

Carl Stalhood

Filling gaps in EUC vendor documentation

Provisioning Services – Server Install

Last Modified: Nov 4, 2016 @ 7:49 am

🗨 38 Comments

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Planning

Provisioning Services Planning – Reference List – <http://support.citrix.com/article/CTX137199>

[PvS Firewall Rules](#)

Download [Provisioning Services 7.11](#).

Provisioning Services 7.11

Sep 14, 2016

658.0 MB - (.ISO) [Download File](#)



Citrix License Server Version

Make sure the Citrix Licensing server is [11.14.0.1 build 17005](#) or newer.

License Server - Version 11.14.0.1 for Windows

Sep 13, 2016

44.0 MB - (.ZIP) [Download File](#)

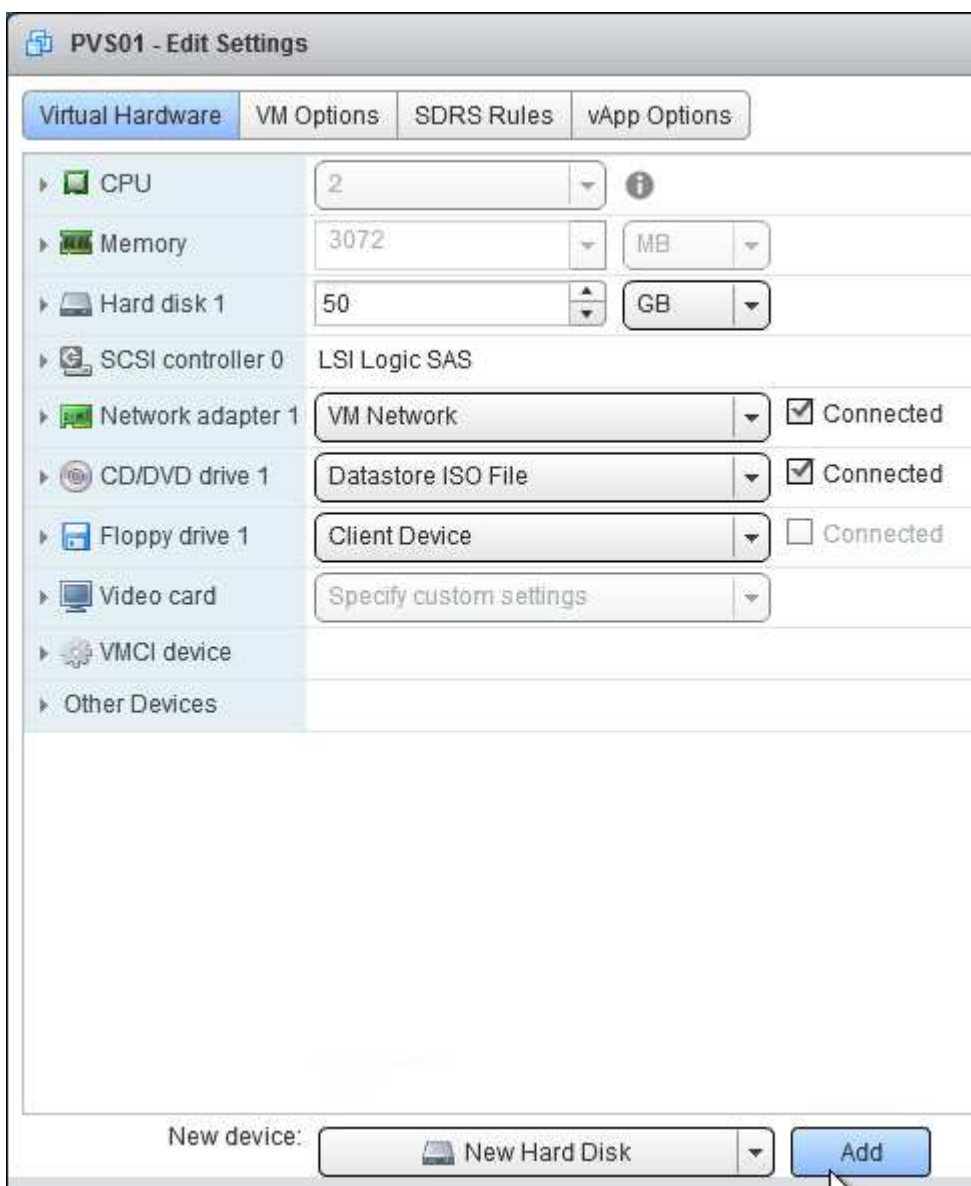


vDisk Storage

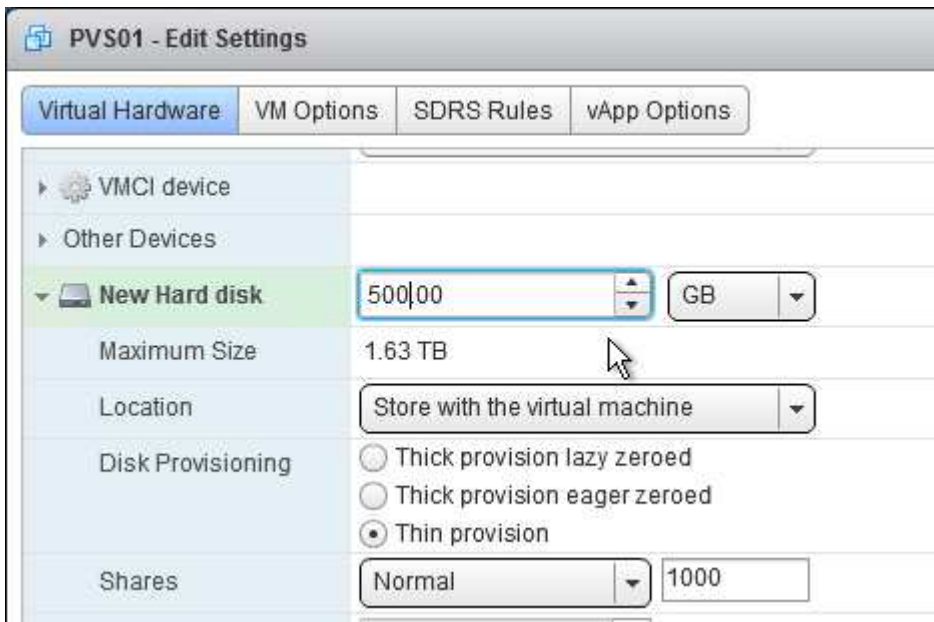
Do the following on both PvS Servers. The vDisks will be stored locally on both servers. You must synchronize the files on the two servers: either manually (e.g. Robocopy), or automatically (e.g. DFS Replication).

Create D: Drive

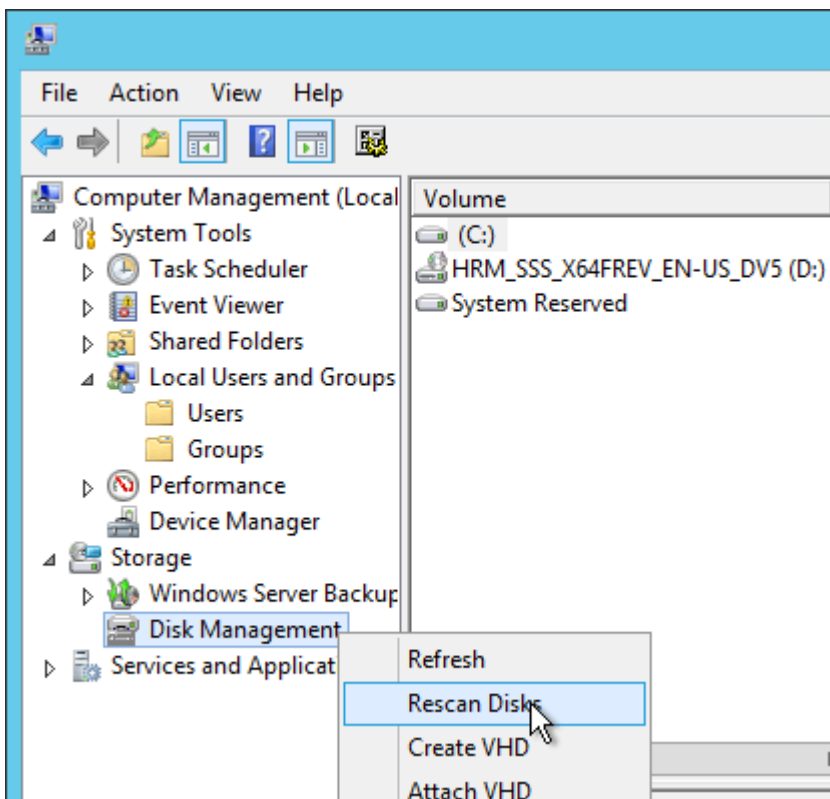
1. In the vSphere Web Client, edit the settings for each of the Provisioning Services server virtual machines.
2. On the bottom, use the drop-down list to select **New Hard Disk** and click **Add**.



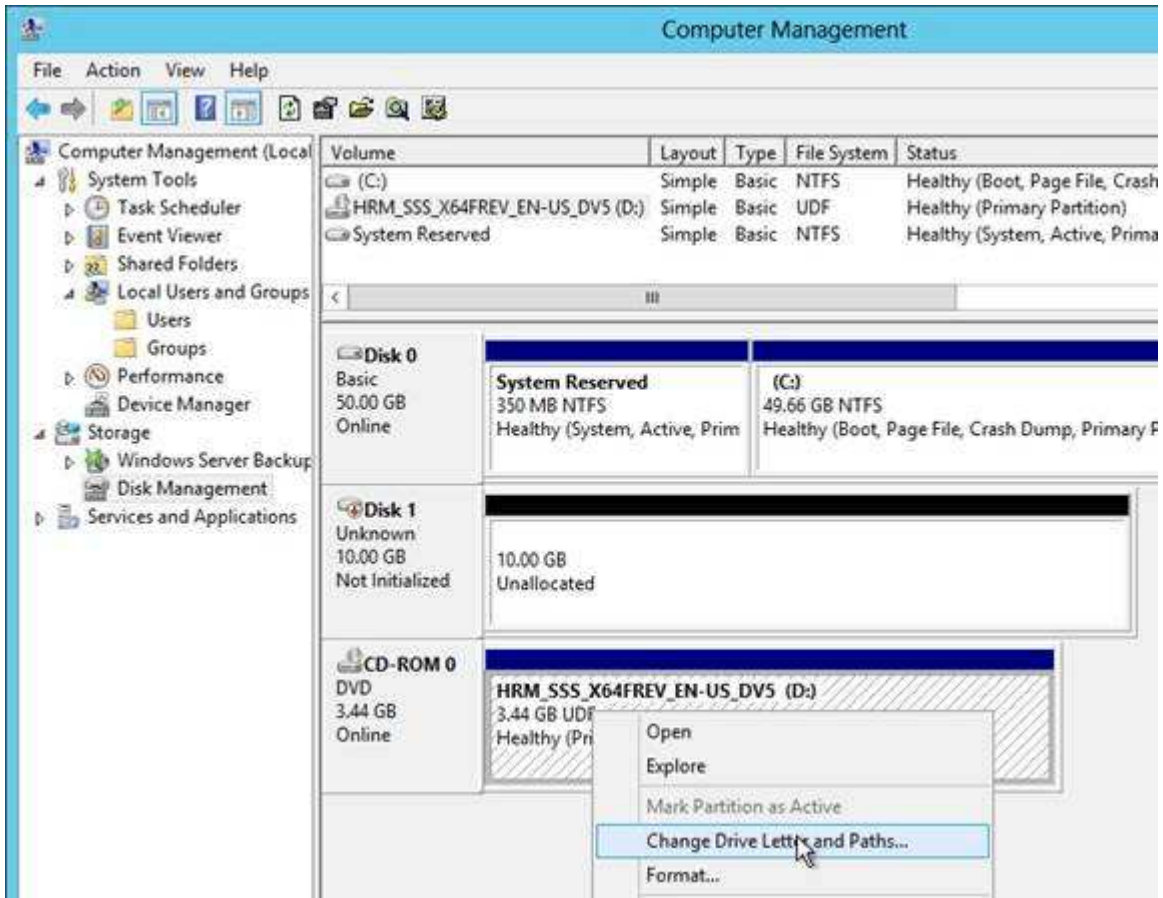
3. Expand the New Hard disk by clicking the arrow next to it.
4. Change the disk size to 500 GB or higher. It needs to be large enough to store the vDisks. Each full vDisk is 40 GB plus a chain of snapshots. Additional space is needed to merge the chain.
5. Feel free to select **Thin provision**, if desired. Click **OK** when done.



6. Login to the session host. In *Server Manager*, open the **Tools** menu and click **Computer Management**.
7. Under **Storage** right-click **Disk Management** and click **Rescan Disks**.

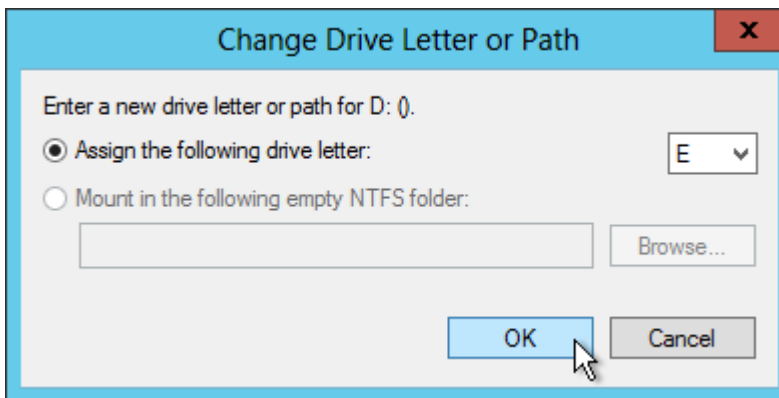


8. On the bottom right, right-click the CD-ROM partition and click **Change Drive Letters and Paths**.



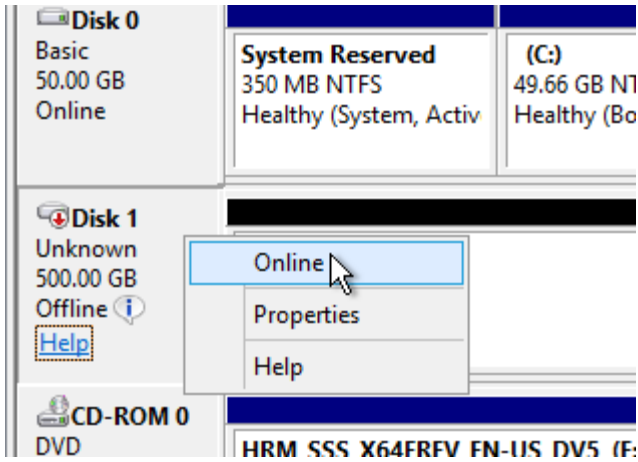
9. Click **Change**.

10. Change the drive letter to **E:** and click **OK**.

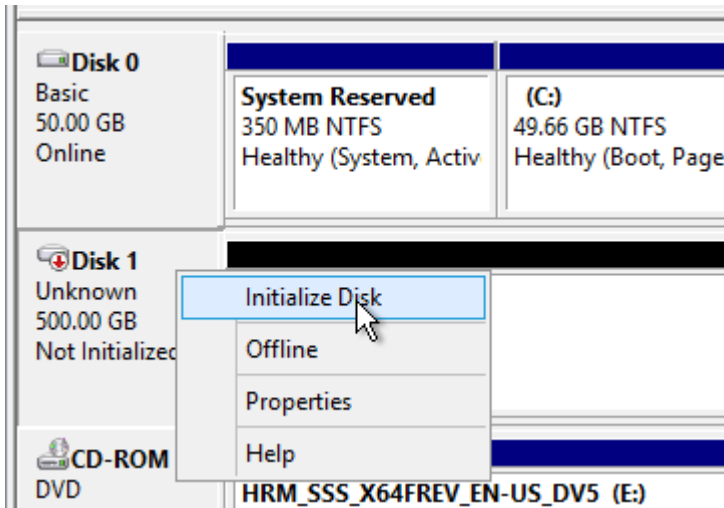


11. Click **Yes** when asked to continue.

12. Right-click Disk 1 and click **Online**.

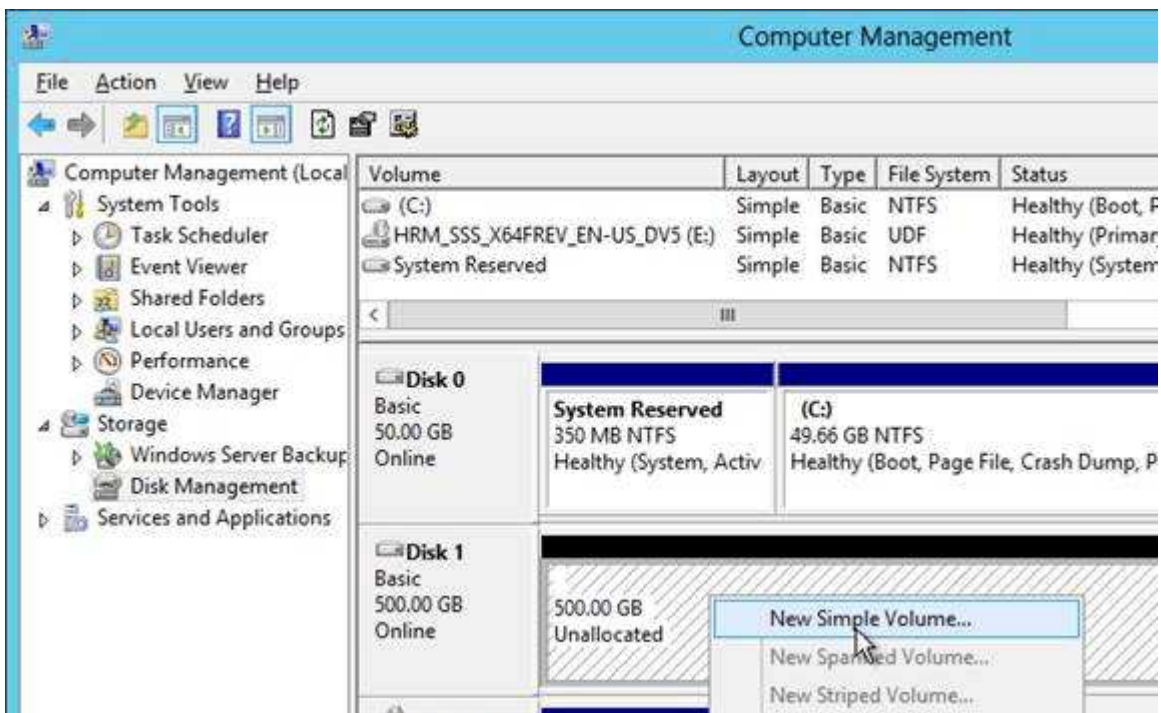


13. Right-click Disk 1 and click **Initialize Disk**.

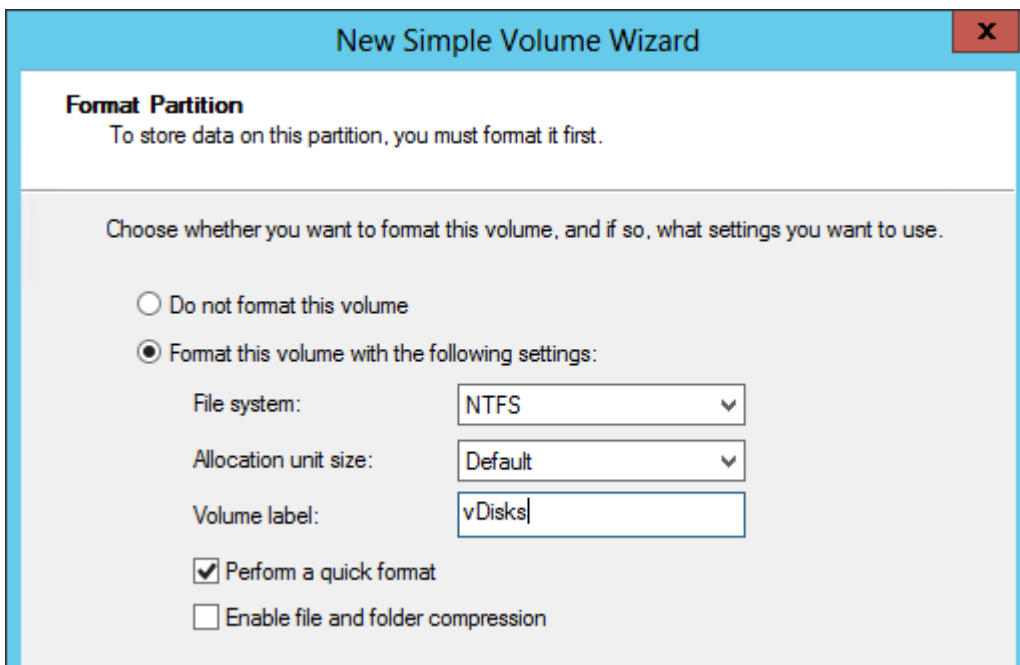


14. Click **OK** to initialize the disk.

15. Right-click the **Unallocated** space and click **New Simple Volume**.



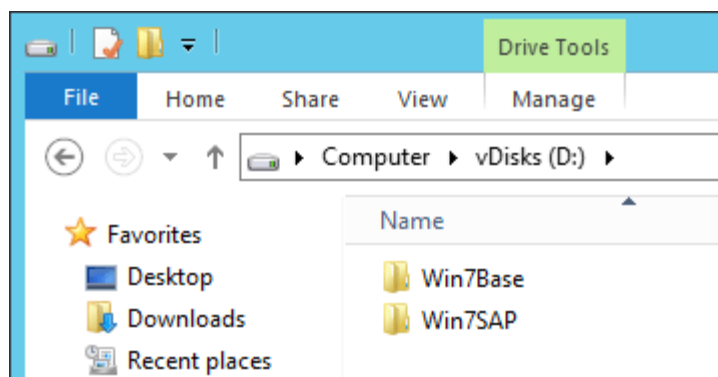
16. In the *Welcome to the New Simple Volume Wizard* page, click **Next**.
17. In the *Specify Volume Size* page, click **Next**.
18. In the *Assign Drive Letter or Path* page, select **D:** and click **Next**.
19. In the *Format Partition* page, change the *Volume label* to **vDisks** and click **Next**.



