a. If Windows 7 on vSphere, don't install the VMware SVGA driver. For more details, see [CTX201804 Intermittent Connection Failures/Black Screen Issues When Connecting from Multi-Monitor Client Machines to Windows 7 VDA with VDA 7.x on vSphere/ESXi](#).

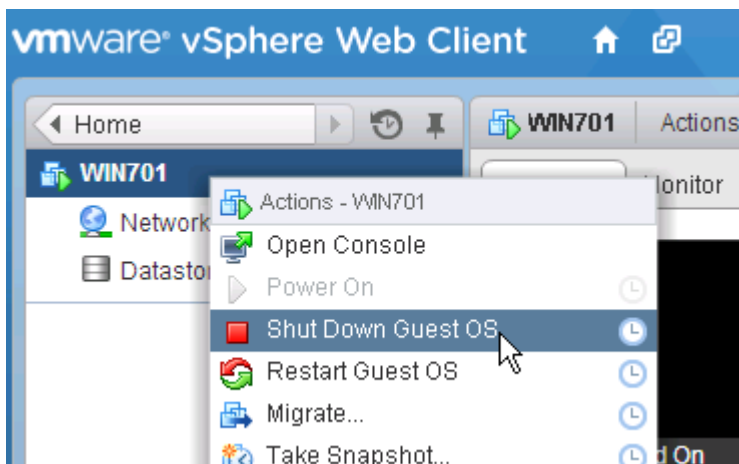


If vSphere, disable NIC Hotplug

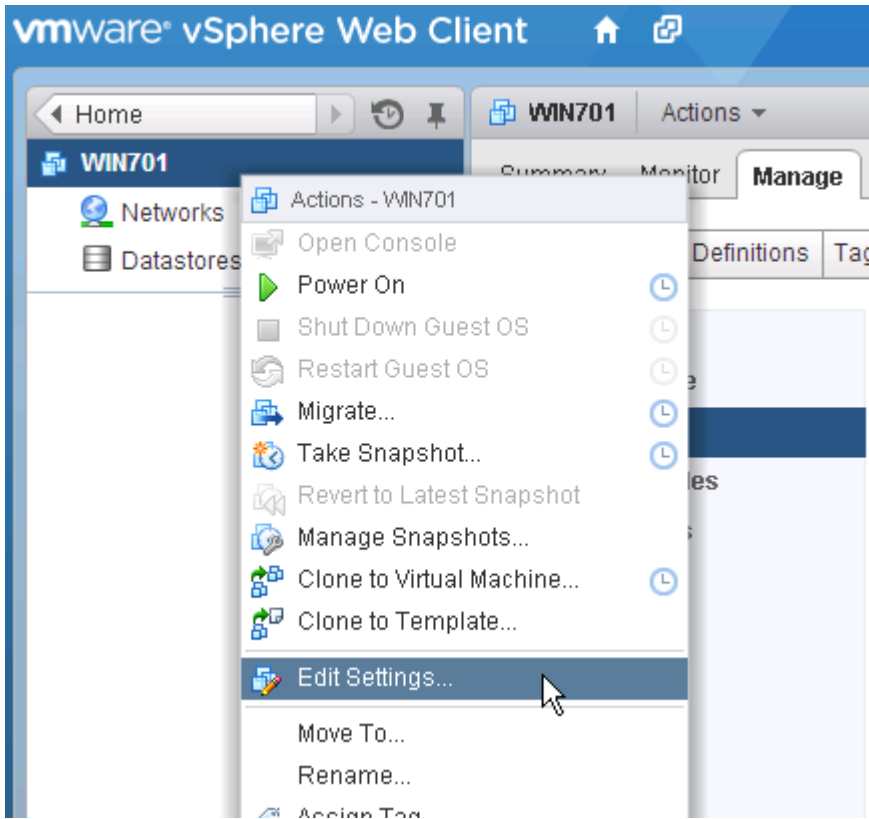
1. Users could use the systray icon to Eject the Ethernet Controller. Obviously this is bad.



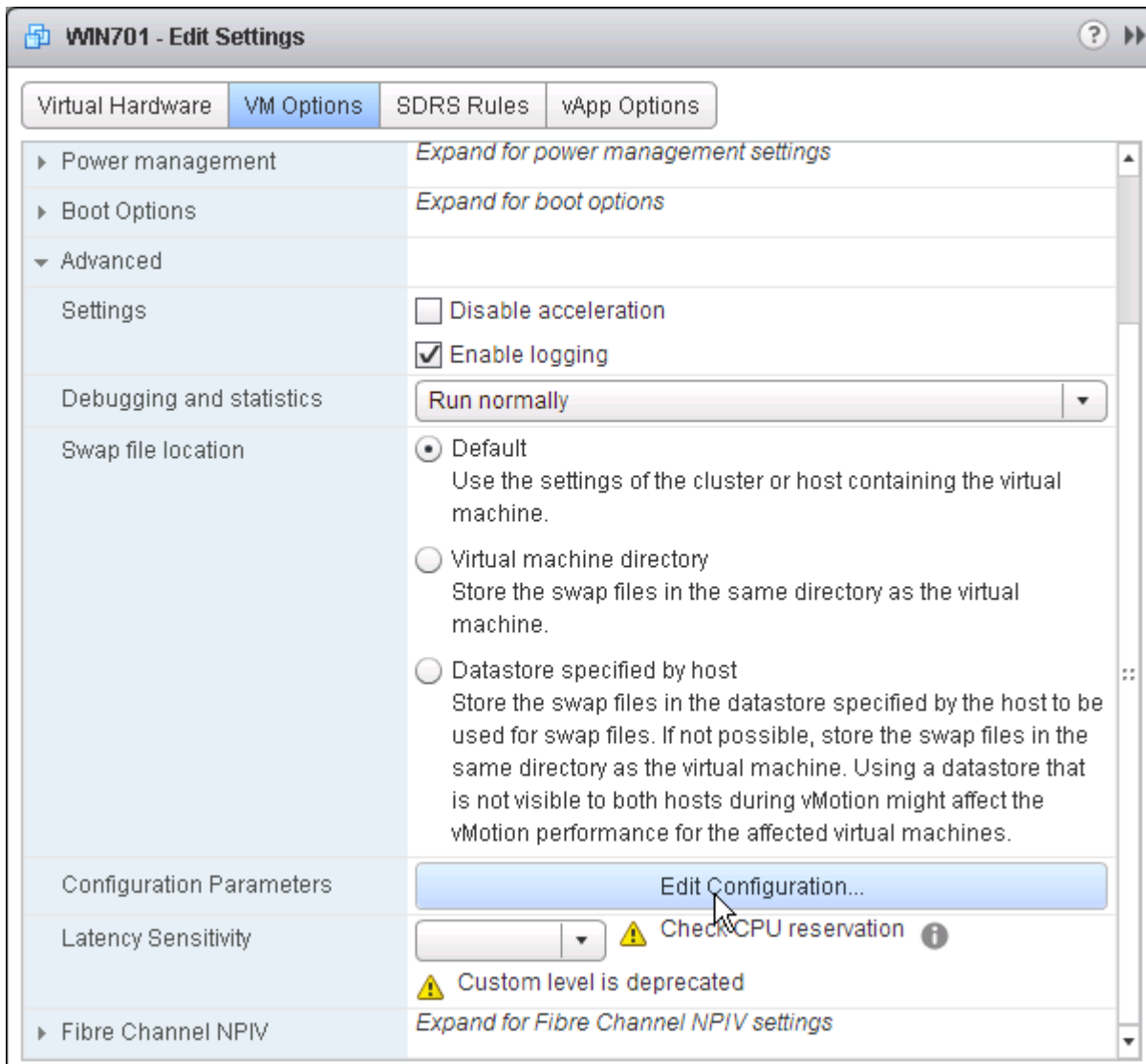
2. To disable this functionality, power off the virtual machine.



3. Once powered off, right-click the virtual machine and click **Edit Settings**.



4. On the **VM Options** tab, expand **Advanced** and then click **Edit Configuration**.



5. Click **Add Row**.

Configuration Parameters

Modify or add configuration parameters as needed for experimental features or as instructed by technical support. Entries cannot be removed.

Name	Value
svga.present	TRUE
sched.cpu.latencySensitivity	normal
vmci.filter.enable	true
sched.scsi0:0.throughputCap	off
tools.guest.desktop.autolock	false
hpet0.present	true
nvram	WIN701.nvram
virtualHW.productCompatibility	hosted
pciBridge0.present	true
pciBridge4.present	true
scsi0.nciSlotNumber	160

6. On the left, enter **devices.hotplug**. On the right, enter **false**.

7. Then click **OK** a couple times to close the windows.

Configuration Parameters

Modify or add configuration parameters as needed for experimental features or as instructed by technical support. Entries cannot be removed.

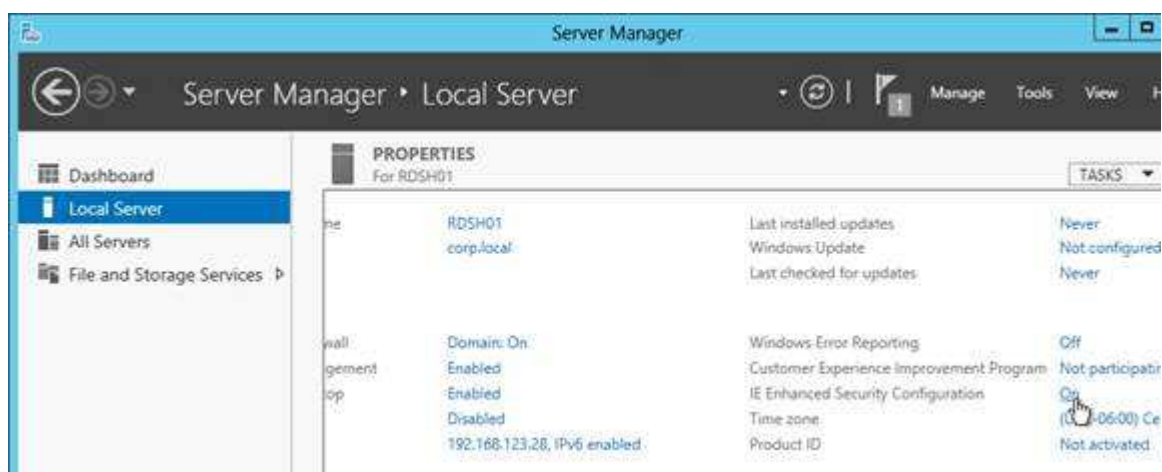
Name	Value
pciBridge7.functions	8
vmware.tools.internalversion	9221
vmware.tools.requiredversion	9344
migrate.hostLogState	none
migrate.migrationId	0
ethernet0.shares	normal
replay.filename	
sched.swap.derivedName	\\mfs\volumes\51a06e15-42b0ec37-8d9f-e0db552:
scsi0:0.redo	
devices.hotplug	false

8. The VM can then be powered on.

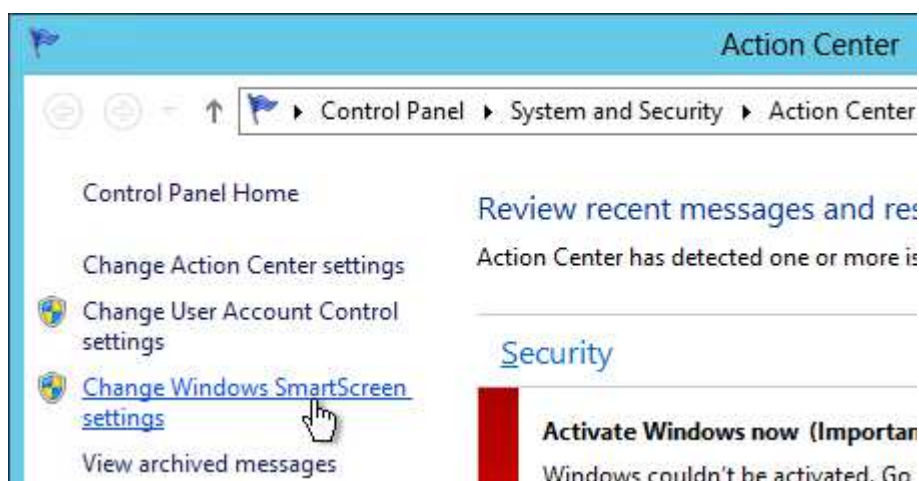


Windows Preparation

1. If RDSH, disable IE Enhanced Security Config



2. Optionally, go to **Action Center** (Windows 8.1 or 2012 R2) or **Security and Maintenance** (Windows 10) to disable **User Account Control** and enable **SmartScreen**.

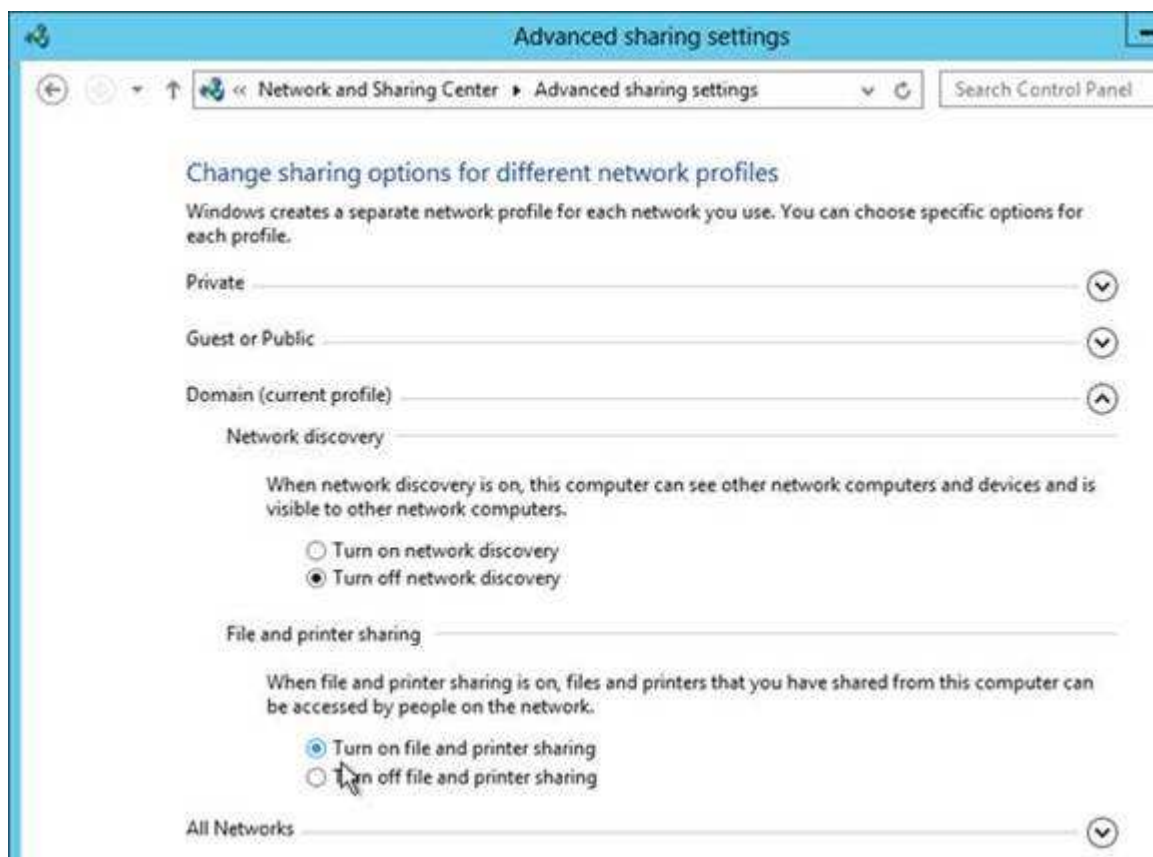


3. Run Windows Update.

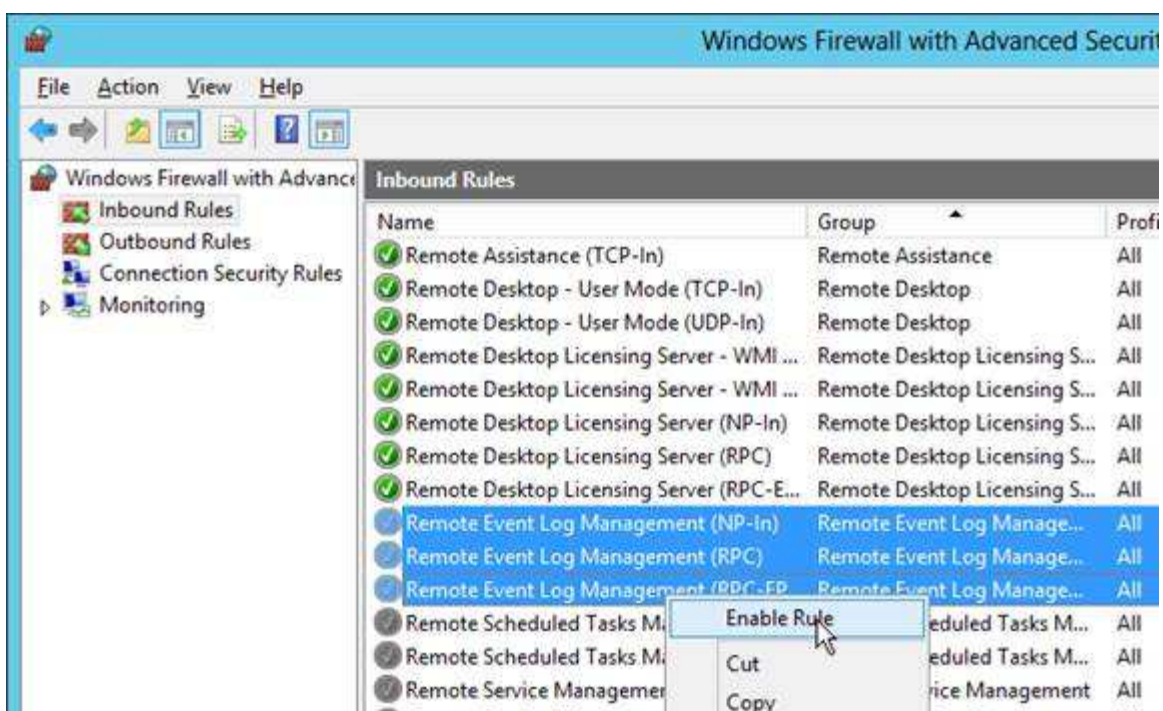
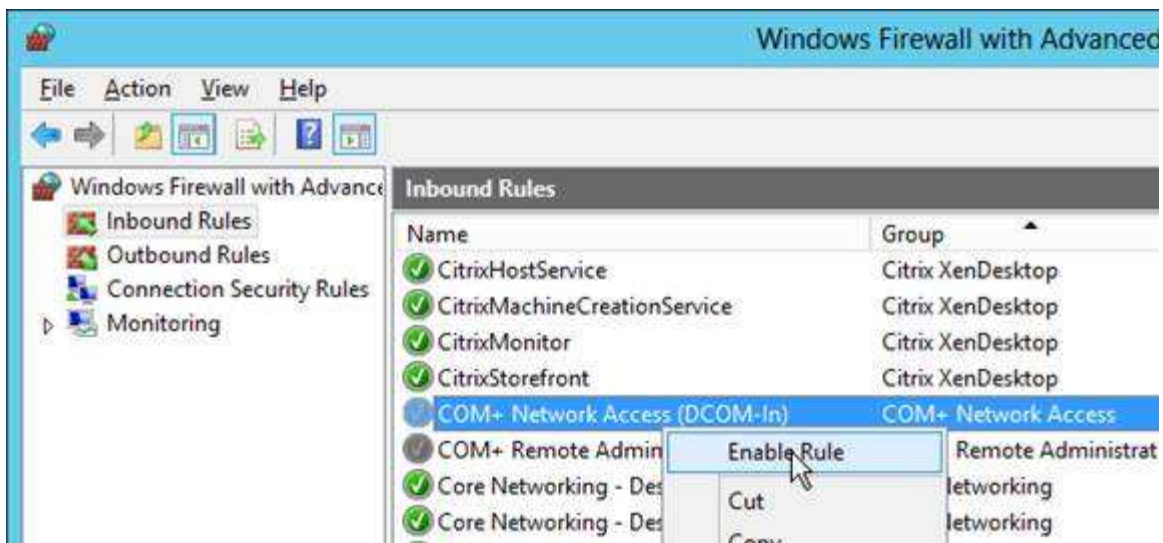


4. If Windows Firewall is enabled:

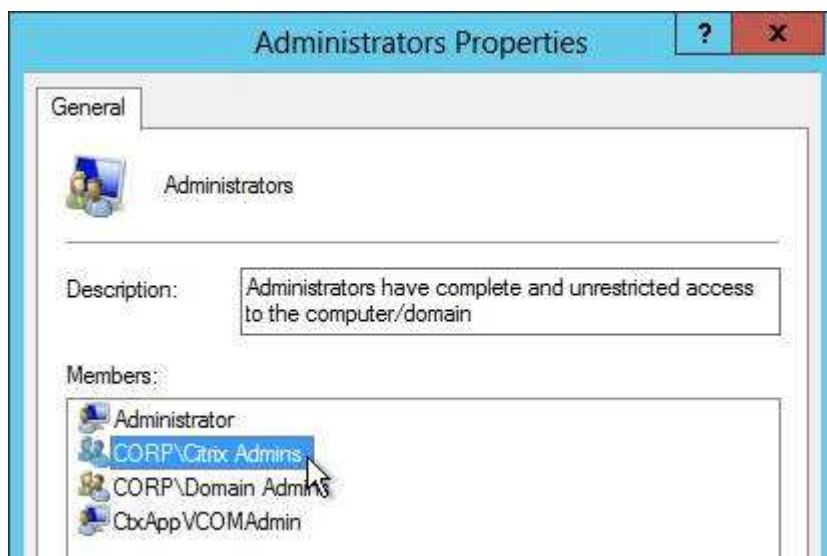
- a. Enable **File Sharing** so you can access the VDA remotely using SMB



- b. Enable **COM+ Network Access** and the three **Remote Event Log** rules so you can remotely manage the VDA.



5. Add your **Citrix Administrators** group to the local Administrators group on the VDA.



6. The Remote Desktop Services “**Prompt for Password**” policy prevents Single Sign-on to the Virtual Delivery Agent. Check registry key HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows NT\Terminal Services. If **fPromptForPassword** = 1 then you need to fix group policy. The following GPO setting will prevent Single Sign-on from working.

Computer Configuration Policies Administrative templates Windows Components Remotes Desktop Services Remote desktop Session Host Security Always prompt for password upon connection

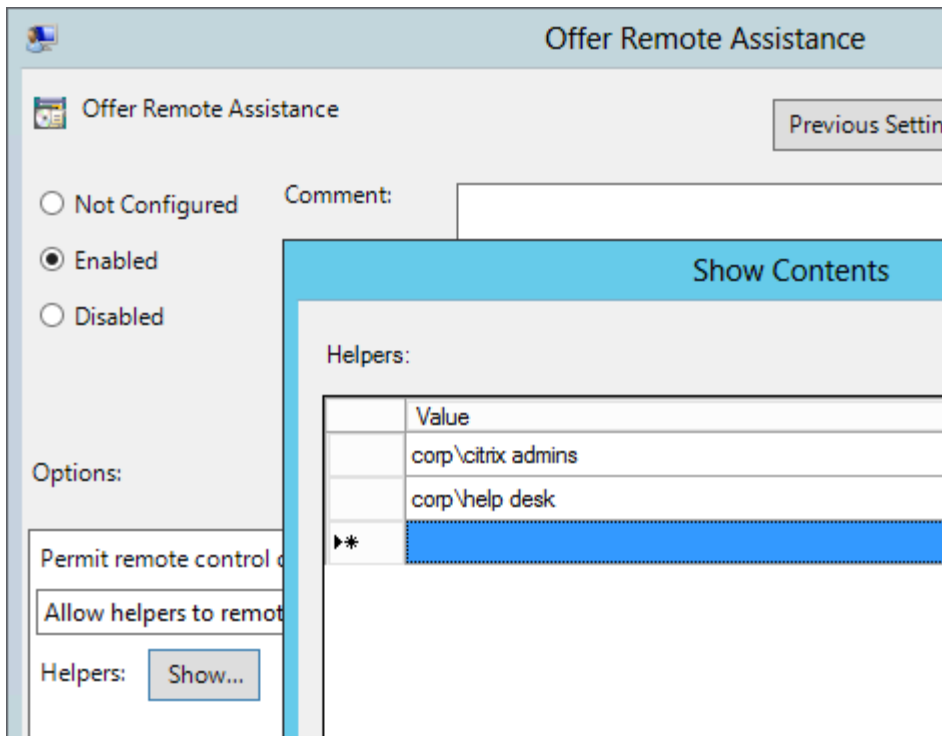
Or set the registry value HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\PorticaAutoLogon (DWORD) = 0x10.

7. For Windows 7 VDAs that will use **Personal vDisk**, install Microsoft hotfix 2614892 – [A computer stops responding because of a deadlock situation in the Mountmgr.sys driver](#). This hotfix solved a Personal vDisk Image update issue detailed at [Citrix Discussions](#).
8. If this VDA is Windows Server 2008 R2, request and install the **Windows hotfixes** recommended by Citrix [CTX129229](#). Scroll down to see the list of recommended Microsoft hotfixes for Windows Server 2008 R2. Ignore the XenApp 6.x portions of the article. Also see <http://www.carlstalhood.com/windows-server-2008-r2-post-sp1-hotfixes/>.

Microsoft Hotfixes (including links to Microsoft hotfix list)

Windows Server 2008 R2 SP1 contains most of the following hotfixes (exceptions noted inline). For a list of all Microsoft Hotfixes included in Windows Server 2008 R2 SP1, refer to: [Documentation for Windows 7 and Windows Server 2008 R2 Service Pack 1 \(KB976932\)](#) and click the download link for [WS08R2 SP1.xls](#). Microsoft has published the following KB article specific to Remote Desktop Services: [Available Updates for Remote Desktop Services \(Terminal Services\) in Windows Server 2008 R2](#).

9. To remove the **built-in apps in Windows 10**, see Robin Hobo [How to remove built-in apps in Windows 10 Enterprise](#).
10. For **Remote Assistance** in Citrix Director, configure the GPO setting **Computer Configuration | Policies | Administrative Templates | System | Remote Assistance | Offer Remote Assistance**. See Jason Samuel – [How to setup Citrix Director Shadowing with Remote Assistance using Group Policy](#) for more details.



11. If you intend to use Citrix's SCOM Management Packs for XenApp/XenDesktop, make sure WinRM is enabled on the VDA by running **winrm quickconfig**.

```

Select Administrator: Command Prompt

The client cannot connect to the destination specified in the request. Verify that the server is running and is accepting requests. Consult the logs and documentation for the WS-Management service, most commonly IIS or WinRM. If the destination is the WinRM service, run the following command to analyze and configure the WinRM service: "winrm quickconfig".

C:\Windows\system32>winrm quickconfig
WinRM is not set up to receive requests on this machine.
The following changes must be made:

Start the WinRM service.
Set the WinRM service type to delayed auto start.
Make these changes [y/n]? y
WinRM has been updated to receive requests.

WinRM service type changed successfully.
WinRM service started.
WinRM is not set up to allow remote access to this machine for management.
The following changes must be made:

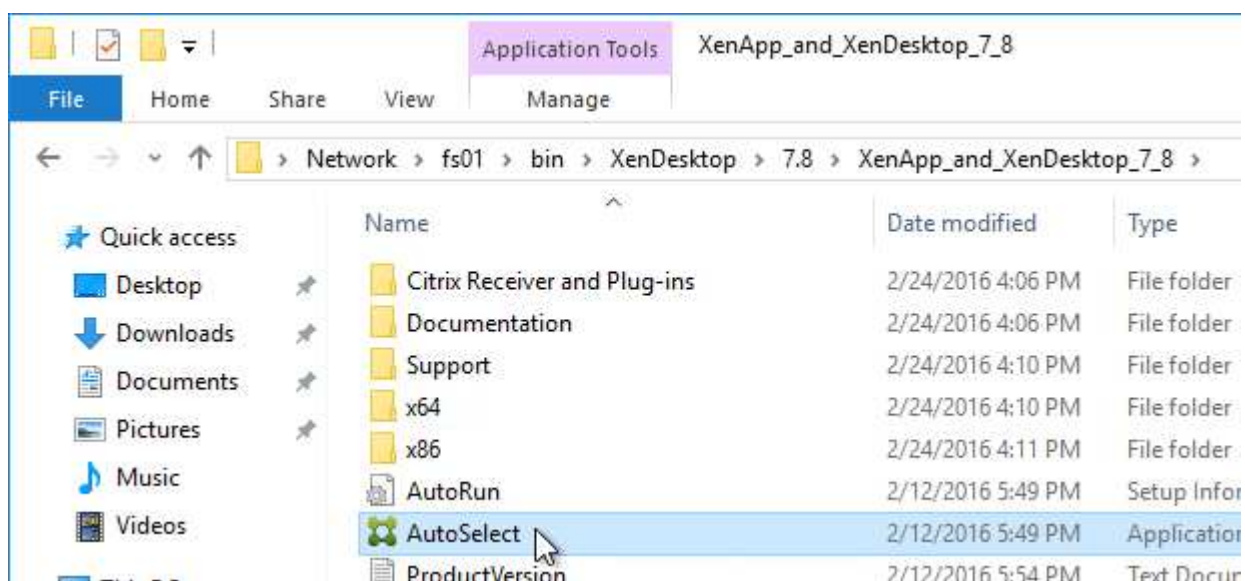
Create a WinRM listener on HTTP://* to accept WS-Man requests to any IP on this machine.
Enable the WinRM firewall exception.
Make these changes [y/n]? y
WinRM has been updated for remote management.

Created a WinRM listener on HTTP://* to accept WS-Man requests to any IP on this machine.
WinRM firewall exception enabled.

```

Install Virtual Delivery Agent 7.8

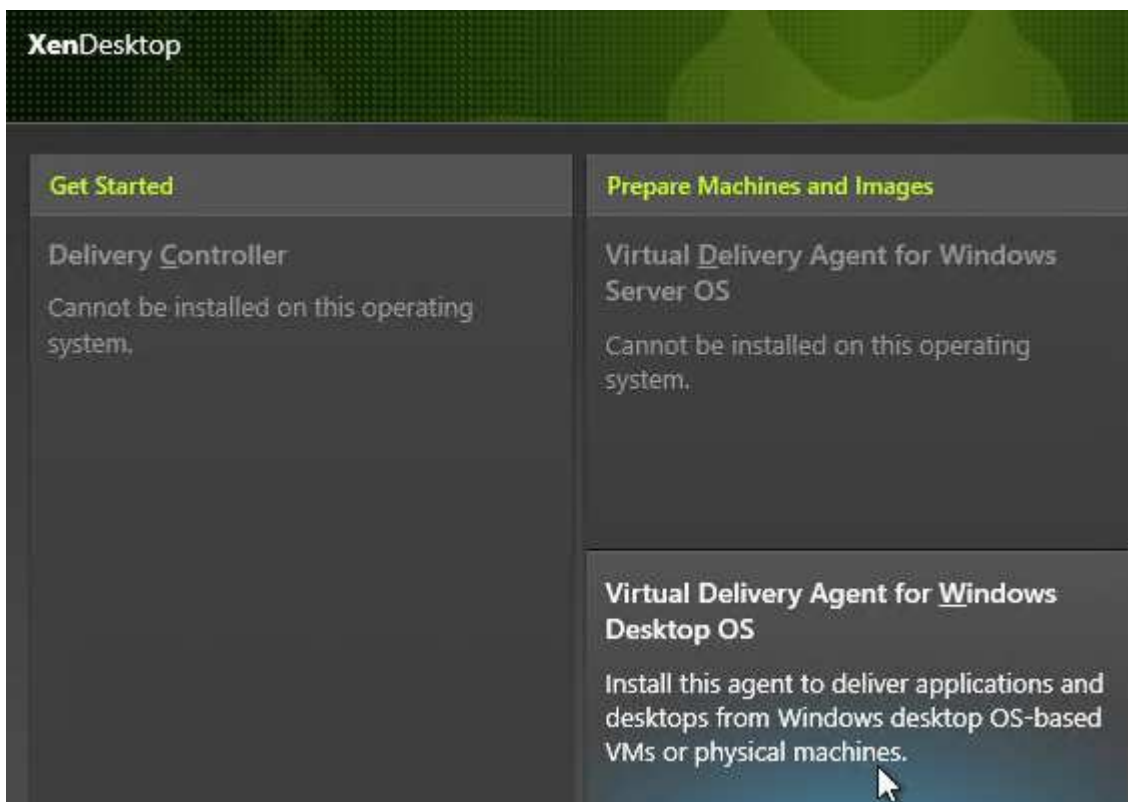
1. For virtual desktops, make sure you are logged into the console. The VDA won't install if you are connected using RDP.
2. Make sure 8.3 file name generation is not disabled. If so, see [CTX131995 User Cannot Launch Application in Seamless Mode](#) to fix the AppInit_DLLs registry keys.
3. Make sure .NET Framework 4.5.1 is installed.
4. [CTX212981 Error Upgrading VDA on Server 2012 R2 from 7.7 to 7.8](#) – uninstall Microsoft hot-fixes KB3092630, KB3139923 & KB3075249. Also see [Citrix VDA Upgrade issues](#) by THOMAS KÖTZING
5. Go to the downloaded XenDesktop 7.8 ([XenDesktop Platinum](#), [XenDesktop Enterprise](#), [XenApp Platinum](#), or [XenApp Enterprise](#)) .iso file and run **AutoSelect.exe**. Alternatively, you can download the standalone VDA package and run that instead.



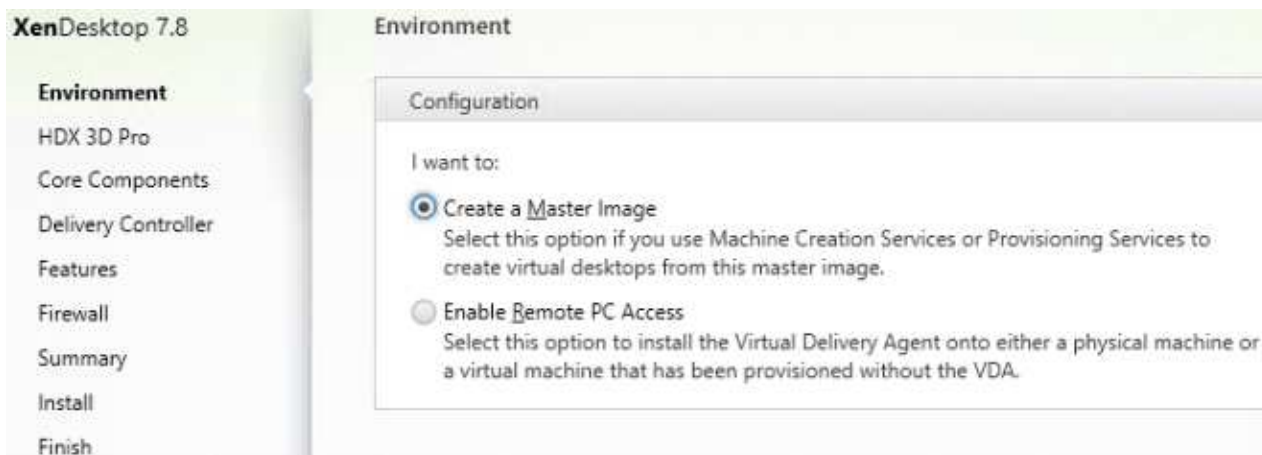
6. Click **Start** next to either XenApp or XenDesktop. The only difference is the product name displayed in the installation wizard.