20. In the *Completing the New Simple Volume Wizard* page, click **Finish**.
21. If you see a pop-up asking you to format the disk, click **Cancel** since Disk Management is already doing that.

vDisk Folders

On the new **D:** partition, create one folder per Delivery Group. For example create one called **Win7Base** and create another folder called **Win7SAP**. Each vDisk is composed of several files so its best to place each vDisk in a separate folder. Each Delivery Group is usually a different vDisk.



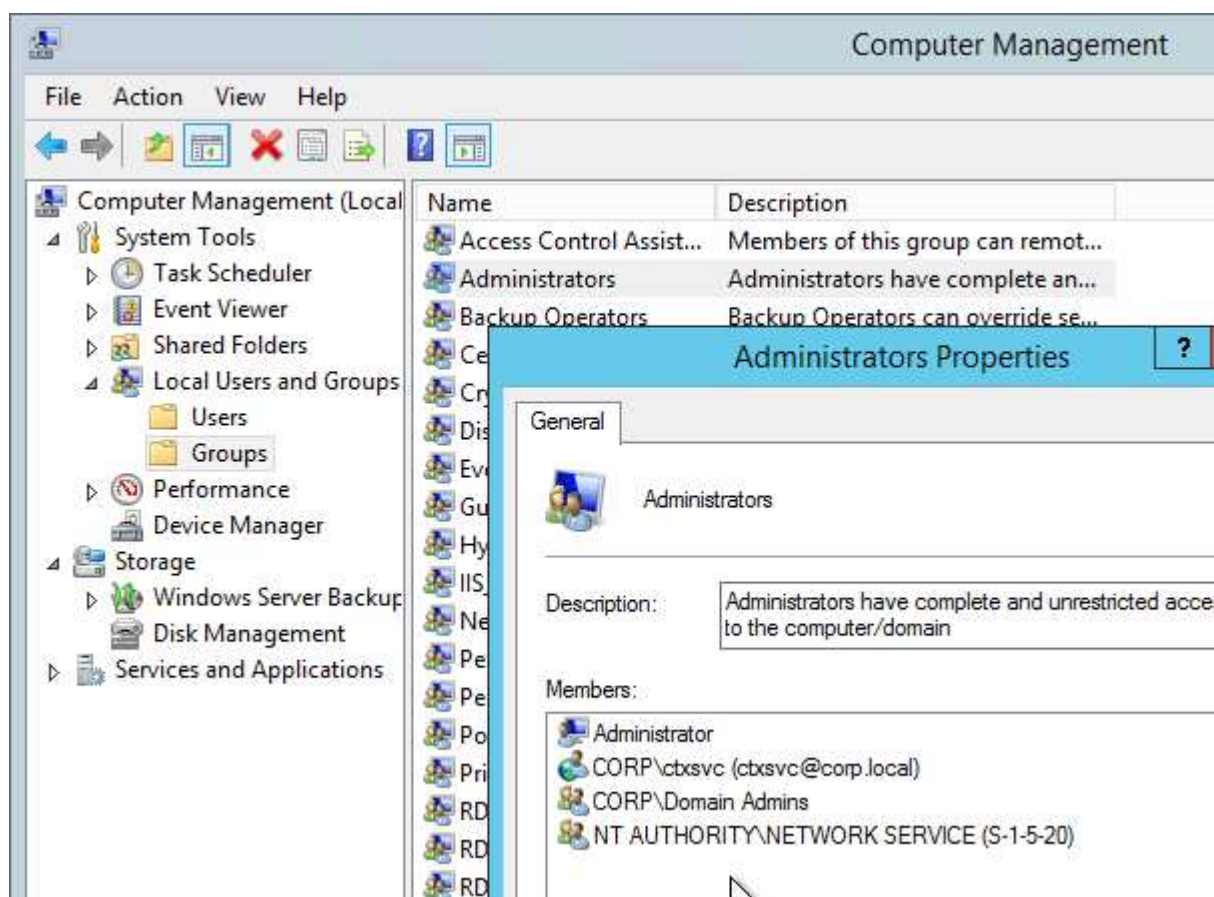
Robocopy Script

Here is a sample robocopy statement to copy vDisk files from one Provisioning Services server to another. It excludes .lok files and excludes the WriteCache folders.

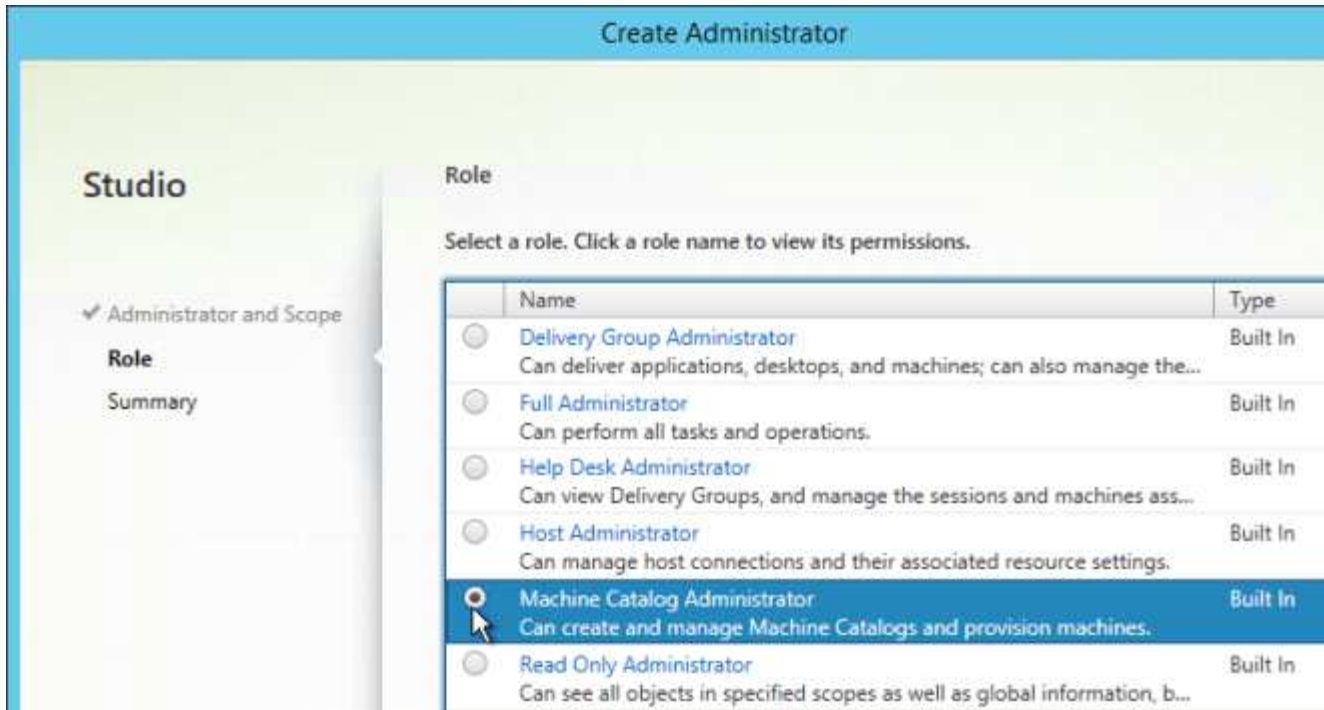
```
REM Robocopy from PVS01 to PVS02
REM Deletes files from other server if not present on local server
Robocopy D:\vDisks \\pvs02\d$\vDisks *.vhd *.vhdx *.avhd *.avhdx *.pvp /b /mir /xf *.lok
/xd WriteCache /xo
```

Service Account

Provisioning Services should run as a domain account that is in the local administrators group on both Provisioning Services servers. This is required for KMS Licensing.



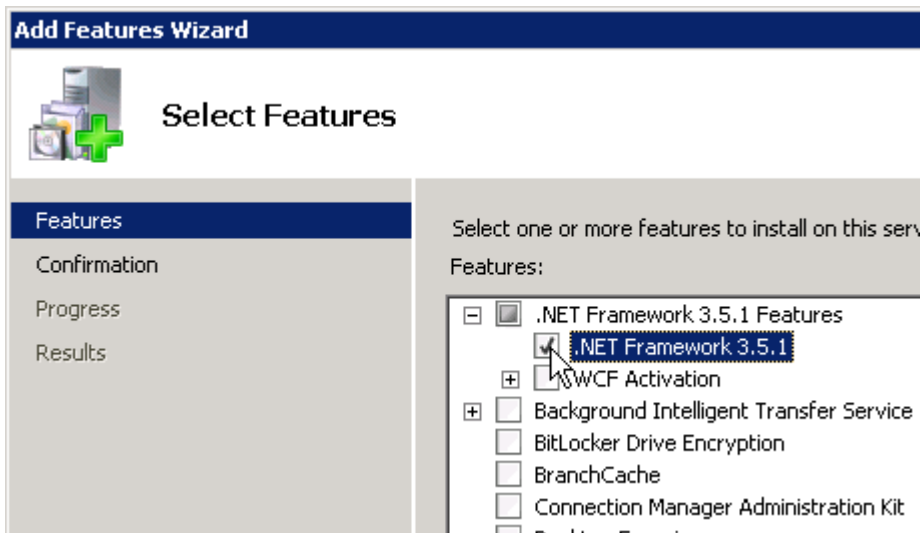
From [Considerations: Provisioning Services for Personal vDisk](http://docs.citrix.com) at docs.citrix.com: The Provisioning Services Soap Service account must be added to the Administrator node of Citrix Studio and must have the Machine Administrator or higher role. This ensures that the PvD desktops are put into the Preparing state when the Provisioning Services (PVS) vDisk is promoted to production.



.NET Framework 3.5 SP1 & 4.5 – 2008 R2 Only

Provisioning Server on Windows Server 2008 R2 requires .NET Framework 3.5 SP1 to be installed prior to installing Provisioning Server.

1. On each Provisioning Server, in Server Manager, right-click **Features** and click **Add Features**.
2. In the *Select Features* page, check the box next to **.NET Framework 3.5.1** and click **Next**.



3. In the *Confirm Installation Selections* page, click **Install**.
4. In the *Installation Results* page, click **Close**.

.NET Framework 4.0 has bug. Upgrade to 4.5. More information at [All the target devices are not se-](#)

lected when using shift select within the PVS console to select a number of target devices.

.NET Framework 4.5.1 can be installed from Windows Update or you can download it from [Microsoft](#).

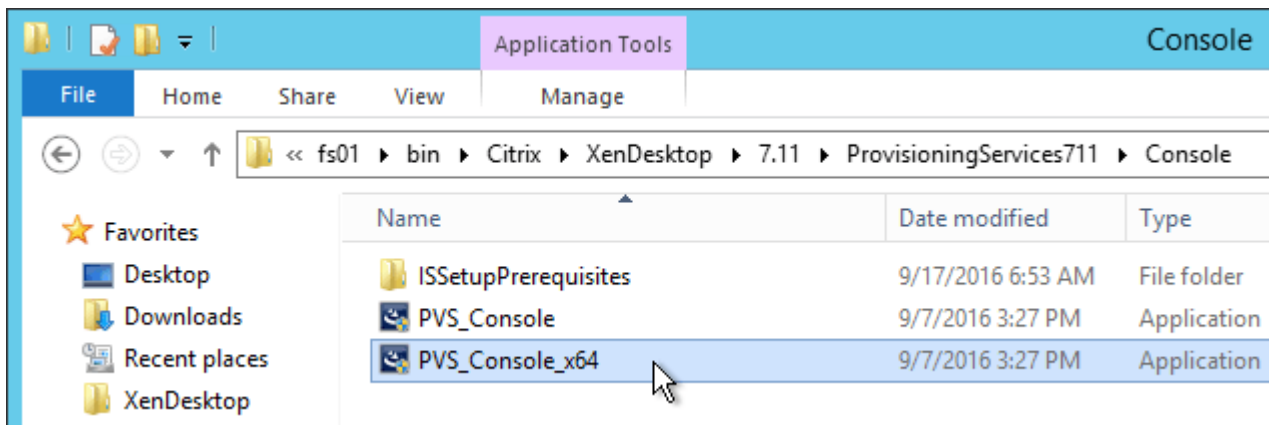
The .NET Framework 4.5.1 (Offline Installer) and .NET Framework 4.5.1 Language Pack (Offline Installer) is available for Windows Vista, Windows 7, Windows 8, Windows Server 2008, Windows Server 2008 R2 and Windows Server 2012

Provisioning Services Console 7.11

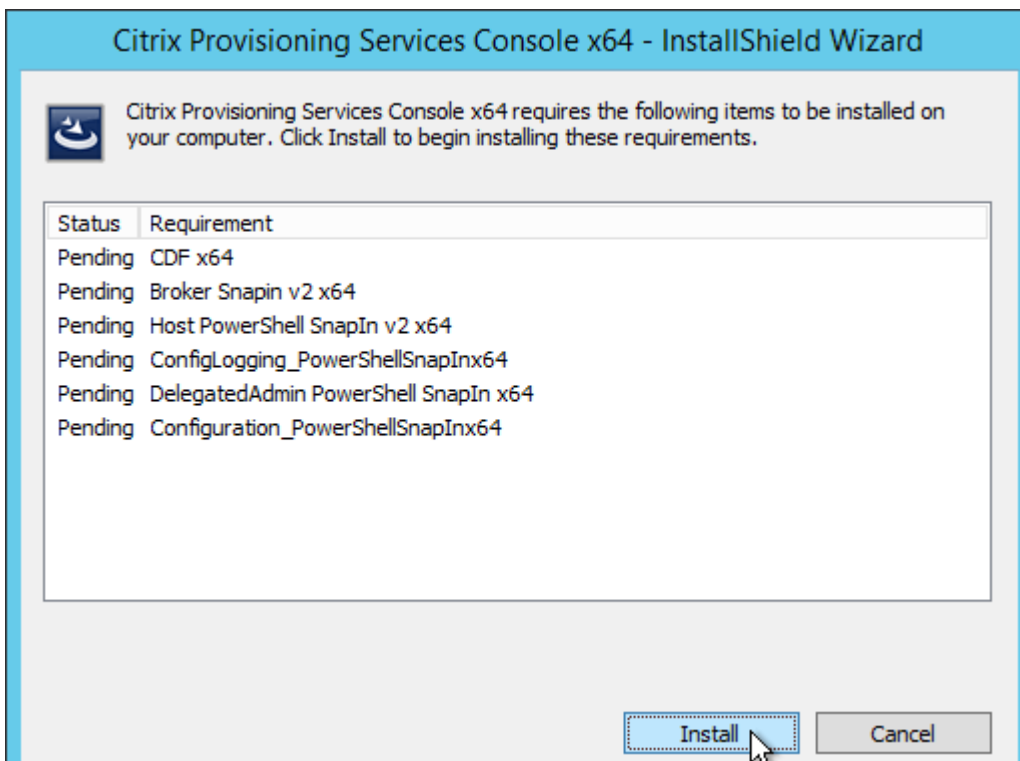
The installation and administration of Provisioning Services 7.8, 7.9, and 7.11 are essentially identical.

You can in-place upgrade to Provisioning Services Console 7.11.

1. Go to the downloaded [Provisioning Services 7.11](#) and in the **Console** folder run **PVS_Console_x64.exe**.



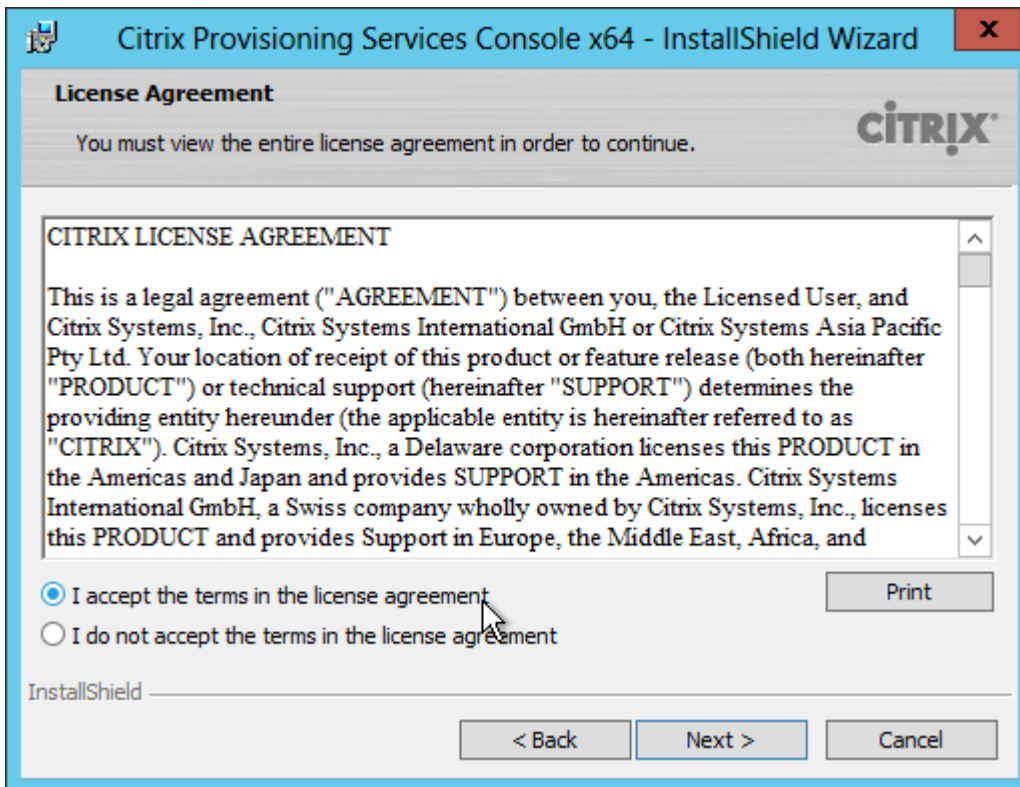
2. Click **Install**.



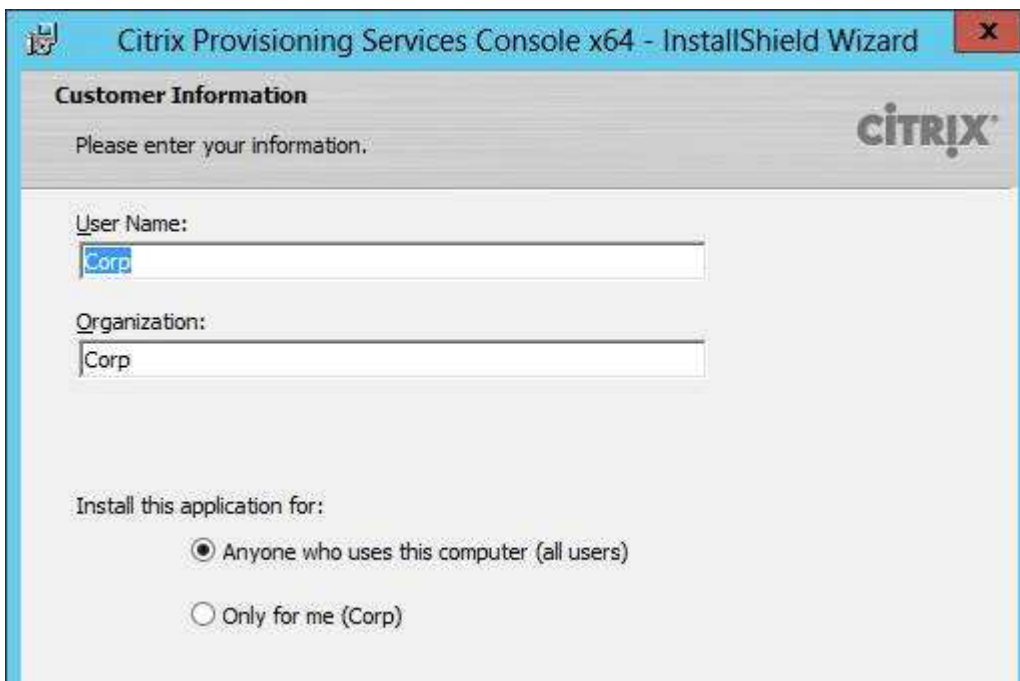
3. In the *Welcome to the InstallShield Wizard for Citrix Provisioning Services Console x64* page, click **Next**.



4. In the *License Agreement* page, select **I accept the terms**, and click **Next**.



5. In the *Customer Information* page, click **Next**.



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



7. In the *Setup Type* page, click **Next**.



8. In the *Ready to Install the Program* page, click **Install**.



9. In the *InstallShield Wizard Completed* page, click **Finish**.



Provisioning Server 7.11 – Server Install

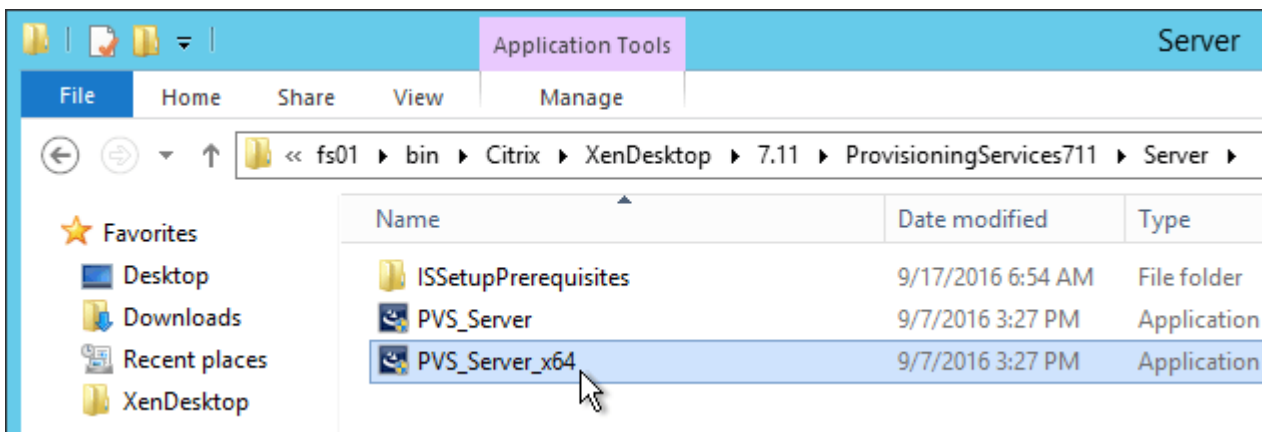
The installation and administration of Provisioning Services 7.8, 7.9, and 7.11 are essentially identical.

You can in-place upgrade to Provisioning Services Server 7.11. The Servers must be upgraded before the vDisks are upgraded. While upgrading one Provisioning Services Server, all Target Devices are moved to the other Provisioning Services Server.


1. If vSphere, make sure the Provisioning Services server virtual machine is running VMXNET3 NIC.

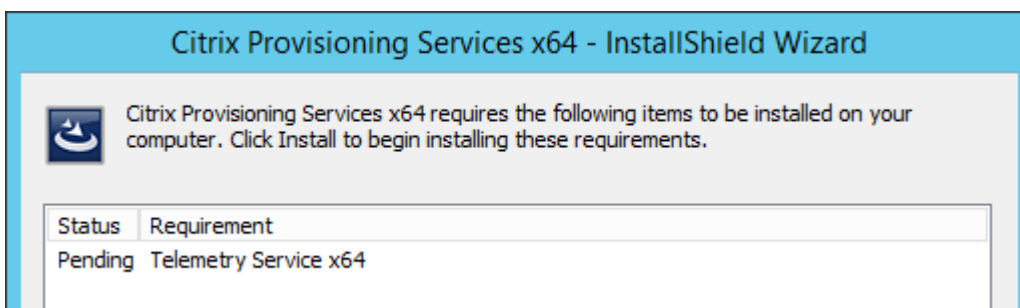
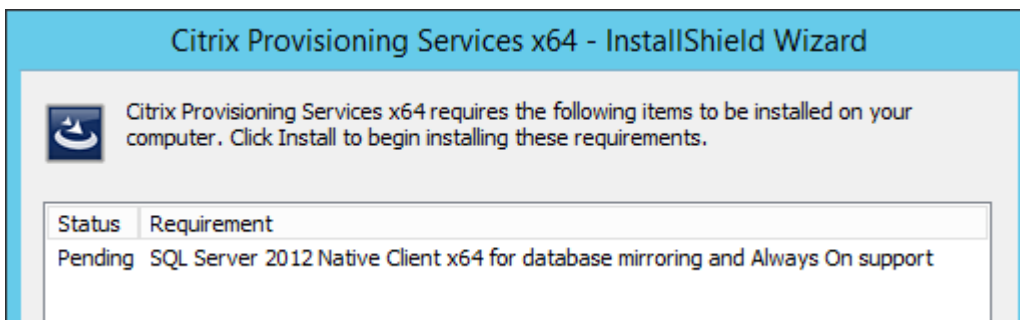


2. Go to the downloaded Provisioning Services 7.11, and in the **Server** folder, run **PVS_Server_x64.exe**.

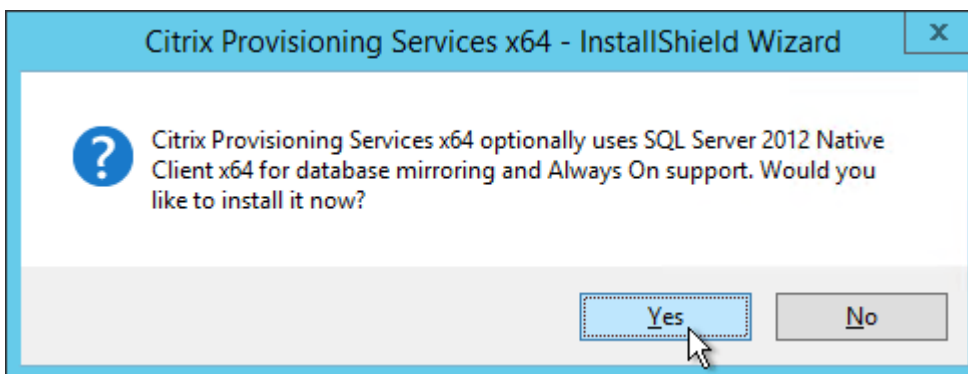


3. Click **Install** when asked to install **SQL2012nclx64** and/or **Telemetry Service**. Note: you might need a newer version of SQL Native Client as indicated by Daniele Tosatto at PVS 7.11 & SQL

2014 SP2 – Unsupported? at Citrix Discussions. 



4. Click **Yes** when asked to install.



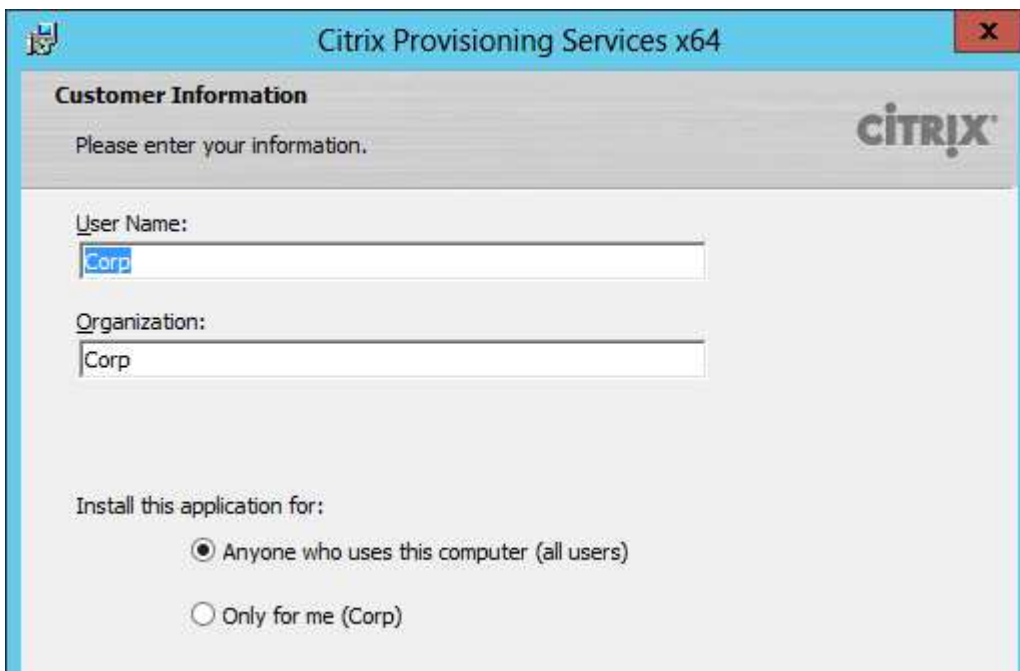
5. In the *Welcome to the Installation Wizard for Citrix Provisioning Services x64* page, click **Next**.



6. In the *License Agreement* page, select **I accept the terms**, and click **Next**.



7. In the *Customer Information* page, select **Anyone who uses this computer**, and click **Next**.



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



9. In the *Ready to Install the Program* page, click **Install**.



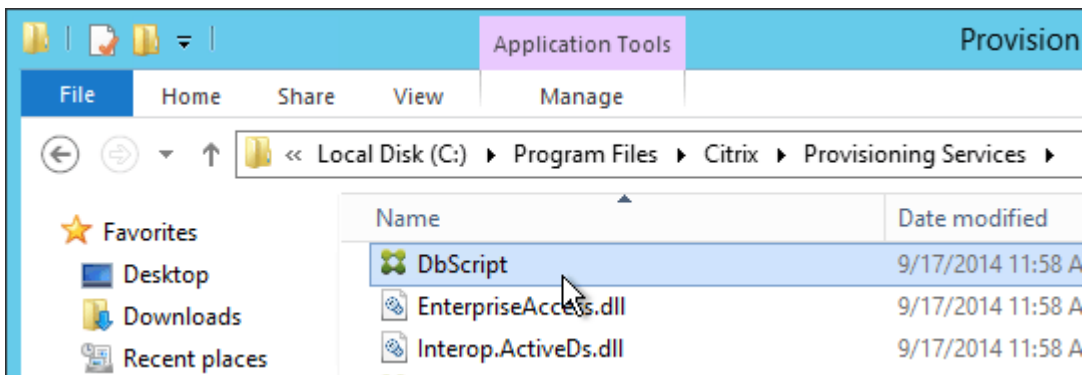
10. In the *Installation Wizard Completed* page, click **Finish**.



Database Script

By default, the Provisioning Services Configuration Wizard will try to create the database using the credentials of the person that is running the Wizard. This isn't always feasible. An alternative is to create a script that a DBA can run on the SQL server.

1. Go to **C:\Program Files\Citrix\Provisioning Services** and run **DBScript.exe**.

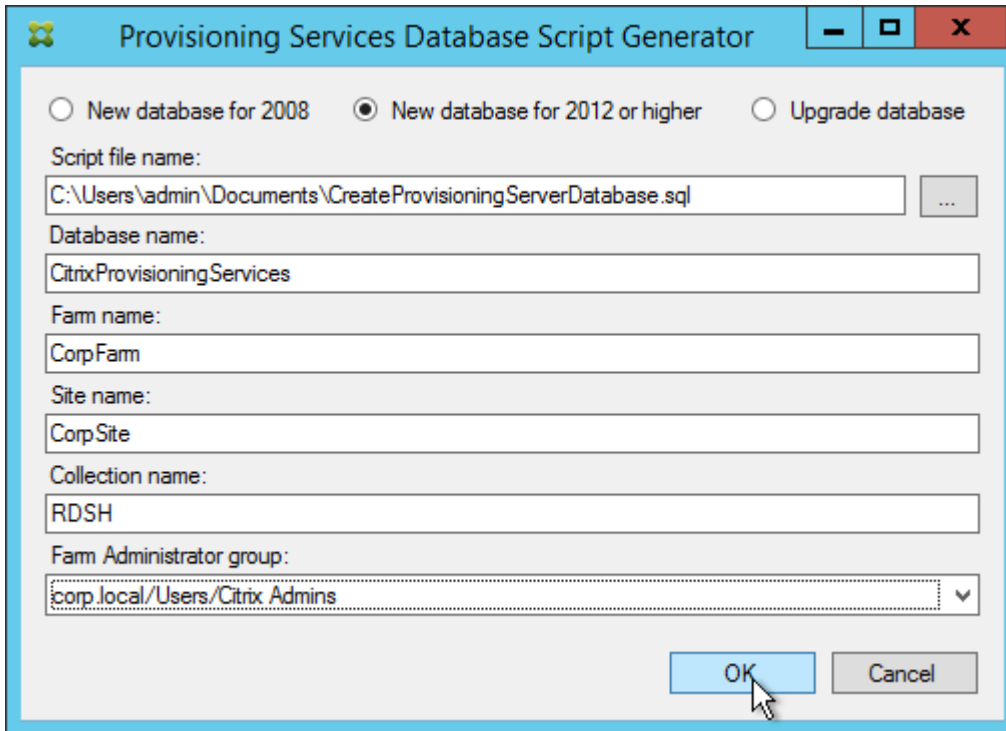


2. Change the selection to **New database for 2012 or higher**.

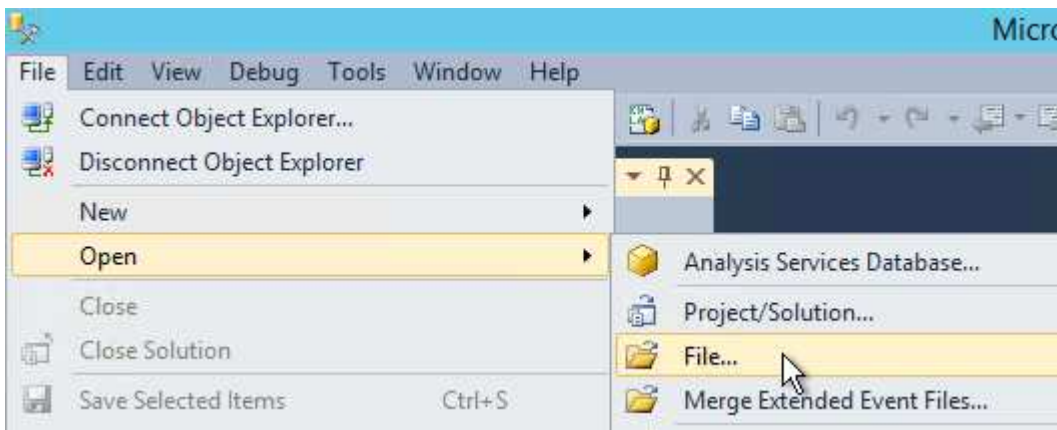
3. Enter a path to save the script file.

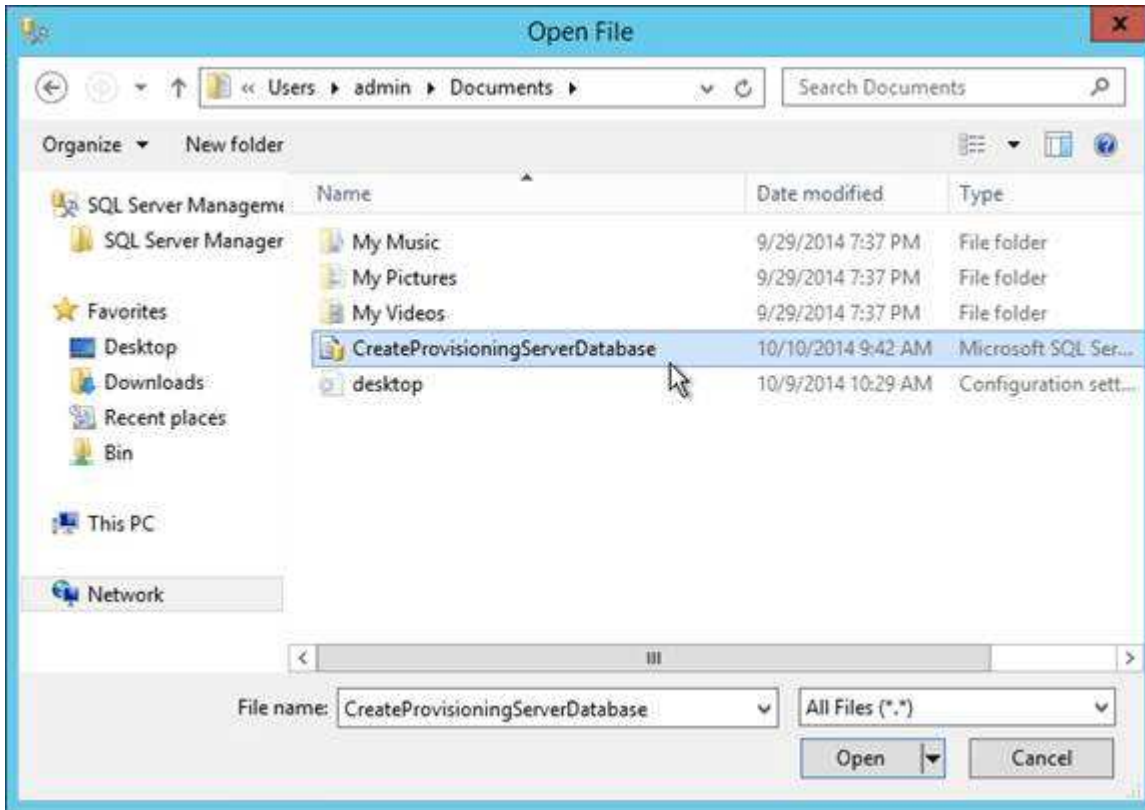
4. Fill in the other fields.

5. Select an Active Directory group containing your Citrix administrators and click **OK**.

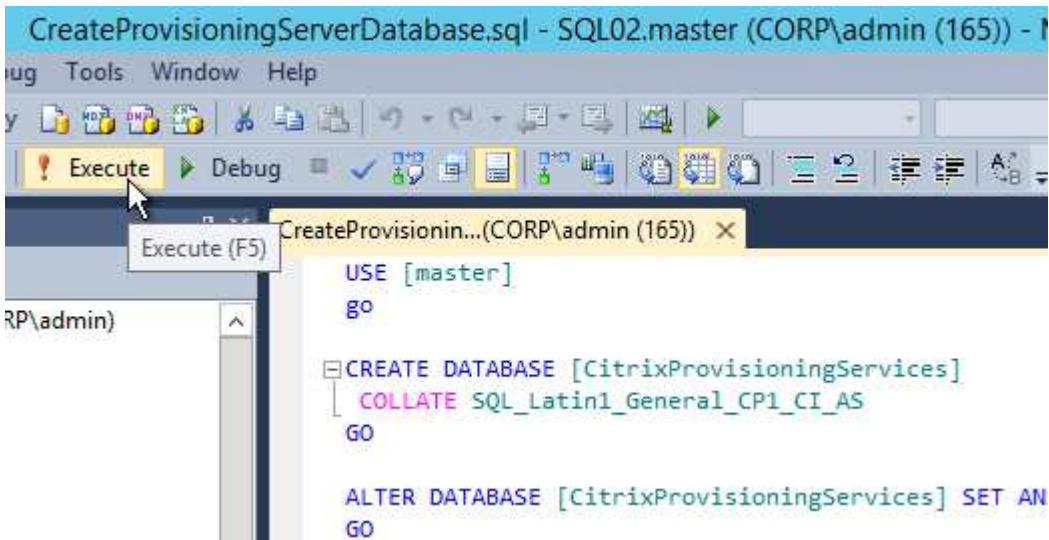


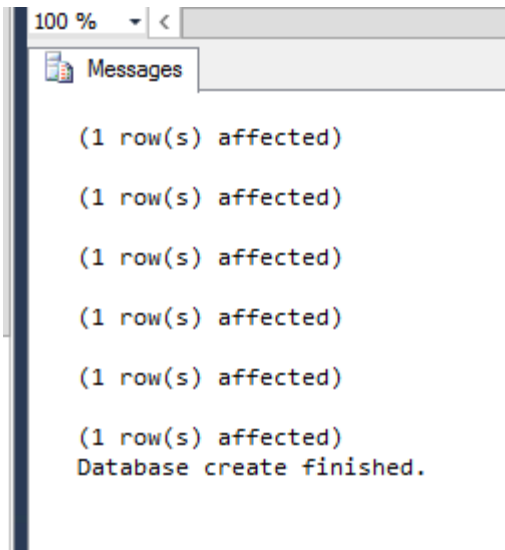
6. In SQL Server Management Studio, open the SQL script.