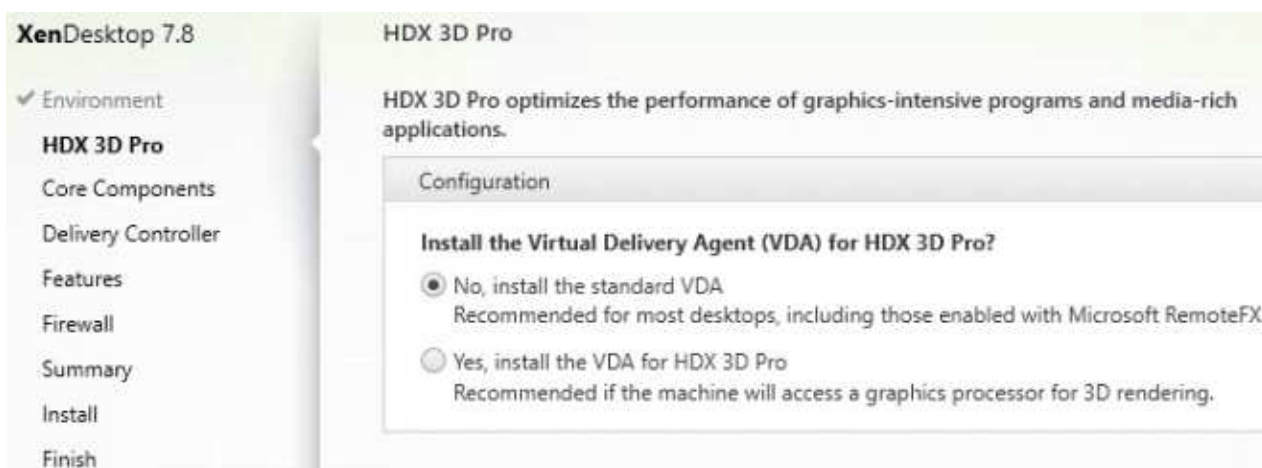
7. Click **Virtual Delivery Agent for Windows Desktop OS** or **Windows Server OS** depending on which type of VDA you are building.



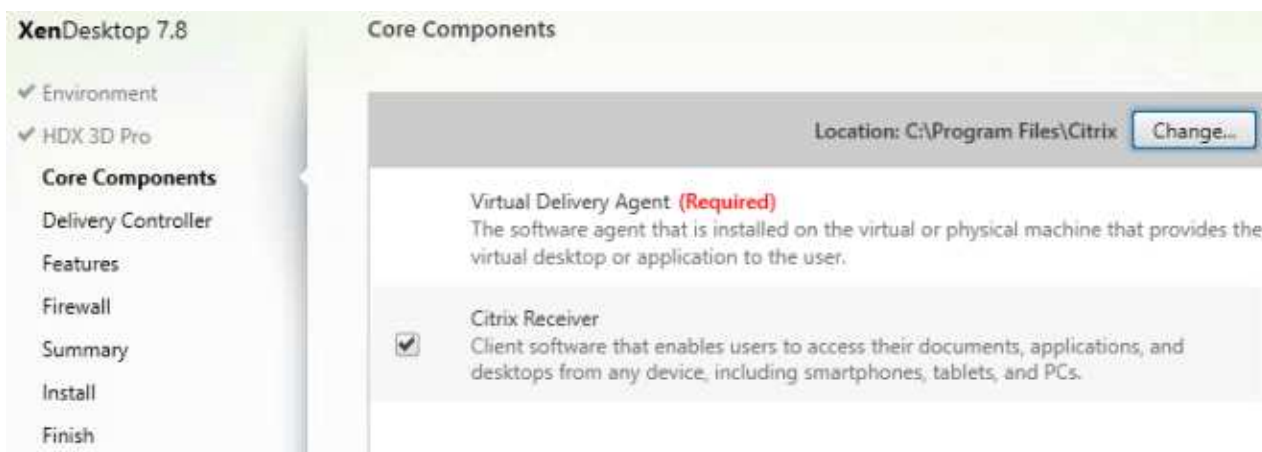
8. In the *Environment* page, select **Create a Master Image** and click **Next**.



9. For virtual desktops, in the *HDX 3D Pro* page, click **Next**.



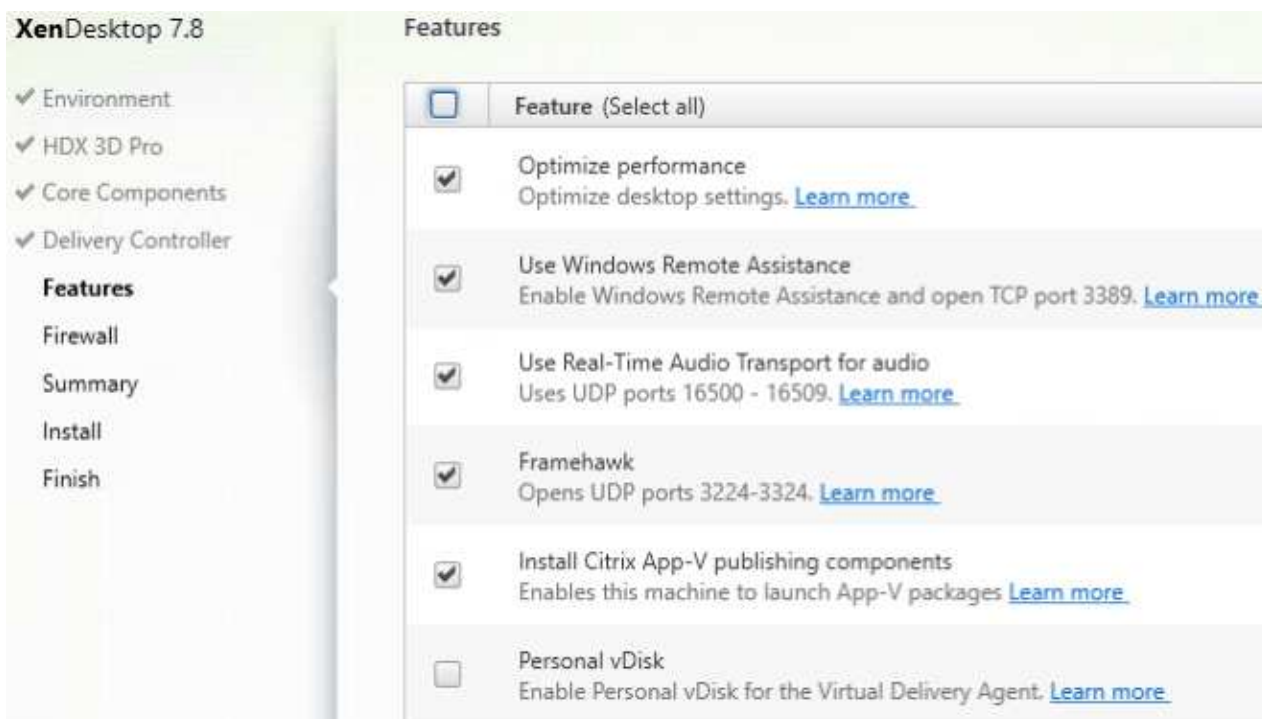
10. In the *Core Components* page, if you don't need Citrix Receiver installed on your VDA then uncheck the box. Click **Next**.



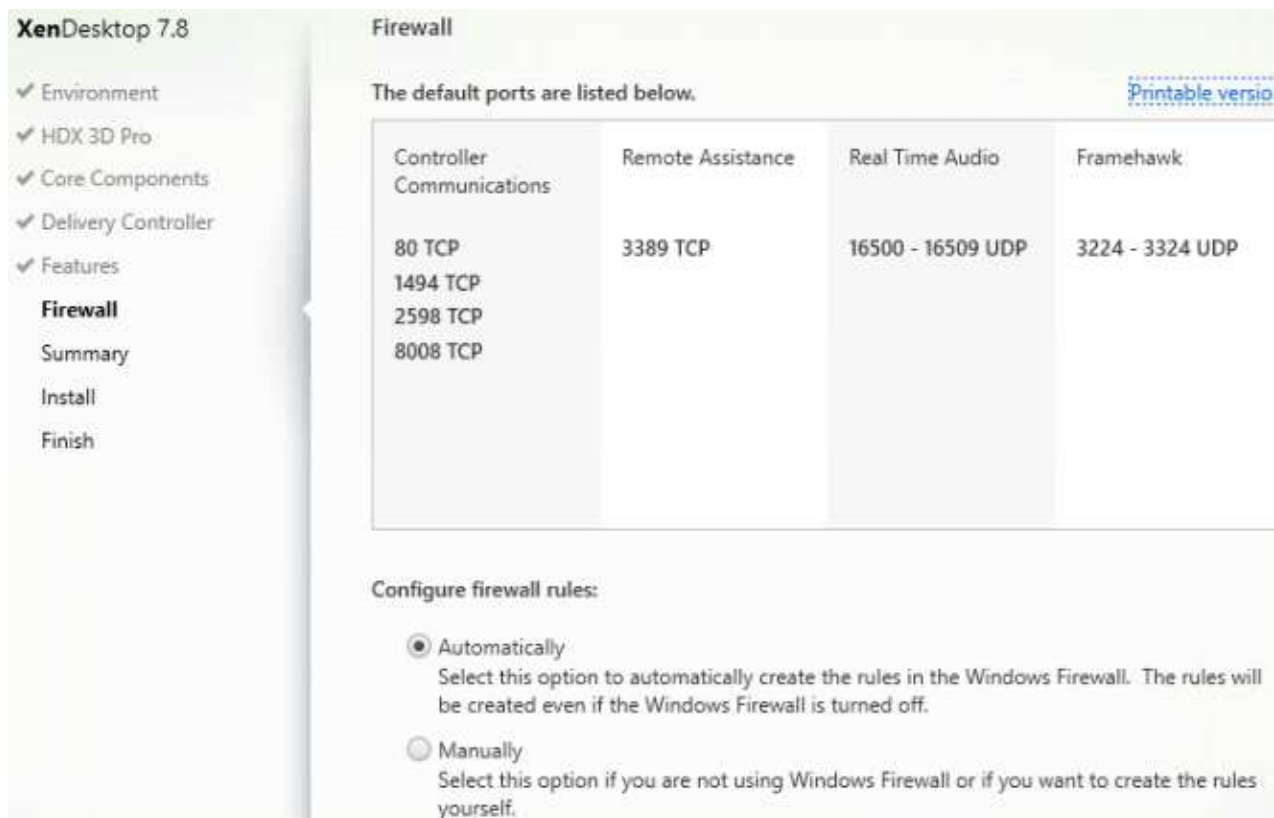
11. In the *Delivery Controller* page, select **Do it manually**. Enter the FQDN of each Controller. Click **Test connection**. And then make sure you click **Add**. Click **Next** when done.



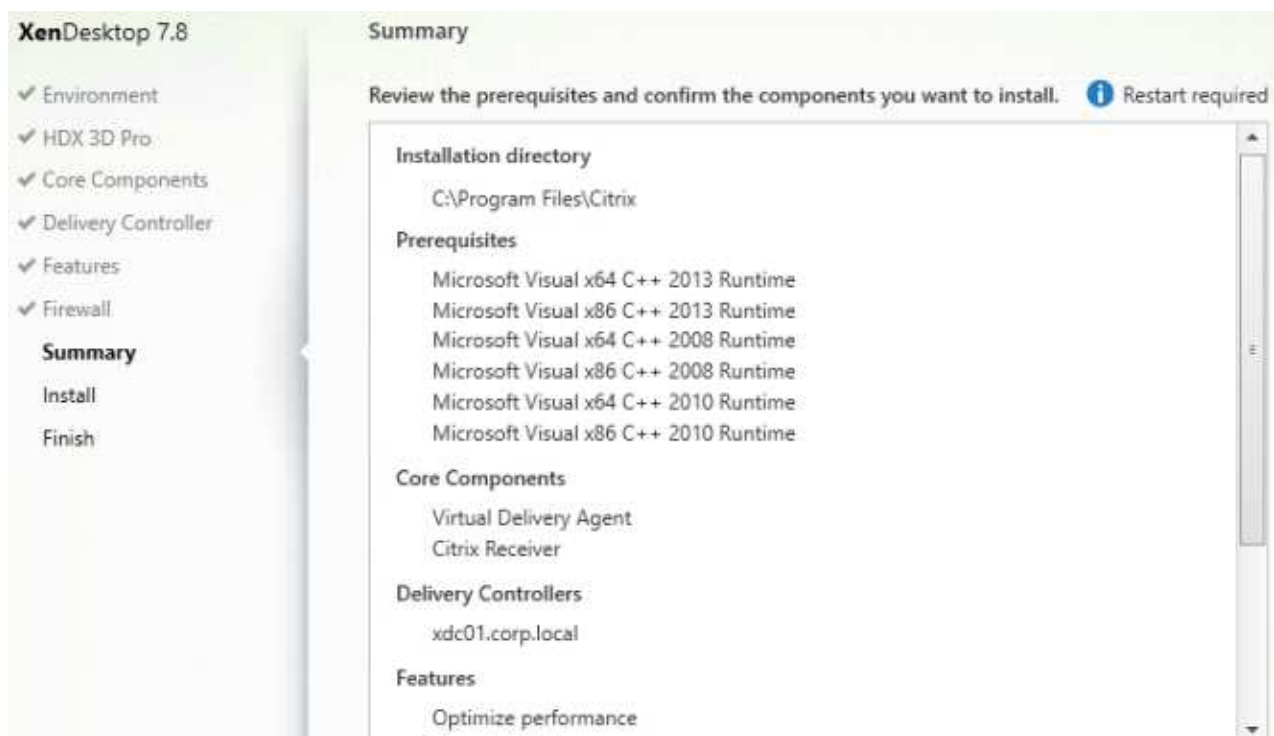
12. In the *Features* page, click **Next**. If this is a virtual desktop, you can leave Personal vDisk unchecked now and enable it later.



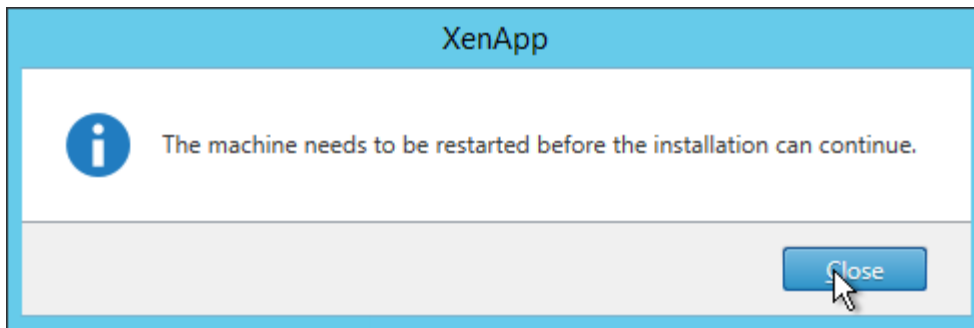
13. In the *Firewall* page, click **Next**.



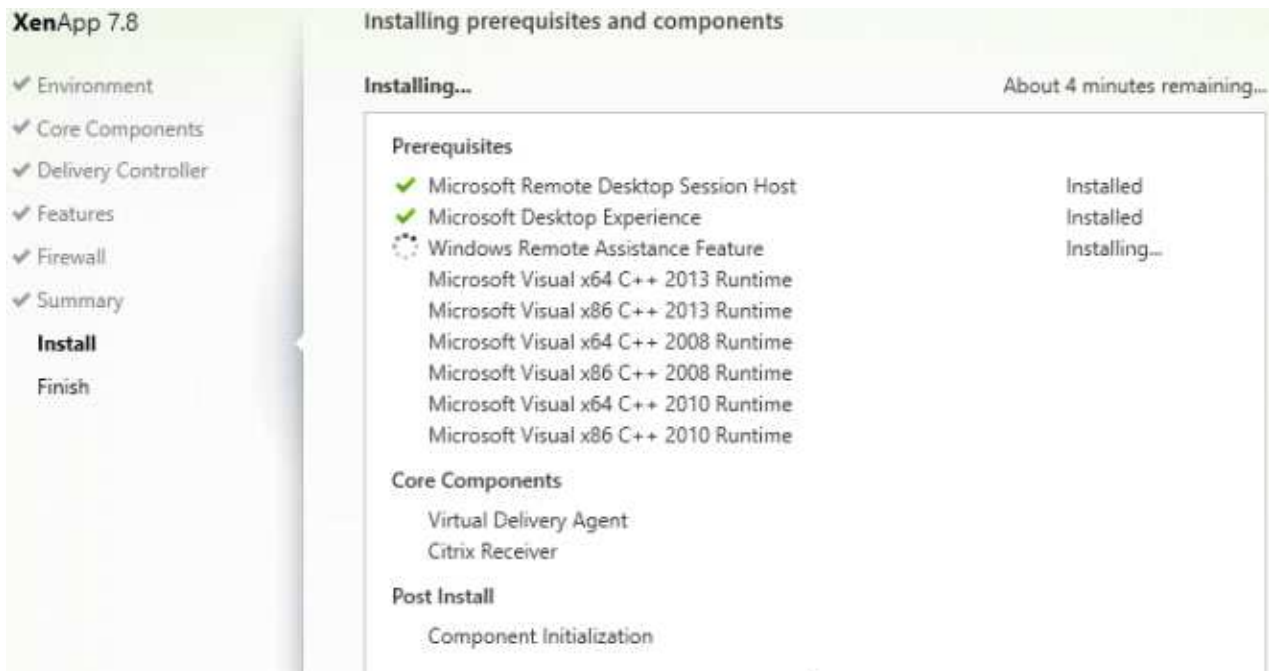
14. In the *Summary* page, click **Install**.



15. For RDSH, click **Close** when you are prompted to restart.

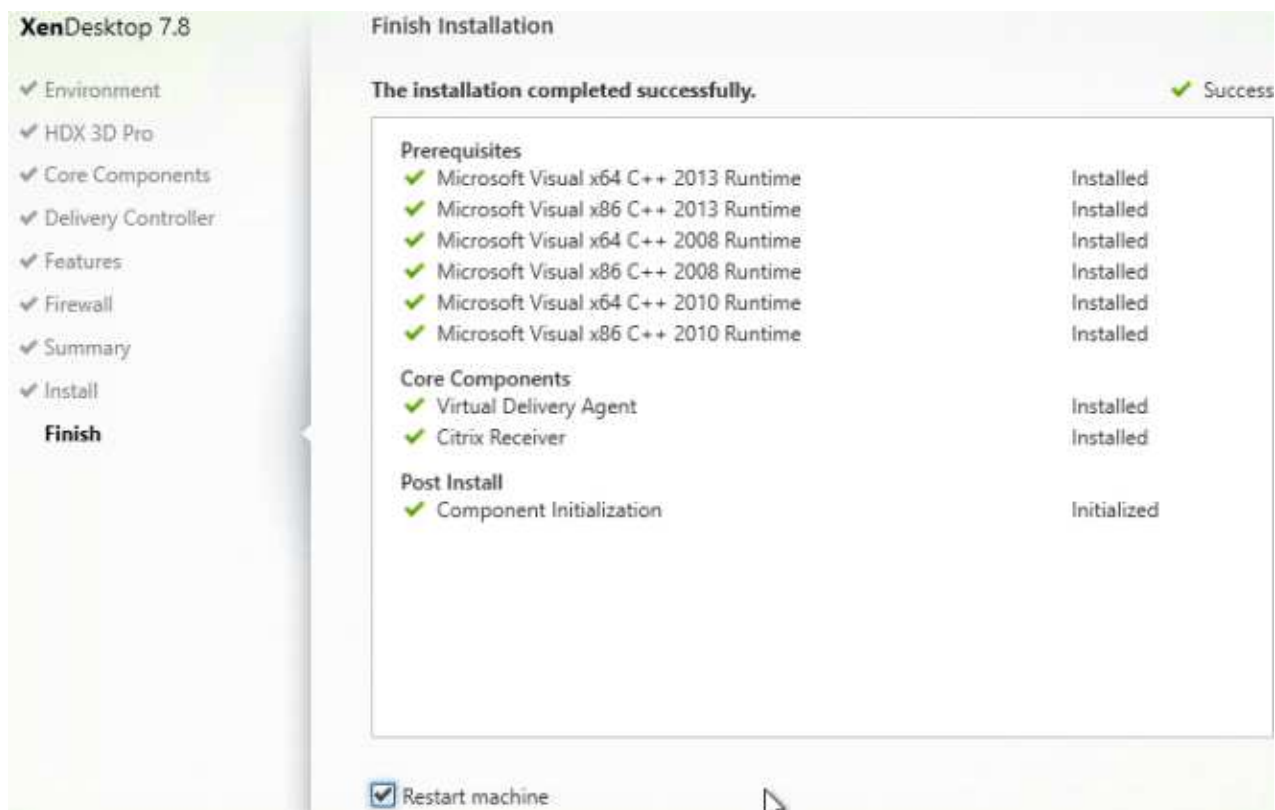


16. After the machine reboots twice, login and installation will continue.

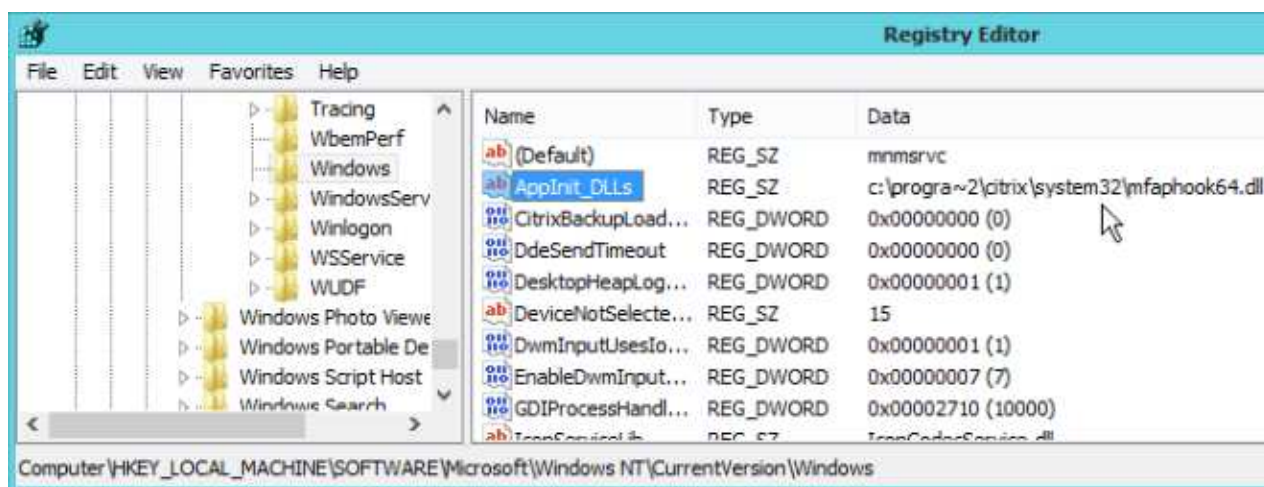


17. Note: **NT SERVICE\CitrixTelemetryService** needs permission to login as a service.

18. After installation, click **Finish** to restart the machine again.



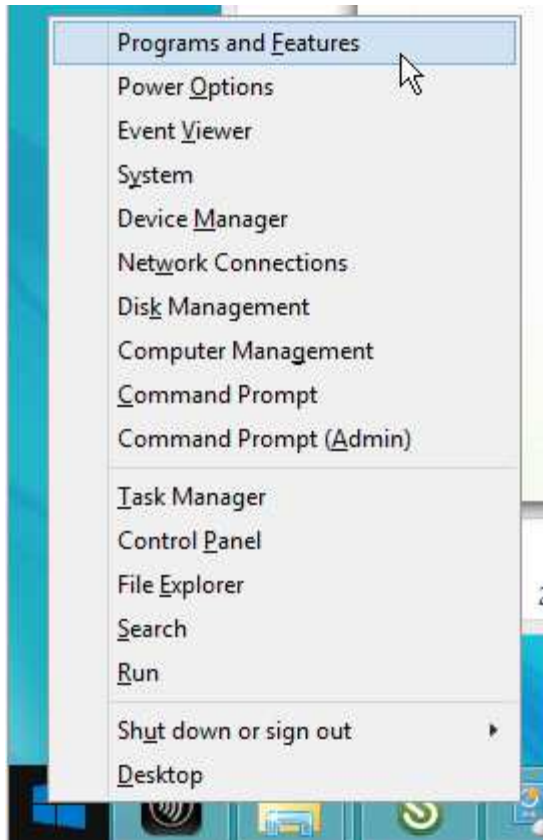
19. If 8.3 file name generation is disabled, see [CTX131995 User Cannot Launch Application in Seamless Mode](#) to fix the AppInit_DLLs registry keys.



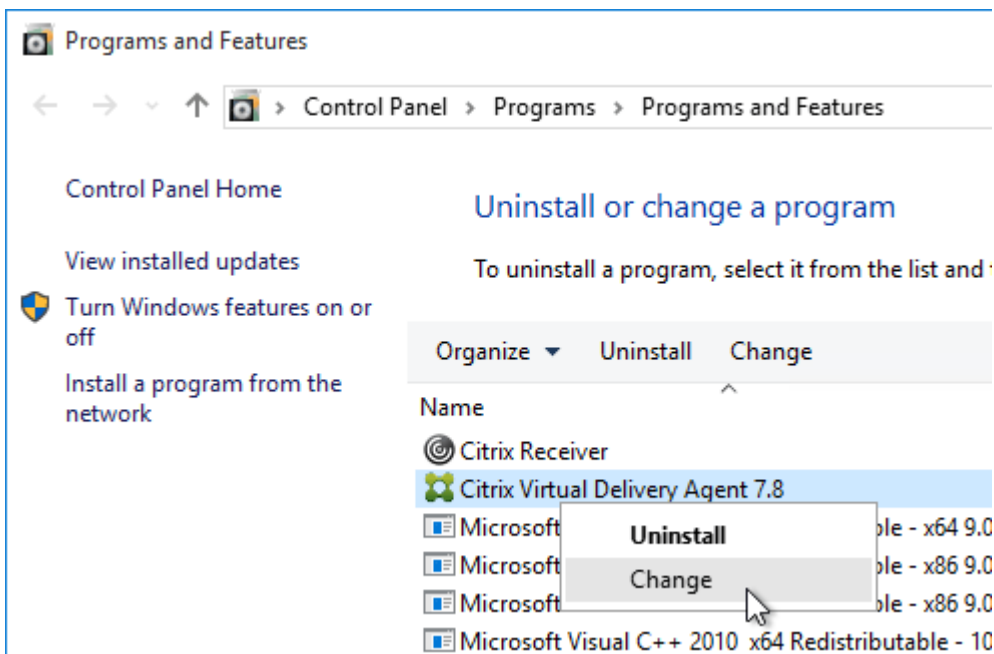
Controller Registration Port

Some environments will not accept the default port 80 for Virtual Delivery Agent registration. To change the port, do the following on the Virtual Delivery Agent:

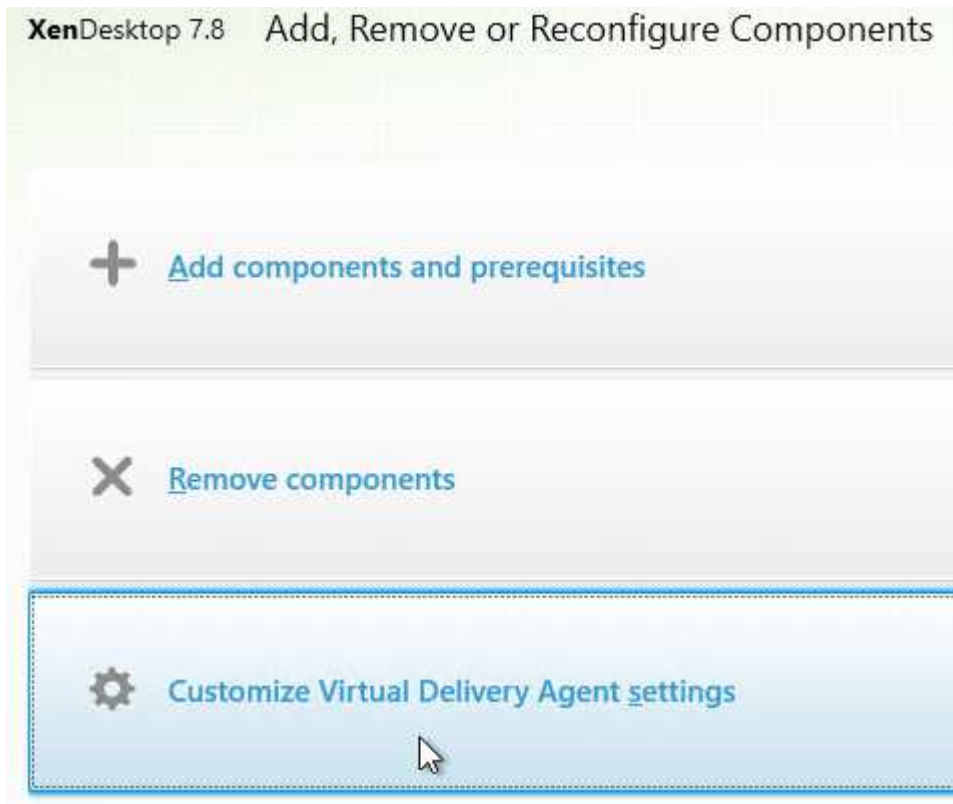
1. Open **Programs and Features**.



2. Find **Citrix Virtual Delivery Agent** and click **Change**.



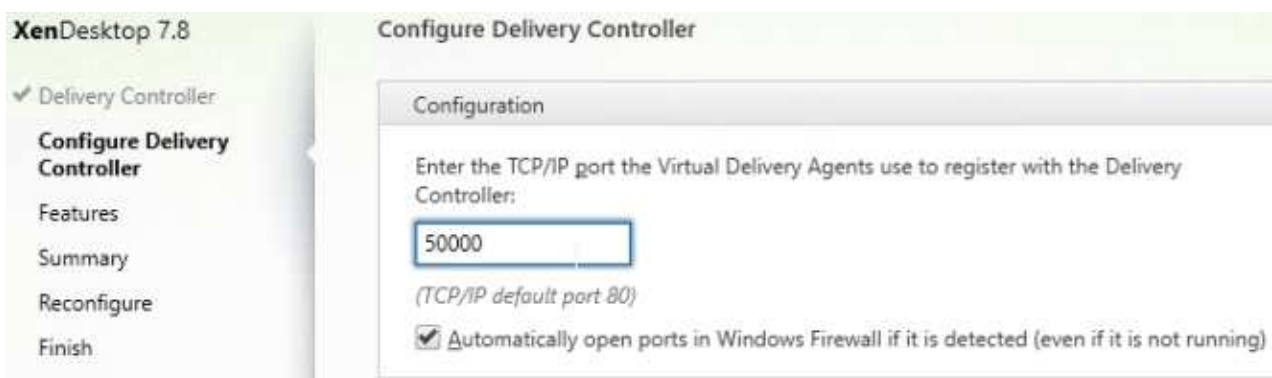
3. Click **Customize Virtual Delivery Agent Settings**.



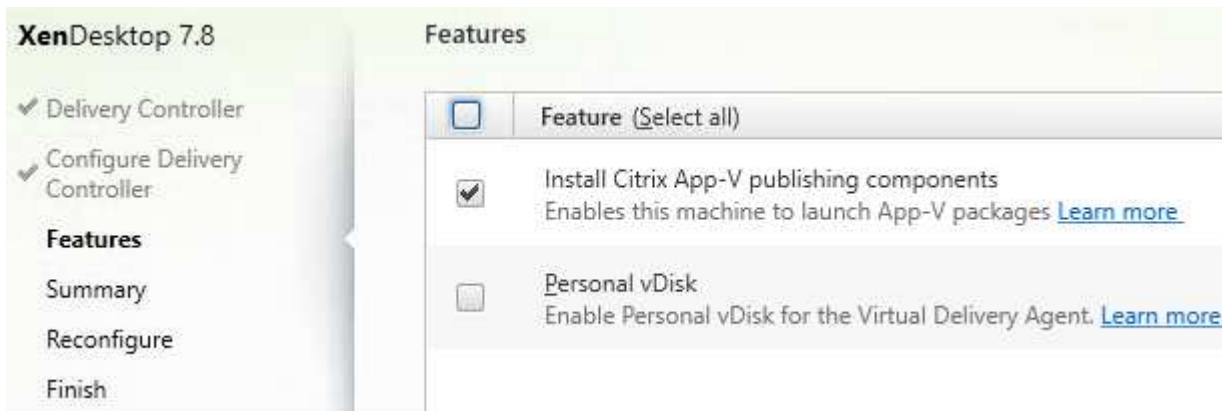
4. Edit the Delivery Controllers and click **Next**.



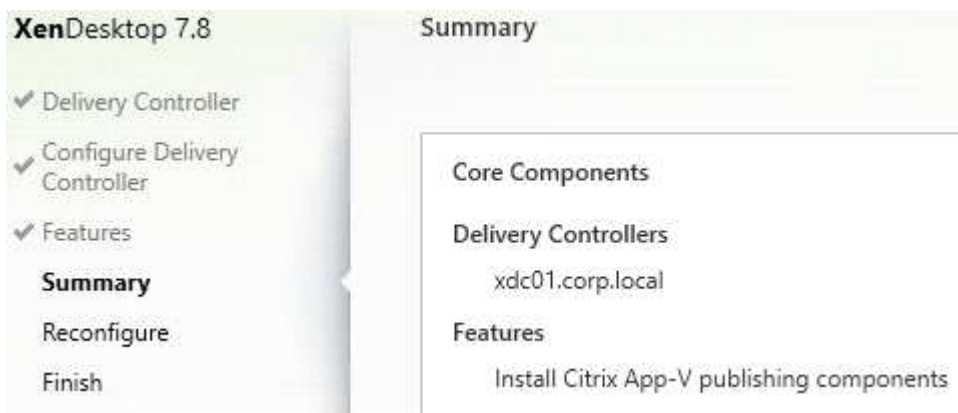
5. On the **Configure Delivery Controller** page, change the port number and click **Next**.



6. In the **Features** page, click **Next**.



7. In the **Summary** page, click **Reconfigure**.



8. In the **Finish Reconfiguration** page, click **Finish**.

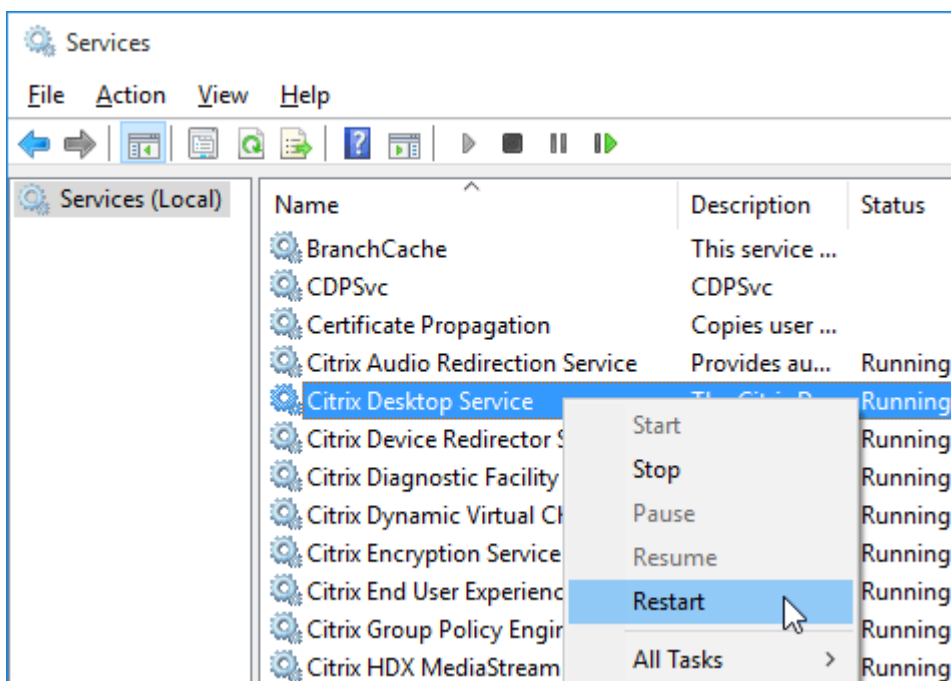


9. Verify that the registry values **WCF_Port** and **ControllerRegistrarPort** were changed to the new port as detailed at [unable to change VDA registration port in XD 7.8/VDA 7.8 at Citrix Discussions](#). 💡

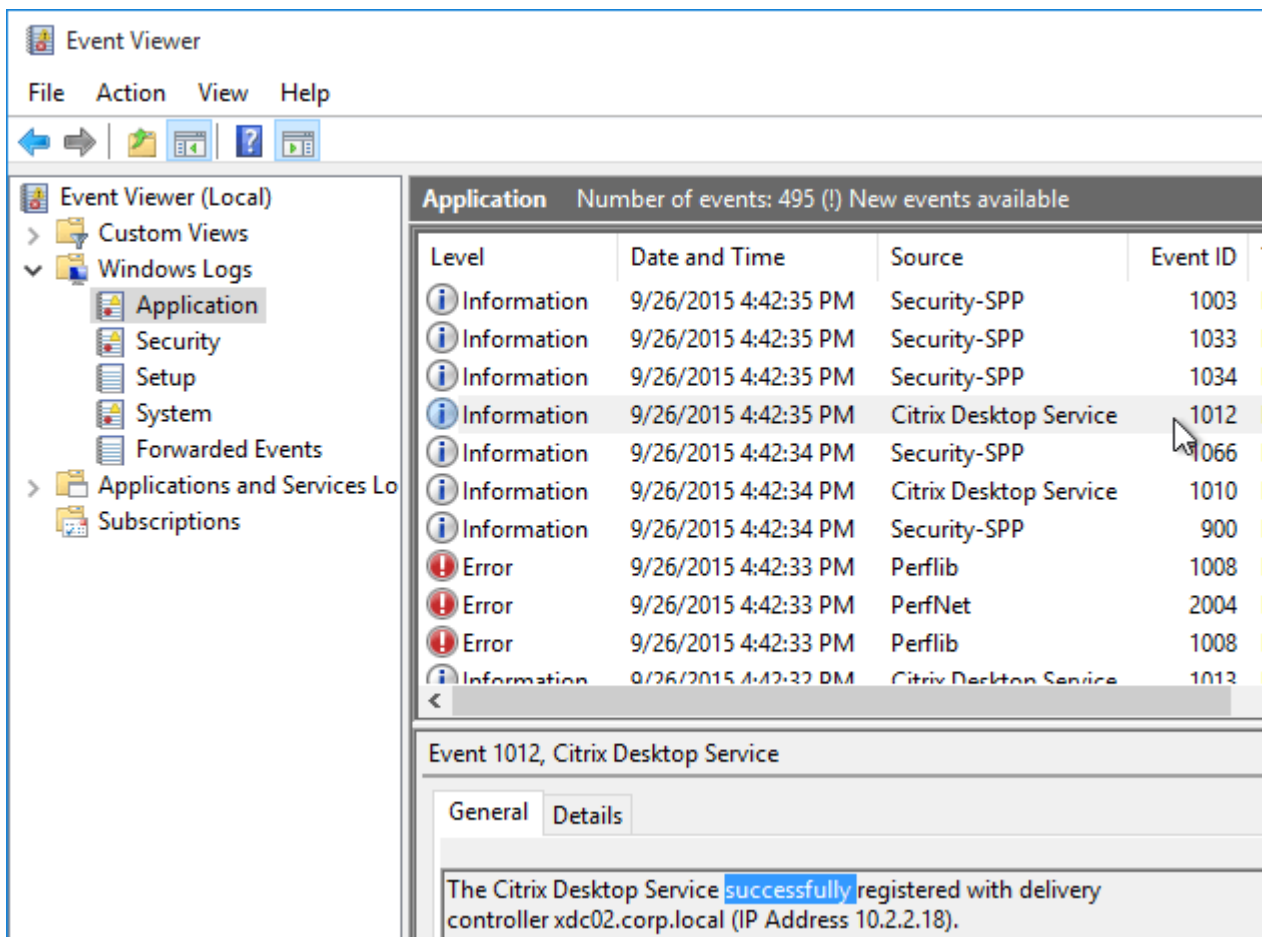
10. You must also change the VDA registration port on the Controllers by running `BrokerService.exe /VDAPort`.

Controller Registration – Verify

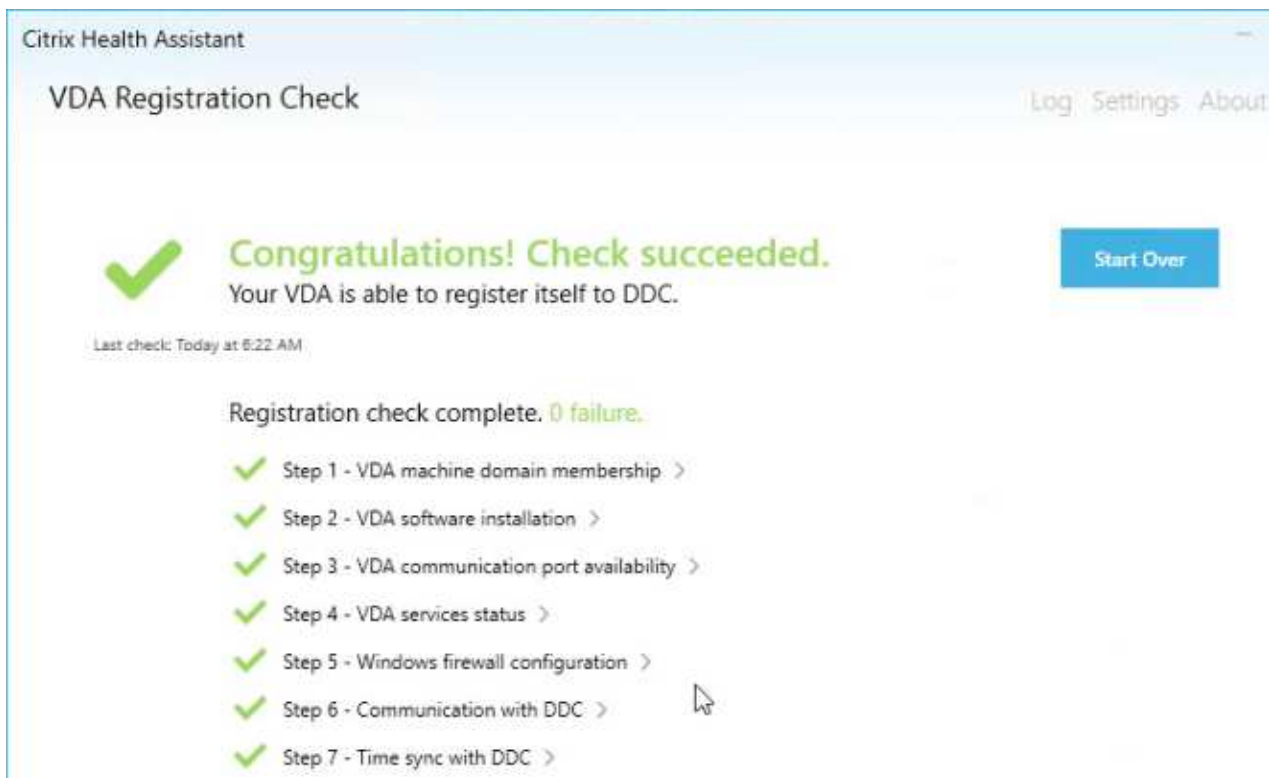
1. If you restart the Virtual Delivery Agent machine or restart the **Citrix Desktop Service**...



2. In Windows Logs Application log, you should see an event 1012 from Citrix Desktop Service saying that it successfully registered with a controller. If you don't see this then you'll need to fix the ListOfDDCs registry key.



3. You can also run Citrix's Health Assistant on the VDA.



Call Home

VDA 7.8 has a new Telemetry Service to collect diagnostics info. You can run PowerShell commands to enable the service and schedule automatic uploads to Citrix Insight Services.

```
PS C:\Windows\system32> gcm *callhome*
```

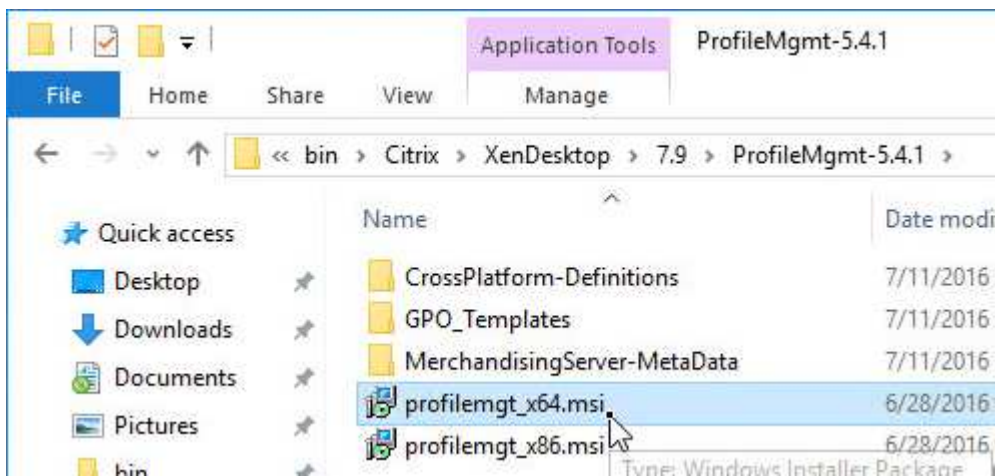
CommandType	Name	Version	Source
Cmdlet	Disable-CitrixCallHome	1.5.0.0	TelemetryModule
Cmdlet	Enable-CitrixCallHome	1.5.0.0	TelemetryModule
Cmdlet	Get-CitrixCallHome	1.5.0.0	TelemetryModule
Cmdlet	Get-CitrixCallHomeSchedule	1.5.0.0	TelemetryModule
Cmdlet	Set-CitrixCallHomeSchedule	1.5.0.0	TelemetryModule

See Citrix Blog Post [Citrix Call Home Technology Preview](#) for details.

Profile Management 5.4.1

Warning: If you are upgrading and have existing Windows 2012 R2 profiles based on the !CTX_OS-NAME! variable, see <http://discussions.citrix.com/topic/374111-psa-upm-54-ctx-osname-server-2012-value-change/> for why your profiles might stop working.

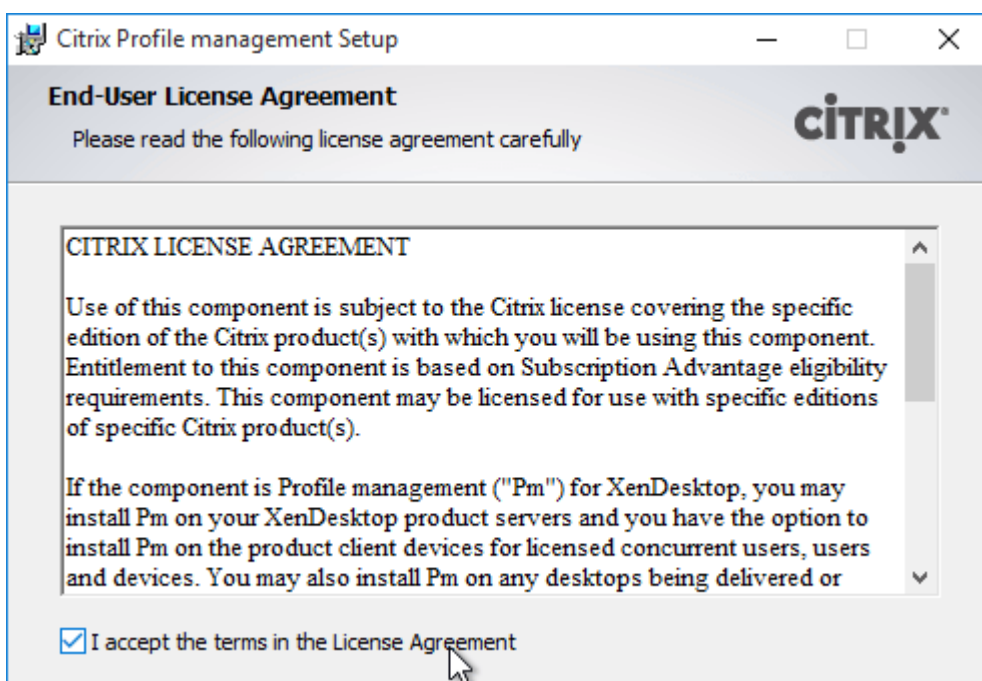
1. Go to the downloaded Profile Management 5.4.1 and run **profilemgt_x64.msi**.



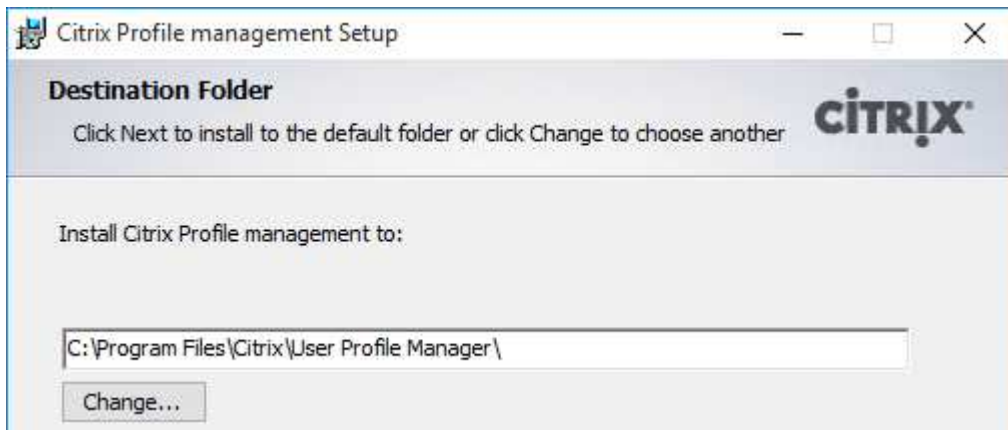
2. In the *Welcome to the Citrix Profile Management Setup Wizard* page, click **Next**.



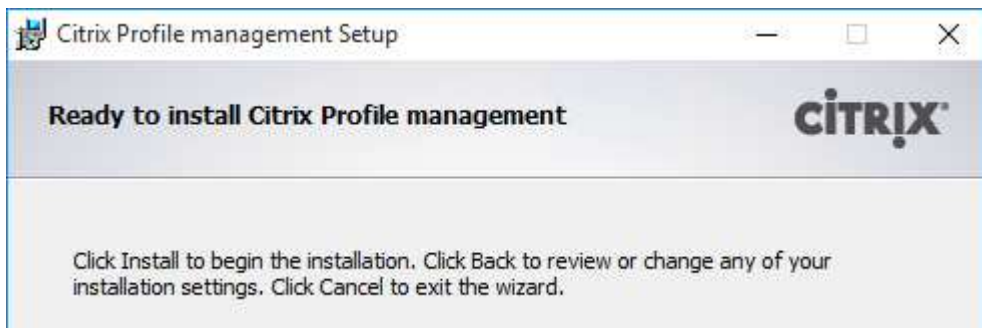
3. In the *End-User License Agreement* page, check the box next to **I accept the terms in the License Agreement** and click **Next**.



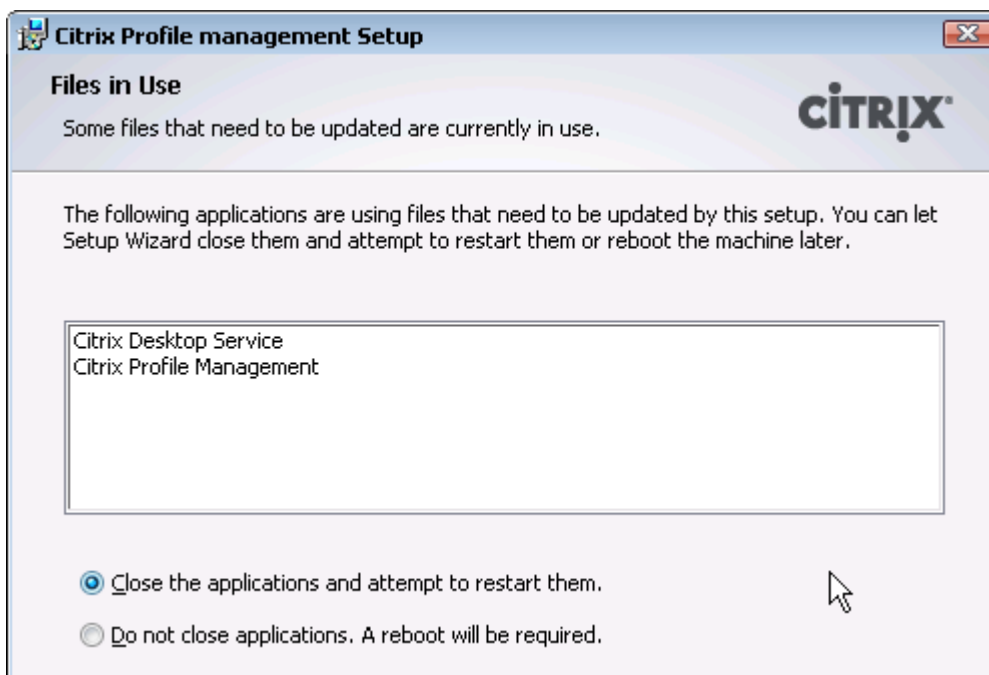
4. In the *Destination Folder* page, click **Next**.



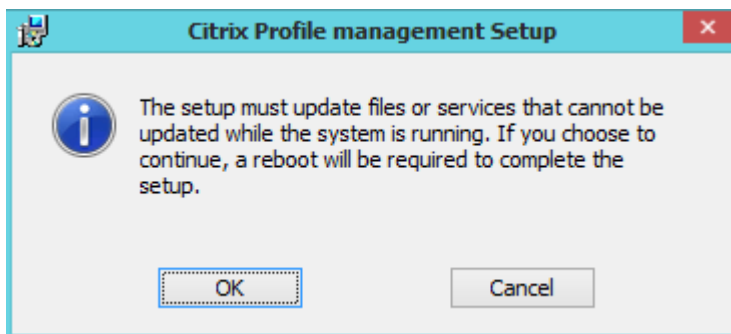
5. In the *Ready to install Citrix Profile Management* page, click **Install**.



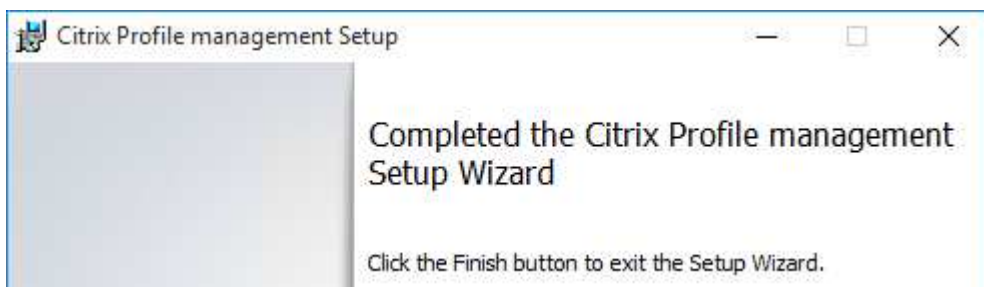
6. If you see *Files in Use*, click **OK**.



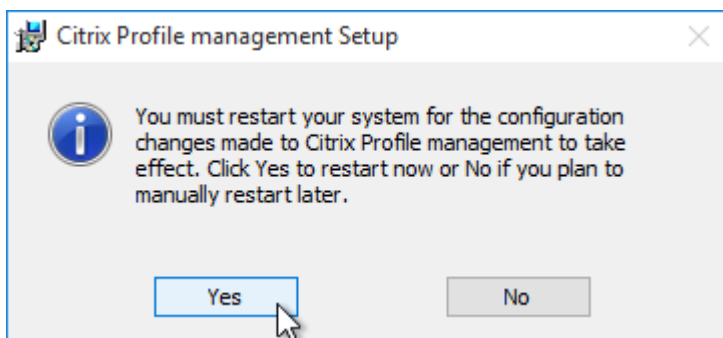
7. Click **OK** to continue the installation.



8. In the *Completed the Citrix Profile Management Setup Wizard* page, click **Finish**.



9. Click **Yes** when prompted to restart.



10. UPM 5.4.1 breaks Logon Duration in Citrix Director. To fix it, run the following commands:

```
C:\Windows\Microsoft.NET\Framework64\v4.0.30319\installutil.exe "C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiMetrics.dll"
```

```
C:\Windows\Microsoft.NET\Framework64\v4.0.30319\installutil.exe "C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiAdmin.dll"
```

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.10240]
(c) 2015 Microsoft Corporation. All rights reserved.

C:\Windows\system32>C:\Windows\Microsoft.NET\Framework64\v4.0.30319\installutil.exe
"C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiMetrics.dll"
Microsoft (R) .NET Framework Installation utility Version 4.6.79.0
Copyright (C) Microsoft Corporation. All rights reserved.

Running a transacted installation.

Beginning the Install phase of the installation.
See the contents of the log file for the C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiMetrics.dll assembly's progress.
The file is located at C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiMetrics.InstallLog.
Installing assembly 'C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiMetrics.dll'.
Affected parameters are:
  logtoconsole =
  assemblypath = C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiMetrics.dll
  logfile = C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiMetrics.InstallLog
**** WMI schema install start ****
**** WMI schema install start ****
**** WMI schema install end ****
```

```
The Commit phase completed successfully.
The transacted install has completed.

C:\Windows\system32>C:\Windows\Microsoft.NET\Framework64\v4.0.30319\installutil.exe
"C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiAdmin.dll"
Microsoft (R) .NET Framework Installation utility Version 4.6.79.0
Copyright (C) Microsoft Corporation. All rights reserved.

Running a transacted installation.