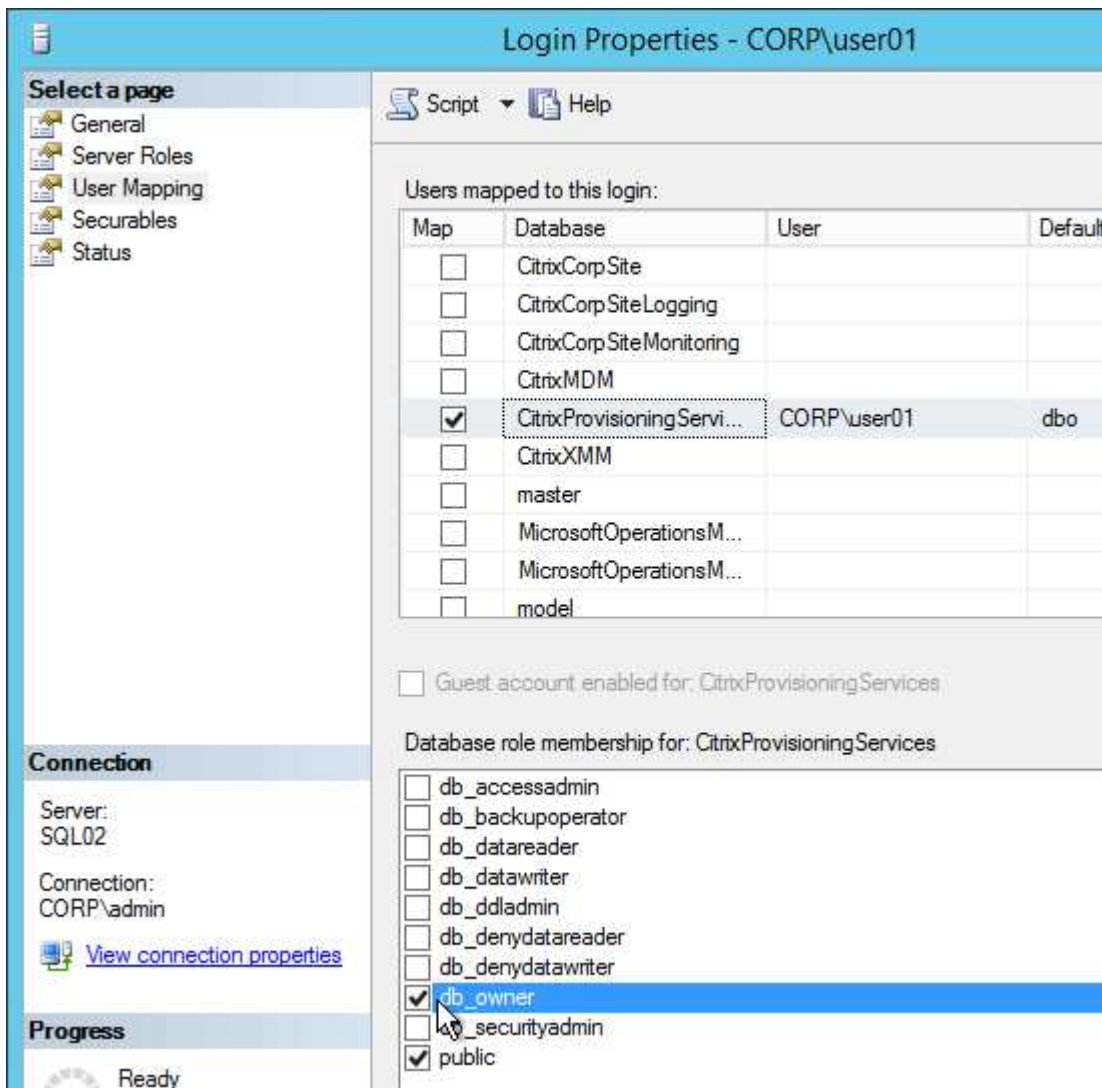


7. Execute the script to create the database.



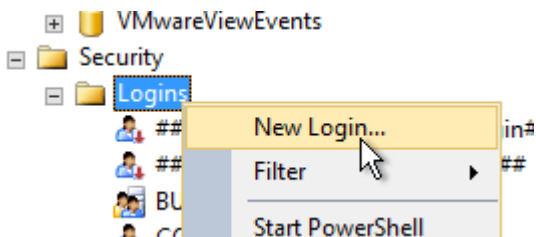


8. The person that runs the Provisioning Services Configuration Wizard will need **db_owner** permission to the new Provisioning Services database.



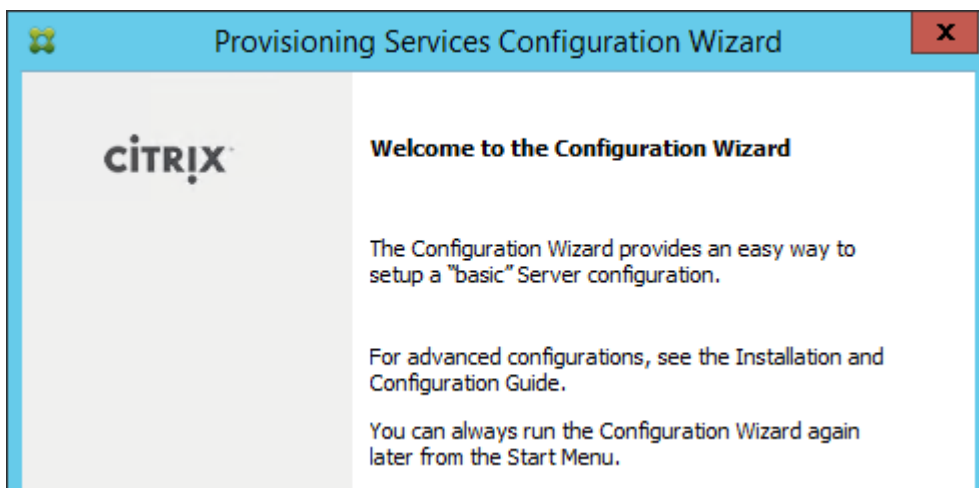
9. Provision a Windows service account that will run the services on the Provisioning Services server. This account must have a SQL login on the SQL server containing the PvS database. The

Provisioning Services Configuration Wizard will grant this account the correct permissions in the database.

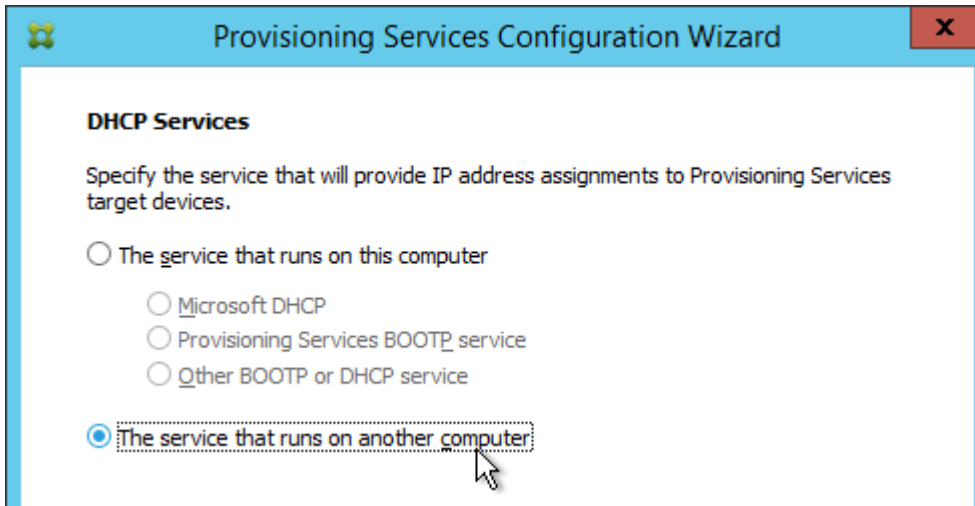


Configuration Wizard – New Farm

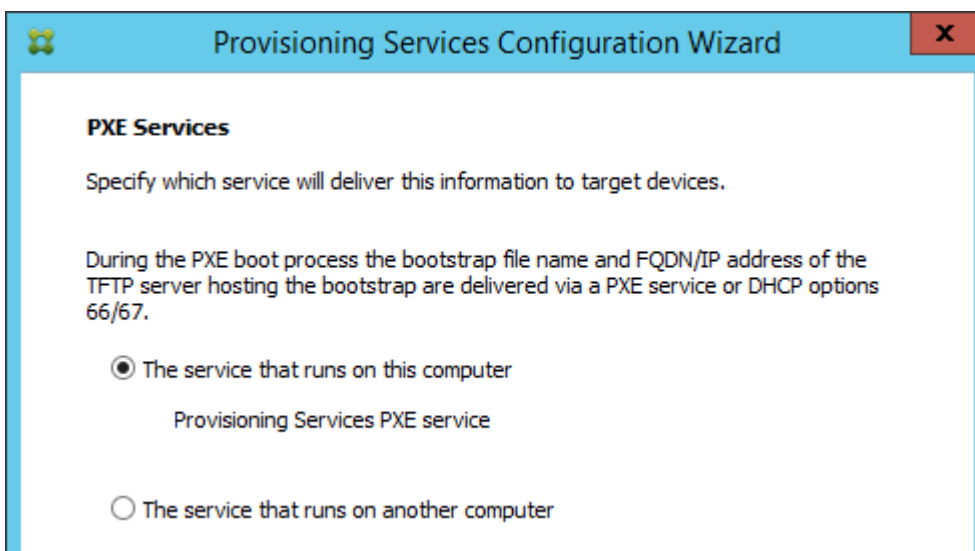
1. If you used **DBScript.exe** to pre-create the database, skip to Configuration Wizard – Join Farm.
2. For **SQL AlwaysOn Availability Group**, see CTX201203 SQL Server AlwaysOn Configuration for PVS 7.6. In summary: Use the wizard to create the database instance. In SQL, create the Availability Group. Then reconfigure Provisioning Services to point to the SQL AlwaysOn listener.
3. The Configuration Wizard launches automatically. If the database wasn't pre-created, then the person running the wizard must have **dbcreator** and **securityadmin** roles on the SQL Server. If true, click **Next**. If not true, then cancel the wizard and launch it as somebody that does have those roles.



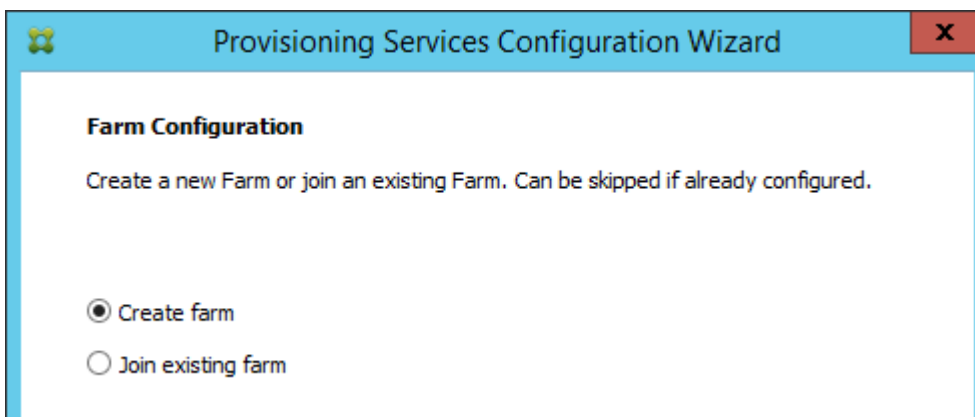
4. The *DHCP Services* page appears. DHCP is typically hosted on a different server so select **The service that runs on another computer**. It is also possible to install DHCP on the Pvs Servers. **Click Next**.



5. In the *PXE Services* page, select **The service that runs on this computer** and click **Next**.



6. In the *Farm Configuration* page, click **Create Farm**.



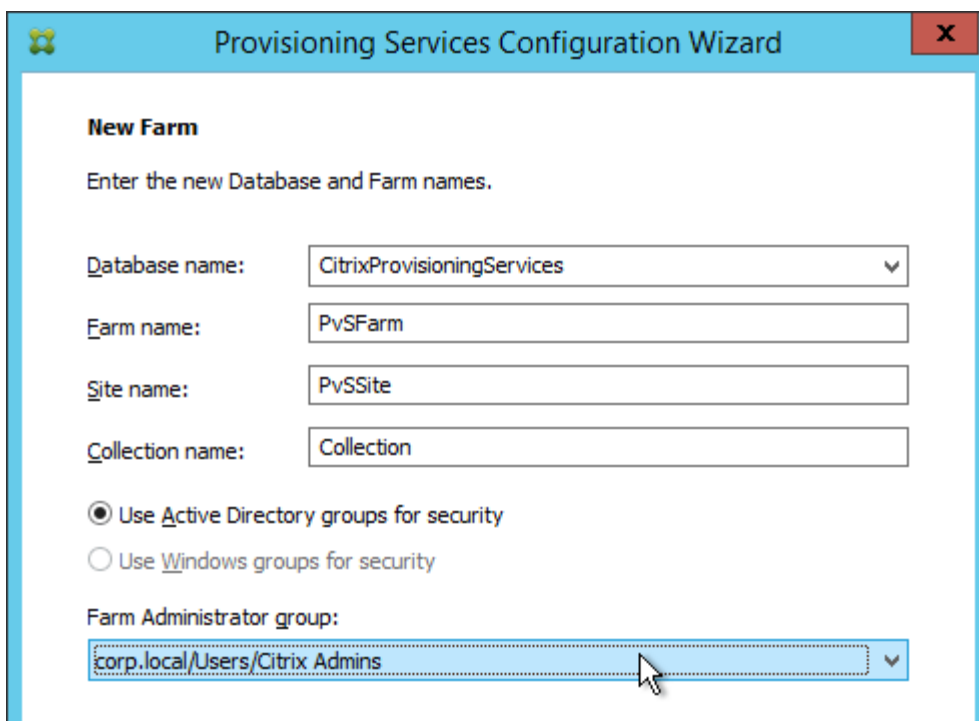
7. In the *Database Server* page, enter the name of the SQL server. PvS 7.11 has a new option for **MultiSubnetFailover**. Click **Next**.

The screenshot shows the 'Database Server' configuration page of the Provisioning Services Configuration Wizard. The window title is 'Provisioning Services Configuration Wizard'. The page contains the following elements:

- Database Server** section header.
- Instruction: 'Enter the Server and Instance names.'
- Form fields for the primary server:
 - Server name: with a 'Browse...' button to its right.
 - Instance name:
 - Optional TCP port:
- Checkboxes for failover options:
 - Enable MultiSubnetFailover for SQL Server Always On: (This checkbox and its label are highlighted with a dotted border in the image.)
 - Specify database mirror failover partner
- Form fields for a secondary server (if specified):
 - Server name: with a 'Browse...' button to its right.
 - Instance name:
 - Optional TCP port:

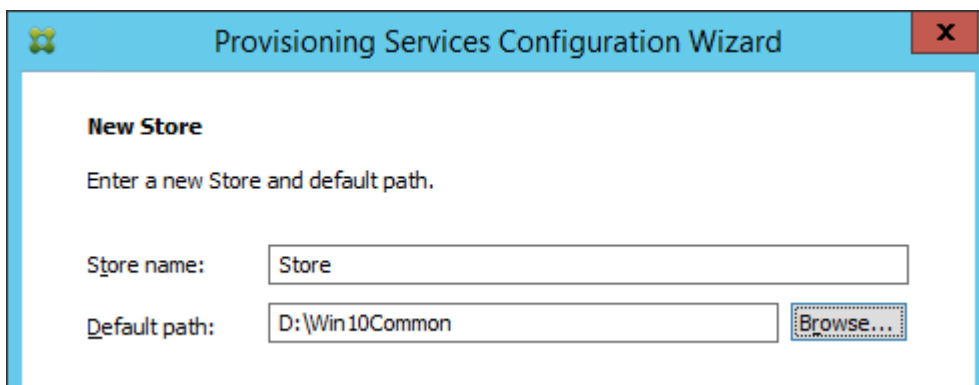
8. In the *New Farm* page enter the following:

- Enter a descriptive **Database name**. Put the word **Citrix** in the database name so the DBA knows what it is for.
- Enter a descriptive **Farm name**.
- Enter a descriptive **Site name**.
- Enter a descriptive **Collection name**. All of these names can be changed later.
- Select the Active Directory group that will have administrator permissions to Provisioning Services and click **Next**.



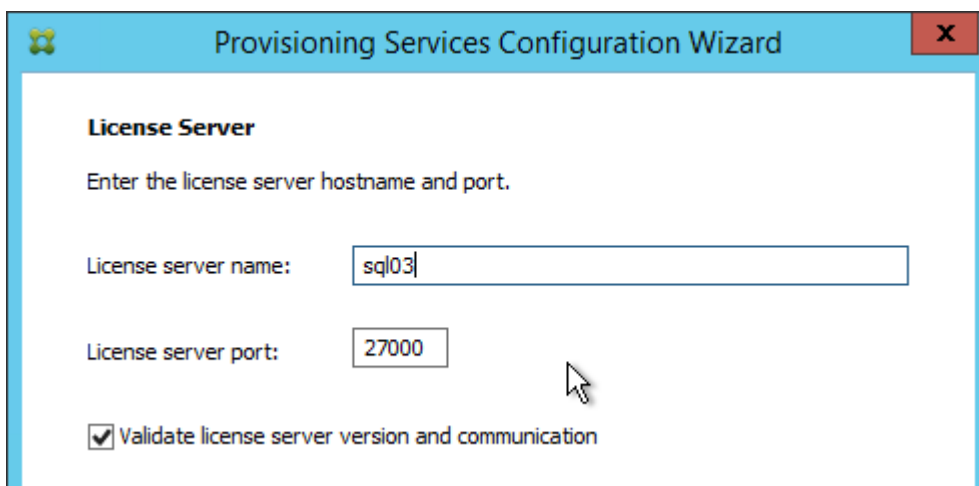
The screenshot shows the 'New Farm' page of the Provisioning Services Configuration Wizard. The title bar reads 'Provisioning Services Configuration Wizard'. The main heading is 'New Farm'. Below the heading, it says 'Enter the new Database and Farm names.' There are four input fields: 'Database name:' with a dropdown menu showing 'CitrixProvisioningServices'; 'Farm name:' with a text box containing 'PvSFarm'; 'Site name:' with a text box containing 'PvSSite'; and 'Collection name:' with a text box containing 'Collection'. Below these fields are two radio buttons: 'Use Active Directory groups for security' (selected) and 'Use Windows groups for security'. At the bottom, there is a dropdown menu for 'Farm Administrator group:' showing 'corp.local/Users/Citrix Admins'.

9. In the *New Store* page, browse to one of the vDisk folders, and give the store a name. Then click **Next**.



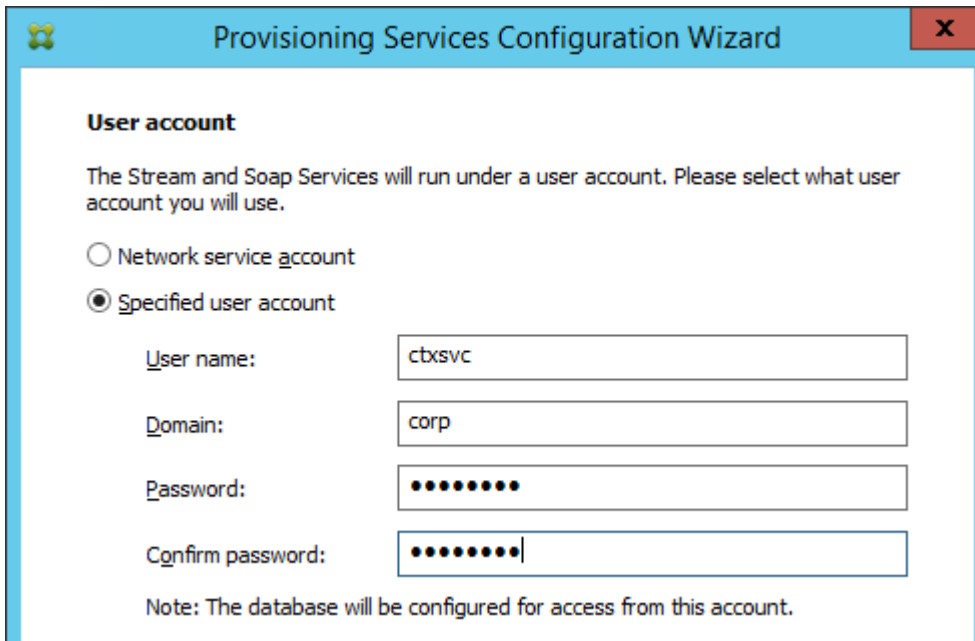
The screenshot shows the 'New Store' page of the Provisioning Services Configuration Wizard. The title bar reads 'Provisioning Services Configuration Wizard'. The main heading is 'New Store'. Below the heading, it says 'Enter a new Store and default path.' There are two input fields: 'Store name:' with a text box containing 'Store'; and 'Default path:' with a text box containing 'D:\Win10Common' and a 'Browse...' button to its right.

10. In the *License Server* page, enter the name of your Citrix license server, check the box next to **Validate license server**, and click **Next**.



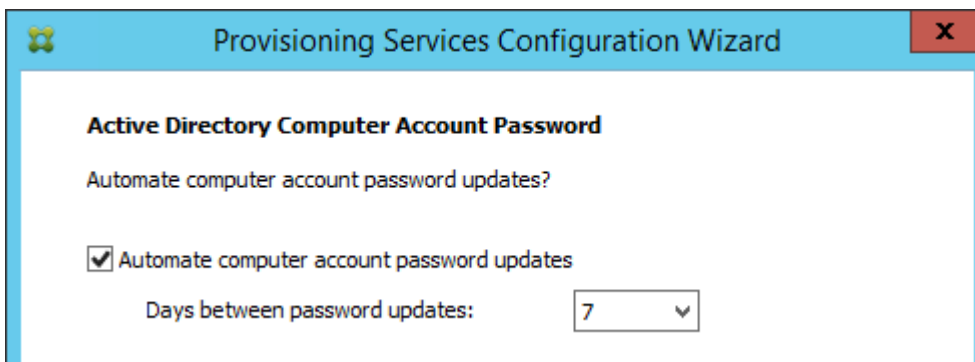
The screenshot shows the 'License Server' page of the Provisioning Services Configuration Wizard. The title bar reads 'Provisioning Services Configuration Wizard'. The main heading is 'License Server'. Below the heading, it says 'Enter the license server hostname and port.' There are two input fields: 'License server name:' with a text box containing 'sql03'; and 'License server port:' with a text box containing '27000'. At the bottom, there is a checked checkbox labeled 'Validate license server version and communication'.

11. In the *User account* page, notice it defaults to Network service account. This won't work with KMS licensing so change it to **Specified user account**. Enter credentials for an account that is a local administrator on all Provisioning Services servers, and click **Next**.