Beginning the Install phase of the installation.
See the contents of the log file for the C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiAdmin.dll assembly's progress.
The file is located at C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiAdmin.InstallLog.
Installing assembly 'C:\Program Files\Citrix\Virtual Desktop Agent\upmWmiAdmin.dll'.
```

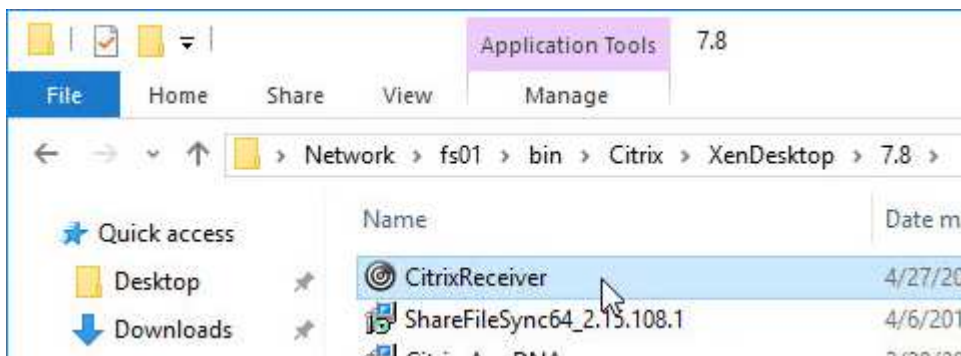
11. See the [Profile Management](#) page for configuration instructions.

Upgrade to Receiver 4.4.2000

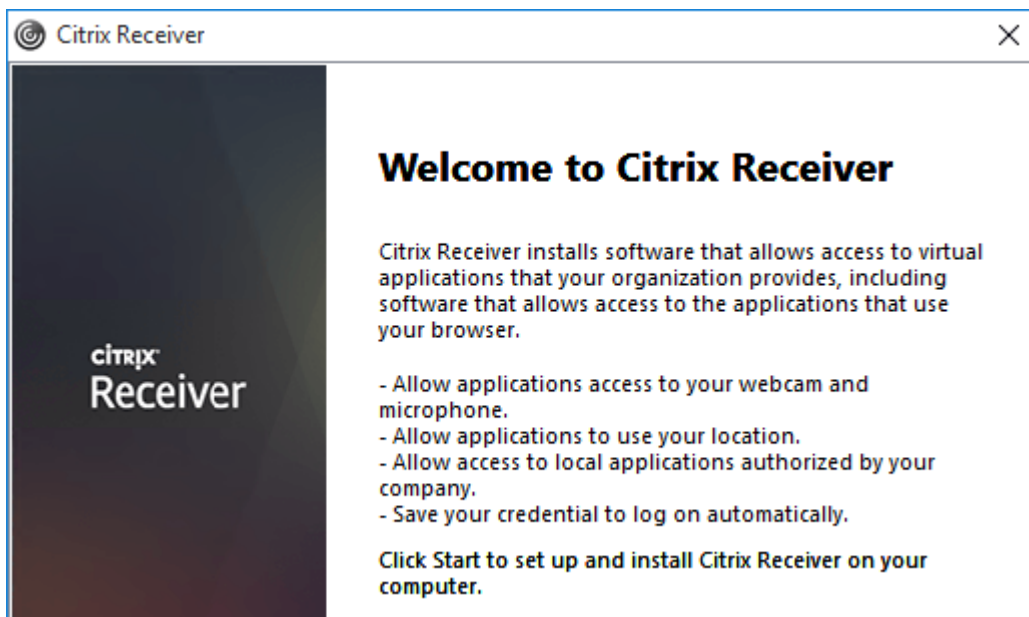
VDA 7.8 does not include this update.

If Receiver is installed on your VDA, upgrade it to version 4.4.2000 💡

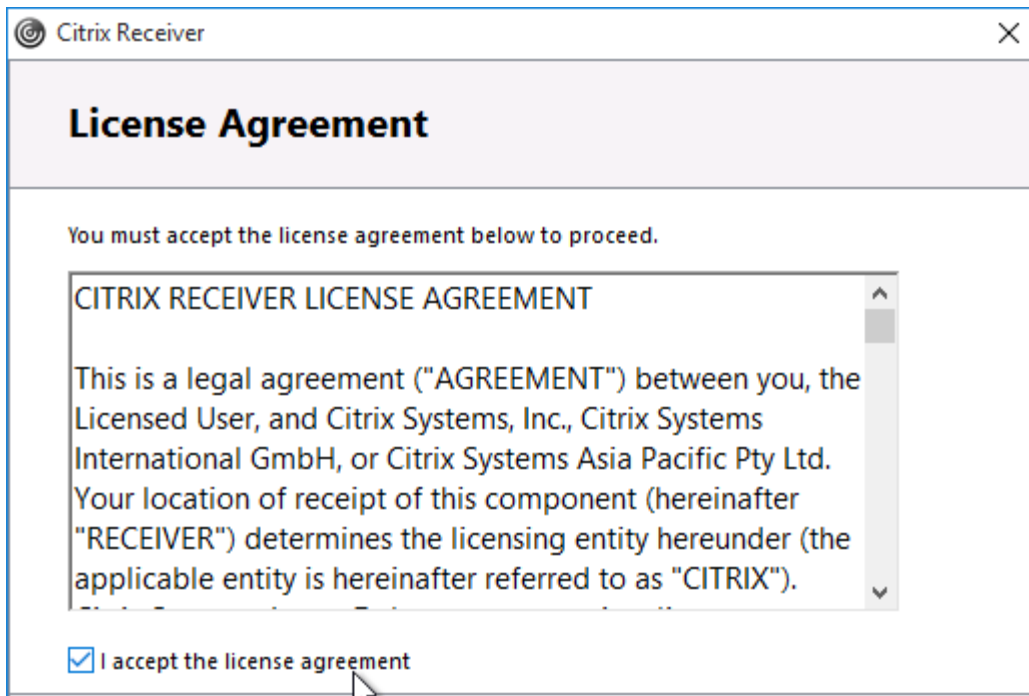
1. Go to the downloaded Receiver 4.4.2000 and run **CitrixReceiver.exe**.



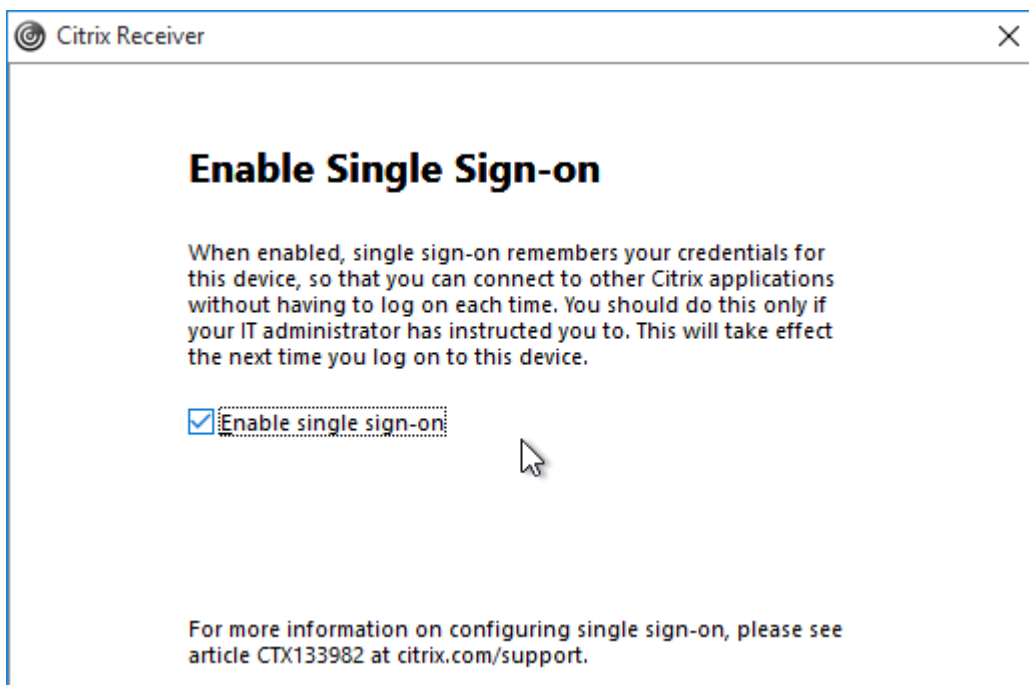
2. In the *Welcome to Citrix Receiver* page, click **Start**.



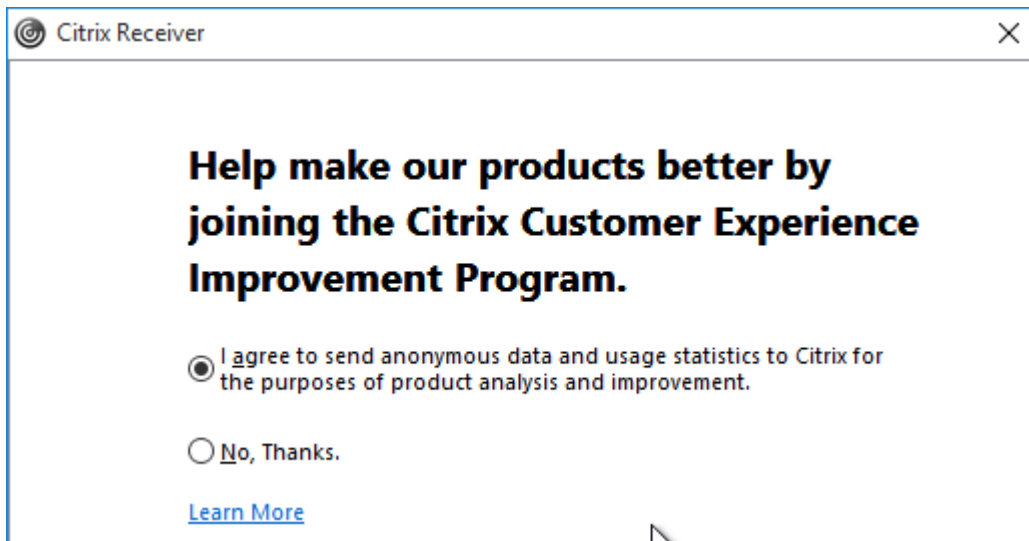
3. In the *License Agreement* page, check the box next to **I accept the license agreement** and click **Next**.



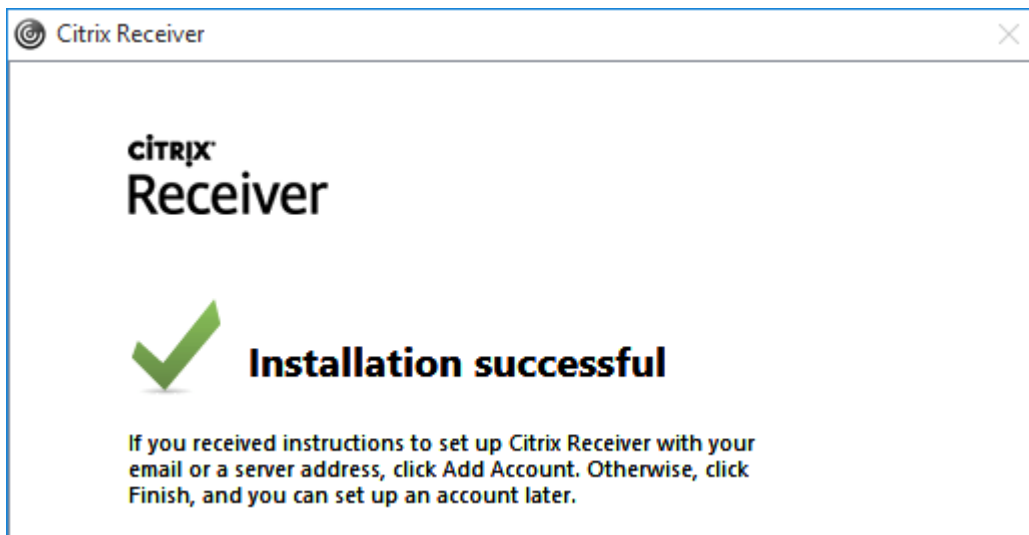
4. If you see the *Enable Single Sign-on* page, check the box next to **Enable Single Sign-on** and click **Next**.



5. In the *Help make our products better* page, make your selection and click **Install**.



6. After installation, click **Finish**.

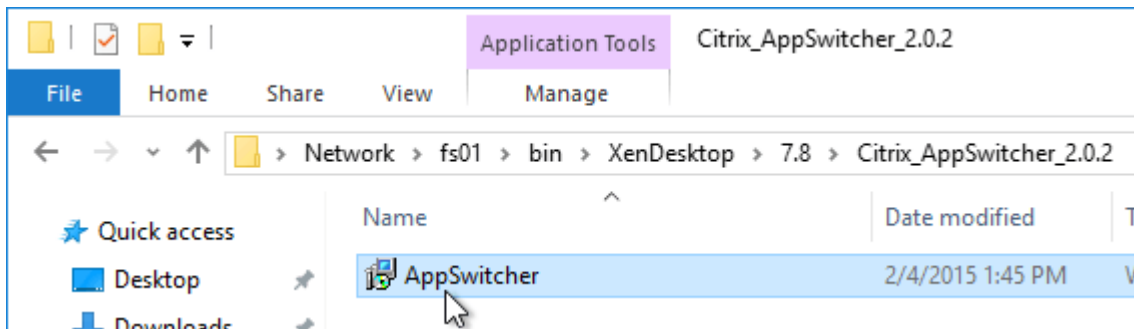


7. See the [Receiver page](#) for configuration instructions.

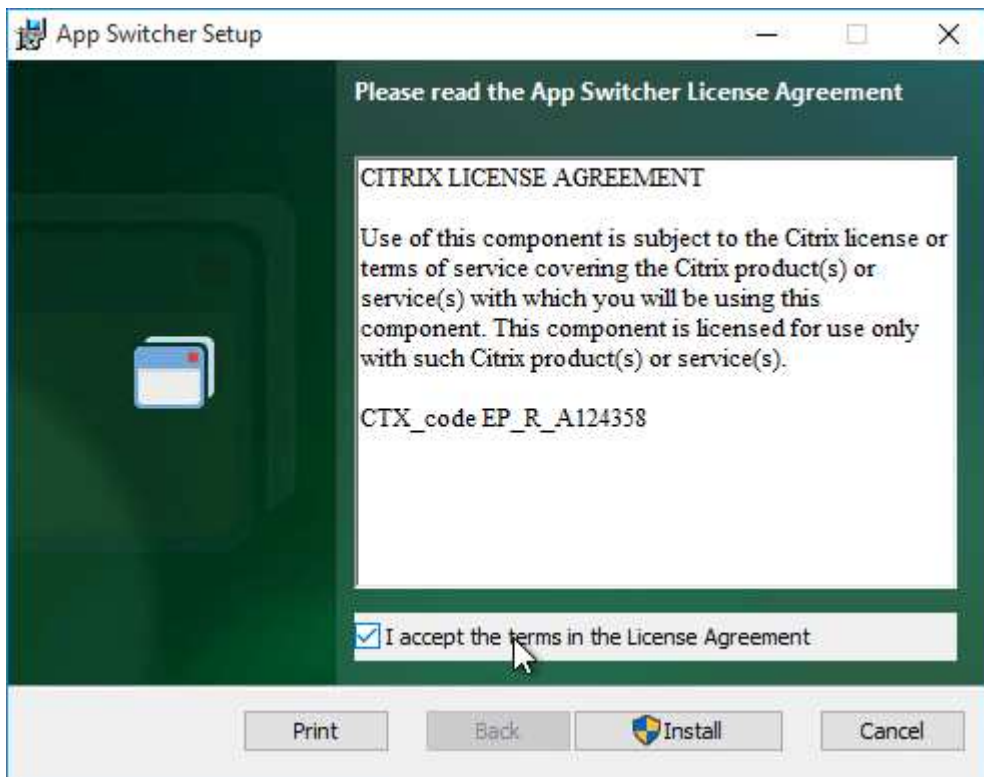
HTML5 App Switcher 2.0.2

This tool is no longer needed for [Receiver for HTML5 2.0](#) and newer.

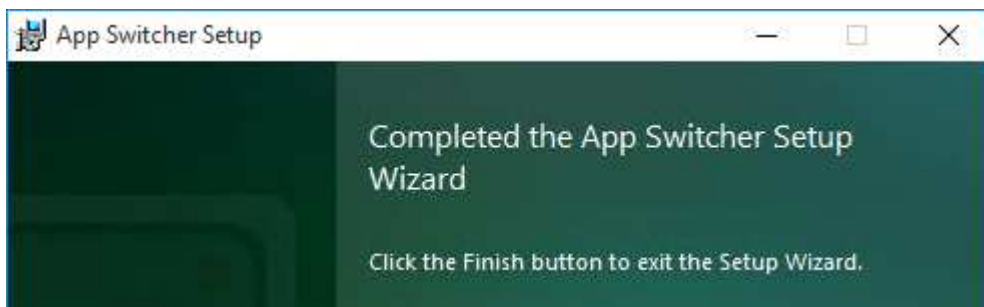
1. .NET Framework 4.0.3 or newer is required.
2. Go to the downloaded [Receiver for HTML5 App Switcher](#) (Citrix_AppSwitcher_2.0.2) and run **AppSwitcher.msi**.

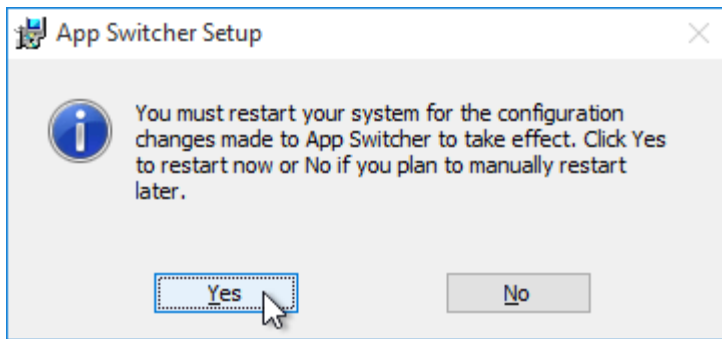


3. Check the box next to **I accept the terms** and click **Install**.

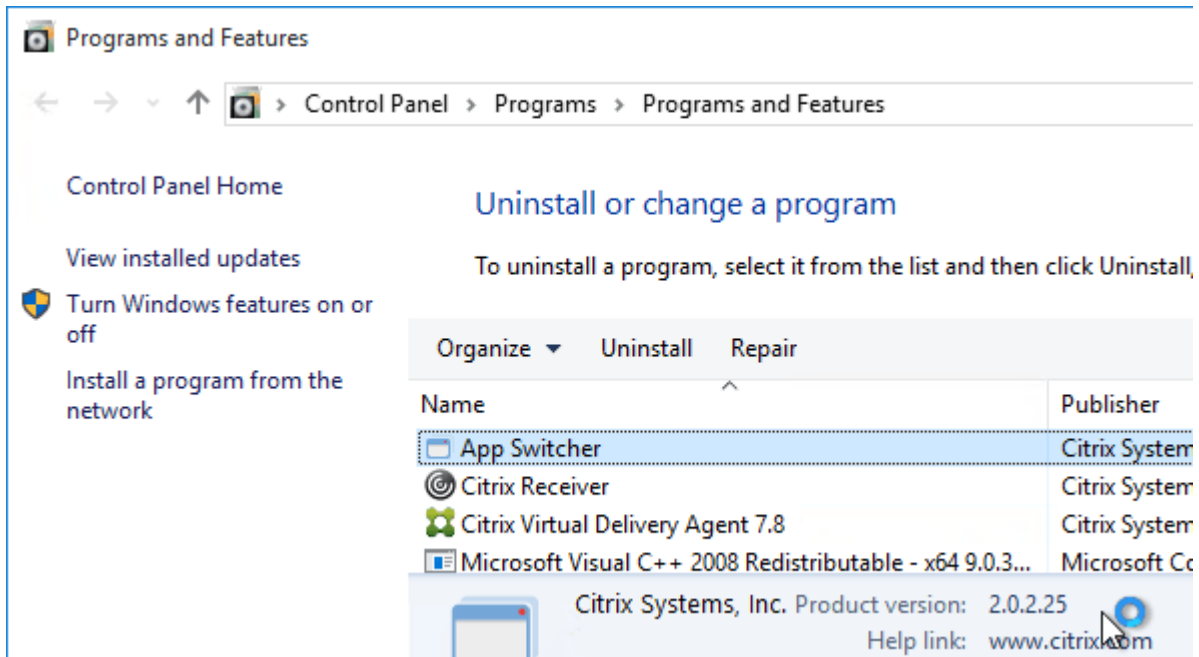


4. In the *Completed the App Switcher Setup Wizard* page, click **Finish**.





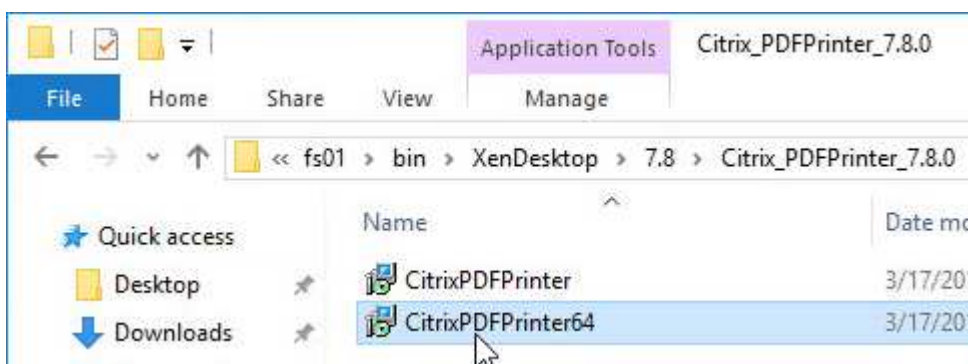
5. In Programs and Features, it is shown as version 2.0.2.25.



Citrix PDF Printer 7.8.0

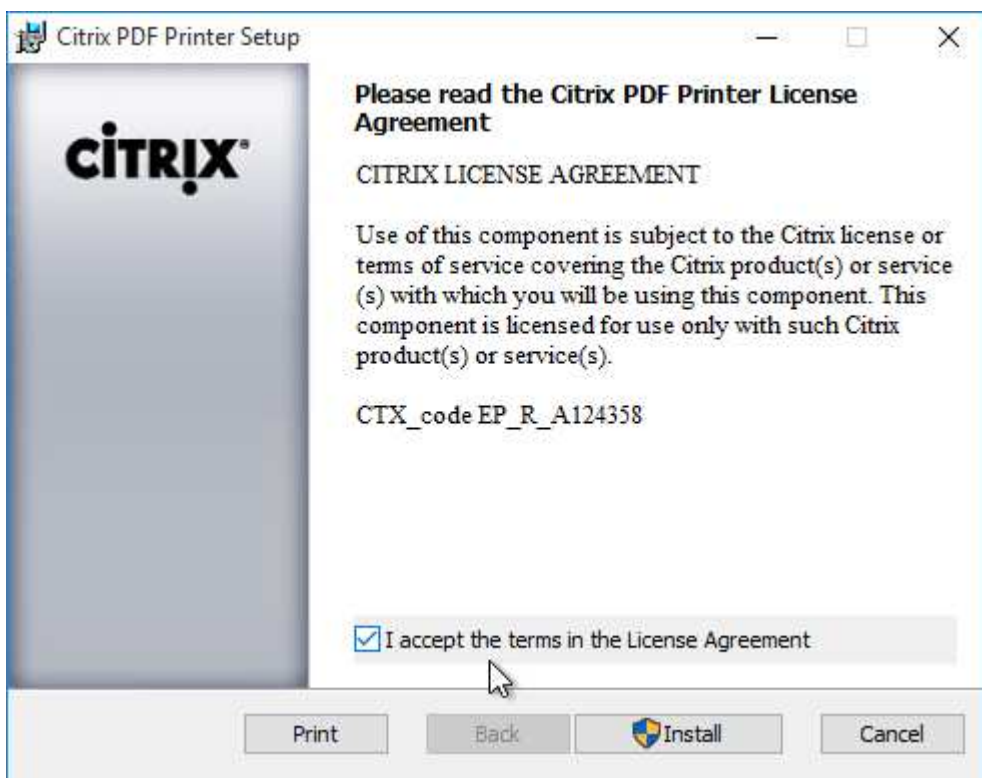
This tool is only used by Receiver for HTML5.

1. Go to the downloaded Receiver for HTML5 Citrix PDF Printer 7.8.0 (under Additional Components) and run **CitrixPDFPrinter64.msi**.



2. In the *Please read the Citrix PDF printer License Agreement* page, check the box next to **I accept**

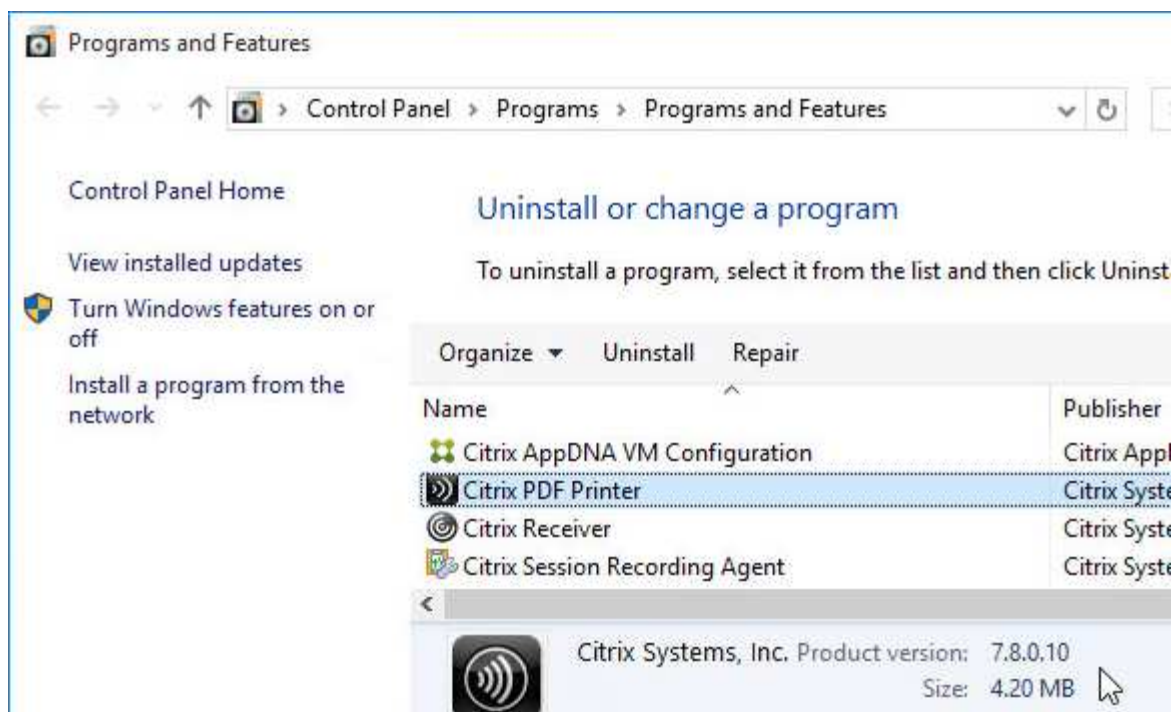
the terms and click **Install**.



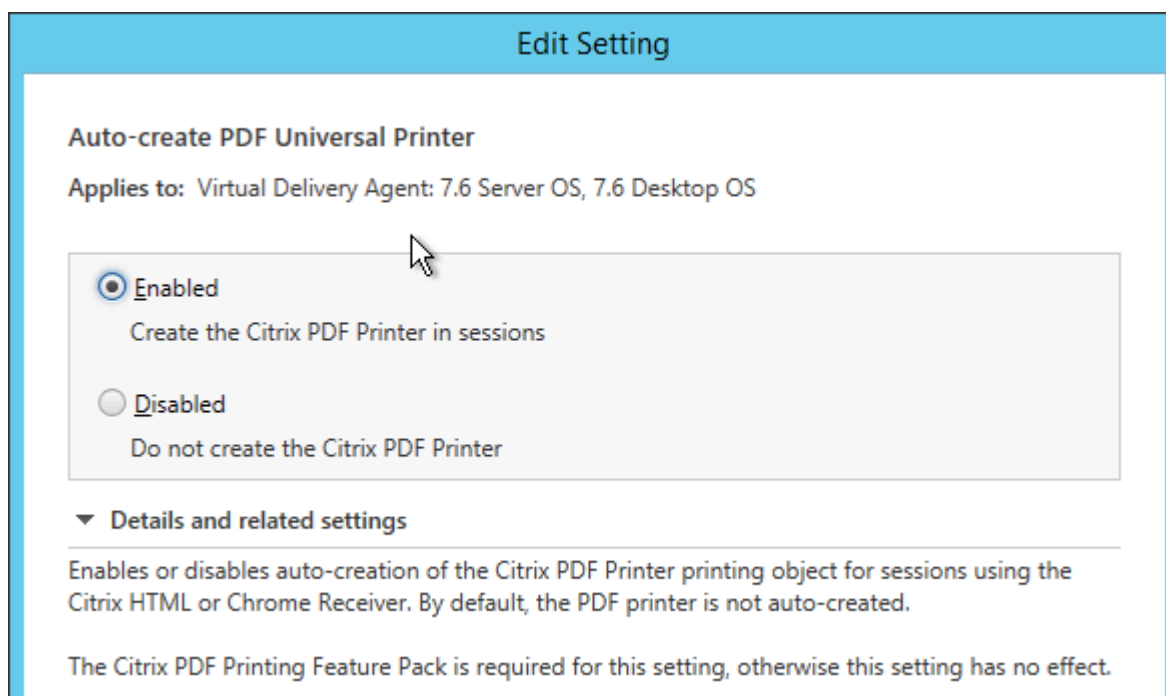
3. In the *Completed the Citrix PDF Universal Driver Setup Wizard* page, click **Finish**.



4. In Programs and Features, it is shown as version 7.8.0.10.



5. Configure a Citrix Policy to enable the PDF printer. The setting is called **Auto-create PDF Universal Printer**.



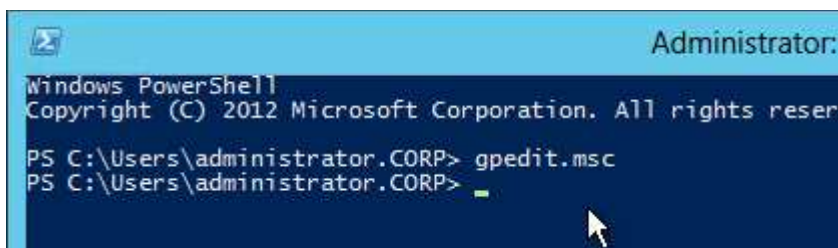
Framehawk Configuration

To enable Framehawk, see <http://www.carlstalhood.com/citrix-policy-settings/#framehawkconfig>

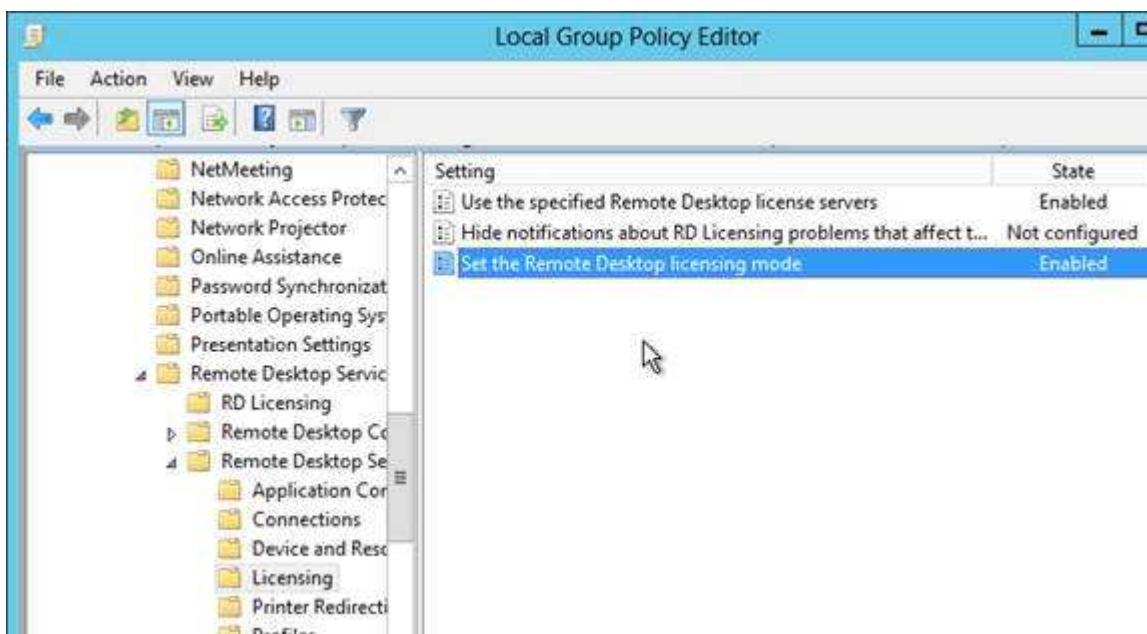
Remote Desktop Licensing Configuration

On 2012 R2 RDSH, the only way to configure Remote Desktop Licensing is using group policy (local or domain). This procedure also works for 2008 R2 RDSH. This procedure is not needed on virtual desktops.

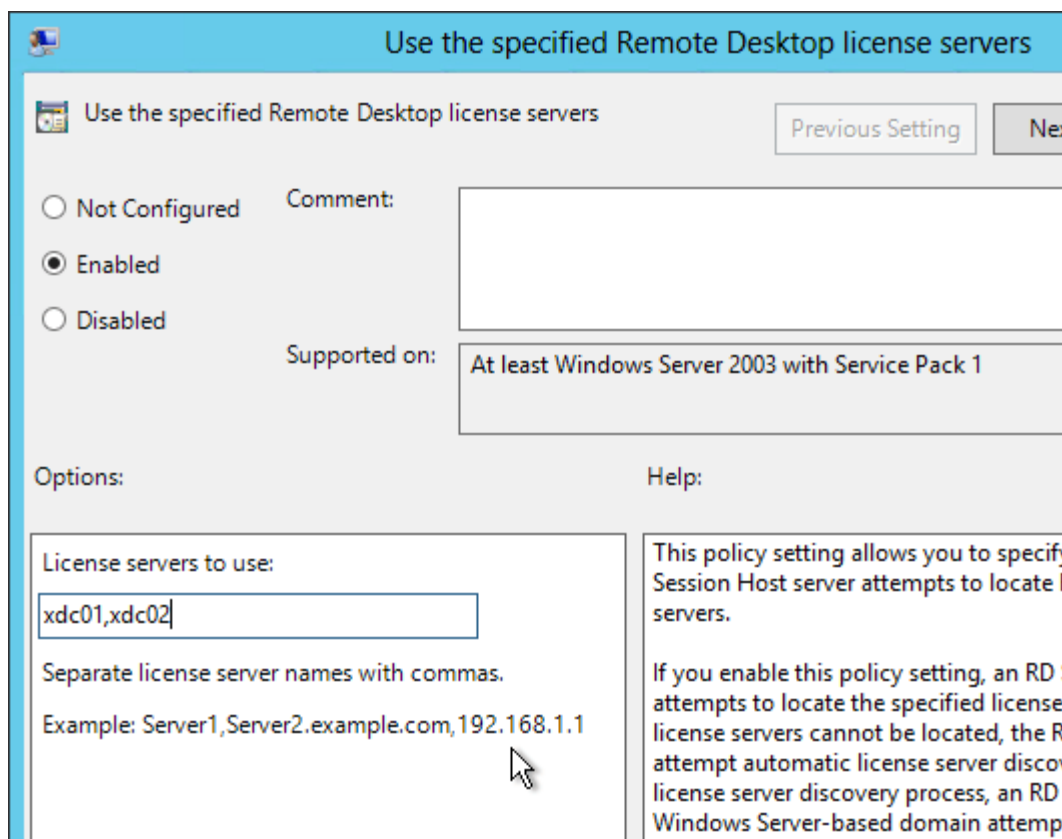
1. For local group policy, run **gpedit.msc**.



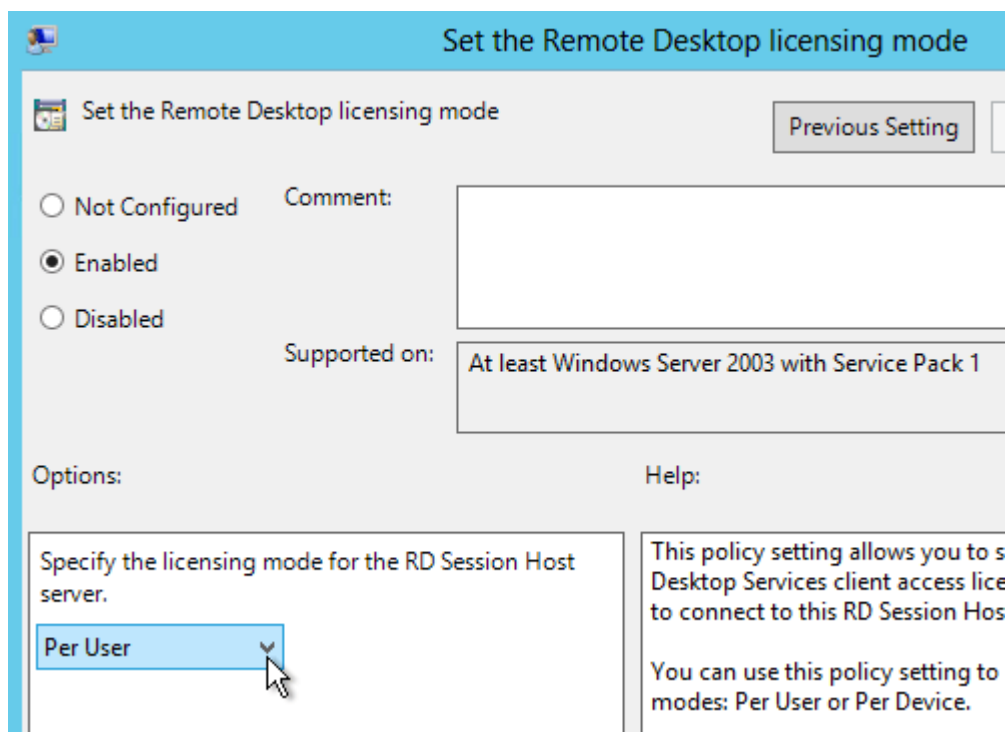
2. Go to **Computer Configuration > Administrative Templates > Windows Components > Remote Desktop Services > Remote Desktop Session Host > Licensing**.



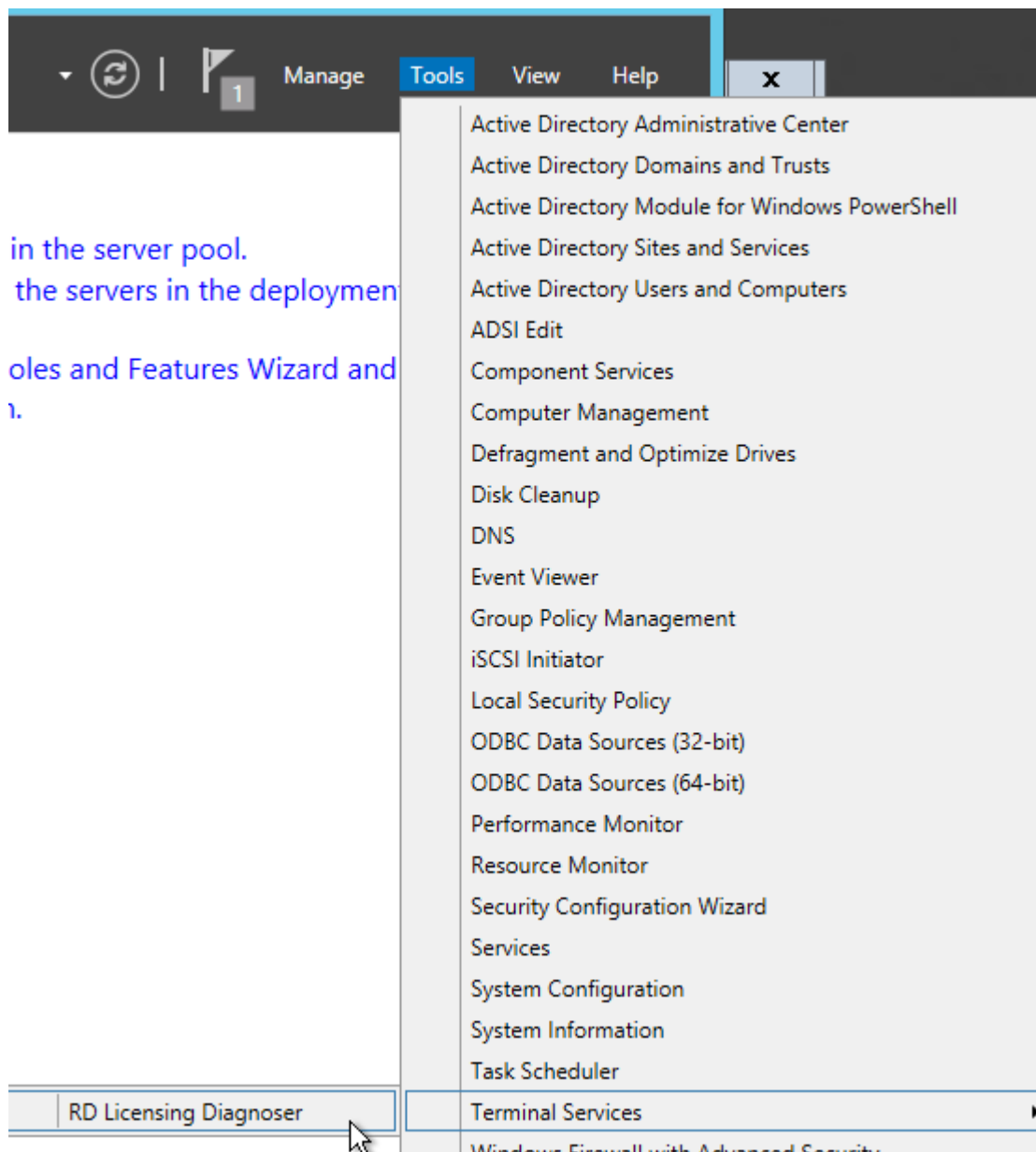
3. Double-click **Use the specified Remote Desktop license servers**. Change it to **Enabled** and enter the names of the RDS Licensing Servers (typically installed on XenDesktop Controllers). Click **OK**.



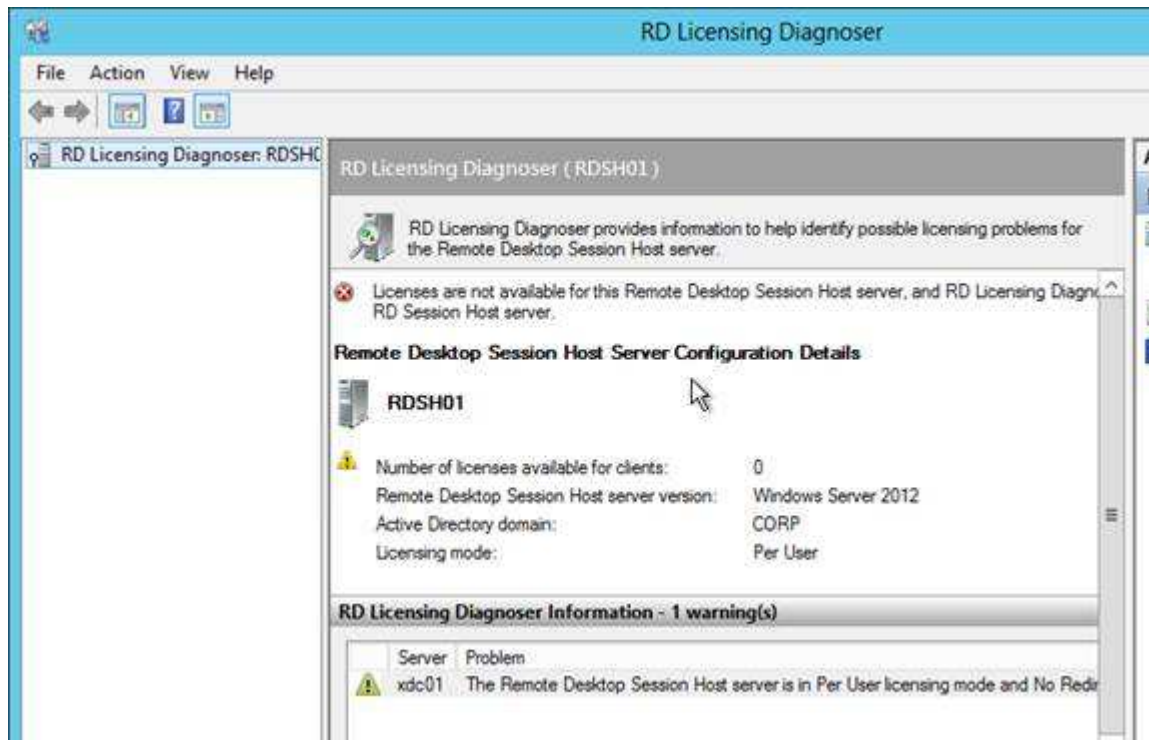
4. Double-click **Set the Remote Desktop licensing mode**. Change it to **Enabled** and select **Per User**. Click **OK**.



5. In Server Manager, open the **Tools** menu, expand **Terminal Services** and click **RD Licensing Diagnostics**.



6. The Diagnoser should find the license server and indicate the licensing mode. It's OK if there are no licenses installed on the Remote Desktop License Server.



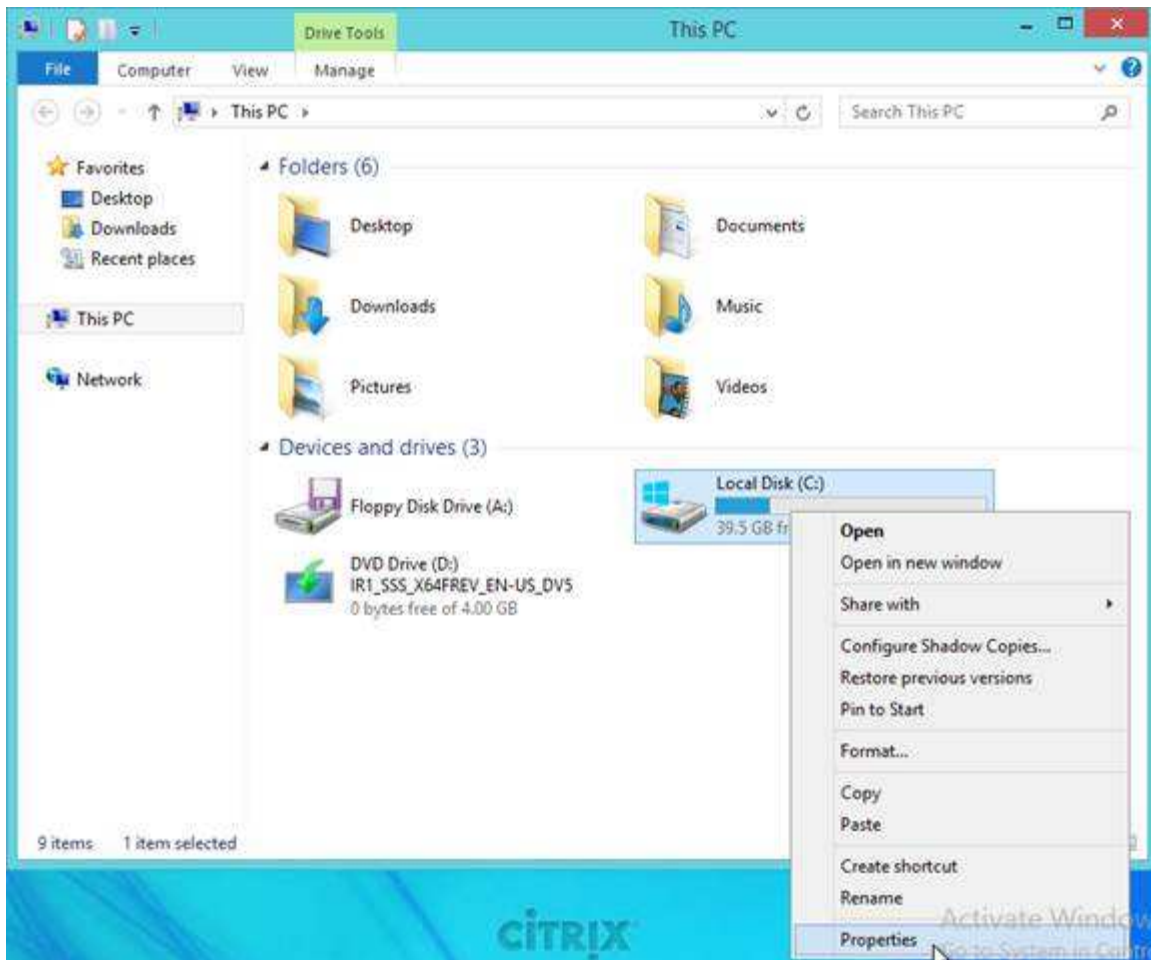
Several people in [Citrix Discussions](#) reported the following issue: If you see a message about RD Licensing Grace Period has expired even though RD Licensing is properly configured, see Eric Verdu men [No remote Desktop Licence Server available on RD Session Host server 2012](#). The solution was to delete the REG_BINARY in **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Terminal Server\RCM\GracePeriod** only leaving the default. You must take ownership and give admin users full control to be able to delete this value.

C: Drive Permissions

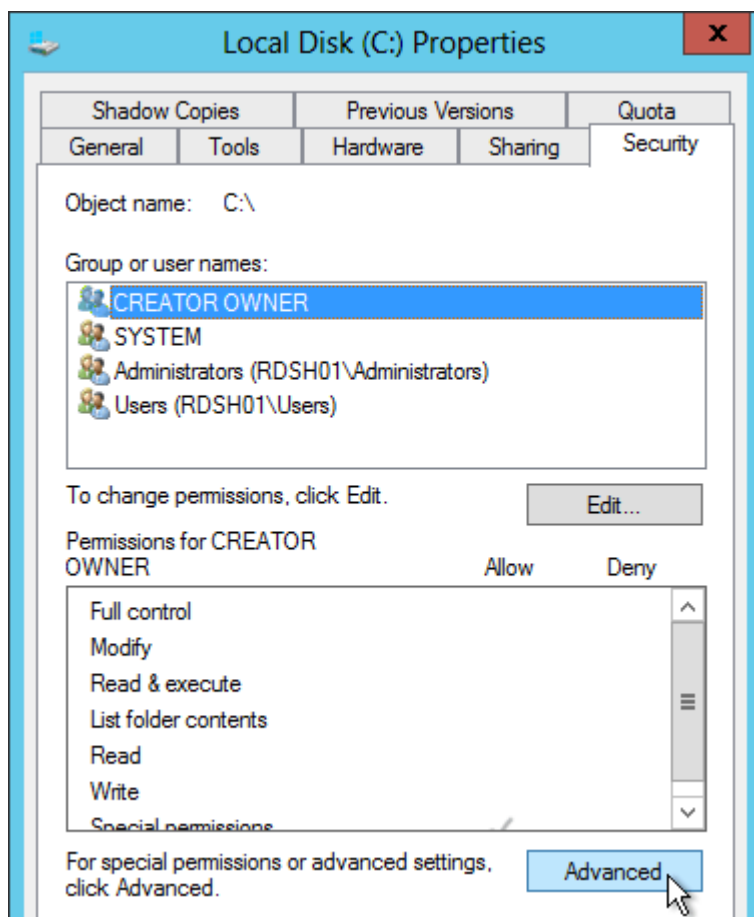
This section is more important for shared VDAs like Windows 2008 R2 and Windows 2012 R2.

The default permissions allow users to store files on the C: drive in places other than their profile.

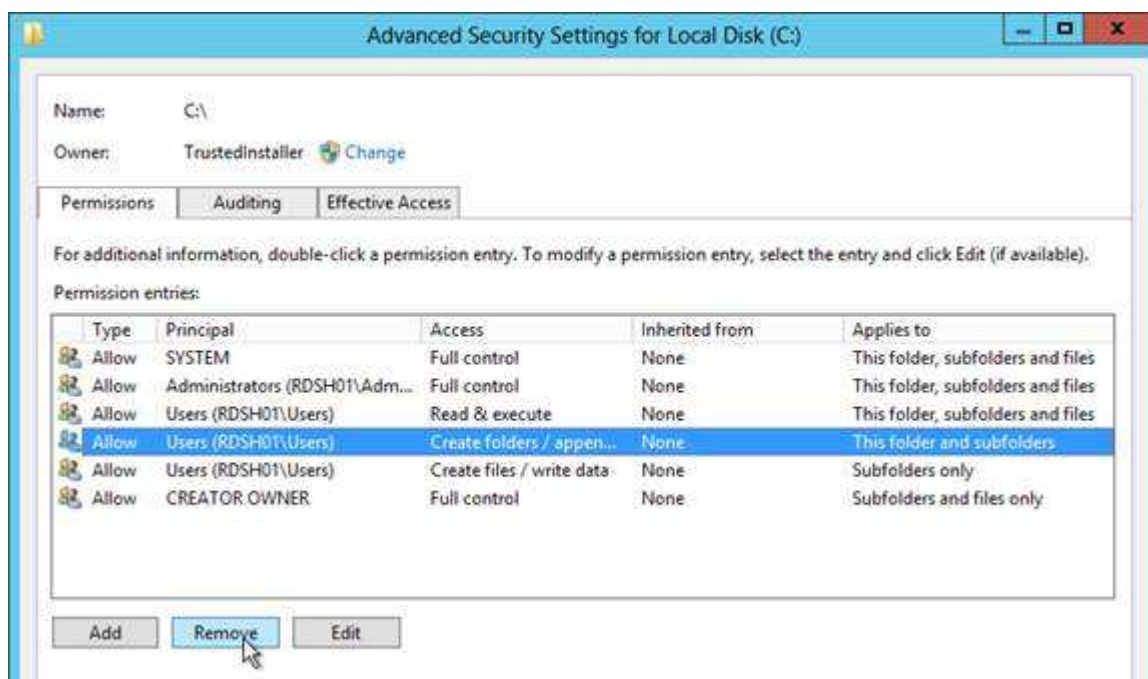
1. Open the *Properties* dialog box for C:.



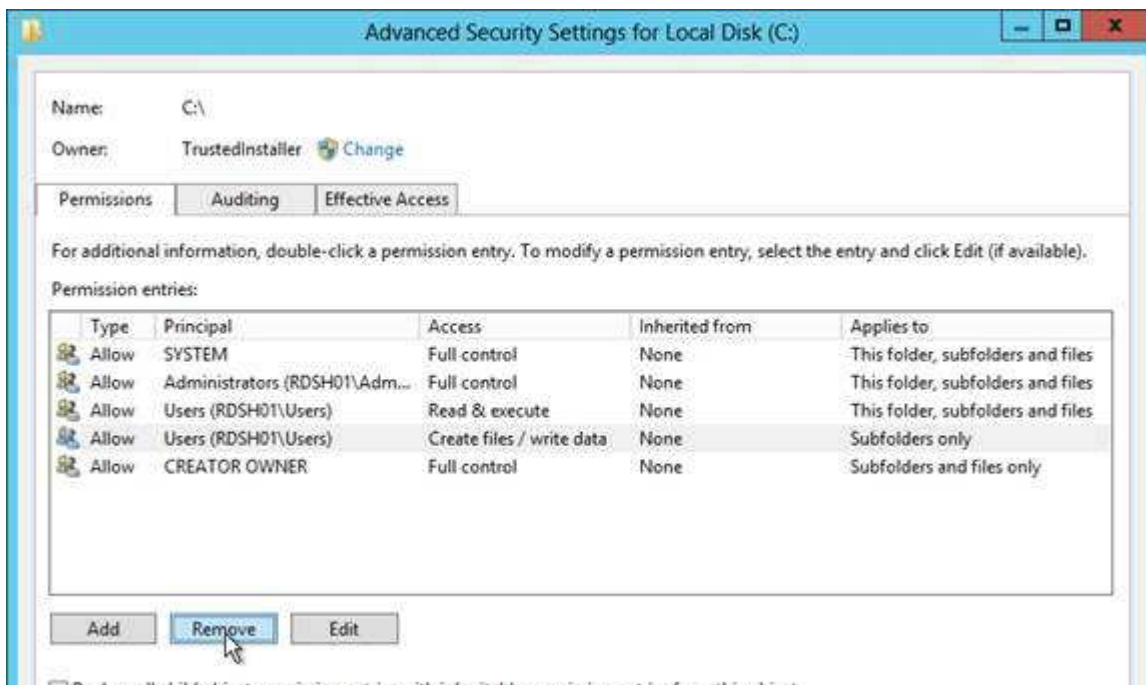
2. On the **Security** tab, click **Advanced**.



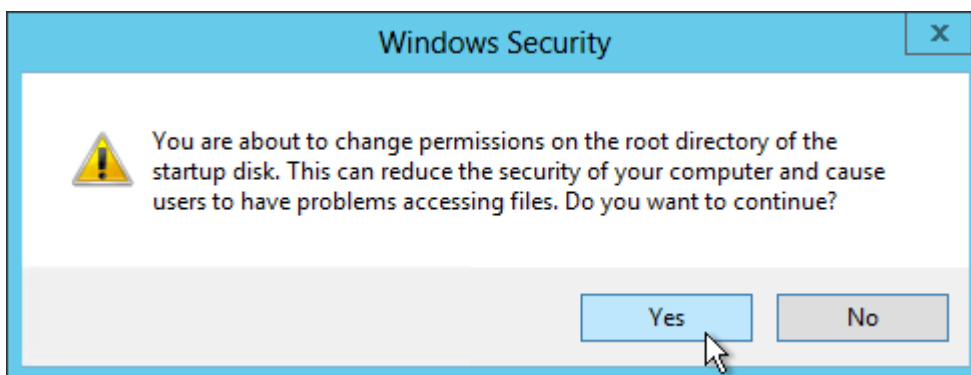
3. Highlight the line containing **Users** and **Create Folders** and click **Remove**.



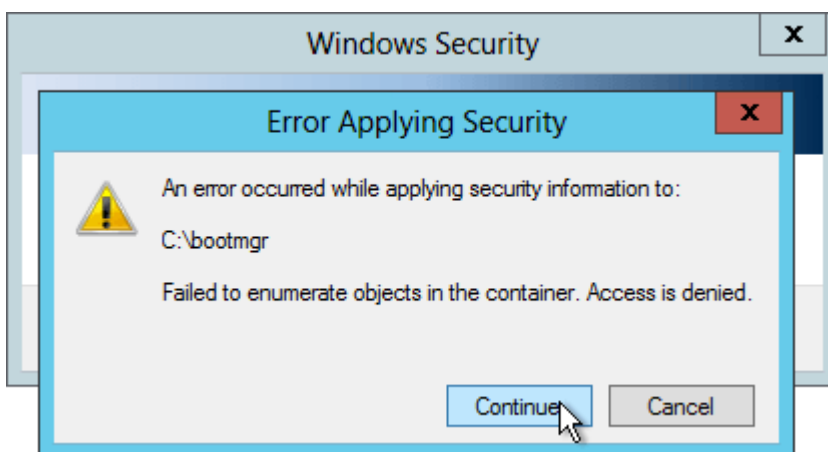
4. Highlight the line containing **Users** and **Special** and click **Remove**. Click **OK**.



5. Click **Yes** to confirm the permissions change.



6. If you see any of these *Error Applying Security* windows, click **Continue**.

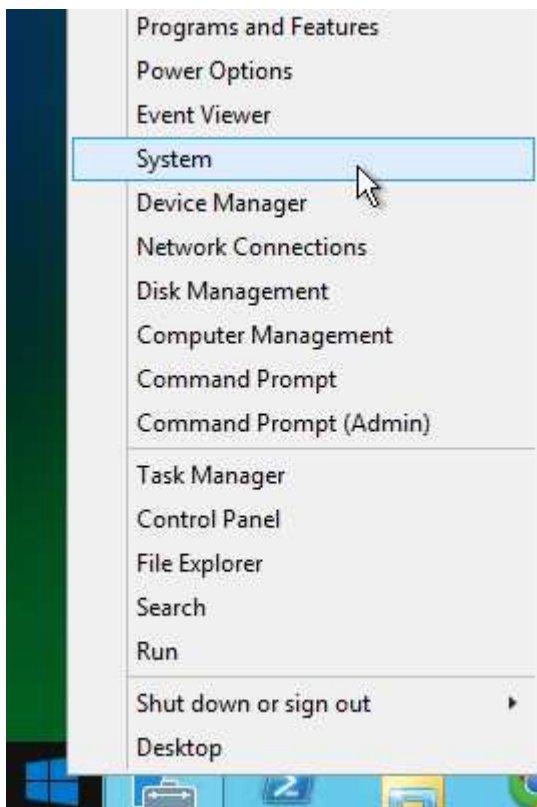


7. Click **OK** to close the C: drive properties.

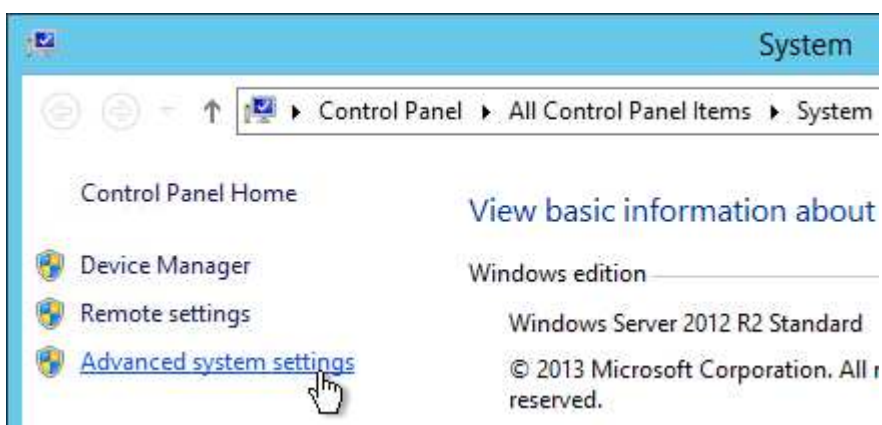
Pagefile

If this image will be converted to a Provisioning Services vDisk, then you must ensure the pagefile is smaller than the cache disk. For example, if you allocate 20 GB of RAM to your Remote Desktop Session Host, and if the cache disk is only 15 GB, then Windows will have a default pagefile size of 20 GB and Provisioning Services will be unable to move it to the cache disk. This causes Provisioning Services to cache to server instead of caching to your local cache disk (or RAM).

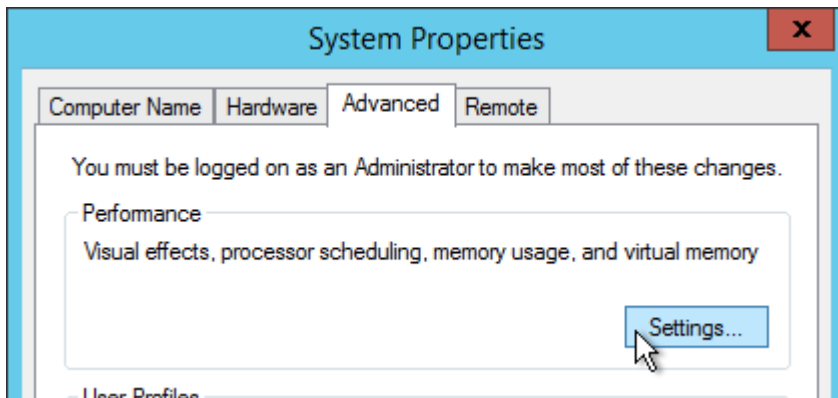
1. Open System. In 2012 R2, you can right-click the Start button and click **System**.



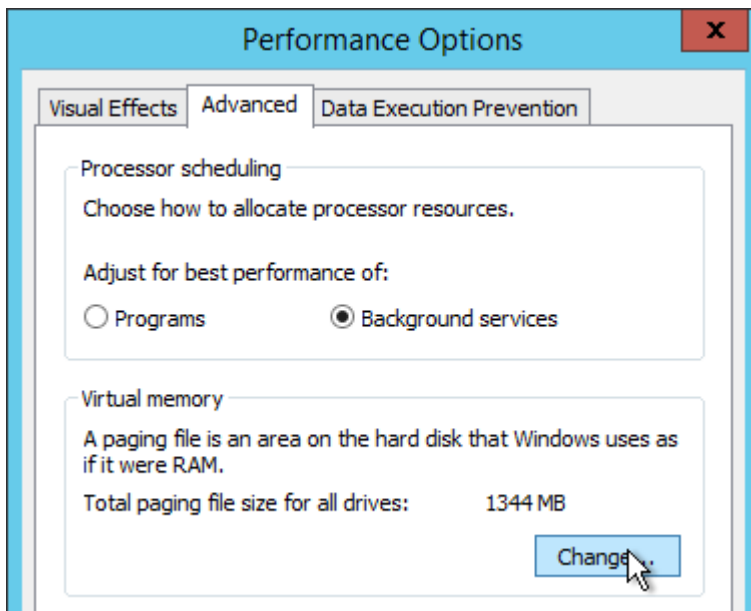
2. Click **Advanced system settings**.



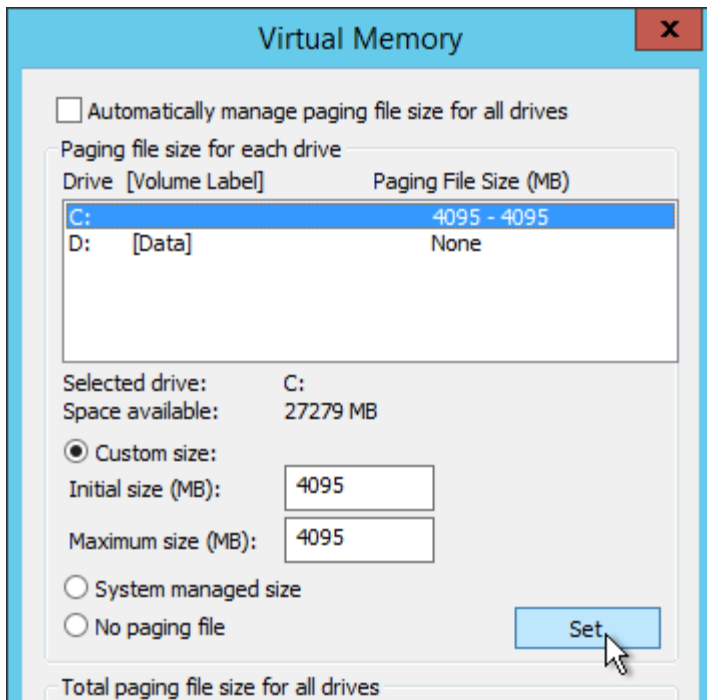
3. On the **Advanced** tab, click the top **Settings** button.



4. On the **Advanced** tab, click **Change**.

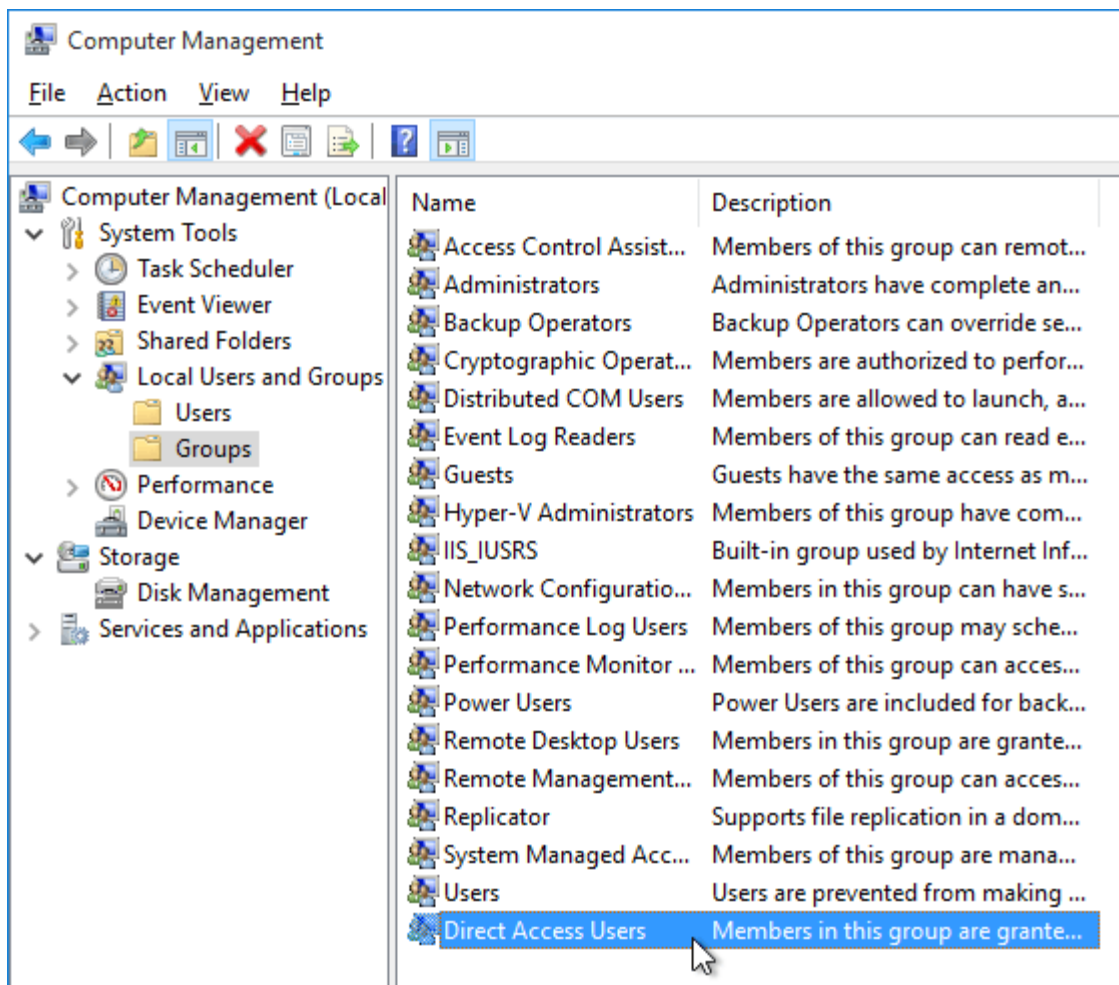


5. Either turn off the pagefile or set the pagefile to be smaller than the cache disk. Don't leave it set to **System managed size**. Click **OK** several times.



Direct Access Users

When Citrix Virtual Delivery Agent is installed on a machine, non-administrators can no longer RDP to the machine. A new local group called **Direct Access Users** is created on each Virtual Delivery Agent. Add your non-administrator RDP users to this local group so they can RDP directly to the machine.



Windows Profiles v3/v4/v5

Roaming Profiles are compatible only between the following client and server operating system pairs. The profile version is also listed.

- v5 = Windows 10 and Windows Server 2016
- v4 = Windows 8.1 and Windows Server 2012 R2
- v3 = Windows 8 and Windows Server 2012
- v2 = Windows 7 and Windows Server 2008 R2
- v2 = Windows Vista and Windows Server 2008

Windows 8.1 and 2012 R2 don't properly set the profile version. To fix this, ensure update rollup 2887595 is installed. <http://support.microsoft.com/kb/2890783>. After you apply this update, you must create a registry key before you restart the computer.

1. Run **regedit**.

2. Locate and then tap or click the following registry subkey:

```
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\ProfSvc\Parameters
```

3. On the **Edit** menu, point to **New**, and then tap or click **DWORD Value**.

4. Type **UseProfilePathExtensionVersion**.

5. Press and hold or right-click **UseProfilePathExtensionVersion**, and then tap or click **Modify**.

6. In the Value data box, type **1**, and then tap or click **OK**.

7. Exit Registry Editor.

Then, Windows 8.1 creates a user profile and appends the suffix “.v4” to the profile folder name to differentiate it from version 2 of the profile in Windows 7 and version 3 of the profile in Windows 8.

Registry

HDX Flash

From Citrix Knowledgebase article CTX139939 – Microsoft Internet Explorer 11 – Citrix Known Issues: The registry key value **IEBrowserMaximumMajorVersion** is queried by the HDX Flash service to check for maximum Internet Explorer version that HDX Flash supports. For Flash Redirection to work with Internet Explorer 11 set the registry key value **IEBrowserMaximumMajorVersion** to 11 on the machine where HDX flash service is running. In case of XenDesktop it would be the machine where VDA is installed.

- Key = HKLM\SOFTWARE\Wow6432Node\Citrix\HdxMediaStreamForFlash\Server\PseudoServer
 - Value = IEBrowserMaximumMajorVersion (DWORD) = 00000011 (Decimal)

From Citrix Discussions: Add the DWORD '**FlashPlayerVersionComparisonMask=0**' on the VDA under HKLM\Software\Wow6432Node\Citrix\HdxMediaStreamForFlash\Server\PseudoServer. This disables the Flash major version checking between the VDA and Client Device.

Published Explorer

This section applies if you intend to publish apps from this VDA.

From Citrix Knowledgebase article CTX128009 – Explorer.exe Fails to Launch: When publishing the seamless explorer.exe application, the session initially begins to connect as expected. After the loading, the dialog box disappears and the explorer application fails to appear. On the VDA, use the

following registry change to set the length of time a client session waits before disconnecting the session:

- Key = HKLM\SYSTEM\CurrentControlSet\Control\Citrix\wfshell\TWI
 - Value = LogoffCheckerStartupDelayInSeconds (DWORD) = 10 (Hexadecimal)

Mfaphook – 8.3 File Names

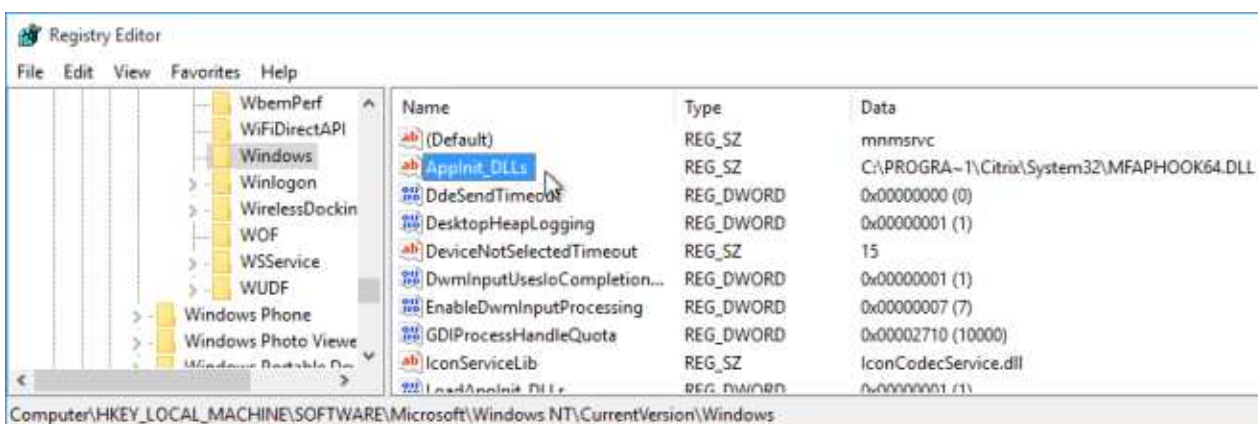
1. Open a command prompt.
2. Switch to **C:** by running **cd /d C:**
3. Run **dir /x program***
4. If you don't see **PROGRA~1** then 8.3 is disabled. This will break Citrix.

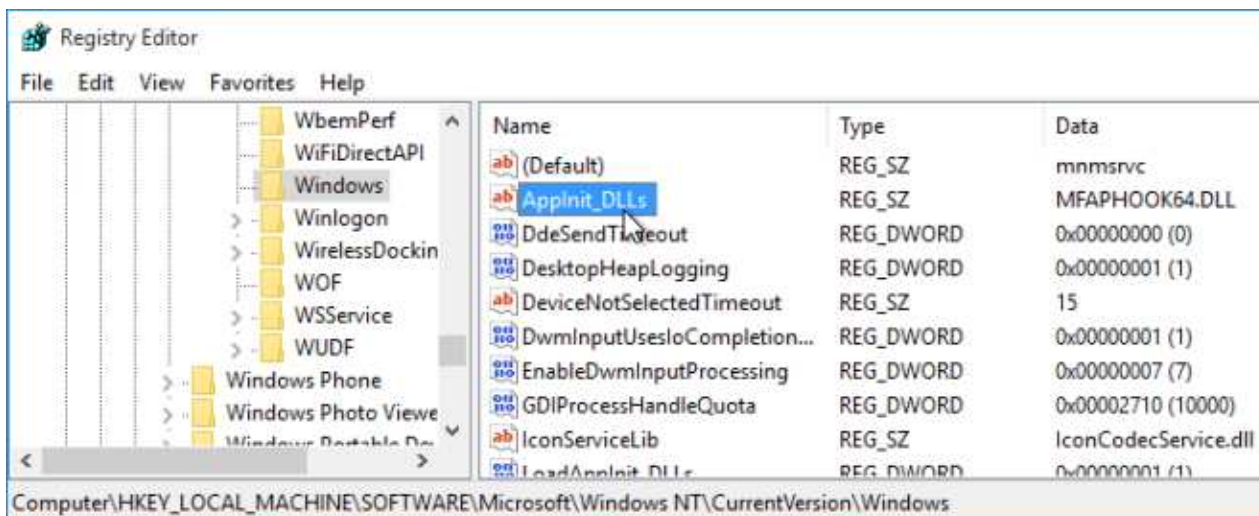
```
C:\>dir /x program*
Volume in drive C has no label.
Volume Serial Number is 881F-060B