The screenshot shows the 'Provisioning Services Configuration Wizard' window. The title bar is blue with a yellow icon on the left and a red close button on the right. The main content area is white and titled 'User account'. Below the title, there is a paragraph: 'The Stream and Soap Services will run under a user account. Please select what user account you will use.' There are two radio buttons: 'Network service account' (unselected) and 'Specified user account' (selected). Below the radio buttons are four text input fields: 'User name:' containing 'ctxsvc', 'Domain:' containing 'corp', 'Password:' containing seven dots, and 'Confirm password:' containing seven dots. At the bottom, there is a note: 'Note: The database will be configured for access from this account.'

12. In the *Active Directory Computer Account Password* page, check the box, and click **Next**.



The screenshot shows the 'Provisioning Services Configuration Wizard' window. The title bar is blue with a yellow icon on the left and a red close button on the right. The main content area is white and titled 'Active Directory Computer Account Password'. Below the title, there is a paragraph: 'Automate computer account password updates?'. There is a checked checkbox labeled 'Automate computer account password updates'. Below the checkbox is a label 'Days between password updates:' followed by a dropdown menu showing the number '7'.

13. In the *Network Communications* page, click **Next**.

Provisioning Services Configuration Wizard

Network Communications

Specify network settings.

Steaming network cards:

Management network card:

Enter the base port that will be used for network communications. A total of 20 ports are required. You must also select a port for console communications.

Note: All servers must have the same port configurations.

First communications port:

Console port:

14. In the *TFTP Option and Bootstrap Location* page, check the box, and click **Next**.

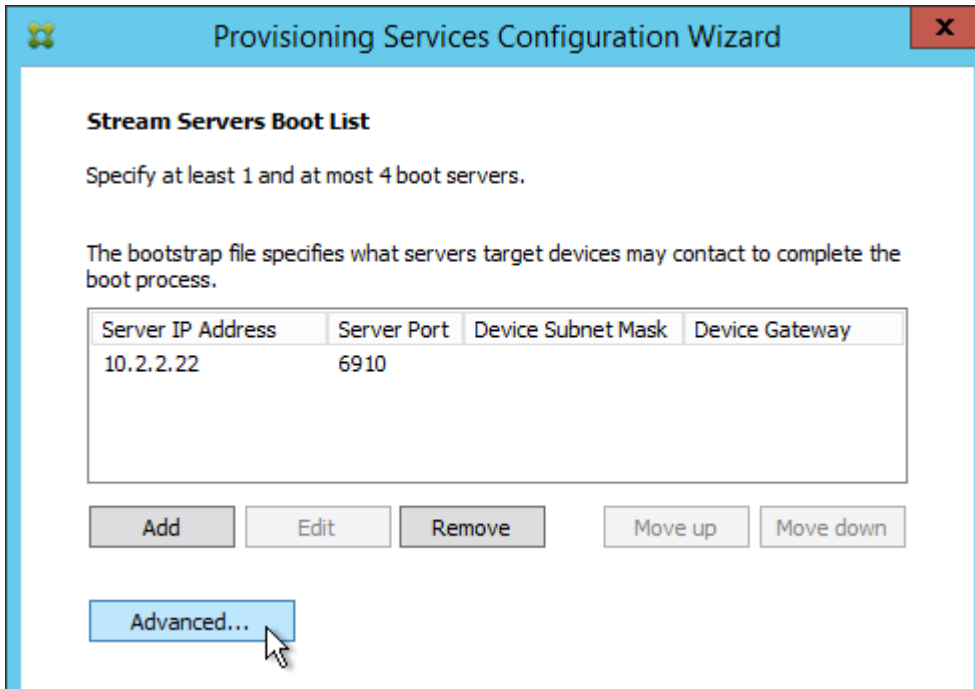
Provisioning Services Configuration Wizard

TFTP Option and Bootstrap Location

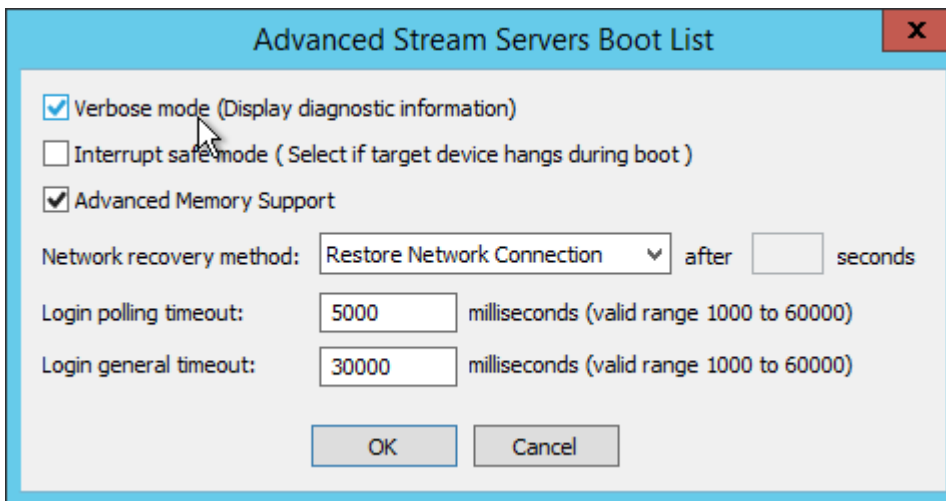
Typically only one TFTP server is deployed as part of Provisioning Services.

Use the Provisioning Services TFTP service

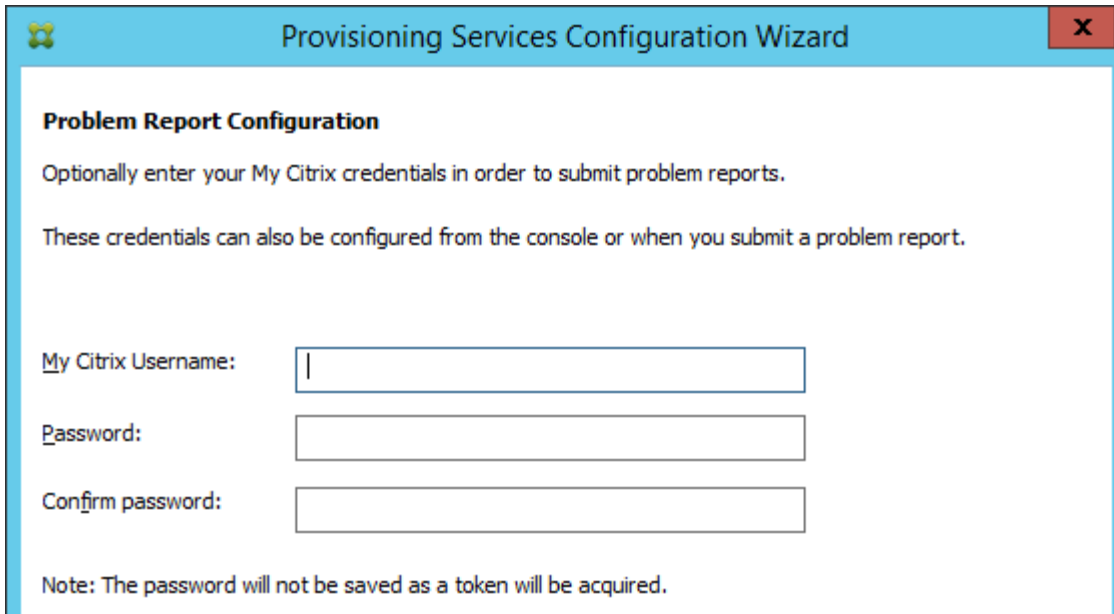
15. In the *Stream Servers Boot List* page, click **Advanced**.



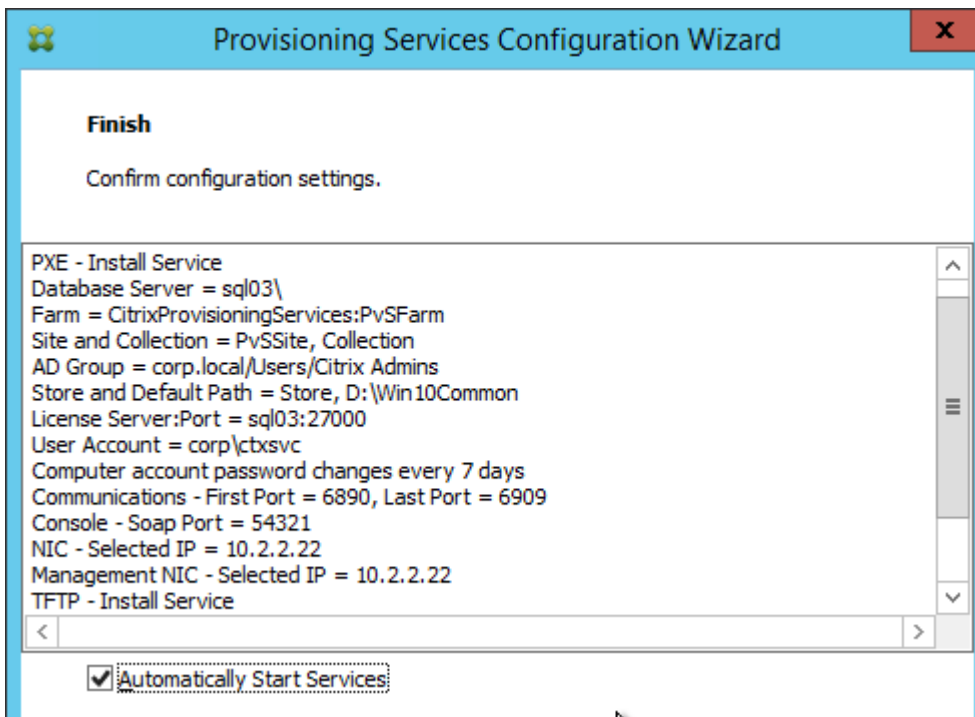
16. Check the box next to **Verbose mode**, click **OK**, and then click **Next**.



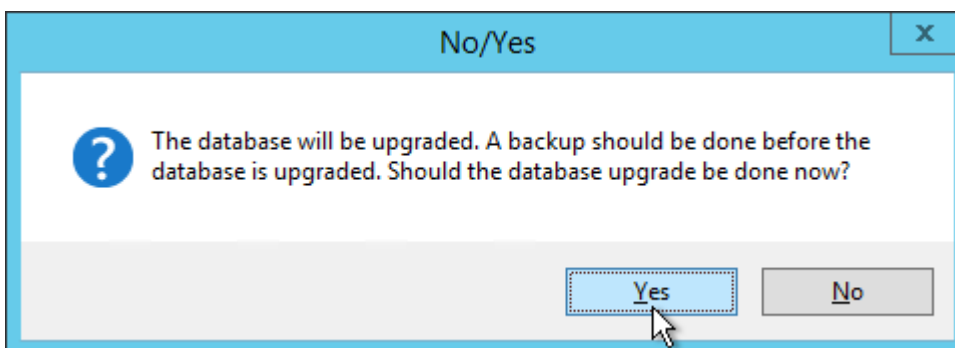
17. If PvS 7.11, in the **Problem Report Configuration** page, enter your MyCitrix credentials, and click **Next**.



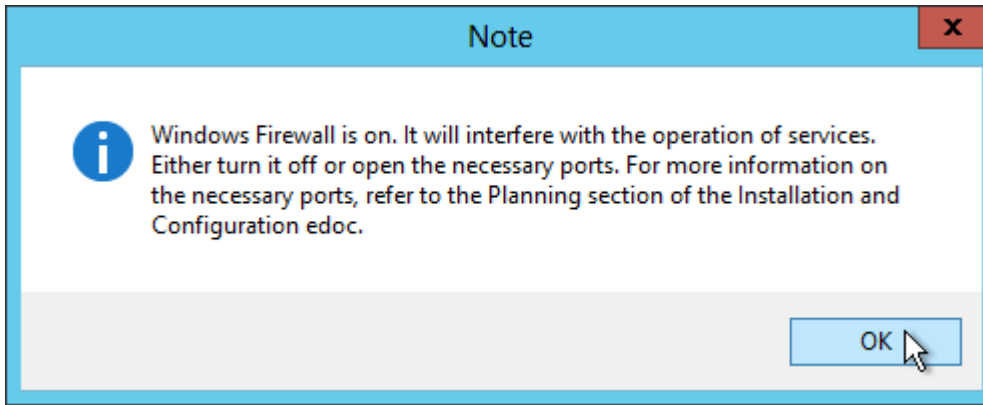
18. In the *Finish* page, click **Finish**.



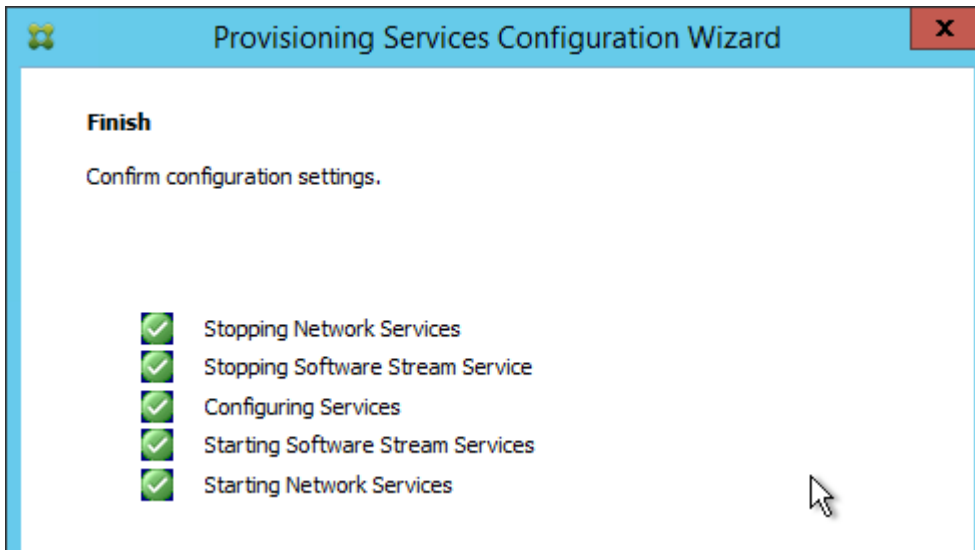
19. If you are upgrading then you might be asked to upgrade the database. Click **Yes**.



20. Click **OK** if you see the firewall message.

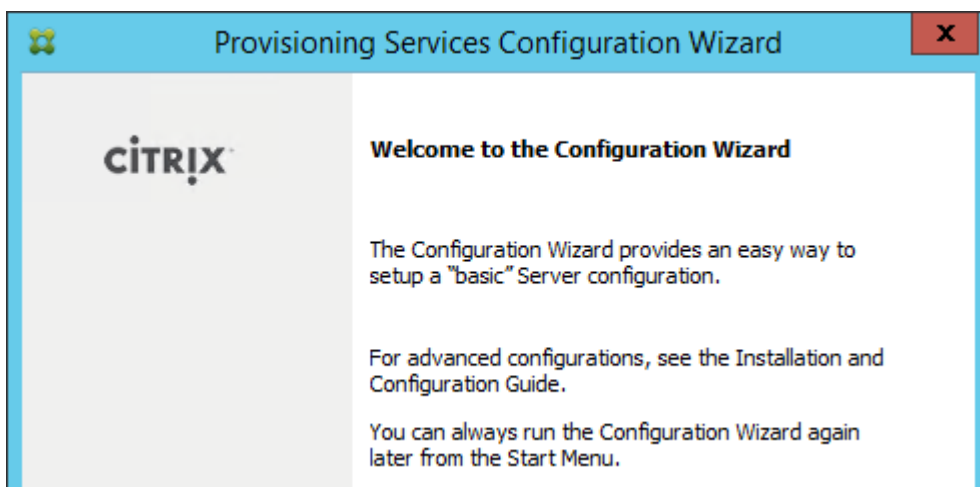


21. In the *Finish* page, click **Done**.

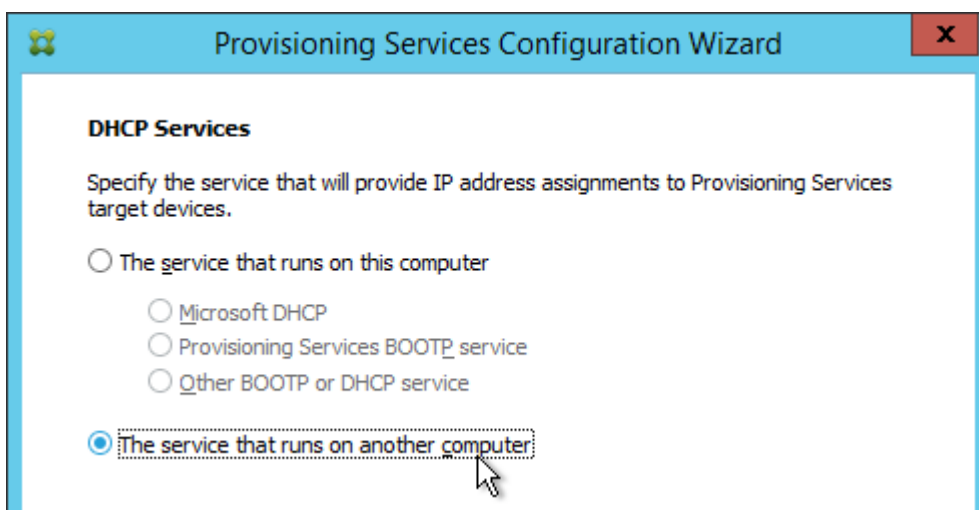


Configuration Wizard – Join Farm

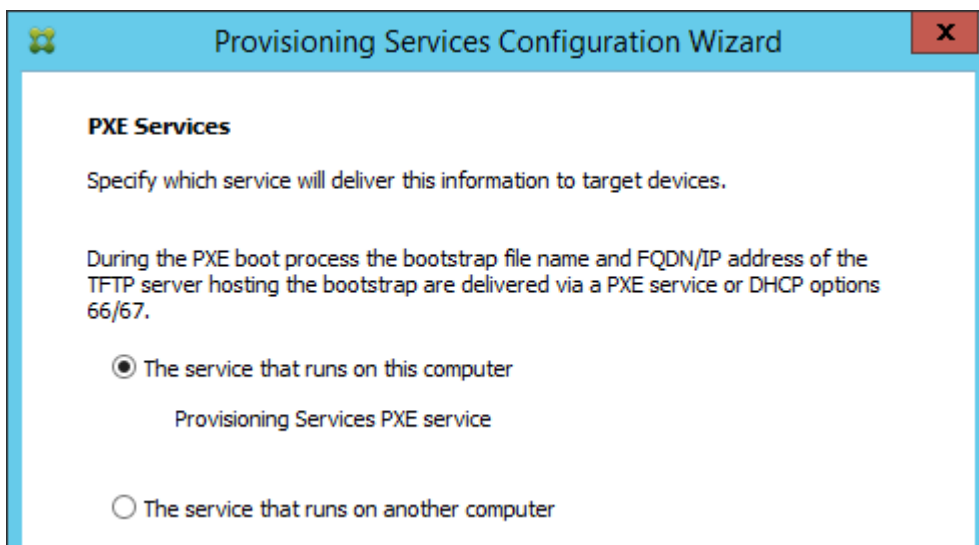
1. The Configuration Wizard launches automatically.
2. There are two methods of handling SQL permissions:
 - a. The person running the wizard must have **db_owner** on the database and **securityadmin** role on the SQL Server. This allows the wizard to add the service account to SQL logins and grant it access to the database.
 - b. Or the person running the wizard can be limited to just **db_owner** permission to the database. The service account must be added manually to SQL logins by a DBA.



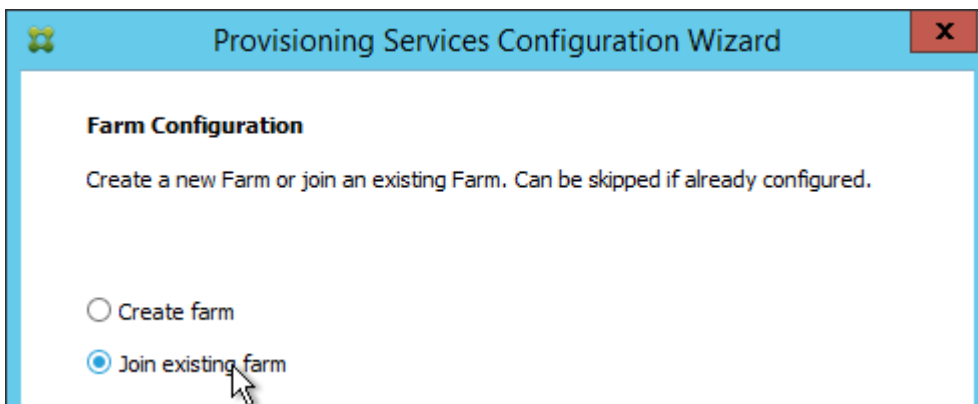
3. The *DHCP Services* page appears. DHCP is typically hosted on a different server so select **The service that runs on another computer**. It is also possible to install DHCP on the PvS Servers. Click **Next**.