Directory of C:\

09/26/2015  04:33 PM  <DIR>          PROGRA~1      Program Files
09/26/2015  04:36 PM  <DIR>          PROGRA~2      Program Files (x86)
                0 File(s)          0 bytes
                2 Dir(s)  28,921,757,696 bytes free
```

5. If 8.3 is disabled, open regedit and go to **HKLM\Software\Microsoft\Windows NT\CurrentVersion\Windows**.
6. On the right is **AppInit_DLLs**. Edit it and remove the path in front of MFAPHOOK64.DLL.





Logon Disclaimer Window Size

From [Xenapp 7.8 – Session Launch Security/Warning Login Banner](#) at Citrix Discussions: If your logon disclaimer window has scroll bars, set the following registry values:

HKLM\Software\Wow6432node\Citrix\CtxHook\AppInit_DLLS\Multiple Monitor Hook\LogonUI-Width = DWORD:300

HKLM\Software\Wow6432node\Citrix\CtxHook\AppInit_DLLS\Multiple Monitor Hook\LogonUI-Height = DWORD:200

Login Timeout

Citrix CTX203760 [VDI Session Launches Then Disappears](#): XenDesktop, by default, only allows 180 seconds to complete a logon operation. The timeout can be increased by setting the following:

HKLM\SOFTWARE\Citrix\PortICA

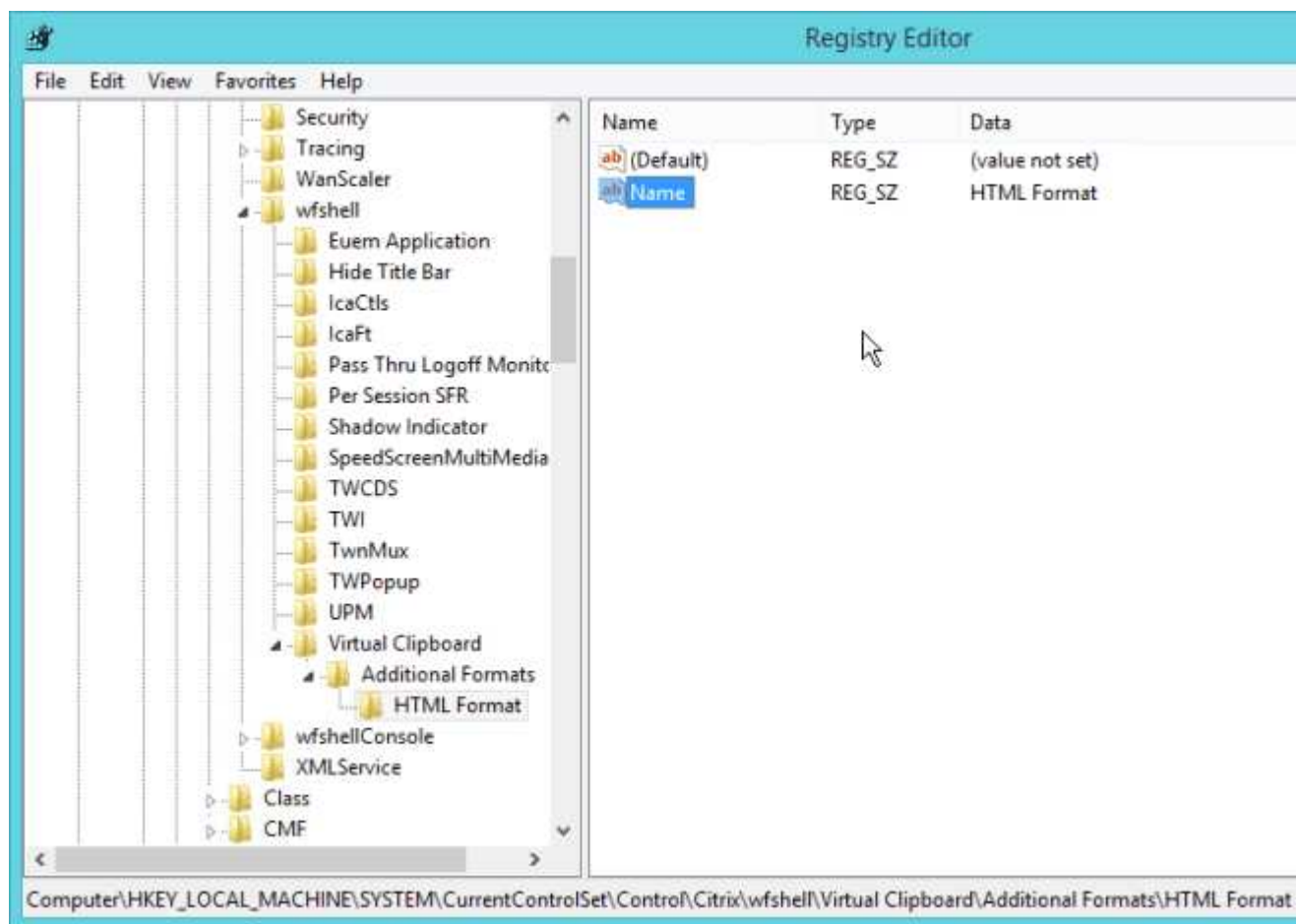
Add a new DWORD **AutoLogonTimeout** and set the value to decimal 240 or higher (up to 3600).

Also see Citrix Discussions [Machines in “Registered” State, but VM closes after “Welcome” screen](#).

Receiver for HTML5 Enhanced Clipboard

From [About Citrix Receiver for Chrome 1.9](#) at docs.citrix.com: To enable enhanced clipboard support, set registry value HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Citrix\wfshell\Virtual Clipboard\Additional Formats\HTML Format\Name=”HTML Format”. Create any missing

registry keys. This applies to both virtual desktops and Remote Desktop Session Hosts.



4K Monitors

Citrix CTX201696 – Citrix XenDesktop and XenApp – Support for Monitors Including 4K Resolution and Multi-monitors: Up to eight 4K monitors are supported with the Std-VDA and RDS VDA irrespective of underlying GPU support, provided the required policies and/or registry keys are correctly configured. Currently the Std-VDA for XenDesktop and RDS-VDA for XenApp does not support resolutions higher than 4094 in any dimension.

Framehawk currently does not support 4K monitors. At the time of writing, the number of monitors supported is 1, the use of more monitors will cause the graphics mode to change from Framehawk to Thinwire to support multi-monitor. The maximum resolution supported by Framehawk is currently 2048×2048.

From CTX200257 – Screen Issues Connecting to 4K Resolution Monitors: Symptom: A blank or corrupt screen is displayed when connecting to Windows 7 or 8.1 Standard XenDesktop Virtual Delivery Agents on a client which has one or more 4K resolution monitors.

1. Calculate the video memory that is required for 4K monitor using the following formula:

Sum of total monitors (Width * height * 4 * X) where width and height are resolution of the monitor.

X = 2 if VDA is Windows 7 OR X = 3 if VDA is Windows 8.1

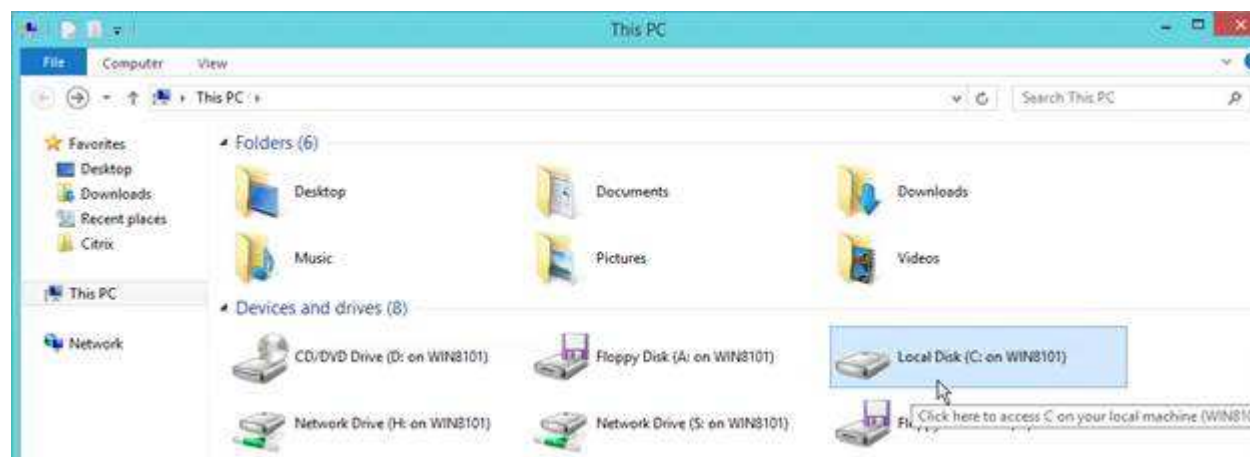
Suppose a Windows 7 VDA is connecting to a client that has dual 4K monitors (3840×2160), then video buffer should be: $(3840 \times 2160 \times 4 \times 2) + (3840 \times 2160 \times 4 \times 2) = \sim 132\text{MB}$

2. Open the registry (regedit) and navigate to: **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\vd3v**
3. Increase the value of “**MaxVideoMemoryBytes**” REG_DWORD value to the above calculated memory.
4. Reboot the VDA.

When using Thinwire, Compatibility, Thinwire Plus or Legacy modes, the Display memory Limit policy needs to be configured appropriately for Std-VDA, as per Graphics Policy Settings at docs.citrix.com. The Default value for Display memory Limit is 65536KB and this is sufficient up to 2x4K monitors (2x32400KB). You can find more information on Graphics modes at Citrix Blogs – Site Wide View of HDX Graphics Modes.

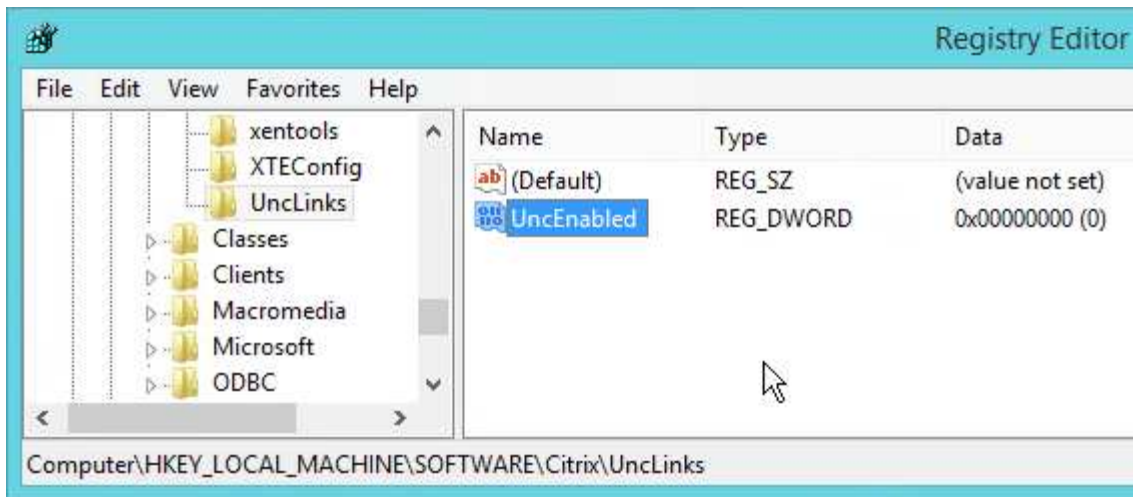
Legacy Client Drive Mapping

Citrix Knowledgebase article *How to Enable Legacy Client Drive Mapping Format on XenApp*: Citrix Client Drive Mapping no longer uses drive letters and instead they appear as local disks. This is similar to RDP drive mapping.

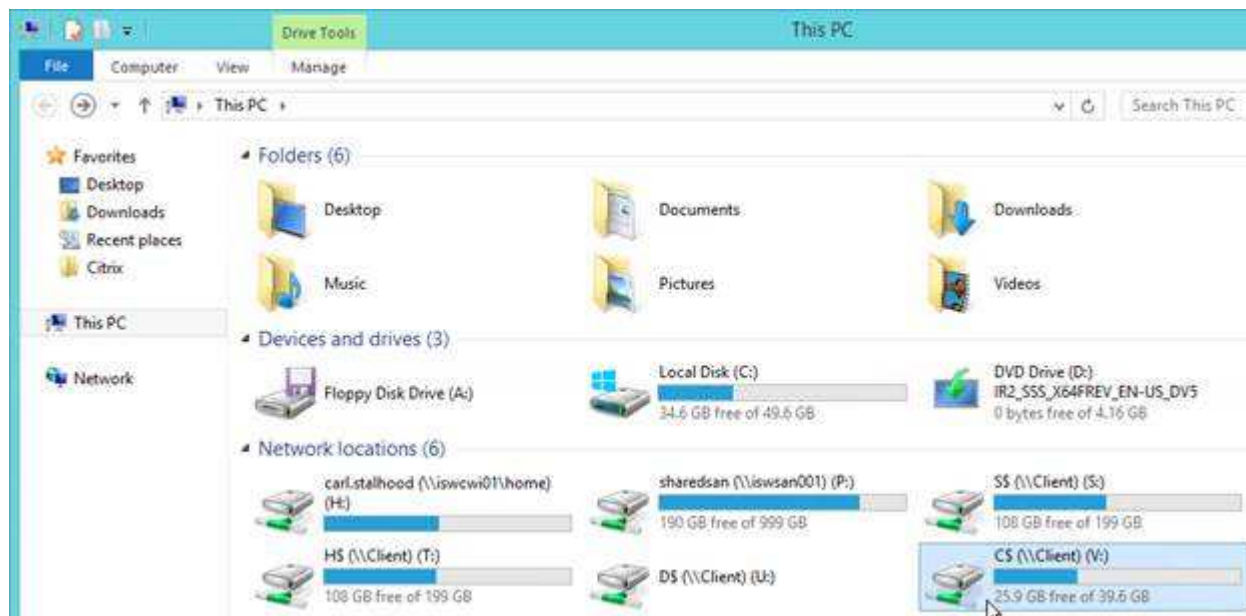


The old drive letter method can be enabled by setting the registry value:

- Key = HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\Unclinks (create the key)
 - Value = UNCEnabled (DWORD) = 0



When you reconnect, the client drives will be mapped as drive letters (starts with V: and goes backwards).



COM/LPT Port Redirection

To signal Citrix' intention to deprecate COM and LPT support in a future major release, policy settings for COM Port and LPT Port Redirection have moved from Studio to the registry, and are now located under HKLM\Software\Citrix\GroupPolicy\Defaults\Deprecated on either your Master VDA image or your physical VDA machines. The COM/LPT port registry values are detailed at docs.citrix.com.

Print Driver for Non-Windows Clients

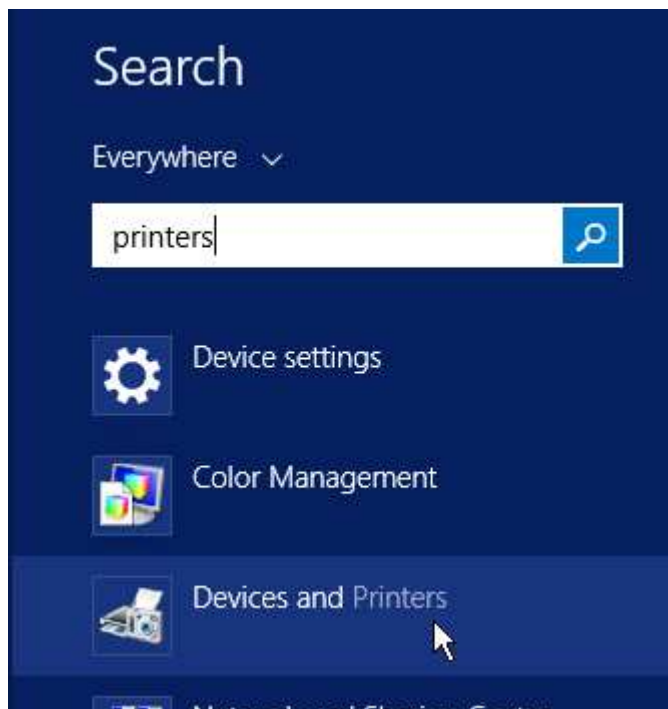
This section applies to Windows 2012 R2, Windows 8.1, and Windows 10 VDAs.

From [Mac Client Printer Mapping Fix for Windows 8/8.1 and Windows Server 2012/2012R2](#). By default, Non-Windows clients cannot map printers due to a missing print driver on the VDA machine.

1. Requirements:

- Internet Access
- Windows Update service enabled

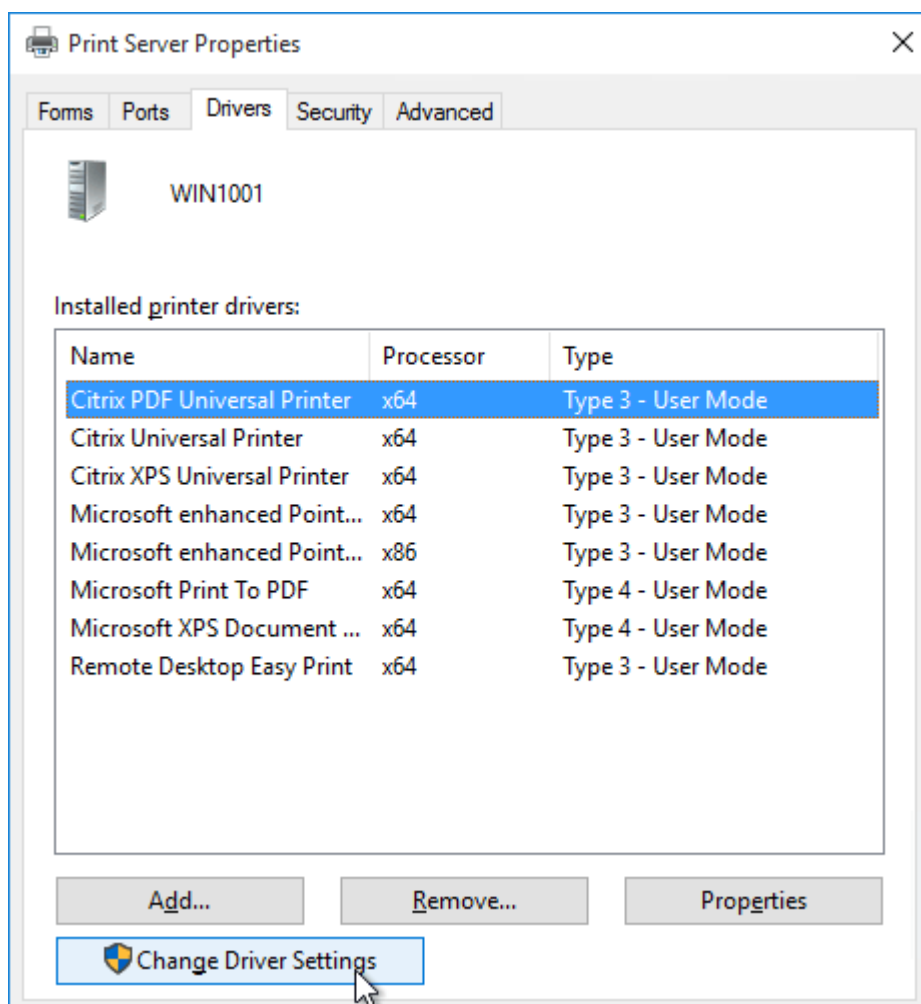
2. Click Start and run **Devices and Printers**.



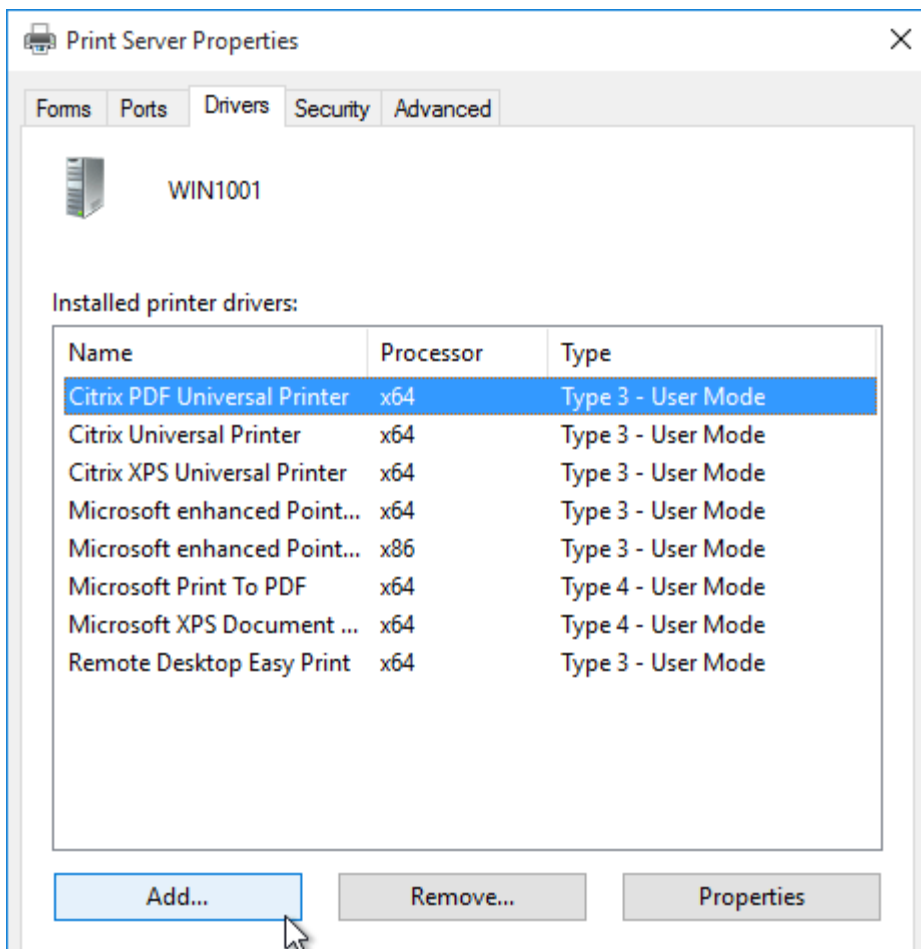
3. In the Printers section, highlight a local printer (e.g. Microsoft XPS Document Writer). Then in the toolbar click **Print server properties**.



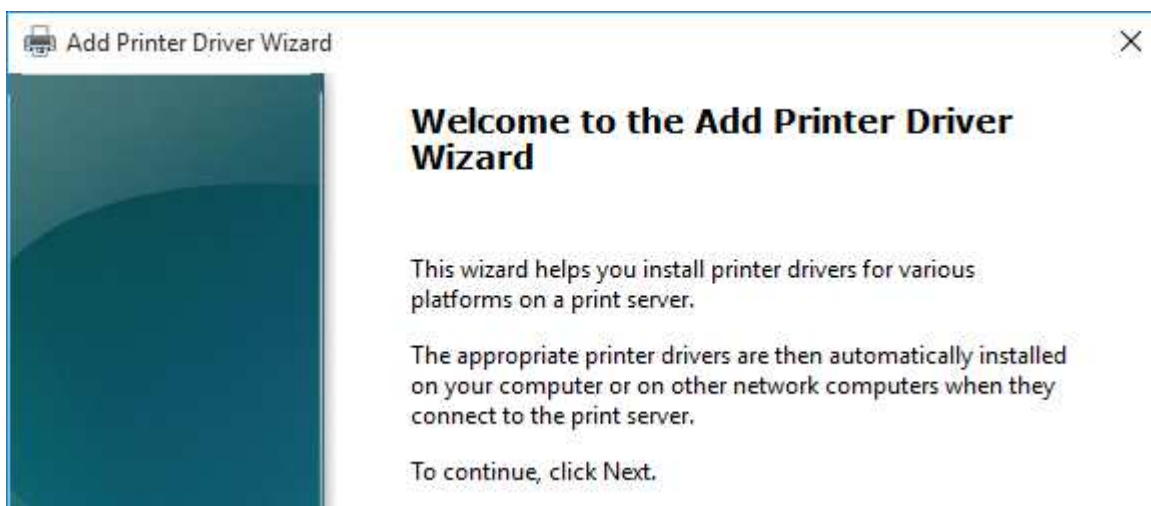
4. Switch to the **Drivers** tab. Click **Change Driver Settings**.



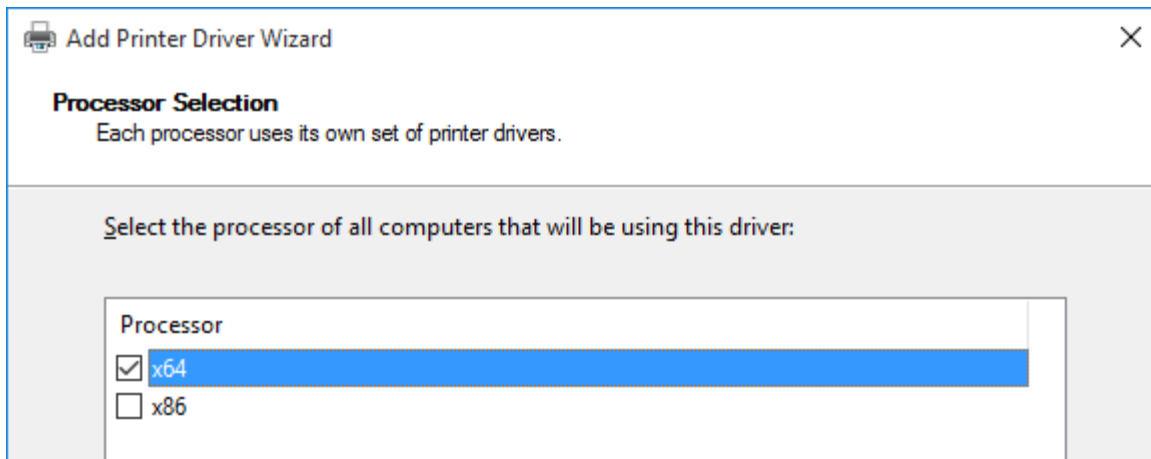
5. Then click **Add**.



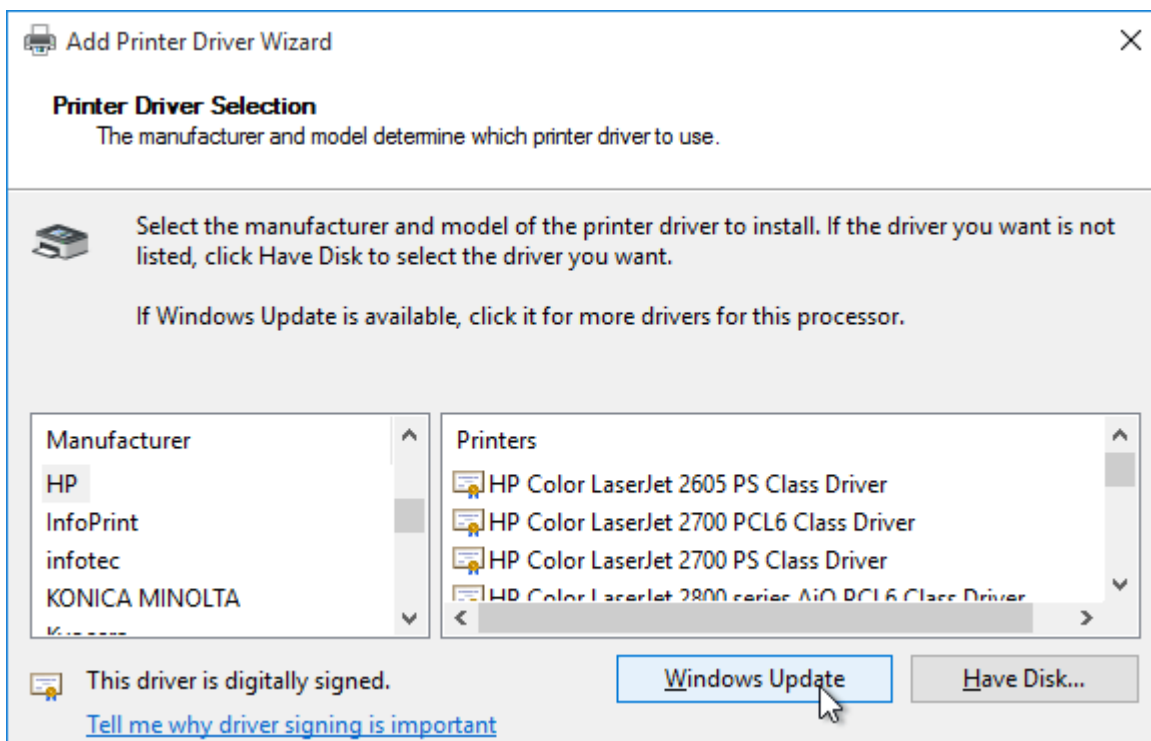
6. In the *Welcome to the Add Printer Driver Wizard* page, click **Next**.



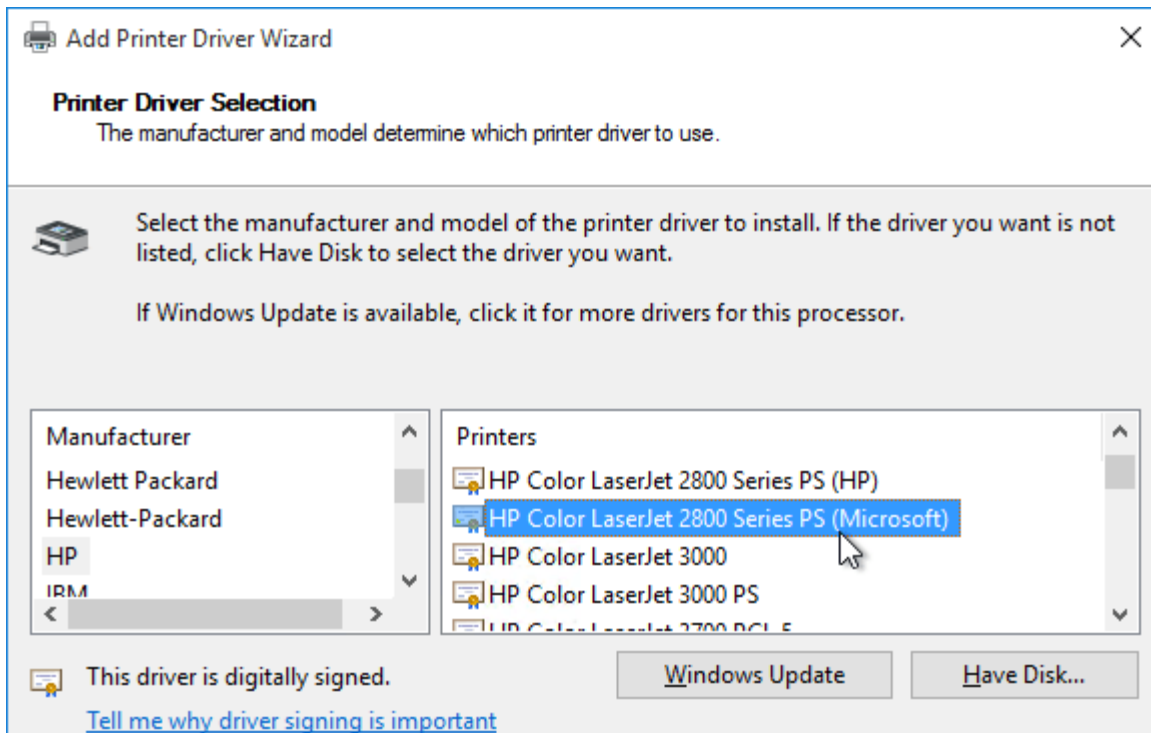
7. In the *Processor Selection* page, click **Next**.



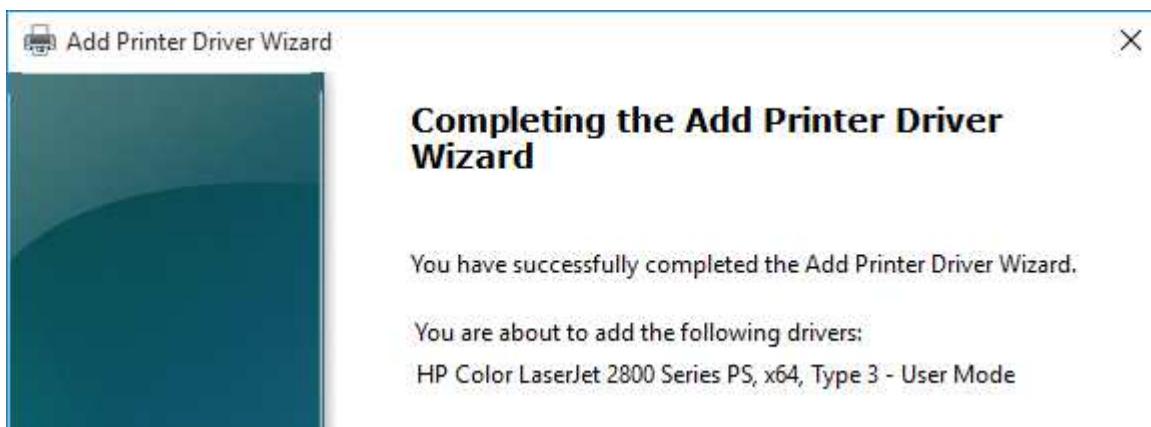
8. In the *Printer Driver Selection* page, click **Windows Update**. The driver we need won't be in the list until you click this button. Internet access is required.



9. Once Windows Update is complete, highlight **HP** on the left and then select **HP Color LaserJet 2800 Series PS (Microsoft)** on the right. Click **Next**.



10. In the *Completing the Add Printer Driver Wizard* page, click **Finish**.



11. Repeat these instructions to install the following additional drivers:

- HP LaserJet Series II
- HP Color LaserJet 4500 PCL 5

SSL for VDA

If you intend to use HTML5 Receiver internally, install certificates on the VDAs so the WebSockets (and ICA) connection will be encrypted. Internal HTML5 Receivers will not accept clear text WebSockets. External users don't have this problem since they are SSL-proxied through NetScaler Gateway. Notes:

- Each Virtual Delivery Agent needs a machine certificate that matches the machine name. This

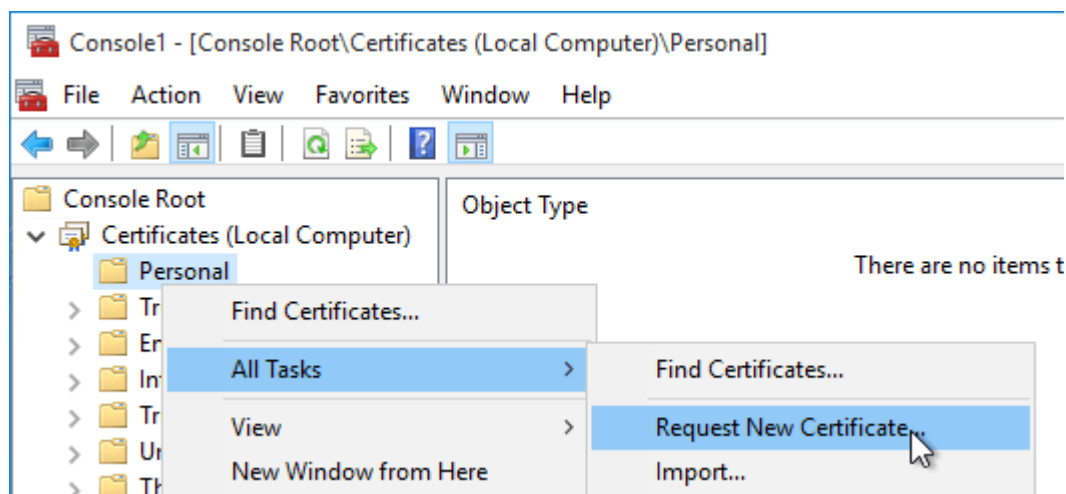
is feasible for a small number of persistent VDAs. For non-persistent VDAs, you'll need some automatic means for creating machine certificates every time they reboot.

- As detailed in the following procedure, use PowerShell on the Controller to enable SSL for the Delivery Group. This forces SSL for every VDA in the Delivery Group, which means every VDA in the Delivery Group must have SSL certificates installed.

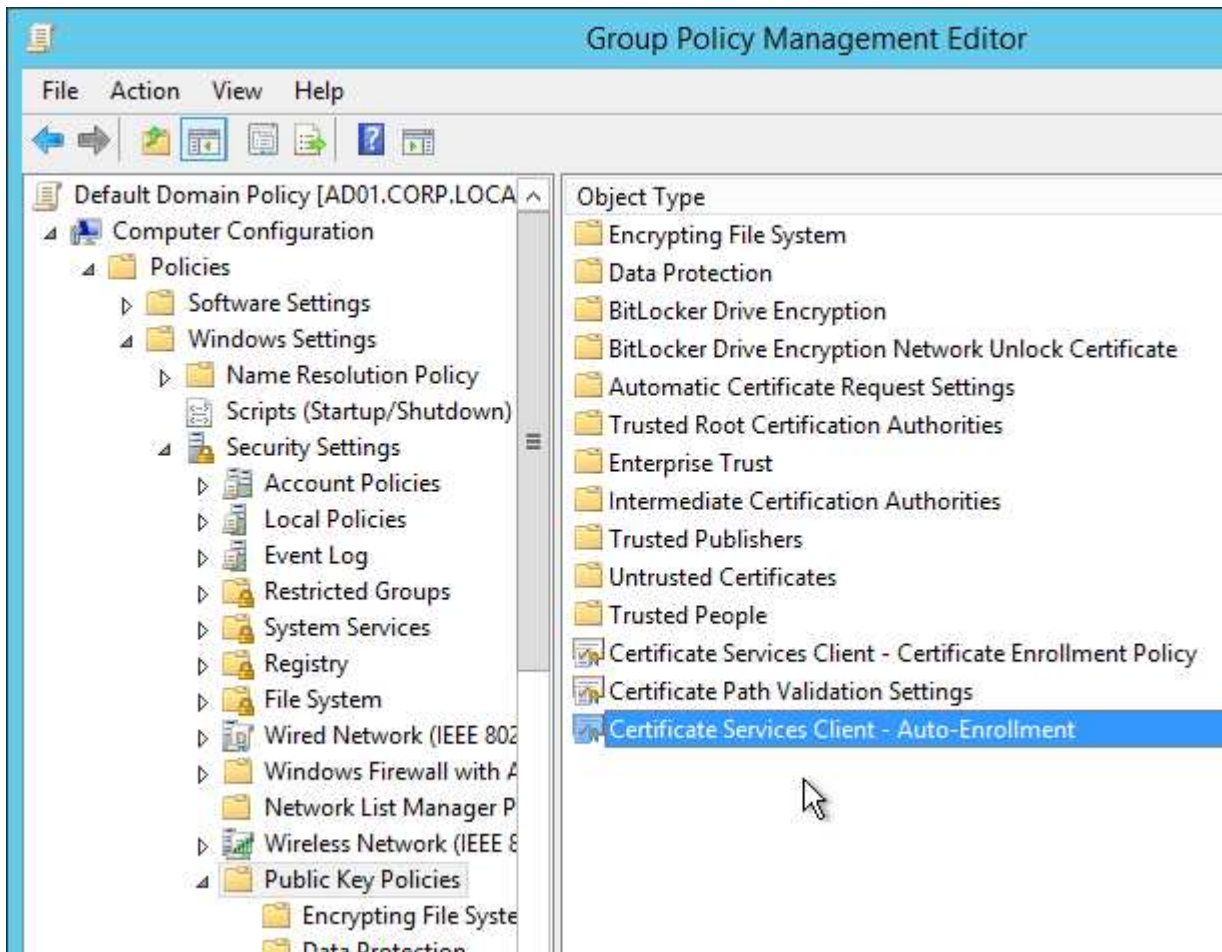
The Citrix blog post [How To Secure ICA Connections in XenApp and XenDesktop 7.6 using SSL](#) has a method for automatically provisioning certificates for pooled virtual desktops by enabling certificate auto-enrollment and setting up a task that runs after the certificate has been enrolled. Unfortunately this does not work for Remote Desktop Session Host.

The following instructions can be found at [Configure SSL on a VDA using the PowerShell script](#) at docs.citrix.com.

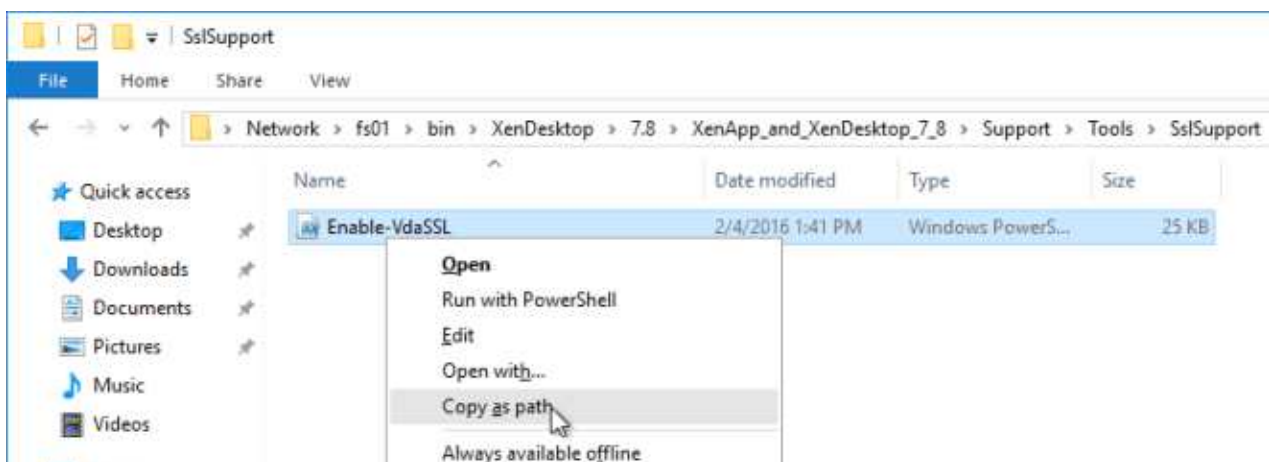
1. On the VDA machine, run **mmc.exe**.
2. Add the Certificates snap-in.
3. Point it to Local Computer.
4. Request a certificate from your internal Certificate Authority. You can use either the **Computer** template or the **Web Server** template.



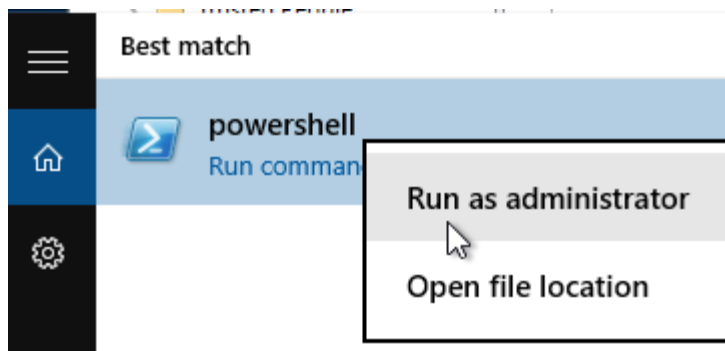
You can also use group policy to enable Certificate Auto-Enrollment for the VDA computers.



5. Browse to the XenApp/XenDesktop 7.8 ISO. In the **Support\Tools\SslSupport** folder, shift+right-click the **Enable-VdaSSL.ps1** script and click **Copy as path**.



6. Run PowerShell as administrator (elevated).



7. Run the command **Set-ExecutionPolicy unrestricted**. Enter **Y** to approve.