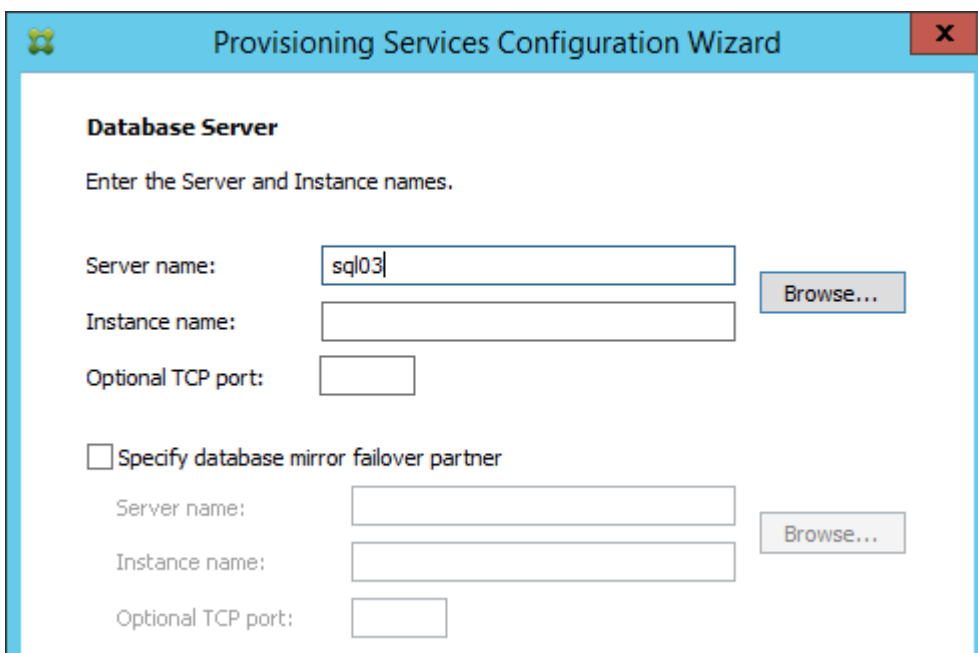
4. In the *PXE Services* page, select **The service that runs on this computer** and click **Next**.



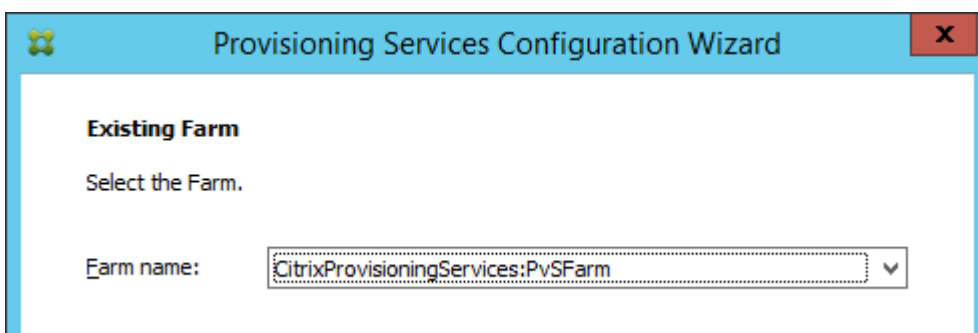
5. In the *Farm Configuration* page, click **Join existing farm**.



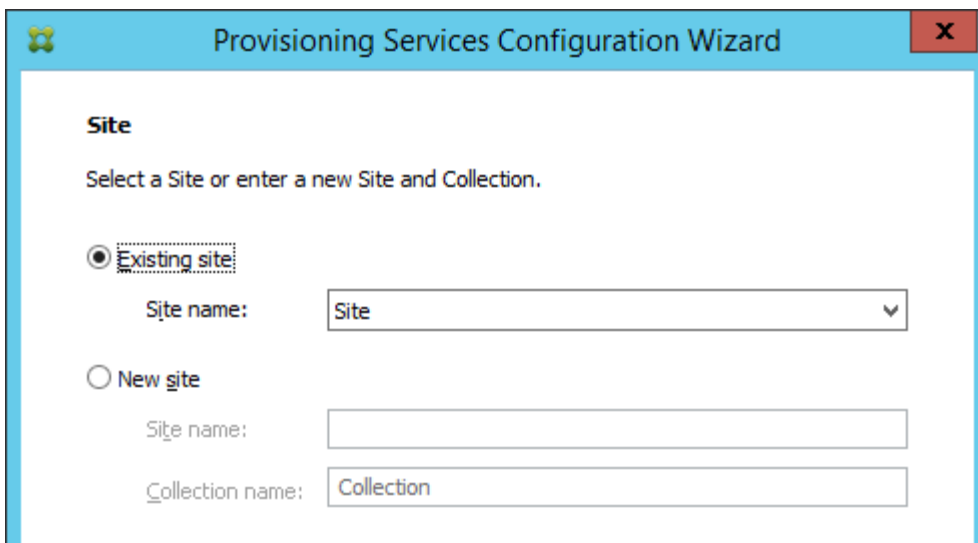
6. In the *Database Server* page, enter the name of the SQL server and click **Next**.



7. In the *Existing Farm* select the database and click **Next**.

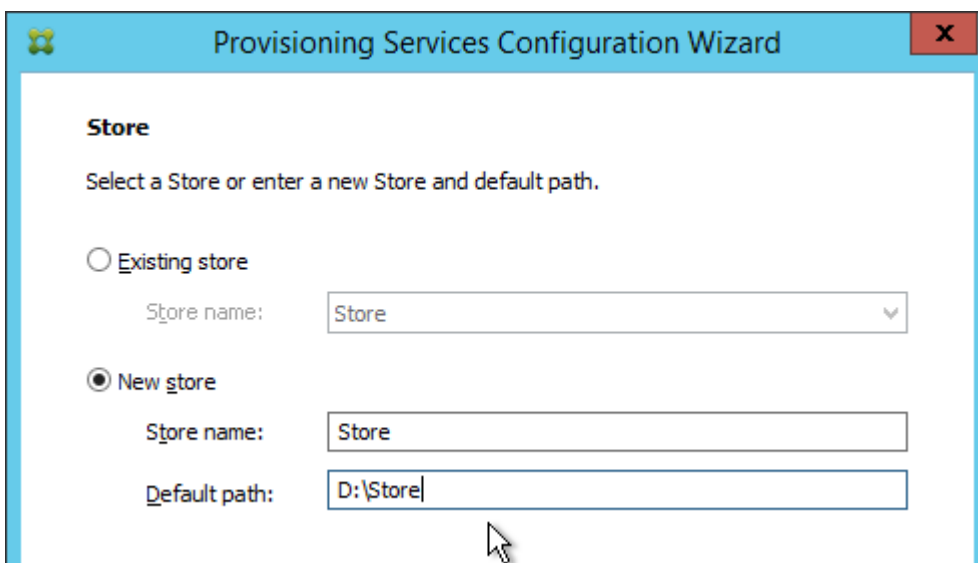


8. In the *Site* page, select an existing site and click **Next**.



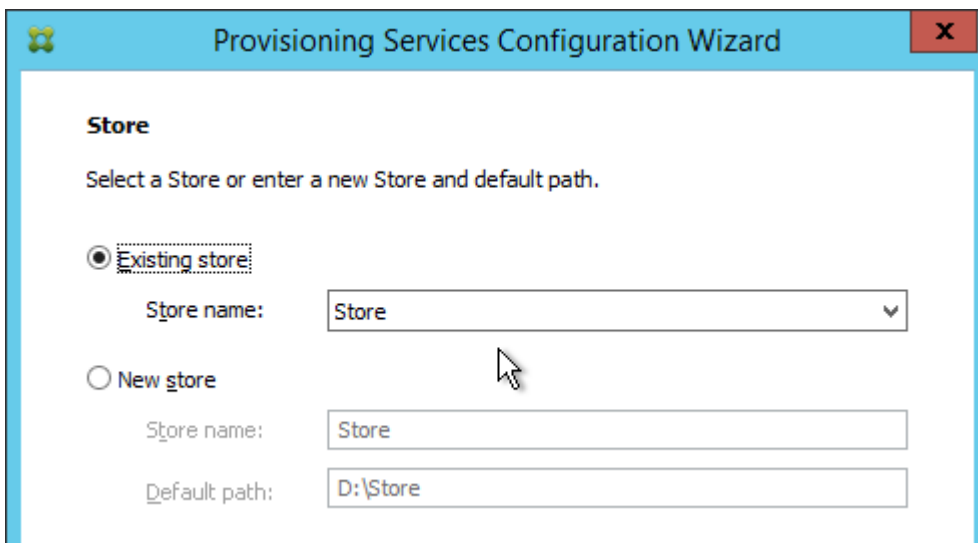
The screenshot shows the 'Provisioning Services Configuration Wizard' window. The title bar is blue with a close button (X) on the right. The main content area has a light blue header with the title 'Provisioning Services Configuration Wizard' and a close button. Below the header, the section is titled 'Site'. The instruction reads: 'Select a Site or enter a new Site and Collection.' There are two radio button options: 'Existing site' (selected) and 'New site'. Under 'Existing site', there is a 'Site name:' label and a dropdown menu with 'Site' selected. Under 'New site', there are two text input fields: 'Site name:' (empty) and 'Collection name:' (containing 'Collection').

9. If you used the script to create the database then there probably are no stores defined. Do so now.



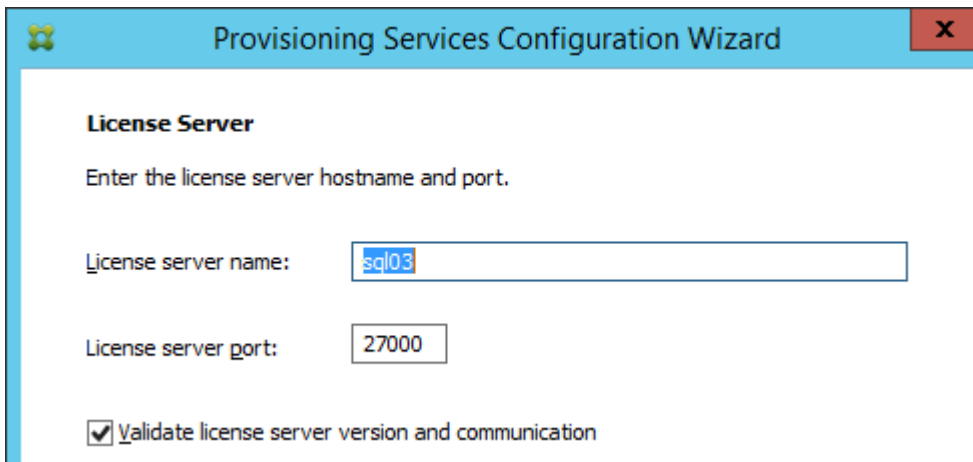
The screenshot shows the 'Provisioning Services Configuration Wizard' window. The title bar is blue with a close button (X) on the right. The main content area has a light blue header with the title 'Provisioning Services Configuration Wizard' and a close button. Below the header, the section is titled 'Store'. The instruction reads: 'Select a Store or enter a new Store and default path.' There are two radio button options: 'Existing store' and 'New store' (selected). Under 'Existing store', there is a 'Store name:' label and a dropdown menu with 'Store' selected. Under 'New store', there are two text input fields: 'Store name:' (containing 'Store') and 'Default path:' (containing 'D:\Store'). A mouse cursor is pointing at the 'Default path' field.

10. Otherwise, in the *New Store* page, select the existing store and click **Next**.



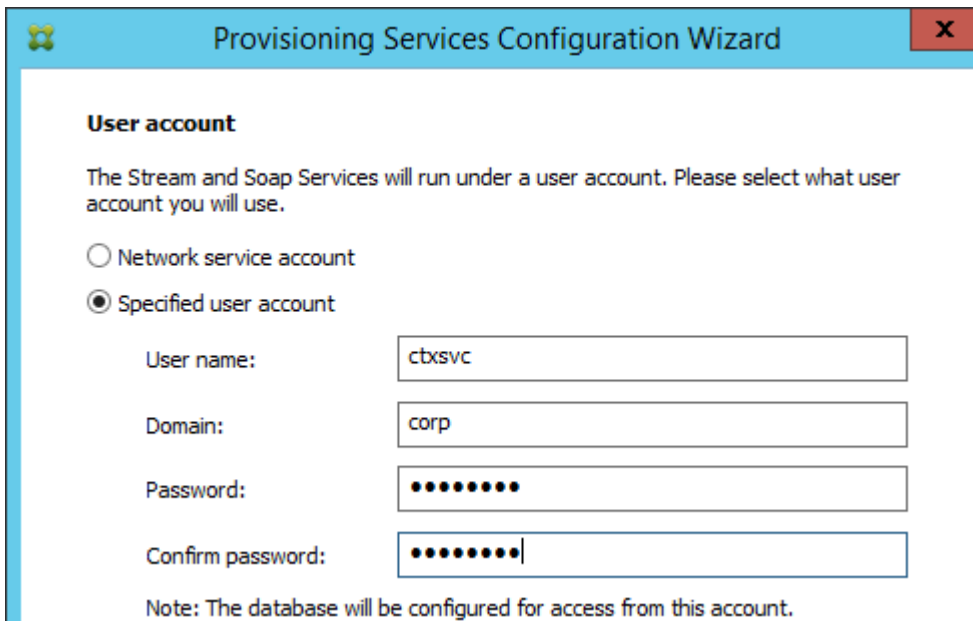
The screenshot shows the 'Provisioning Services Configuration Wizard' window. The title bar is blue with a close button (X) on the right. The main content area has a light blue header with the title 'Provisioning Services Configuration Wizard' and a close button. Below the header, the section is titled 'Store'. The instruction reads: 'Select a Store or enter a new Store and default path.' There are two radio button options: 'Existing store' (selected) and 'New store'. Under 'Existing store', there is a 'Store name:' label and a dropdown menu with 'Store' selected. Under 'New store', there are two text input fields: 'Store name:' (containing 'Store') and 'Default path:' (containing 'D:\Store'). A mouse cursor is pointing at the 'Existing store' radio button.

11. In the *License Server* page, click **Next**.



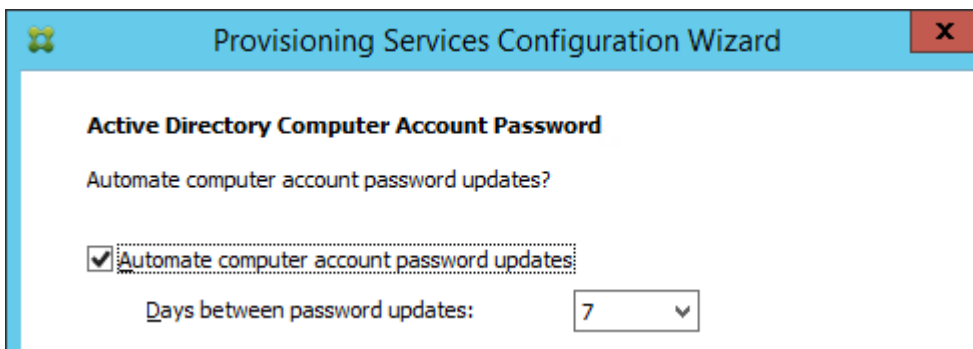
The screenshot shows the 'License Server' configuration page of the Provisioning Services Configuration Wizard. The title bar reads 'Provisioning Services Configuration Wizard'. The main heading is 'License Server'. Below it, the instruction says 'Enter the license server hostname and port.' There are two input fields: 'License server name:' with the value 'sql03' and 'License server port:' with the value '27000'. At the bottom, there is a checked checkbox labeled 'Validate license server version and communication'.

12. In the *User account* page, notice it defaults to Network service account. Change it to a service account that is local administrator on both Provisioning Services servers. Click **Next**.



The screenshot shows the 'User account' configuration page of the Provisioning Services Configuration Wizard. The title bar reads 'Provisioning Services Configuration Wizard'. The main heading is 'User account'. Below it, the instruction says 'The Stream and Soap Services will run under a user account. Please select what user account you will use.' There are two radio button options: 'Network service account' (unselected) and 'Specified user account' (selected). Below the selected option, there are four input fields: 'User name:' with the value 'ctxsvc', 'Domain:' with the value 'corp', 'Password:' with masked characters, and 'Confirm password:' with masked characters. At the bottom, there is a note: 'Note: The database will be configured for access from this account.'

13. In the *Active Directory Computer Account Password* page, check the box and click **Next**.



The screenshot shows the 'Active Directory Computer Account Password' configuration page of the Provisioning Services Configuration Wizard. The title bar reads 'Provisioning Services Configuration Wizard'. The main heading is 'Active Directory Computer Account Password'. Below it, the instruction says 'Automate computer account password updates?'. There is a checked checkbox labeled 'Automate computer account password updates:'. Below the checkbox, there is a label 'Days between password updates:' and a dropdown menu with the value '7'.

14. In the *Network Communications* page, click **Next**.

Provisioning Services Configuration Wizard

Network Communications

Specify network settings.

Streaming network cards: 10.2.2.22

Management network card: 10.2.2.22

Enter the base port that will be used for network communications. A total of 20 ports are required. You must also select a port for console communications.

Note: All servers must have the same port configurations.

First communications port:

Console port:

15. In the *TFTP Option and Bootstrap Location* page, check the box and click **Next**.

Provisioning Services Configuration Wizard

TFTP Option and Bootstrap Location

Typically only one TFTP server is deployed as part of Provisioning Services.

Use the Provisioning Services TFTP service

16. In the *Stream Servers Boot List* page, click **Advanced**.

Provisioning Services Configuration Wizard

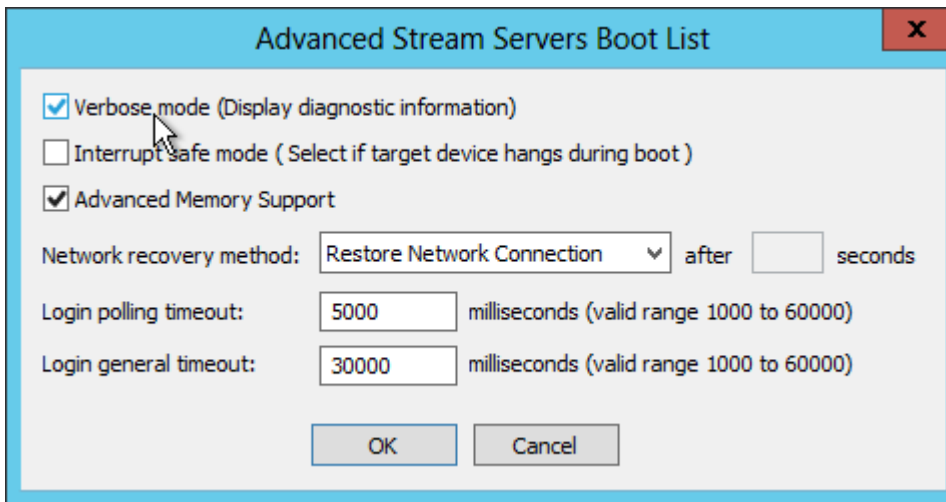
Stream Servers Boot List

Specify at least 1 and at most 4 boot servers.

The bootstrap file specifies what servers target devices may contact to complete the boot process.

Server IP Address	Server Port	Device Subnet Mask	Device Gateway
10.2.2.22	6910		

17. Check the box next to **Verbose mode**, click **OK**, and then click **Next**.

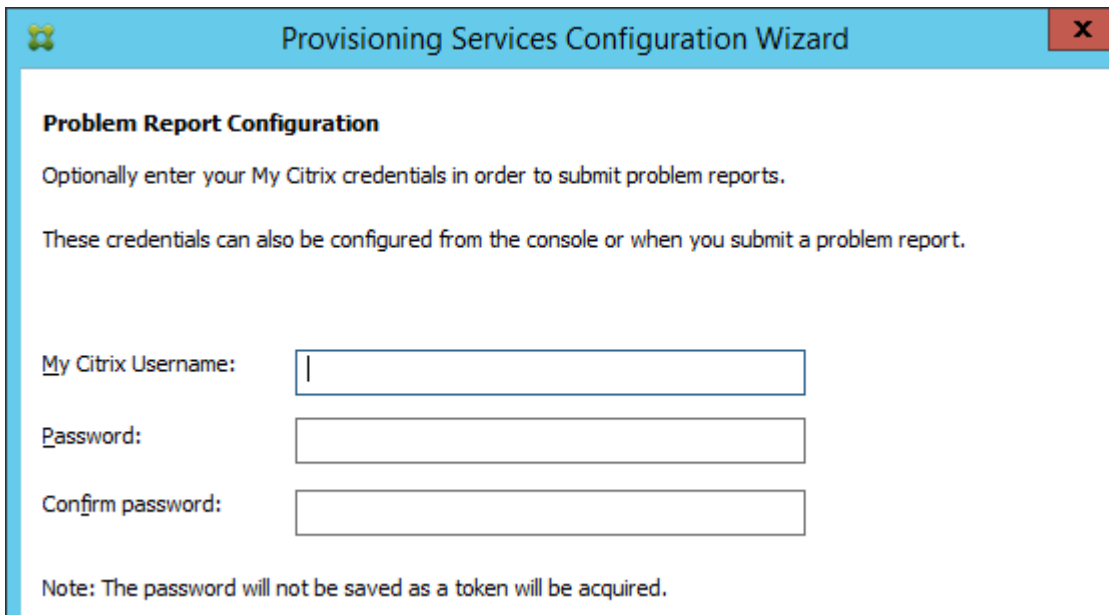


The image shows a dialog box titled "Advanced Stream Servers Boot List". It contains several configuration options:

- Verbose mode** (Display diagnostic information)
- Interrupt safe mode** (Select if target device hangs during boot)
- Advanced Memory Support**
- Network recovery method: after seconds
- Login polling timeout: milliseconds (valid range 1000 to 60000)
- Login general timeout: milliseconds (valid range 1000 to 60000)

At the bottom, there are two buttons: **OK** and **Cancel**.

18. If PvS 7.11, in the **Problem Report Configuration** page, enter your MyCitrix credentials, and click **Next**.



The image shows a page titled "Provisioning Services Configuration Wizard" with a sub-section "Problem Report Configuration".

Optionally enter your My Citrix credentials in order to submit problem reports.

These credentials can also be configured from the console or when you submit a problem report.

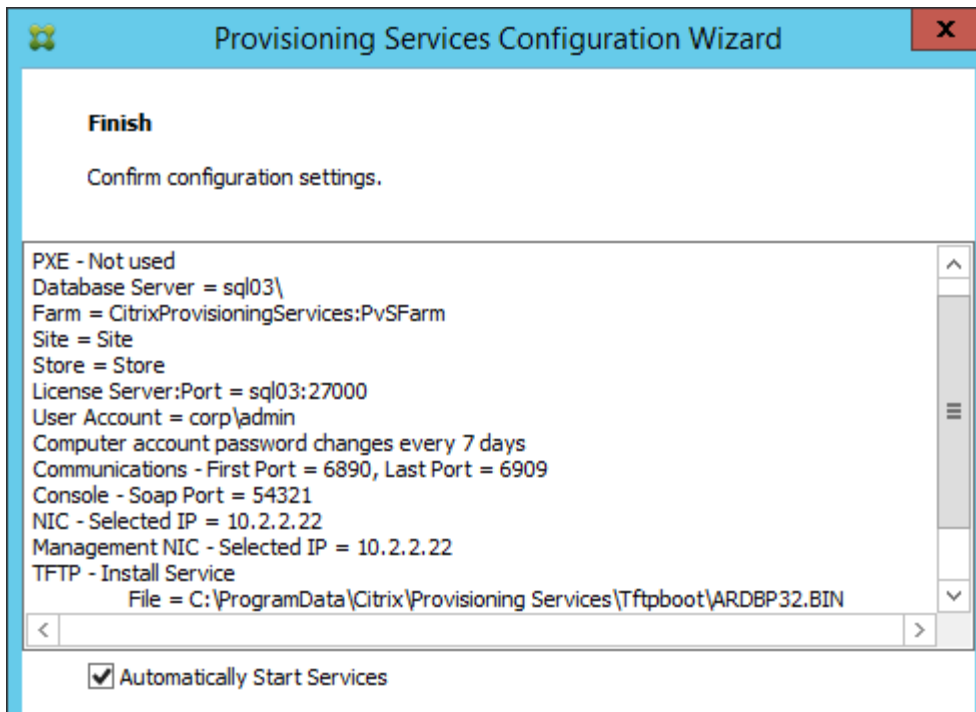
My Citrix Username:

Password:

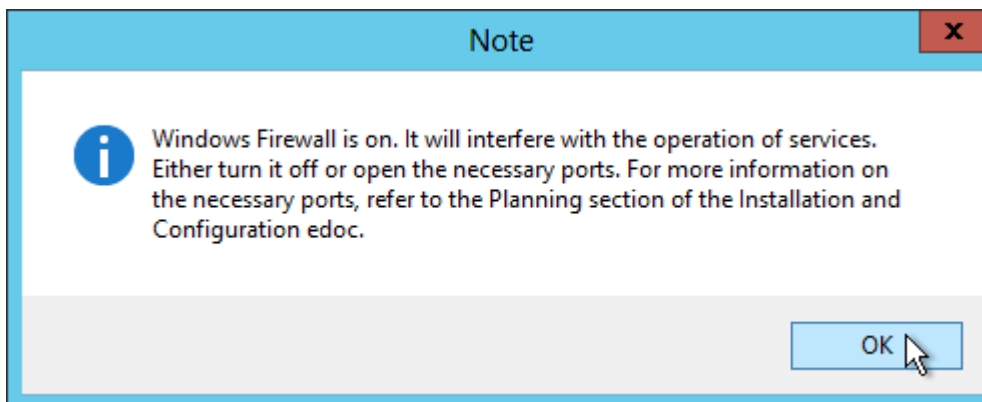
Confirm password:

Note: The password will not be saved as a token will be acquired.

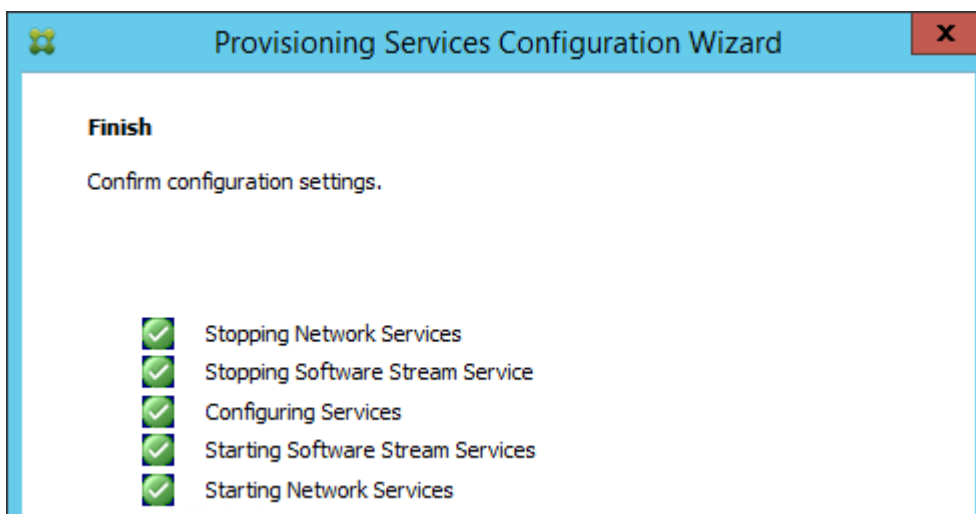
19. In the *Finish* page, click **Finish**.



20. Click **OK** if you see the firewall message.



21. In the *Finish* page, click **Done**.



Troubleshooting – Networking Services Don't Work After Reboot

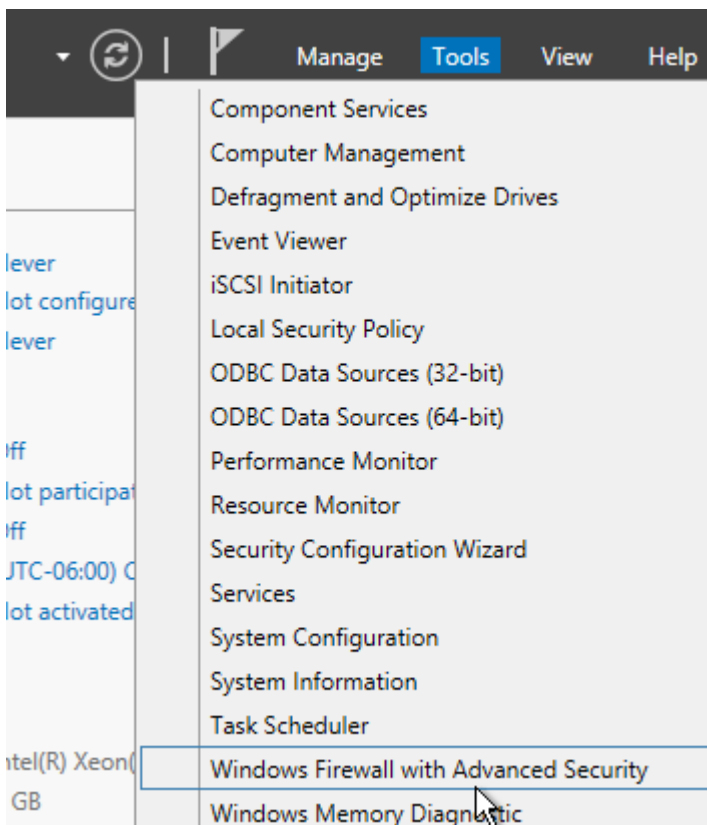
If your PXE service or TFTP service does not work after a reboot of the Provisioning Services server, do the following:

1. One option is to set the Citrix PVS PXE Service, Citrix PVS TFTP Service, and Citrix PVS Two-stage boot Service to **Automatic (Delayed Start)**.
2. The TFTP and Two-stage Boot services can be delayed by setting registry keys. From Carl Fallis at [Citrix Discussions](#):
 - Keys = HKLM\System\CurrentControlSet\services\BNTFTP (and PVSTSB)\Parameters
 - Value = InitTimeoutSec (DWORD). 1 – 4 seconds. Default is 1.
 - Value = MaxBindRetry (DWORD). 5 – 20 retries. Default is 5.

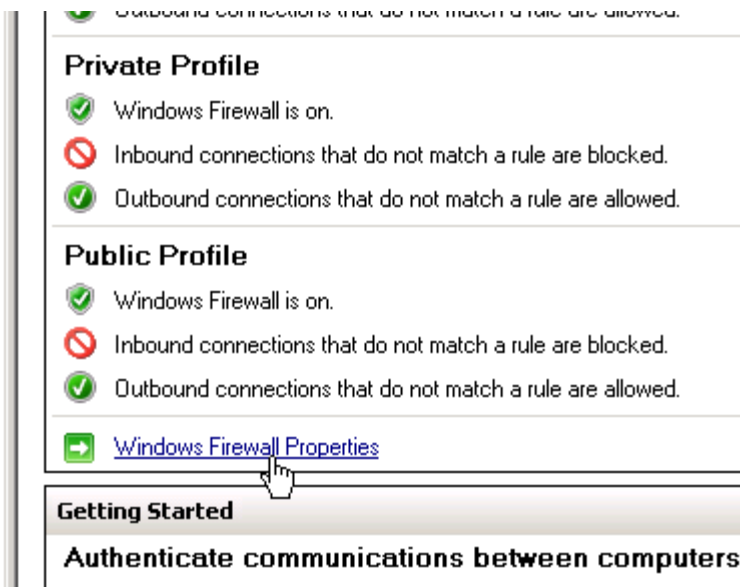
Disable Firewall

The Windows firewall must be disabled to allow communication on all Provisioning Server ports.

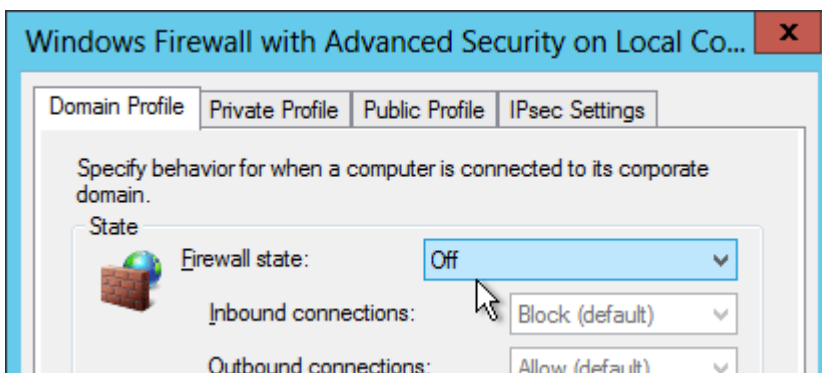
1. In Server Manager, click **Tools** and run **Windows Firewall with Advanced Security**.



2. Click **Windows Firewall Properties**.



3. On the **Domain Profile** tab, change the *Firewall state* to **Off**.



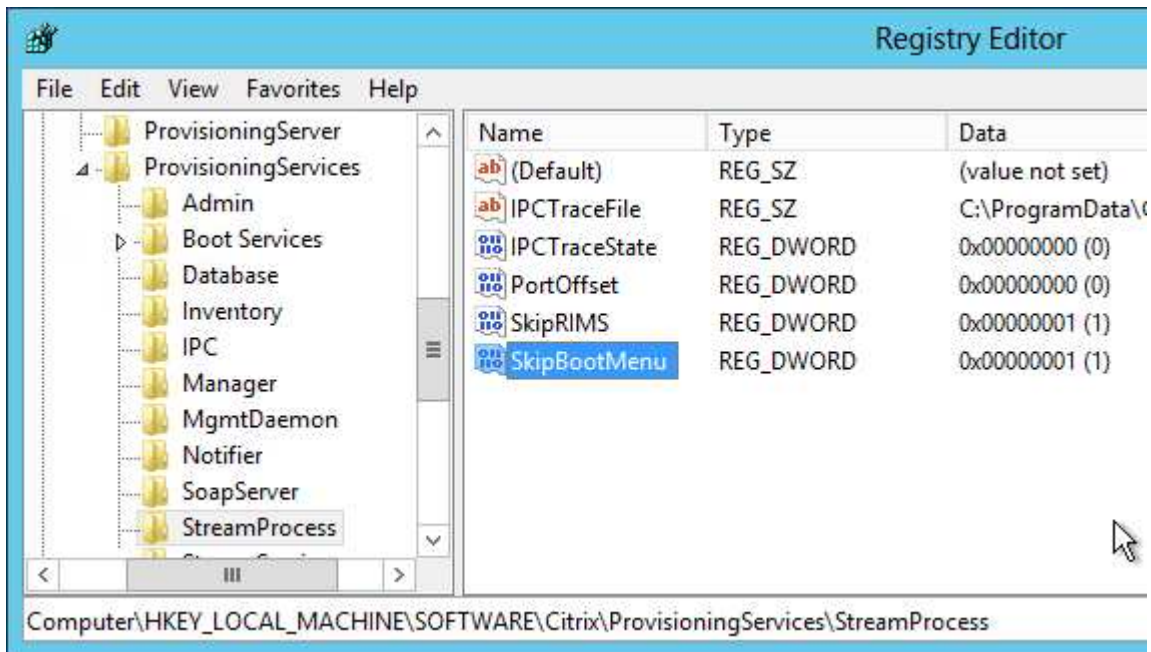
Disable BIOS Boot Menu

The versioning process in Provisioning Services will present a boot menu when booting any version except **Production**.

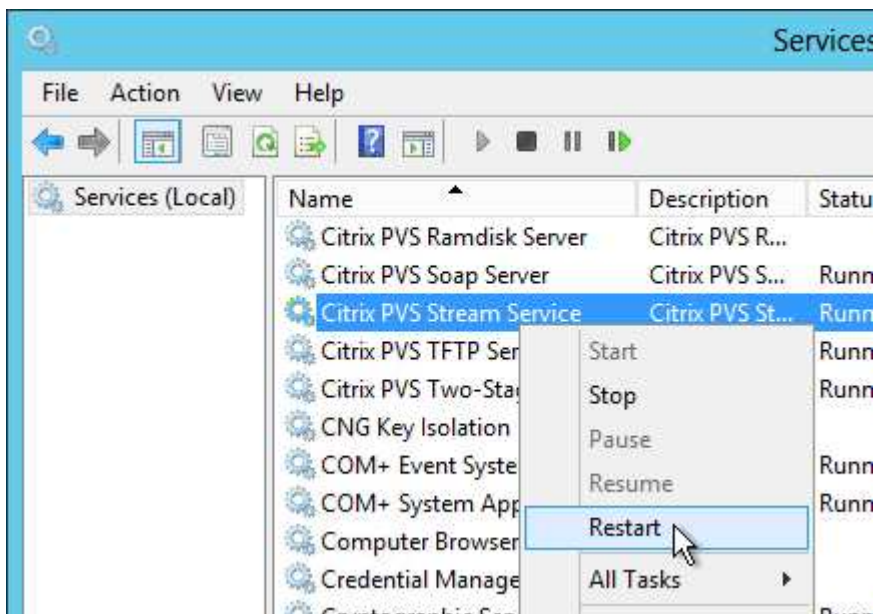
```
Connecting to the Provisioning Services. Please wait...

Boot Menu:
-----
1) Silo1-20111031.1 [Maint]
2) Silo1-20111031
-----
Selection [1-2]:_
```

1. To avoid this, create the DWORD registry value **HKLM\Software\Citrix\ProvisioningServices\StreamProcess\SkipBootMenu** on both Provisioning Servers and set it to **1**. Note: the location of this key changed in Provisioning Services 7.0 and newer.



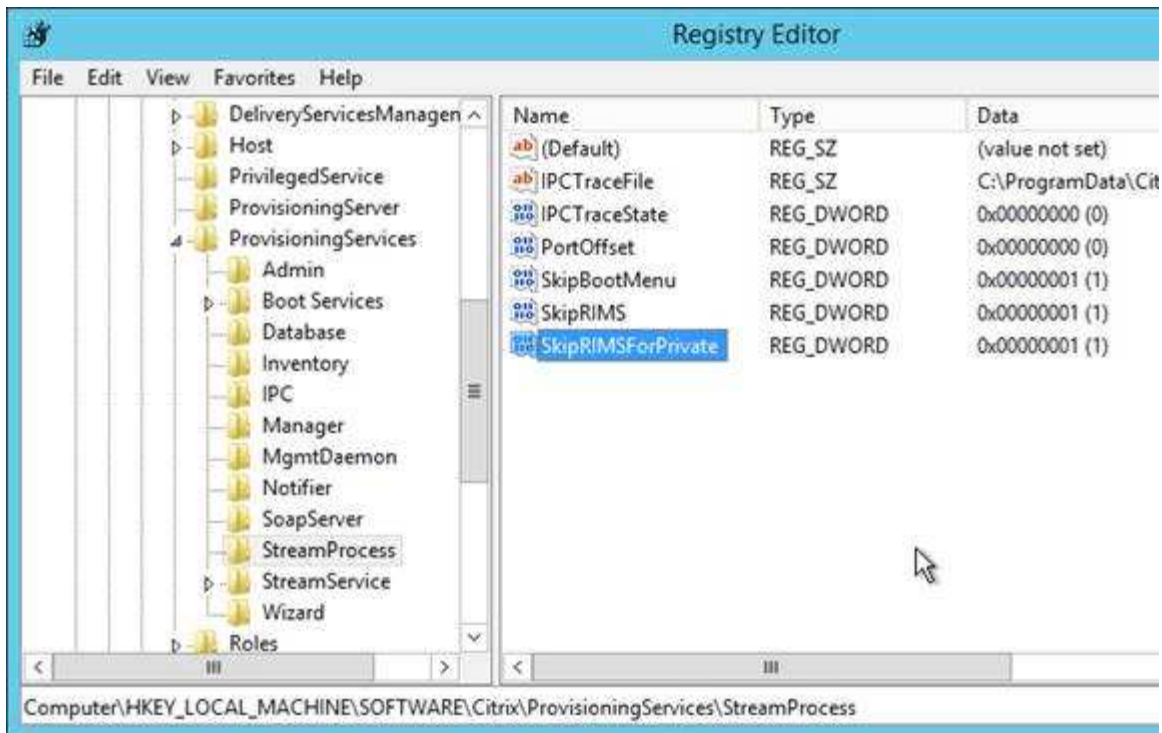
2. Then restart the **Citrix PVS Stream Service**.



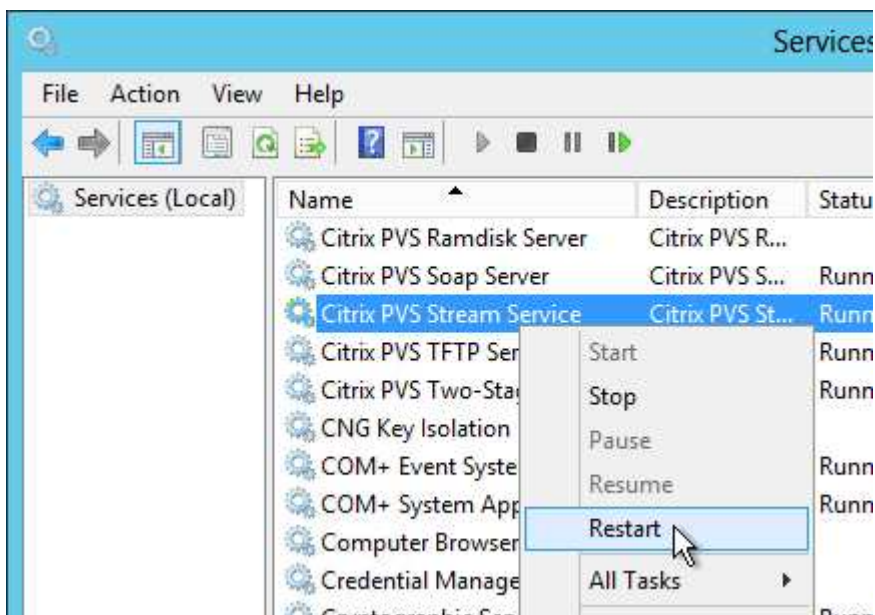
Private Mode vDisk – No Servers Available for vDisk

Citrix CTX200233 – Error: “No servers available for disk”: When you set a vDisk to Private Image mode (or new Maintenance version), if the Target Device is not connected to the server that contains the vDisk then you might see a message saying “No Servers Available for vDisk”.

1. To avoid this, create the DWORD registry value **HKLM\Software\Citrix\ProvisioningServices\StreamProcess\SkipRIMSForPrivate** on both Provisioning Servers and set it to **1**. Note: the location of this key changed in Provisioning Services 7.0.



2. Then restart the **Citrix PVS Stream Service**.



Multi-Homed Provisioning Server

From slide 20 of <http://www.slideshare.net/davidmcg/implementing-and-troubleshooting-pvs;> Multi-homed Provisioning Services server is not recommended but if you insist, and if running Provisioning Services 6.1 or older, configure the following. Provisioning Services 7.7 configuration wizard should have asked you for the management NIC.