```
PS C:\Windows\system32> set-executionpolicy unrestricted

Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the
execution policy might expose you to the security risks described in the
about_Execution_Policies help topic at http://go.microsoft.com/fwlink/?LinkID=135170.
Do you want to change the execution policy?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help
(default is "N"):y
PS C:\Windows\system32>
```

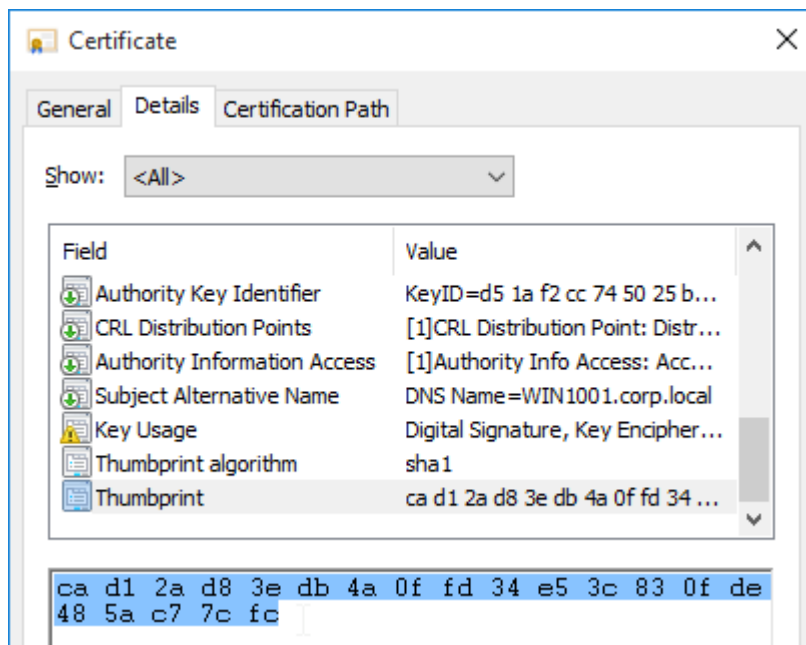
8. In the PowerShell prompt, type in an ampersand (&), and a space.
 9. Right-click the PowerShell prompt to paste in the path copied earlier.
 10. At the end of the path, type in -Enable
 11. If there's only one certificate on this machine, press Enter.

 A screenshot of a Windows PowerShell window titled 'Administrator: Windows PowerShell'. The window shows the following text:


```
Copyright (C) 2015 Microsoft Corporation. All rights reserved.

PS C:\Windows\system32> & "\\sql01\bin\XenDesktop\7.7\XAXDforAppDisks_TP\Support\Tools\S
s\Support\Enable-VdaSSL.ps1" -Enable_
```

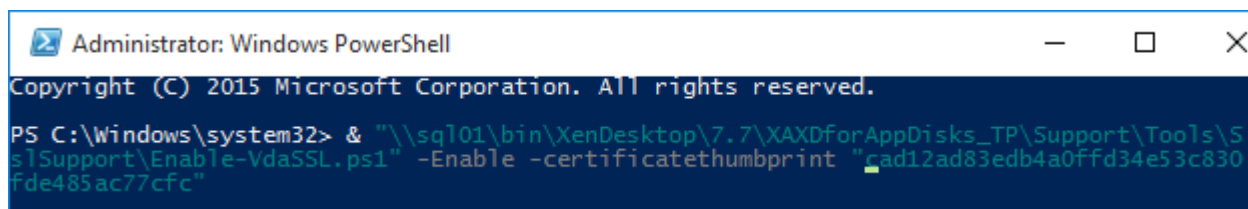
12. If there are multiple certificates, you'll need to specify the thumbprint of the certificate you want to use. Open the **Certificates** snap-in, open the properties of the machine certificate you want to use, and copy the Thumbprint from the **Details** tab.



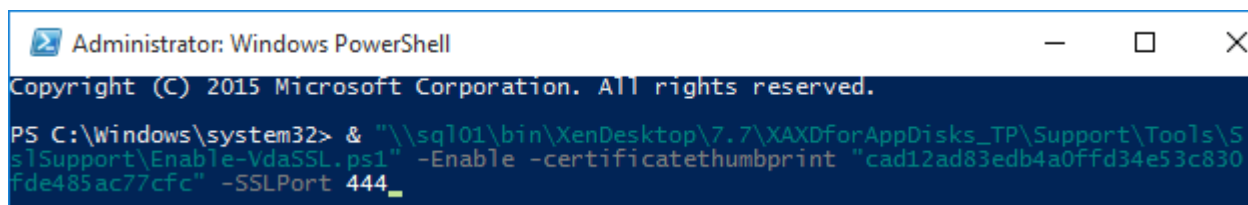
In the PowerShell prompt, at the end of the command, enter `-CertificateThumbPrint`, add a space, and type quotes (").

Right-click the PowerShell prompt to paste the thumbprint.

Type quotes (") at the end of the thumbprint. Then remove all spaces from the thumbprint. The thumbprint needs to be wrapped in quotes.



- If this VDA machine has a different service already listening on 443 (e.g. IIS), then the VDA needs to use a different port for SSL connections. At the end of the command in the PowerShell prompt, enter `-SSLPort 444` or any other unused port.



- Press **<Enter>** to run the **Enable-VdaSSL.ps1** script.
- Press **<Y>** twice to configure the ACLs and Firewall.
- You might have to reboot before the settings take effect.

```

PS C:\Windows\system32> & "C:\Program Files\XenDesktop\7.7\XAXDForAppDisks_TP\Support\Tools\3
s\Support\Enable-VdaSSL.ps1" -Enable -certificatethumbprint "cad12ad83edb4a0ffd34e53c830
fde485ac77cfc"
Enable SSL to VDA
Running command Enable-VdaSSL to enable or disable SSL to VDA.
This includes:
    a.Disable SSL to VDA or
    b.Enable SSL to VDA
        1.Setting registry keys
        2.Setting ACLs
        3.Configuring Firewall

Setting registry keys...
Registry keys set.

Configure ACLs
Are you sure you want to perform this action?
This will grant PortIcaService read access to the certificate.
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help
(default is "Y"):y
ACLs set.

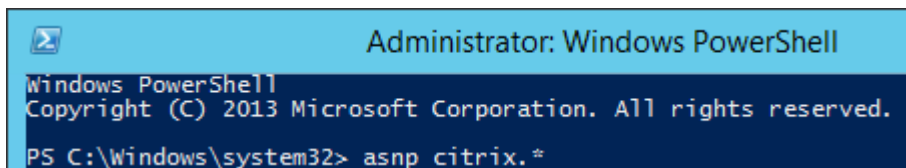
Configure Firewall
Are you sure you want to perform this action?
This will delete any existing firewall rules for port 443 and disable rules for CGP,
ICA and Websocket services, if present.
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help
(default is "Y"):y
Firewall configured.

SSL to VDA enabled.

```

17. Login to a Controller and run PowerShell as Administrator (elevated).

18. Run the command `asnp Citrix.*`



```

Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2013 Microsoft Corporation. All rights reserved.

PS C:\Windows\system32> asnp citrix.*

```

19. Enter the command:

```

Get-BrokerAccessPolicyRule -DesktopGroupName '<delivery-group-name>' |
Set-BrokerAccessPolicyRule -HdxSslEnabled $true

```

where *<delivery-group-name>* is the name of the Delivery Group containing the VDAs.

```

PS C:\Windows\system32> Get-BrokerAccessPolicyRule -DesktopGroupName "RDSH 2012
R2" | Set-BrokerAccessPolicyRule -HdxSslEnabled $true

```

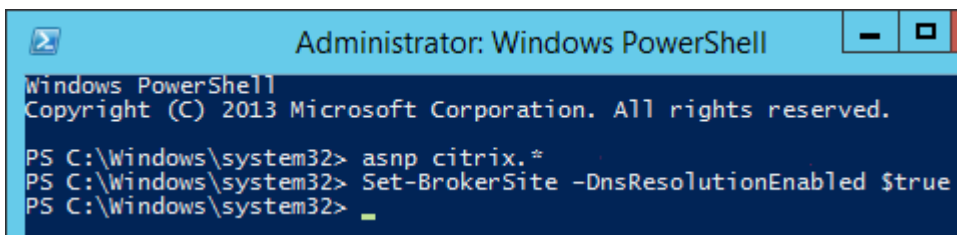
20. You can run `Get-BrokerAccessPolicyRule -DesktopGroupName '<delivery-group-name>'` to verify that HDX SSL is enabled.

```
ExcludedUsers           : {}
HdxSslEnabled           : true
IncludedClientIPFilterEnabled : False
IncludedClientIPs       : {}
IncludedClientNameFilterEnabled : False
IncludedClientNames     : {}
IncludedSmartAccessFilterEnabled : True
IncludedSmartAccessTags : {}
IncludedUserFilterEnabled : True
IncludedUsers            : {CORP\Domain Users}
MetadataMap             : {}
Name                    : RDSH 2012 R2_Direct
Uid                      : 1

PS C:\Windows\system32> Get-BrokerAccessPolicyRule -DesktopGroupName "RDSH 2012 R2"
```

21. Also run the following command:

```
Set-BrokerSite -DnsResolutionEnabled $true
```



```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2013 Microsoft Corporation. All rights reserved.

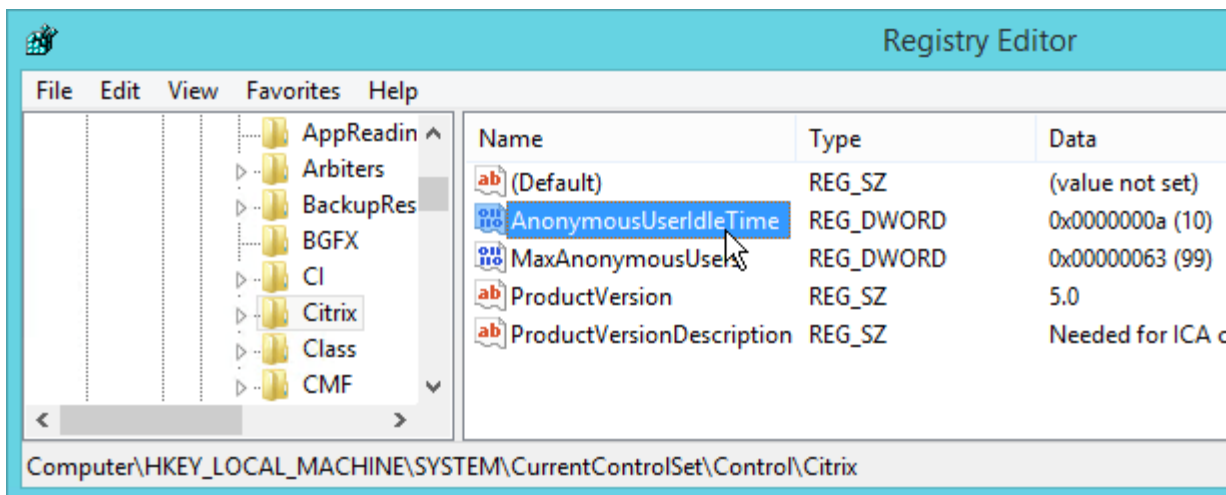
PS C:\Windows\system32> asnp citrix.*
PS C:\Windows\system32> Set-BrokerSite -DnsResolutionEnabled $true
PS C:\Windows\system32> _
```

You should now be able to connect to the VDA using the HTML5 Receiver from internal machines.

Anonymous Accounts

If you intend to publish apps anonymously then follow this section.

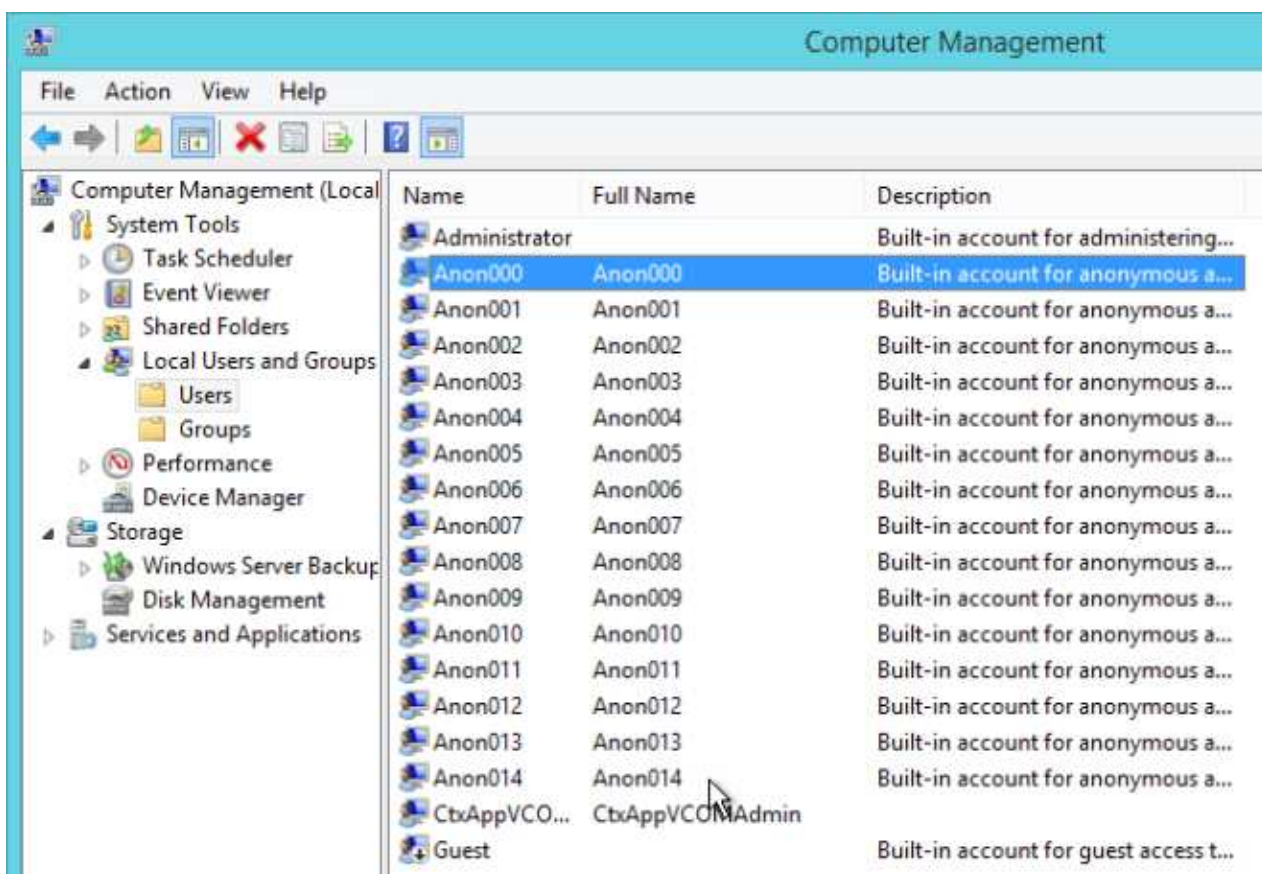
1. Anonymous accounts are created locally on the VDAs. When XenDesktop creates Anon accounts it gives them an idle time as specified at **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Citrix\AnonymousUserIdleTime**. The default is 10 minutes. Adjust as desired.



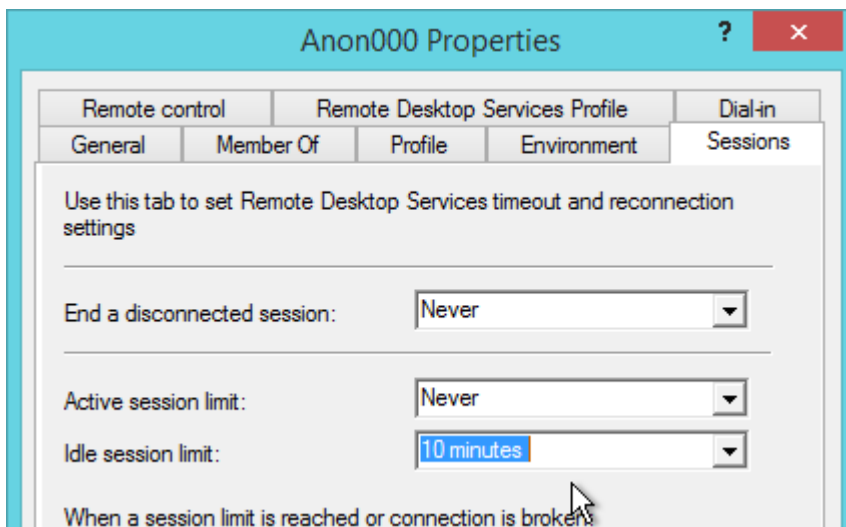
- You can pre-create the Anon accounts on the VDA by running “C:\Program Files\Citrix\ICAConfigTool\CreateAnonymousUsersApp.exe”. If you don’t run this tool then Virtual Delivery Agent will create them automatically when users log in.

```
C:\Windows\system32>"C:\Program Files\Citrix\ICAConfigTool\CreateAnonymousUsersApp.exe" /?
Error: Invalid number for command line parameters
Usage:
CreateAnonymousUsersApp.exe
  /NumUsers - the number of Anonymous Users to add or
  /Remove - remove the Anonymous Users.
```

- You can see the local Anon accounts by opening Computer Management, expanding **System Tools**, expand **Local Users and Groups** and clicking **Users**.



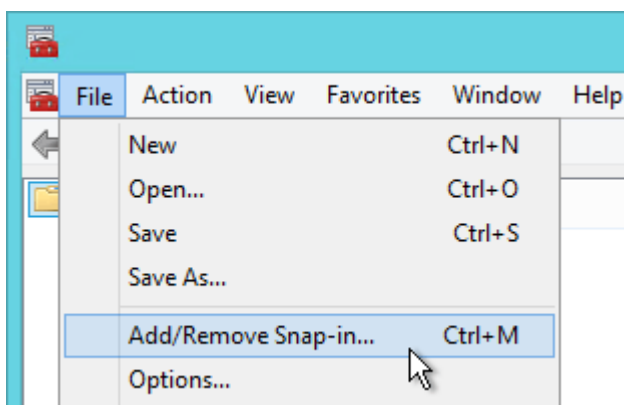
4. If you open one of the accounts, on the **Sessions** tab, notice that idle timeout defaults to **10 minutes**. Feel free to change it.



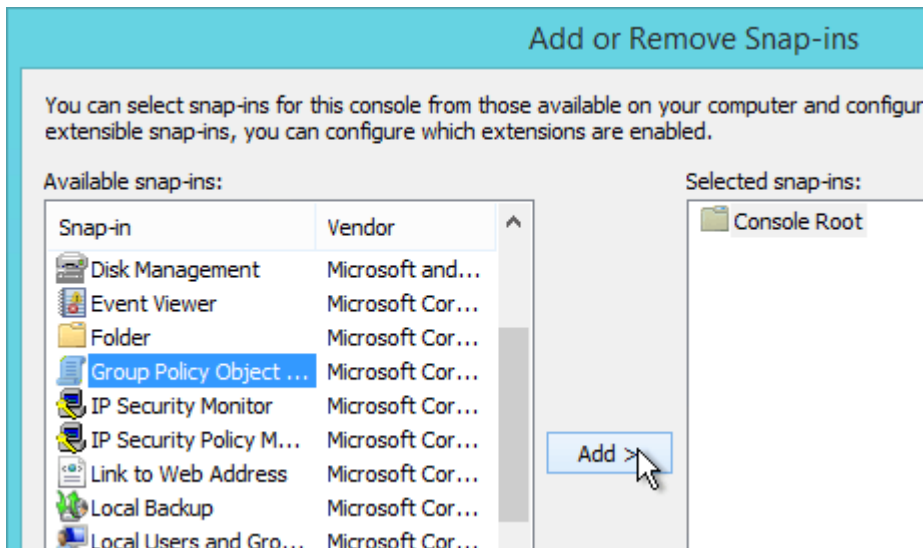
Group Policy for Anonymous Users

Since Anonymous users are local accounts on each Virtual Delivery Agent, domain-based GPOs will not apply. To work around this limitation, you'll need to edit the local group policy on each Virtual Delivery Agent.

1. On the Virtual Delivery Agent, run **gpedit.exe**.
2. Open the **File** menu and click **Add/Remove Snap-in**.



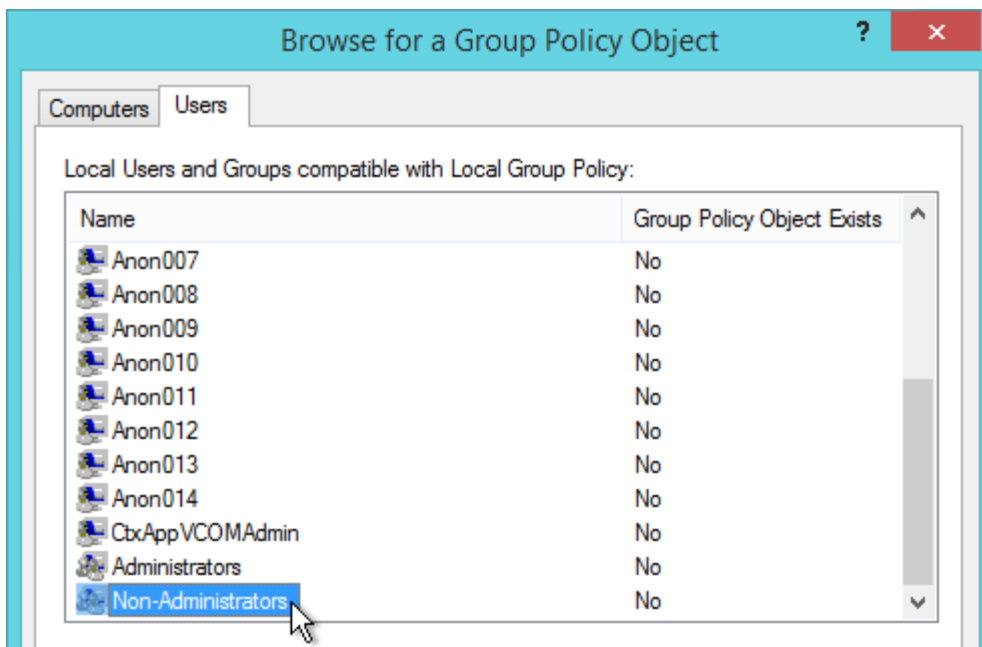
3. Highlight **Group Policy Object Editor** and click **Add** to move it to the right.



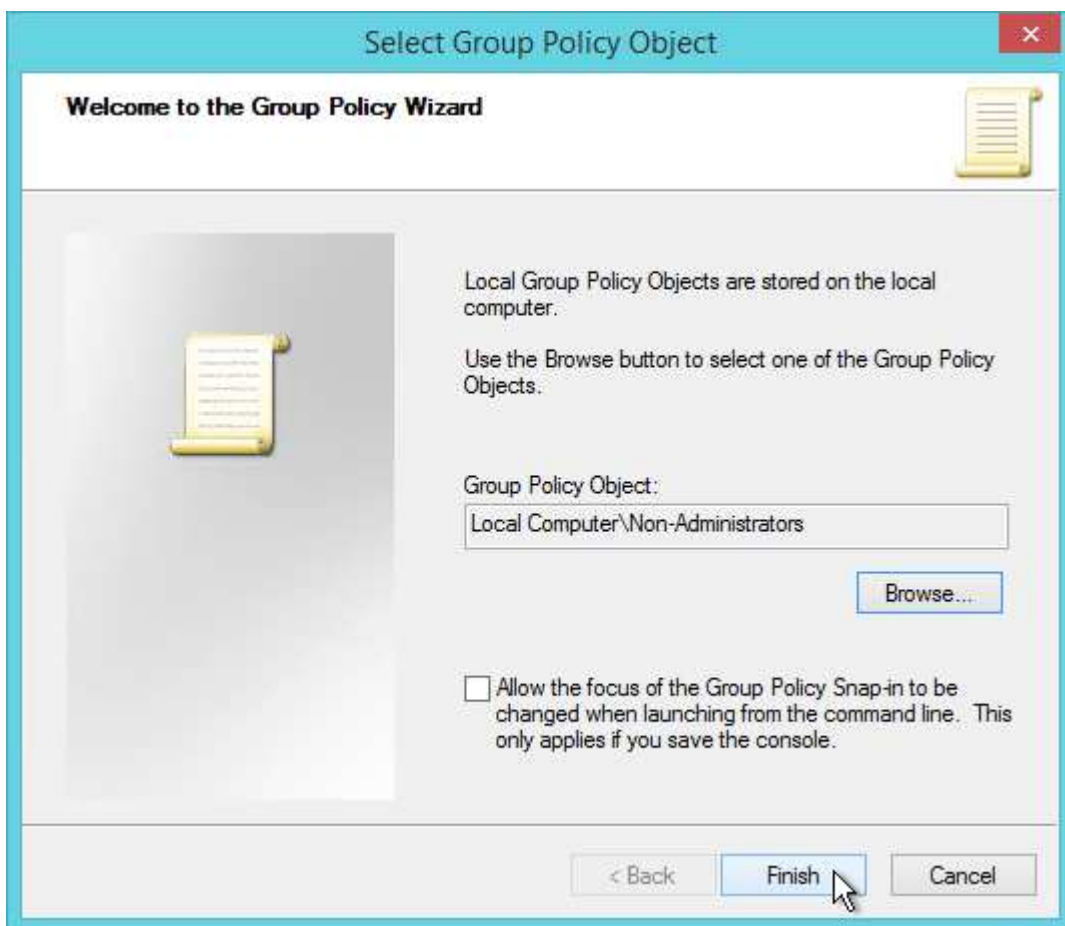
4. In the *Welcome to the Group Policy Wizard* page, click **Browse**.



5. On the **Users** tab, select **Non-Administrators**.



6. Click **Finish**.



7. Now you can configure group policy to lockdown sessions for anonymous users. Since this is a local group policy, you'll need to repeat the group policy configuration on every Virtual Delivery Agent image. Also, Group Policy Preferences is not available in local group policy.

Antivirus

Install antivirus using your normal procedure. Instructions vary for each Antivirus product.

Microsoft's virus scanning recommendations (e.g. exclude group policy files) – <http://support.microsoft.com/kb/822158>.

Citrix's Recommended Antivirus Exclusions

Citrix CTX127030 [Citrix Guidelines for Antivirus Software Configuration](#): Based on Citrix Consulting's field experience, organizations might wish to consider configuring antivirus software on session hosts with the settings below.

- Scan on write events or only when files are modified. It should be noted that this configuration is typically regarded as a high security risk by most antivirus vendors. In high-security environments, organizations should consider scanning on both read and write events to protect against threats that target memory, such as Conficker variants.
- Scan local drives or disable network scanning. This assumes all remote locations, which might include file servers that host user profiles and redirected folders, are being monitored by antivirus and data integrity solutions.
- Exclude the pagefile(s) from being scanned.
- Exclude the Print Spooler directory from being scanned.
- Remove any unnecessary antivirus related entries from the Run key (**HKLM\Software\Microsoft\Windows\Current Version\Run**).
- If using the streamed user profile feature of Citrix Profile management, ensure the antivirus solution is configured to be aware of Hierarchical Storage Manager (HSM) drivers. For more information, refer to [Profile Streaming and Enterprise Antivirus Products](#).

Symantec

Symantec links:

- Symantec TECH91070 [Citrix and terminal server best practices for Endpoint Protection](#).
- Symantec TECH197344 [Best practices for virtualization with Symantec Endpoint Protection 12.1.2](#)
- Symantec TECH180229 [Symantec Endpoint Protection 12.1 – Non-persistent Virtualization Best Practices](#)
- Symantec TECH123419 [How to prepare Symantec Endpoint Protection clients on virtual disks](#)

for use with Citrix Provisioning Server has a script that automates changing the MAC address registered with Symantec.

- Citrix Blog Post How to prepare a Citrix Provisioning Services Target Device for Symantec Endpoint Protection

Non-persistent session hosts:

After you have installed the Symantec Endpoint Protection client and disabled Tamper Protection, open the registry editor on the base image.

1. Navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Symantec\Symantec Endpoint Protection\SMC.
2. Create a new key named **Virtualization**.
3. Under **Virtualization**, create a key of type DWORD named **IsNPVDIClient** and set it to a value of 1.

To configure the purge interval for offline non-persistent session host clients:

1. In the Symantec Endpoint Protection Manager console, on the **Admin** page, click **Domains**.
2. In the **Domains** tree, click the desired domain.
3. Under **Tasks**, click **Edit Domain Properties**.
4. On the **Edit Domain Properties > General** tab, check the **Delete non-persistent VDI clients that have not connected for specified time** checkbox and change the days value to the desired number. The Delete clients that have not connected for specified time option must be checked to access the option for offline non-persistent VDI clients.
5. Click **OK**.

Make the following changes to the Communications Settings policy:

1. Configure clients to download policies and content in Pull mode
2. Disable the option to Learn applications that run on the client computers
3. Set the Heartbeat Interval to no less than one hour
4. Enable Download Randomization, set the Randomization window for 4 hours

Make the following changes to the Virus and Spyware Protection policy:

1. Disable all scheduled scans
2. Disable the option to “Allow startup scans to run when users log on” (This is disabled by default)
3. Disable the option to “Run an ActiveScan when new definitions Arrive”

Avoid using features like application learning which send information to the SEPM and rely on client state to optimize traffic flow

Linked clones:

To configure Symantec Endpoint Protection to use Virtual Image Exception to bypass the scanning of base image files

1. On the console, open the appropriate Virus and Spyware Protection policy.
2. Under **Advanced Options**, click **Miscellaneous**.
3. On the **Virtual Images** tab, check the options that you want to enable.
4. **Click OK**

Trend Micro

Citrix CTX136680 – [Slow Server Performance After Trend Micro Installation](#). Citrix session hosts experience slow response and performance more noticeable while users try to log in to the servers. At some point the performance of the servers is affected, resulting in issues with users logging on and requiring the server to be restarted. This issue is more noticeable on mid to large session host infrastructures.

Trend Micro has provided a registry fix for this type of issue. Create the following registry on all the affected servers. Add new DWORD Value as:

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\TmFilterParameters] "DisableCt-ProcCheck"=dword:00000001
```

Trend Micro Links:

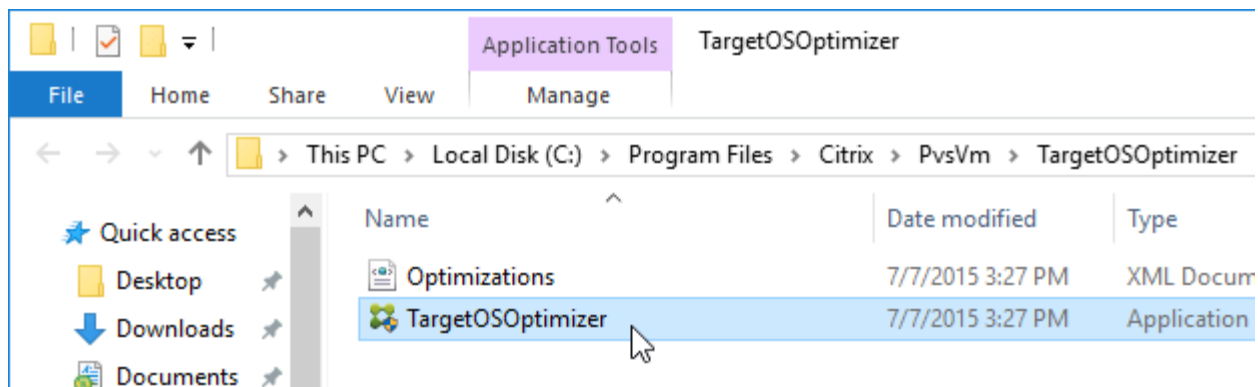
- Trend Micro Docs – [Trend Micro Virtual Desktop Support](#)
- Trend Micro Docs – [VDI Pre-Scan Template Generation Tool](#)
- Trend Micro 1055260 – [Best practice for setting up Virtual Desktop Infrastructure \(VDI\) in OfficeScan](#)
- Trend Micro 1056376 – [Frequently Asked Questions \(FAQs\) about Virtual Desktop Infrastructure/Support In OfficeScan](#)

Optimize Performance

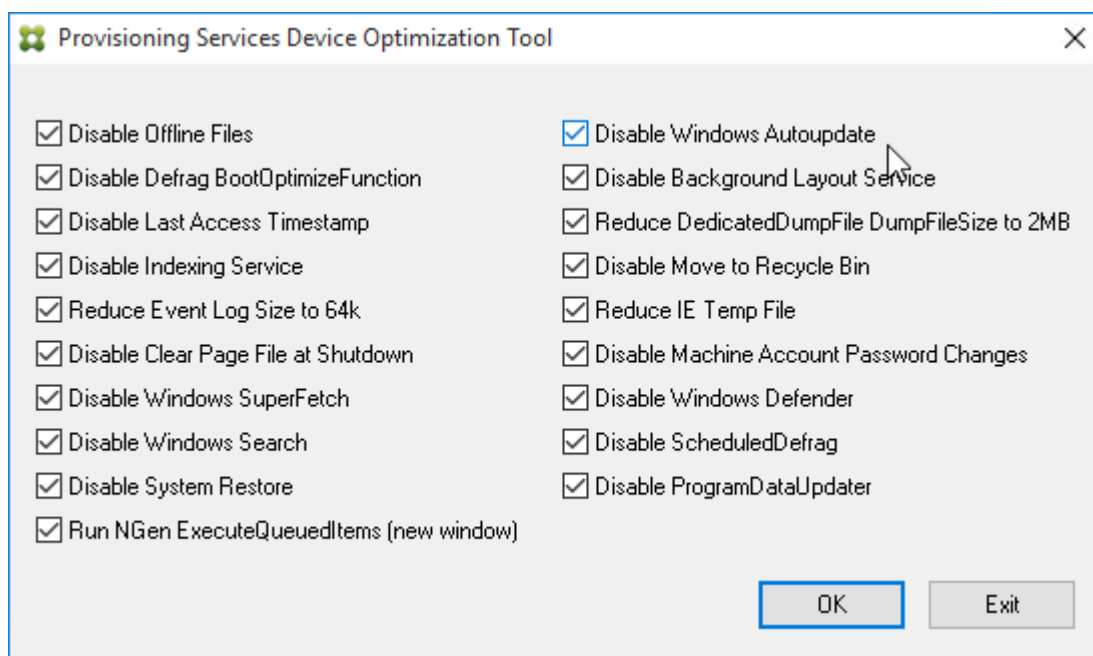
VDA Optimizer

Installation of the VDA might have already done this but there's no harm in doing it again. This tool is only available if you installed VDA in Master Image mode.

1. On the master VDA, go to **C:\Program Files\Citrix\PvsVm\TargetOSOptimizer** and run **TargetOSOptimizer.exe**.



2. Then click **OK**. Notice that it disables Windows Update.



RDSH

Citrix CTX131577 XenApp 6.x (Windows 2008 R2) – Optimization Guide is a document with several registry modifications that are supposed to improve server performance. Ignore the XenApp 6 content and instead focus on the Windows content.

Citrix CTX131995 User Cannot Launch Application in Seamless Mode in a Provisioning Services Server when XenApp Optimization Best Practices are Applied. Do not enable NtfsDisable8dot3NameCreation

Norskale has [Windows 2008 R2 Remote Desktop and XenApp 6 Tuning Tips Update](#).

Windows 7

Microsoft has [compiled a list of links to various optimization guides](#).

It's a common practice to optimize a Windows 7 virtual machine (VM) template (or image) specifically for VDI use. Usually such customizations include the following.

- Minimize the footprint, e.g. disable some features and services that are not required when the OS is used in “stateless” or “non-persistent” fashion. This is especially true for disk-intensive workloads since disk I/O is a common bottleneck for VDI deployment. (Especially if there are multiple VMs with the same I/O patterns that are timely aligned).
- Lock down user interface (e.g. optimize for specific task workers).

With that said the certain practices are quite debatable and vary between actual real-world deployments. Exact choices whether to disable this or that particular component depend on customer requirements and VDI usage patterns. E.g. in personalized virtual desktop scenario there's much less things to disable since the machine is not completely “stateless”. Some customers rely heavily on particular UI functions and other can relatively easily trade them off for the sake of performance or standardization (thus enhance supportability and potentially security). This is one of the primary reasons why Microsoft doesn't publish any “VDI Tuning” guide officially.

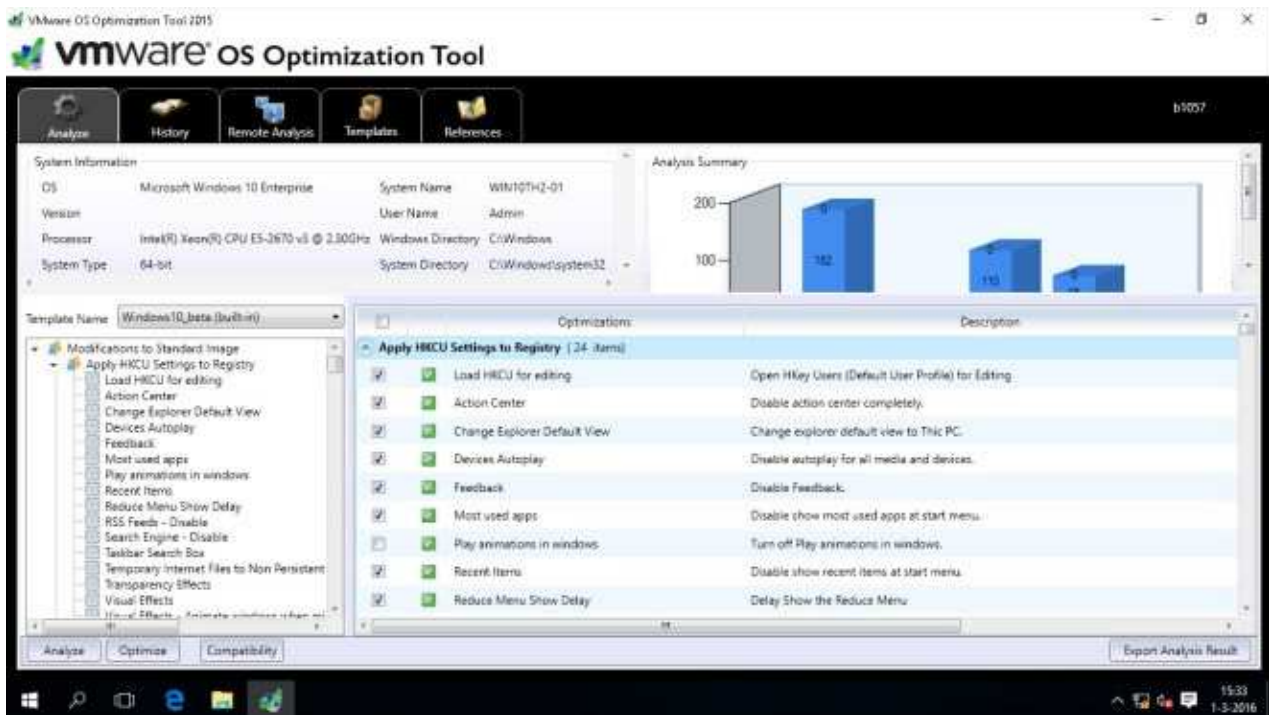
Though there are a number of such papers and even tools published either by the community or third parties. This Wiki page is aimed to serve as a consolidated and comprehensive list of such resources.

Daniel Ruiz [XenDesktop Windows 7 Optimization and GPO's Settings](#) –

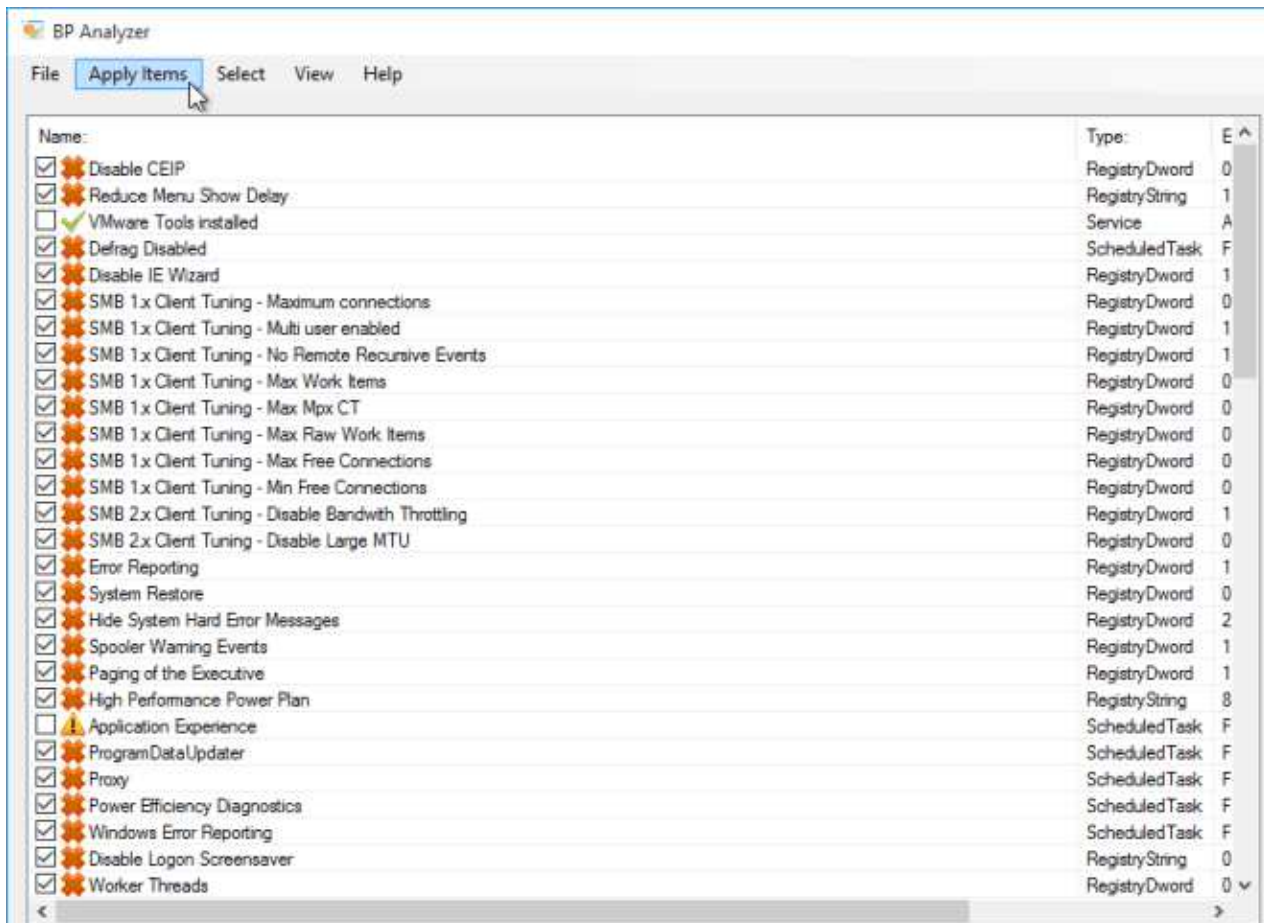
Microsoft Whitepaper [Performance Optimization Guidelines for Windows 7 Desktop Virtualization](#)

Windows 10 / Windows 8.1 / Windows 2012 R2

- VMware's [OS Optimization Tool](#) plus Login VSI's [tuning template](#)



- James Rankin [Improving Windows 10 logon time:](#)
 - Use **Remove-AppXProvisionedPackage** to remove Modern apps. See the article for a list of apps to remove.
 - Import a Standard **Start Tiles layout** (Export-StartLayout)
 - Create a template user profile
- Citrix's [Windows 8 and 8.1 Virtual Desktop Optimization Guide](#)
- Citrix Blog Post [Windows 8 and Server 2012 Optimization Guide](#) contains the following:
 - A list of services to disable
 - A list of computer settings
 - A list of scheduled tasks to disable
 - A script to do all of the above
- Carl Luberti (Microsoft) [Windows 10 VDI Optimization Script](#)
- Microsoft's [Windows 8 VDI optimization script](#).
- [Desktop Virtualization Best Practice Analyzer \(BP Analyzer\)](#)



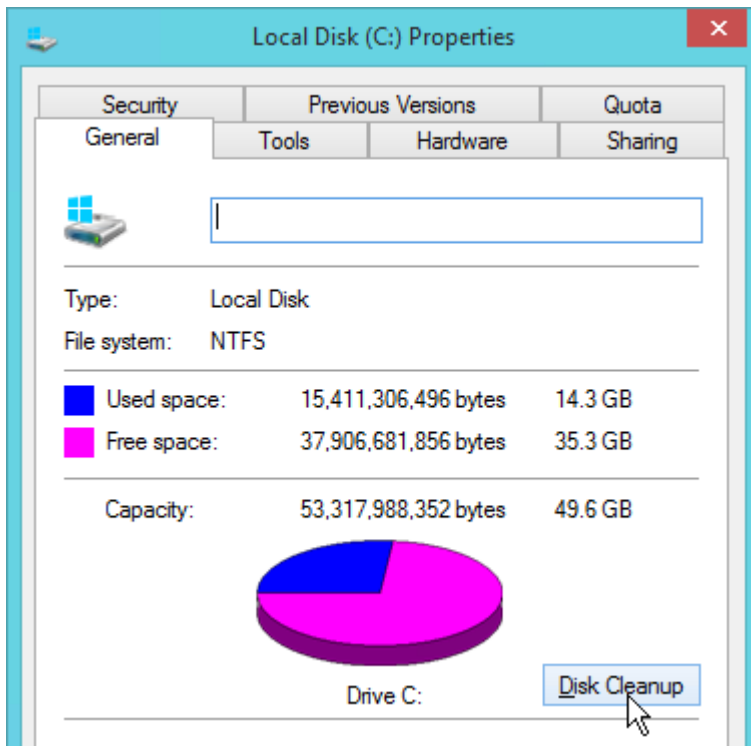
Optimization Notes:

- If this machine is provisioned using Provisioning Services, do not disable the Shadow Copy services.
- Windows 8 detects VDI and automatically disables SuperFetch. No need to disable it yourself.
- Windows 8 automatically disables RSS and TaskOffload if not supported by the NIC.

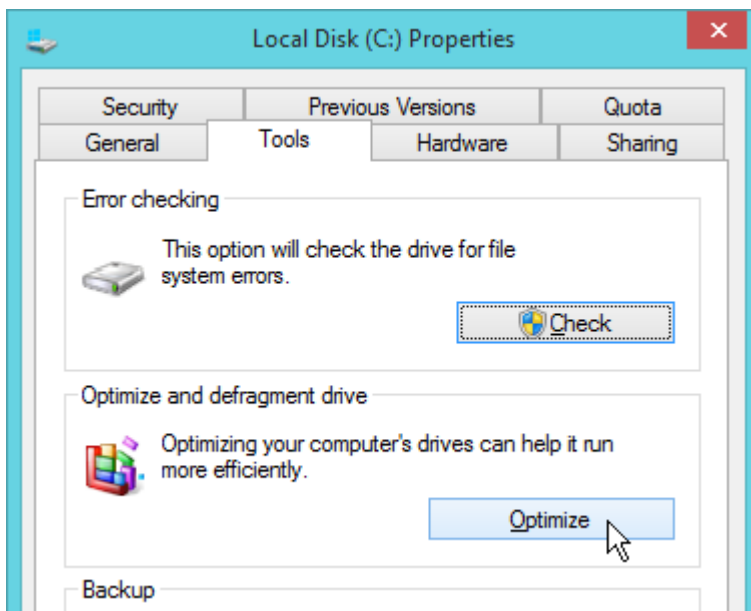
Seal and Shut Down

If this session host will be a master image in a Machine Creation Services or Provisioning Services catalog, after the master is fully prepared (including applications), do the following:

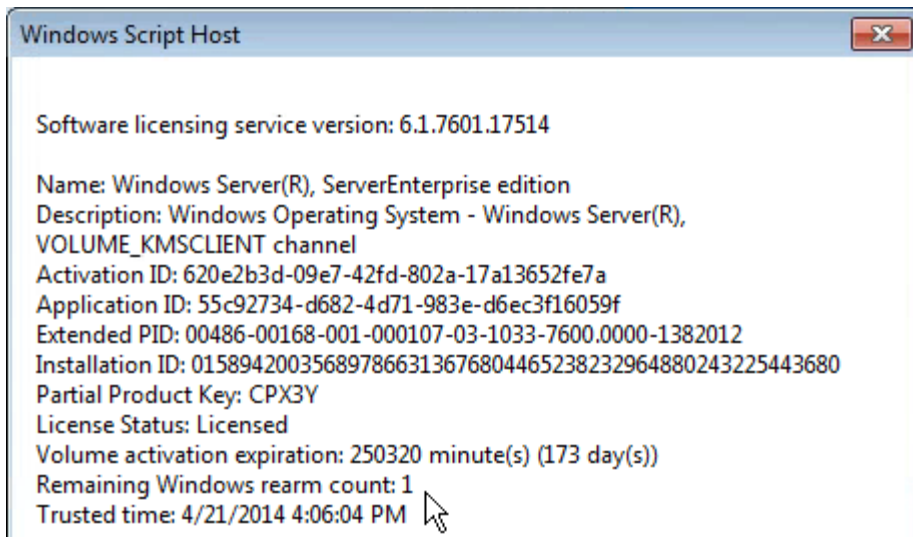
1. Go to the properties of the C: drive and run **Disk Cleanup**.



2. On the **Tools** tab, click **Optimize** to defrag the drive.



3. Run **slmgr.vbs /dlv** and make sure it is licensed with KMS and has at least one rearm remaining. It is no longer necessary to manually rearm licensing. XenDesktop will do it automatically.



4. Run **Delprof2** to clean up local profiles. Get it from <http://helgeklein.com/download/>.

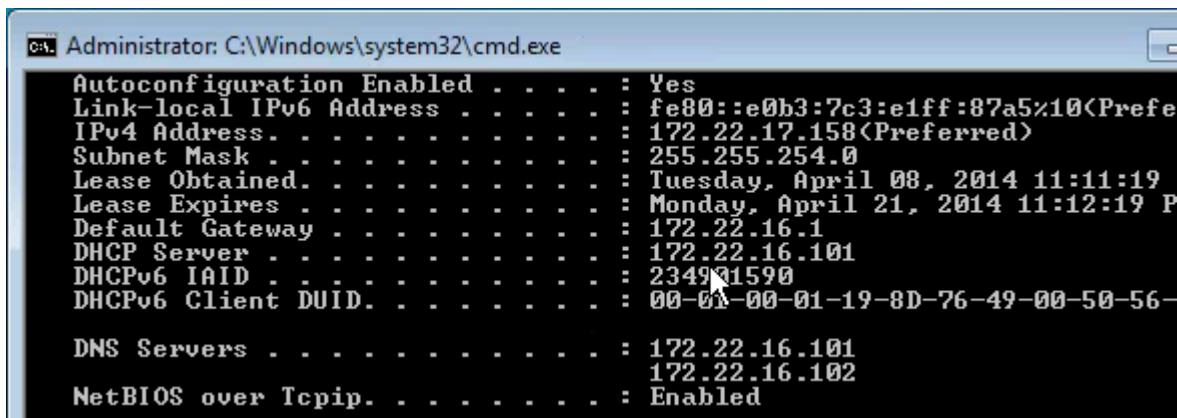
Delprof2

Delete user profiles from the command line

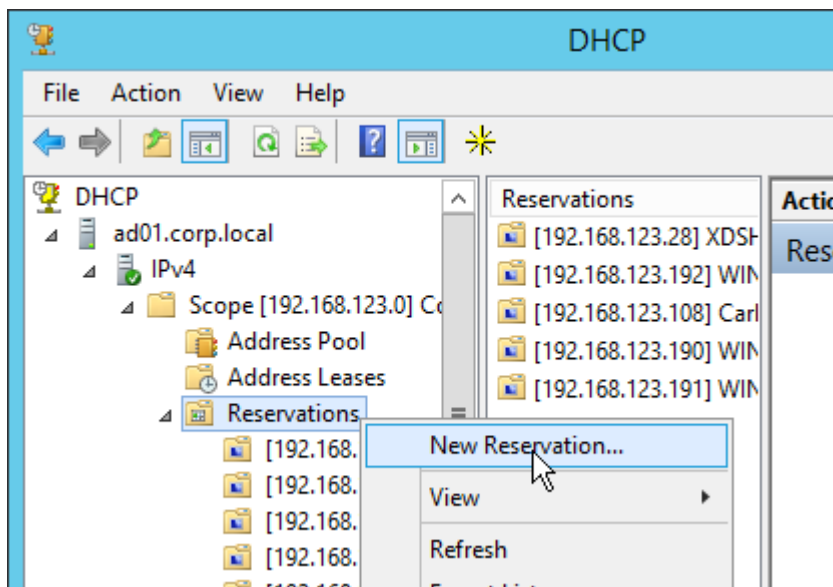
Please note that Delprof2 is free for **non-commercial** use only. For details please see the [license](#).

Download [DelProf2 1.6.0](#) for 32-bit and 64-bit Windows

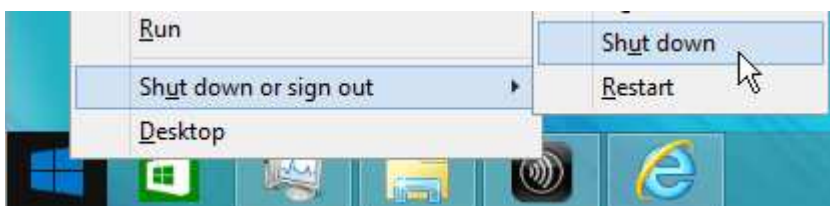
5. Machine Creation Services and Provisioning Services require DHCP.



Session hosts commonly have DHCP reservations.



- Shut down the master image. You can now use Studio or [Provisioning Services](#) to create a catalog of linked clones.



Troubleshooting – Graphics

If Windows 7 on vSphere, don't install the VMware SVGA driver. For more details, see [CTX201804 Intermittent Connection Failures/Black Screen Issues When Connecting from Multi-Monitor Client Machines to Windows 7 VDA with VDA 7.x on vSphere/ESXi](#).

For an explanation of Citrix's graphics policy settings, see [A graphical deep dive into XenDesktop 7 and What's new with HDX display in XenDesktop & XenApp 7.x?](#)

Citrix Knowledgebase article [CTX200370 – How to Determine HDX Display Mode: Use wmic or HDX Monitor](#) as described in the article to determine which of the following display mode options is being used:

- DCR (Desktop Composition Redirection)
- H.264 / H.264 Compatibility Mode
- Legacy Graphics Mode

Citrix Blog Post – [Site Wide View of HDX Graphics Modes](#); PowerShell script to display graphics mode of currently connected sessions.

Citrix Blog post – [Optimising the performance of HDX 3D Pro – Lessons from the field](#)

From Citrix Tips – [Black Screen Issues with 7.x VDA](#): Users would make a successful ICA connection but the screen would stay totally black.

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\vbdenum]

- “Start”=dword:00000001
- “MaxVideoMemoryBytes”=dword:06000000
- “Group”= “EMS”

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\vd3d]

- “MaxVideoMemoryBytes”=dword:00000000

From Citrix Knowledgebase article CTX200257 – [Screen Issues Connecting to 4K Resolution Monitors in DCR Mode](#):

1. Calculate the video memory that is required for 4K monitor using the following formula:

Sum of total monitors (Width * height * 4 * X) where width and height are resolution of the monitor.

X = 2 if VDA is Windows 7 OR **X = 3** if VDA is Windows 8.1/10

Example: Suppose a Windows 7 VDA is connecting to a client that has dual 4K monitors (3840x2160), then video buffer should be: $(3840 \times 2160 \times 4 \times 2) + (3840 \times 2160 \times 4 \times 2) = \sim 115\text{MB}$

2. Open the registry (regedit) and navigate to:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\vd3d

3. Increase the value of “**MaxVideoMemoryBytes**” REG_DWORD value to the above calculated memory.

4. Reboot the VDA

From [Citrix Discussions](#): To exclude applications from Citrix 3D rendering, create a REG_DWORD registry value “app.exe” with value 0 or a registry value “*” with value 0.

- XD 7.1 and XD 7.5:
 - x86: reg add hkml\software\citrix\vd3d\compatibility /v * /t REG_DWORD /f /d 0
 - x64: reg add hkml\software\Wow6432Node\citrix\vd3d\compatibility /v * /t REG_DWORD /f

/d 0

- XD 7.6/7.7/7.8 both x86 and x64:
 - reg add hklm\software\citrix\vd3d\compatibility /v * /t REG_DWORD /f /d 0

Wildcards are not supported. The asterisk * here has a special meaning “all apps” but is not a traditional wildcard. To blacklist multiple apps e.g. both appa.exe and appb.exe must be done by creating a registry value for each app individually.

This is most problematic in Remote PC since most physical PCs have GPUs. I recently had to blacklist Internet Explorer to prevent lockup issues when switching back to physical.

Uninstall VDA

Uninstall the VDA from Programs and Features.

Then see CTX209255 [VDA Cleanup Utility](#).

Related Pages

- [Provisioning Services Master Device Preparation](#)
- [Catalogs / Delivery Groups](#)



📅 February 25, 2016 👤 Carl Stalhood 📁 XenApp/XenDesktop, XenApp/XenDesktop 7.8

26 thoughts on “Virtual Delivery Agent (VDA) 7.8”



Amt

September 7, 2016 at 1:46 pm

Hi Carl,

Is Linux Mint Cinnamon 17.03 VDI supported on XenDesktop 7.8? Can we use Receiver 13.4 for Linux? Is there any VDA for this OS?

Regards



Amt

September 8, 2016 at 1:10 pm

Hi Carl,

Please let me know if Linux Mint Cinnamon 17.03 VDI supported on XenDesktop 7.8 or does it only support Redhat, CentOS, SUSE?

Regards,



Carl Stalhood 

September 8, 2016 at 1:38 pm

I suspect only the distributions listed at <http://docs.citrix.com/en-us/xenapp-and-xendesktop/7-9/install-configure/red-hat-linux-vda.html> are supported. It might work on others, but no support.

How many Linux VDAs are you considering?



Amt

September 8, 2016 at 1:59 pm

For now only 2-3 Linux VDIs for consultants to work remotely.



Phil Bedell (@PhilBedell)

August 3, 2016 at 3:20 pm

Just went through 2012 RDS hell and found a simple solution to the errors about grace period and just setting it up in general.

Microsoft explains it here: <https://support.microsoft.com/en-us/kb/2833839>

Basically Add Roles and Under Remote Desktop Services, choose Remote Desktop Licensing and Remote Desktop Session Host role services. (Note: The VDA installs

Remote Desktop Session Host role service)

Reboot and run the following

1. Open an elevated Windows PowerShell prompt
2. Type the following command on the PS prompt and press Enter:
`$obj = gwmi -namespace "Root/CIMV2/TerminalServices" Win32_TerminalServiceSetting`
3. Run the following command to set the licensing mode:
`$obj.ChangeMode(value)`
Note: Value = 2 for Per device, Value = 4 for Per User
4. Run the following command to replace the machine name with License Server:
`$obj.SetSpecifiedLicenseServerList("LicServer")`
5. Run the following command to verify the settings that are configured using above mentioned steps:
`$obj.GetSpecifiedLicenseServerList()`
You should see the server name in the output.

Users can now initiate Remote Desktop Sessions to the server from any supported RDS client.



Dennis

July 13, 2016 at 10:23 am

Carl, for Office 2016 activation I have a KMS and AD setup both running. Is anything special needed for Office activation? I opened a case with Citrix Tech Support and was referred to this. Is this really the procedure for an MCS setup? Seems crazy.

<http://support.citrix.com/article/CTX128580>



Carl Stalhood

July 13, 2016 at 10:41 am

If volume license media, make sure KMS is working. When using MCS to create the Catalog, MCS will rearm it automatically. So it should just work.

**Bryan**

June 1, 2016 at 9:28 am

There is a typo in step 4 of Install Virtual Delivery Agent 7.8. KB3092630 should be 3072630. I have submitted feedback on the Citrix article (CTX212981) as well.

**Rikesh**

May 18, 2016 at 12:21 pm

Hi Carl

We have a hosted shared desktop.. A issue is we have a c:\temp folder where everyones sessionID gets created, while people are logged on they can all view eachothers session ID and see whats there. lotus notes writes attachments in there as well which is a issue as our windows environment variable is c:\temp for %temp%. There is no c:\users\username\appdata\local\temp path for some reason. Do you know if there a nice easy way to lock down each session so only the current user can see their own session.

**Carl Stalhood**

May 18, 2016 at 12:41 pm

What OS? If 2008, run Remote Desktop Session Host Config. There's a setting for "Use temporary folders per session". It's set to Yes by default. Maybe you have a GPO that changes it.

**Rikesh Sheth**

May 18, 2016 at 1:05 pm

Yes to 2008, if its turned off then where do the sessionid go?

**Tim McEnroe**

May 6, 2016 at 12:27 pm

Hi Carl,

Great and helpful post. Two quick question — Do you know if the problem with vSphere 6.0 hardware v11 has been resolved? I didn't see any updates on the

VMware article, but the issue is over a year old at this point. Secondly, does this apply to shared hosts as well as 'desktop OSES'?

Thanks in advance



Kevin Ray

May 4, 2016 at 12:20 am

Hi Carl,

Wondering if you can shed some expertise with me.

In my environment, all servers are hosted on AWS.

I have created an AMI (template) and create Machine Catalog using MCS to build the new machines.

This all works fine, except there are duplicate IDs. Machine SID, WSUS Client ID, etc..

Do you know if there are any issues with MCS and AWS regarding generalization...

All the MCS built servers seem to work, however all the SIDs are the same.

Any advice would be greatly appreciated.



Carl Stalhood

May 4, 2016 at 5:54 am

I have not done MCS in AWS. I assume you've looked through https://www.citrix.com/content/dam/citrix/en_us/documents/products-solutions/citrix-xenapp-and-xendesktop-7.6-on-amazon-web-services-reference-architecture.pdf

You can try posting your question to discussions.citrix.com.



Rikesh

April 29, 2016 at 3:27 am

Hi Carl, I have a hosted shared xendesktop 2008. We have a mix of japanese and english users, how can I have japanese UI for some and english for some. I dont think I want to change the system locale as it will make everything japanese for everyone on the image? What are the options per user? A gpo or is there a language pack?



Carl Stalhood



April 29, 2016 at 5:11 am

I believe you simply install multiple language packs for Windows and Office and Citrix will read the locale of the connecting client to select the correct one. Citrix itself (Controller, Studio, VDA) is in only language. StoreFront can handle multiple languages.



TimOn (@gen1uscat)

March 25, 2016 at 6:44 am

Is VDA 7.8 compatible with DDC 7.6?



Carl Stalhood 🧑

March 25, 2016 at 6:55 am

Yes. You can mix and match versions. It's a good way of testing newer VDAs without having to upgrade the Controllers first. But some new features won't work until the Controllers are upgraded.



TimOn (@gen1uscat)

March 25, 2016 at 9:00 am

Thank you, Carl! This is mean that I can use Windows 10 with VDA 7.8 on XenDesktop 7.6 LTSR while VDA 7.6 not support it.



Carl Stalhood 🧑

March 25, 2016 at 11:24 am

I believe 7.6.300 does support Windows 10 but I'm not sure if it's covered under the LTSR support policy.

**Arjen**

March 12, 2016 at 3:23 am

Hy Carl, I've updated my Win10 VDI to the XenDesktop 7.8 VDA and got a black / gray screen when starting my VDI through the receiver. See my topic on Citrix Support forums: <http://discussions.citrix.com/topic/376247-blackgray-screen-after-updating-vda-to-78-on-win10-vdi/> Do you have any idea?

**topokin**

March 9, 2016 at 1:49 am

Upgrade of VDA from 7.7 to 7.8 is failing with this message.

```
“11:02:07.3099 : XenDesktopSetup:Process completed with error code 1603
11:02:07.3109 $ERR$ : XenDesktopSetup:Installation of MSI File ‘TelemetryServiceInstaller_x64.msi’ failed with code ‘InstallFailure’ (1603).
11:02:07.3119 $ERR$ : XenDesktopSetup:InstallComponent: Failed to install component ‘Citrix Telemetry Service’. Installation of MSI File ‘TelemetryServiceInstaller_x64.msi’ failed with code ‘InstallFailure’ (1603).
11:02:07.3119 $ERR$ : XenDesktopSetup:Recording installation failure. Installation of MSI File ‘TelemetryServiceInstaller_x64.msi’ failed with code ‘InstallFailure’ (1603).”
```

Even when I remove 7.7 and install 7.8, I get the same error message.

**Carl Stalhood**

March 9, 2016 at 4:32 am

There are several threads on this at discussions.citrix.com. Google should be able to find them.

**Jeremiah Parker**

March 22, 2016 at 9:06 am

Is this in reference to the grey screen at logon? I am having the same problem after going to 7.8. It establishes a session on the server, but just a grey screen on client machine.

**Dennis**

July 13, 2016 at 11:38 am

topokin, I had something really similar to this on a 7.6 VDA, going to 7.7. I opened a case with Citrix and they gave me a Microsoft fixit that resolved the error. I am not sure if this is it or not but I googled and found this one...

<https://support.microsoft.com/en-us/help/17588/fix-problems-that-block-programs-from-being-installed-or-removed>

**Dennis**

July 13, 2016 at 11:43 am

Yeah, that's the destination that my link resolved to. Try it even if you are working on a server system. OS' affected in article just list Client OS' (7,8, 10, etc) but this worked on server 2008 R2.

Reference case 71114449 for your tech for more info if you want to refer to my case.