- HKLM\Software\Citrix\ProvisioningServices\IPC

- New Reg_Sz (string) named **IPv4Address** with the IP of the NIC for IPC
- HKLM\Software\Citrix\ProvisioningServices\Manager
 - New Reg_Sz (string) named **GeneralInetAddr** with the IP of the NIC and port
 - e.g. 10.1.1.2:6909

Citrix 133877 [Timeout Error 4002 in Provisioning Server Console after Clicking “Show Connected Devices”](#): when there are multiple streaming NICs assigned to the PVS Server, when Show Connected Devices was clicked in the PVS console, the following symptoms might be experienced: Server timeout error 4002, unusual delay of 3 to 4 minutes to list the connected devices, or PVS console stops responding. Complete the following to resolve the issue:

1. On the PVS Server machine, under **HKLM\software\citrix\provisioningServices\Manager** key, create registry DWORD **RelayedRequestReplyTimeoutMilliseconds**, and set it to 50 ms (Decimal).
2. Create a DWORD **RelayedRequestTryTimes**, and set it to 1.
3. Open the PVS Server console and test by selecting the Show Connected Devices command.

Antivirus Exclusions

From <http://www.michelsteveldmans.com/citrix-provisioning-services-7-recommended-antivirus-exclusions>:

A few recommended Server Side file exclusions:

- C:\Program Files\Citrix\Provisioning Services\BNTFTP.exe
- C:\Program Files\Citrix\Provisioning Services\Inventory.exe
- C:\Program Files\Citrix\Provisioning Services\MgmtDaemon.exe
- C:\Program Files\Citrix\Provisioning Services\PVSTSB.exe
- C:\Program Files\Citrix\Provisioning Services\SoapServer.exe
- C:\Program Files\Citrix\Provisioning Services\StreamProcess.exe
- C:\Program Files\Citrix\Provisioning Services\StreamService.exe
- C:\Program Files\Citrix\Provisioning Services\drivers\BNITDI.sys
- C:\Program Files\Citrix\Provisioning Services\drivers\CFsDep2.sys
- C:\Program Files\Citrix\Provisioning Services\drivers\CVhdMp.sys
- C:\ProgramData\Citrix\Provisioning Services\Tftpboot\ARDBP32.BIN

- D:\Pagefile.sys
- D:\Store => (i.e. local vdisk store)

A few recommended Target Device exclusions:

- C:\Program Files\Citrix\Provisioning Services\BNDevice.exe
- C:\Program Files\Citrix\Provisioning Services\TargetOSOptimizer.exe
- C:\Program Files\Citrix\Provisioning Services\drivers\BNISStack6.sys
- C:\Program Files\Citrix\Provisioning Services\drivers\CFsDep2.sys
- C:\Program Files\Citrix\Provisioning Services\drivers\CNicTeam.sys
- C:\Program Files\Citrix\Provisioning Services\drivers\CVhdBusp6.sys
- D:\.vdiskcache (the location of your vDisk cache file)
- D:\dedicateddumpfile.sys
- D:\pagefile.sys

An even easier approach would be to exclude the complete Provisioning services folder.

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

TFTP High Availability

If your Target Devices are not on the same VLAN as the Provisioning Servers, you will need to load balance TFTP.

- Citrix CTX131954 [Implementation Guide – High Availability for TFTP](#)

NetScaler 10.1 and newer has native support for TFTP protocol. Older versions of NetScaler are more difficult to configure.

Create Service

Service Name* Server* 192.168.123.11

Protocol* TFTP Port* 69

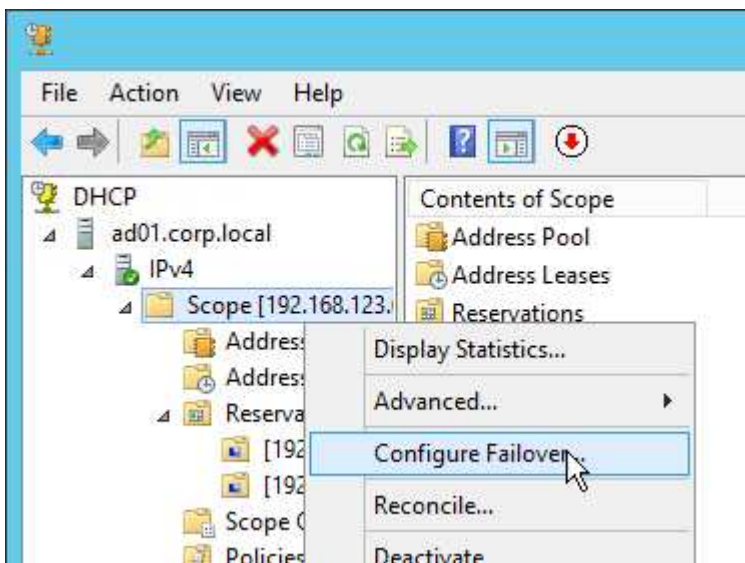
Traffic Domain Protocol in which data is exchanged with the service.

Enable Service Number of Active Clients

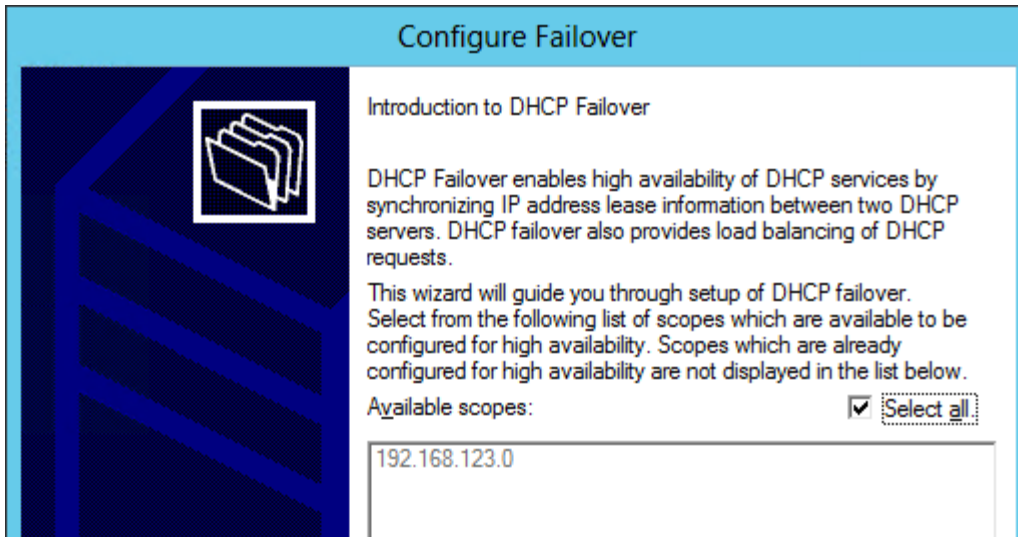
DHCP Failover

The DHCP infrastructure must be highly available. And session hosts should be configured with DHCP Reservations. With multiple DHCP servers, any reservation should be created on all DHCP servers hosting the same DHCP scope. The easiest way to accomplish this is with the new DHCP Failover feature in Windows Server 2012.

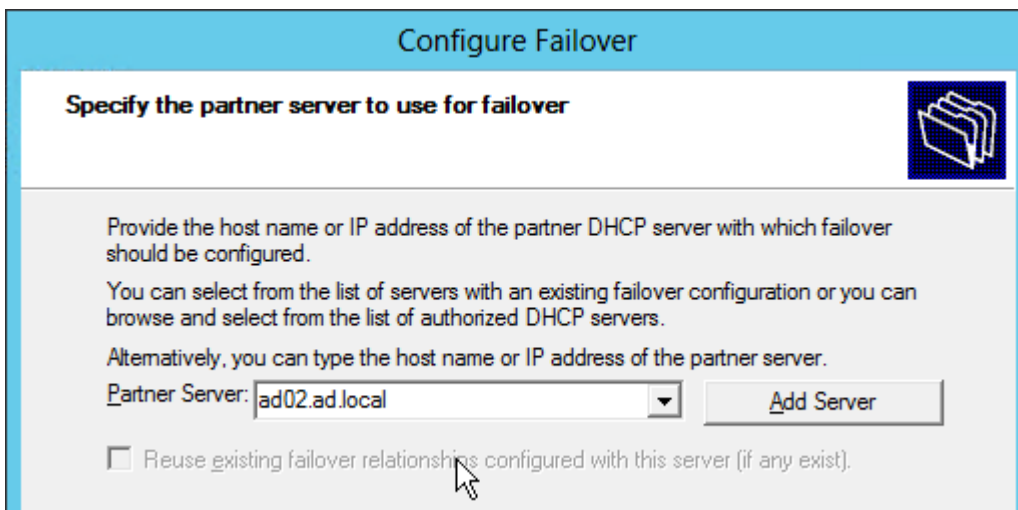
1. Build two DHCP servers on Windows Server 2012.
2. Create a scope for the Provisioning Services Target Devices.
3. Right-click the existing scope and click **Configure Failover**.



4. In the *Introduction to DHCP Failover* page, click **Next**.



5. In the *Specify the partner server to use for failover* page, enter the name of the other DHCP server and click **Next**.



6. In the *Create a new failover relationship* page, enter a Shared Secret and click **Next**.

Configure Failover

Create a new failover relationship

Create a new failover relationship with partner ad02.ad.local

Relationship Name:

Maximum Client Lead Time: hours minutes

Mode:

Load Balance Percentage

Local Server: %

Partner Server: %

State Switchover Interval: minutes

Enable Message Authentication

Shared Secret:

7. Click **Finish**.

Configure Failover

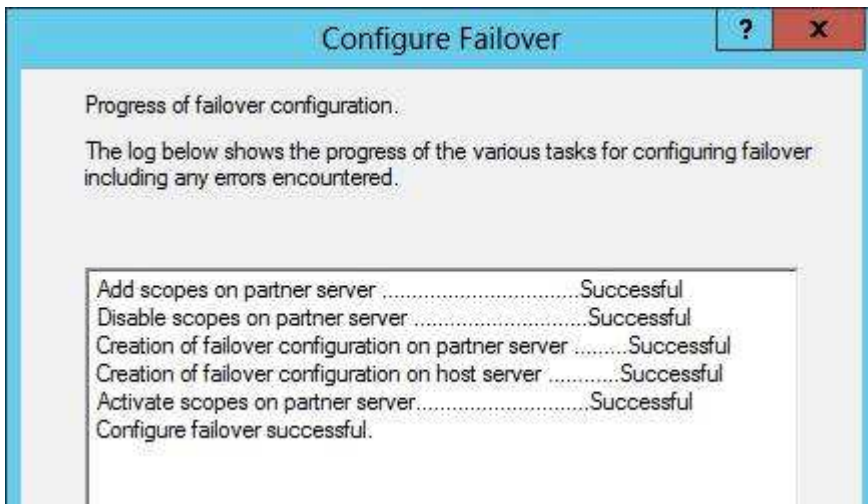
Failover will be set up between ad01.corp.local and ad02.ad.local with the following parameters.

Scopes:

Relationship Name: ad01.corp.local-ad02.ad.local
 Maximum Client Lead Time: 1 hrs 0 mins
 Mode: Load balance
 State Switchover Interval: Disabled

Load Balance Percentage

Local Server: 50 %
 Partner Server: 50 %

8. Click **Close**.

Health Check

Sacha T. – [Citrix PVS HealthCheck](#): PowerShell script to view the health/status of the Provisioning Services environment. Emails an HTML Report. For PvS 7.7, see <http://blog.appcloud.ch/happy-new-script-pvs-7-7-healthcheck/>. For PvS 7.6, <http://blog.appcloud.ch/citrix-pvs-healthcheck/>.

PVS Farm Report - 6 Sep 2014 14:45:27 GMT

Servername	CollectionName	Ping	Retry	vDisk_PVS	vDisk_Personality	vDiskShare	PVSServer
10.10.10.10	Regional	Success	0 Retry = OK	10.10.10.10	10.10.10.10	Standard-Share	10.10.10.10
10.10.10.11	10.10.10	Success	0 Retry = OK	10.10.10.11	10.10.10.11	Standard-Share	10.10.10.11
10.10.10.12	10.10.10	Success	1 Retry = OK	10.10.10.12	10.10.10.12	Standard-Share	10.10.10.12
10.10.10.13	10.10.10	Success	0 Retry = OK	10.10.10.13	10.10.10.13	Standard-Share	10.10.10.13
10.10.10.14	10.10.10	Success	0 Retry = OK	10.10.10.14	10.10.10.14	Standard-Share	10.10.10.14
10.10.10.15	Regional	Timeout	14 Retry = OK	10.10.10.15	10.10.10.15	Header not OK	10.10.10.15
10.10.10.16	Regional	Success	0 Retry = OK	10.10.10.16	10.10.10.16	Standard-Share	10.10.10.16

vDisk	RepState	deviceCount	LoadBalancingAlgorithm	WriteCacheType
10.10.10.10	Replication OK	active on 5 devices	LB is not in NGM	WC Cache to Disk with overflow to HD

PVS Server	Ping	Active	deviceCount
10.10.10.10	Success	active	3 active
10.10.10.11	Success	active	4 active

FarmChecks	Setting	Value
	FarmName	10.10.10.10
	LicenseServer	10.10.10.10
	OfflineDatabaseSupportEnabled	1
	DatabaseServerName	10.10.10.10
	LicenseServerPort	27988
	DatabaseName	OnoPVS

defined vDisk store to check replication: Standard-Share
 Retry Threshold = 15

Related Pages

- [PvS – Console Configuration](#)
- [Back to Provisioning Services](#)



📅 March 7, 2015 👤 Carl Stalhood 📁 Provisioning Services

38 thoughts on “Provisioning Services – Server Install”



Brian

November 1, 2016 at 7:49 am

Carl, during an upgrade, after I upgrade the first device are the targets able to fail back over to the newly upgraded server so that I can upgrade the rest of the streaming servers? I am upgrading from 7.1.3 to 7.11.



Carl Stalhood 👤

November 1, 2016 at 8:12 am

Yes. You can stop the streaming service and they should fail over.



Bill

September 15, 2016 at 3:44 am

Carl mabay you can add some comments to the following section

◦Configuration Wizard – New Farm

While when the SQL server initial db size is more then 20MB the Provisioning Services Configuration Wizzard failed!

on the configuring Services

And in the eventlog you found the following error message

DbAccess error: (in ServerGetNameFromDb() called from SSProtocolModule.cpp:291)

As soon the SQL Admin changed the initial size to 19MB, the wizard runs without an issue!

If you like it I can provide you an screenshot with the error!



Norv

August 31, 2016 at 12:33 am

Thanks, Carl. Question...Once I upgrade all of my servers from 7.1 to 7.9, will my target devices (that still have the 7.1 target software installed) still work in the upgraded pvs farm?



Carl Stalhood 👤

August 31, 2016 at 5:55 am

Yes. But you'll want to upgrade them shortly afterwards.



Norv

August 31, 2016 at 10:39 am

Thanks for the fast response, Carl. May I ask what the downside is if I don't upgrade the target device software immediately after upgrading the PVS farm (besides missing all the new features)? I was thinking of upgrading all of my servers in my PVS farm first to 7.9, and upgrade my 7.1 target device software within a week or two. Do you think that will be ok? Thanks, Carl!



Carl Stalhood 👤

August 31, 2016 at 10:40 am

That should be fine. If you call support with 7.1 connecting to 7.9, they will probably ask you to upgrade to 7.9 before providing support.



Shane

August 10, 2016 at 12:21 am

Thanks for the great information, Carl.

Is it possible to automate the versioning process? I'd like to push MS patches every month using SCCM to our master image, from there I'd like to automate all of the PVS work...from creating a new version, setting it to production, pointing all of the PVS clones to the new version, etc.

Have you ever seen this done? Is it possible?



Carl Stalhood 👤

August 10, 2016 at 6:07 am

Maybe this – <http://support.citrix.com/article/CTX205394>



Jig

August 9, 2016 at 11:54 am

Hi Carl, when upgrading PVS to a newer version (7.6 to 7.62) do you recommend doing it after hours when no users using it? I know the upgrade does a db upgrade, & most likely with stop streaming services, etc. so am wondering if the upgrade would break current vdisk streaming or prevent any new attempts?



Carl Stalhood

August 9, 2016 at 12:01 pm

When you upgrade one, it moves the targets to the other server. Most have no problems upgrading during the day. But it depends on your risk tolerance.



Prasad

August 5, 2016 at 7:26 am

Great article Carl. I upgraded 7.6 to 7.9 recently. Noticed the target devices don't show the correct status. VM's are ON users are connected, but PVS shows target device is down. I have logged a case with Citrix but waiting...



Jim

July 25, 2016 at 8:30 am

Thanks again Carl,
Do you have any tips and best practice on (multi site) high availability..
How can you provide the same vDisks to devices at different sites?



Carl Stalhood

July 25, 2016 at 8:35 am

I typically copy the vDisk to different Pvs servers in each site. Yes, targets in each site can boot from the same vDisk. However, you might have to use GPO to adjust the ListOfDDCs registry key so the VDAs register with the correct Controllers.



yadav

June 29, 2016 at 7:40 pm

awesome



carsten anker

May 10, 2016 at 5:57 am

Hi Carl. we also get the no servers for disk. just 1 out of 50 servers or so. then the server needs to be reset 1-10 times before it Works (hyper-v). Its both maintenance and standard image.

Do you have ANY idea ?

/anker



Carl Stalhood 🧑

May 10, 2016 at 5:58 am

You might have to call Citrix Support. Or post to Citrix forums, where the Product Manager usually replies.



Erlend

April 21, 2016 at 8:17 am

Hi Carl

Great guide! 😊

*:vhdx needs to be added to the PVS RoboCopy script 😊



Carl Stalhood 🧑

April 21, 2016 at 8:38 am

Hopefully it's fixed now. Thanks for noticing.



rolf

April 5, 2016 at 3:09 am

hi Carl,

I Got the message suddenly

No servers available for disk, when i put the vdisk in Private mode, it used to work suddenlijk it doesnt work any more, i already added the registry entry, restart streaming service, nothing seems to work

What else can i do to get this work ?

Thanks

rolf



Carl Stalhood 👤

April 5, 2016 at 6:13 am

Maybe copy it to the other PvS server?

Make sure load balancing is not enabled on the vDisk.



Ravi Battini

March 23, 2016 at 6:11 am

Hi.. Could you please provide the core difference between PVS 5.6 6.1 and 7.6.



Carl Stalhood 👤

March 23, 2016 at 7:02 am

Are you asking for the list of new features? <http://docs.citrix.com/en-us/provisioning/7-6/pvs-readme-7.html>

The biggest one is Cache to Device RAM with overflow to Disk.



Josef Malmberg

March 11, 2016 at 12:48 pm

Is there a SA date for licenses? Ilike it is for Xendesktop 7.8 ?



Carl Stalhood 👤

March 11, 2016 at 1:40 pm

Yep. See <http://support.citrix.com/article/CTX111618>



Robert

March 1, 2016 at 8:15 am

Carl,

This rule is mentioned double in the anti virus exclusions:

C:\Program Files\Citrix\Provisioning Services\MgmtDaemon.exe

C:\Program Files\Citrix\Provisioning Services\Inventory.exe

C:\Program Files\Citrix\Provisioning Services\MgmtDaemon.exe



Carl Stalhood

March 1, 2016 at 8:20 am

Fixed. Thanks for noticing.



john

February 26, 2016 at 3:07 am

Very well written Carl. Thanks Very Much



Josef Malmborg

January 25, 2016 at 9:55 am

Question: regarding service account or to use PVS servers Computer Accounts?
For my PVS installations I use the Computer accounts, then I don't need to care about password expires for the service account. Do you Carl see any downsides with using Computer Accounts? except the KMS part ?



Carl Stalhood

January 25, 2016 at 10:19 am

Make sure NETWORK SERVICE is added as a local administrator. Also, can't do PVD with local account since the account needs to log into Citrix Studio. And probably can't do Scale Out File Share with VHDX files.



Josef Malmborg

January 27, 2016 at 2:53 am

For the Active Directory OU where the computer accounts is situated, doesn't the PVS serviceaccount or the PVS servers computer account need higher rights there like: update computer accounts?
It used to be that way..



Carl Stalhood

January 27, 2016 at 5:31 am

Nope. It should use the AD permissions of the person running the console.

For AD password changes, PVS asks the TD to do it so no extra permissions are needed.



Alex Spicola

May 21, 2016 at 2:02 pm

I asked you this on Twitter as well. So are you saying the stream/soap service account DOES NOT require any AD permissions on the OU? I'm getting mixed information on this.



Carl Stalhood

May 21, 2016 at 3:50 pm

I'm pretty sure it's not required. You could always test it. It should use the credentials of the person running the console.



Alex Spicola

May 21, 2016 at 6:53 pm

I know the console user would be able to manage, but what about the automated password management of the computer objects? You said the TDs handle that but I'm unsure how that works. I'm definitely going to test though. Nothing definitively says the stream service needs ad permissions anywhere.



Michael Haynes

December 16, 2015 at 7:58 pm

You are fantastic Carl. One of the clearest PVS articles I have seen. This will definitely be a help when we do our POC for XenApp 7.6. Thanks again.



bernd noemer

August 19, 2015 at 11:18 am

Carl you saved my day! Thanks for your work.....



Sander Daems

May 21, 2015 at 1:29 pm

very nice Carl, thanks for the info
