VistA Imaging Exchange (VIX) MUSE-JLV Interface Fixes

MAG*3.0*249

CVIX Installation Guide

Department of Veterans Affairs

Office of Information and Technology (OI&T)

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Version 3.0

CVIX Installation Guide
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VistA Imaging Product Development
Department of Veterans Affairs
Internet: http://www.va.gov/imaging
VA intranet: http://vaww.va.gov/imaging

Revision History

Date	Rev	Notes
10/24/2018	1.9	205 updates. C. Titton.
9/25/2017	1.0	Initial version. M. Smith.
10/17/2017	1.1	Minor edits. M. Smith.
01/05/2018	1.2	Minor edits. M. Smith.
01/24/2018	1.3	Update with latest screenshots Viewer and SQL steps and DAS MIX/DX configuration C. Titton.
02/08/2018	1.4	Additional Updates. M. Smith.
03/27/2018	1.5	Updated for MAG*3.0*205. M. Smith.
03/28/2018	1.6	More Updates for MAG*3.0*205. C. Titton
04/30/2018	1.7	More Updates for MAG*3.0*205. M. Smith.
07/31/2018	1.8	More Updates for MAG*3.0*205. M. Smith.
6/20/2019	1.9	Updates for MAG*3.0*230
03/18/2020	2.0	Updates for MAG*3.0*249
05/26/2020	3.0	Updates for MAG*3.0*249 post IOC Test Findings, D. Kelly, T. McCollough

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Pre-Installation Instructions

Verify that the patches listed in the Associated Patches section of this document have been previously installed.

- This patch may be installed with users on the system, although it is recommended that it be installed during non-peak hours to minimize potential disruption to users.
- There are no Menu Options to disable.

Installation Instructions

This patch contains a CVIX installation. Instructions for the CVIX portion of this patch are contained in this document. This patch must be installed by the compliance date to conform with VHA Directive 2001-023. This patch may be loaded while VistA Imaging System is active.

Installation Prerequisites

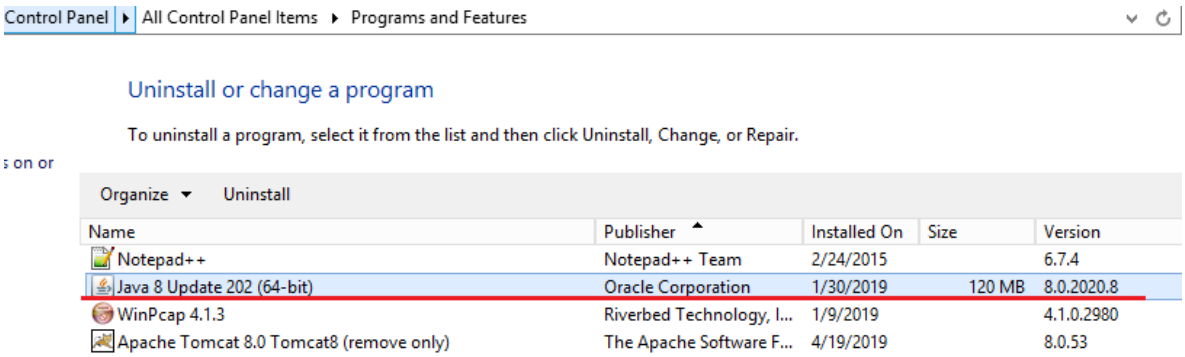
Before installing this patch, you will need to download the MAG*3.0*249 files to a local storage location.

- MAG3_0P249_CVIX_Setup.msi, MAG3_0P249_CVIX_Scripts.zip, MAG3_0P249_CVIX_Hotfix01.zip, and SQLEXPRESS_X64-14_0_1000_169.ZIP (SQL 2017) found in the VIXSqlInstaller folder should be copied to a temporary folder on the desktop.

The following items are necessary for the CVIX installation:

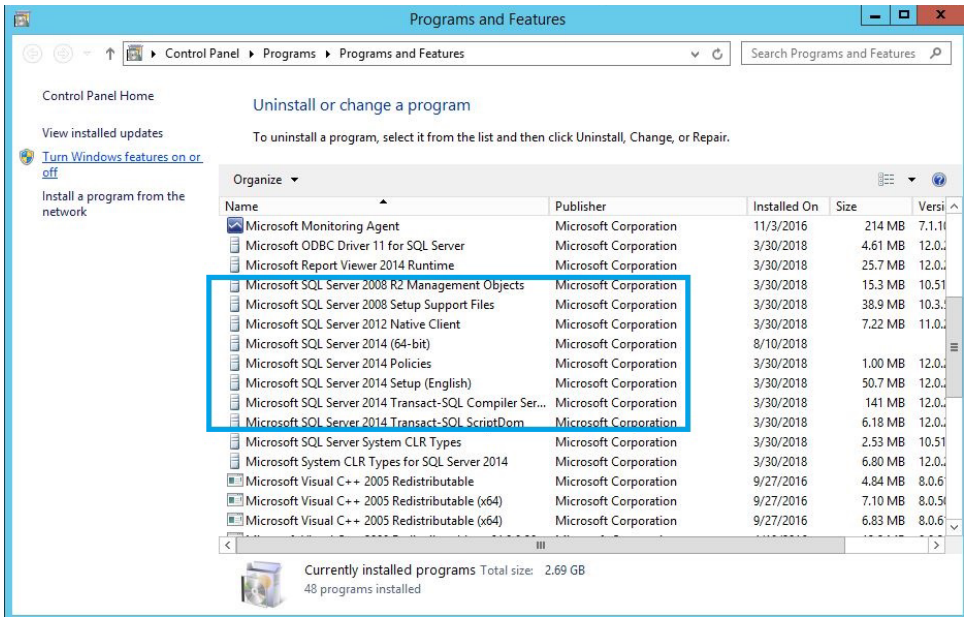
1. The latest CVIX installation software.
2. A copy of the latest vhasites.xml file for the site service (copying from an existing CVIX node guarantees the latest version will be used). Place this file in the C:\SiteService folder on the node you are installing (create the folder if needed).
3. The Laurel Bridge Product Serial Number for the CVIX node you are installing.
4. The Federation certificate for the CVIX node you are installing.
5. The CVIX failover cluster's pfx certificate and its password.
6. Station 200 Access Code (referred to as Username).
7. The DAS certificates zip file and DAS configuration settings.
8. Consuming application certificates, if needed.
9. Before beginning the install, validate any Java version installed. MAG*3.0*249 CVIX installer will uninstall Java 8.0.171 if it is installed and install Java 8.0.202. If the Java version installed is older than 8.0.171, it must be uninstalled manually. The current Java version can be checked using the Control Panel (Figure 1). Reboot your server after the Java uninstall.

Figure 1: Java Version Check



10. Before beginning the install, remove any SQL version older than SQL 2017.
    a. Stop the Apache Tomcat Service (if it is installed and running).
    b. Uninstall all or any old MS-SQL programs (**Control Panel – Programs – Programs and Features – Uninstall**) (Figure 2)
    c. Remove/Delete the folder C:\Program Files\Microsoft SQL Server (include data files if any exist)
    d. **RESTART the CVIX server before proceeding (User MUST restart the server after uninstalling SQL software)**.

Figure 2: Microsoft SQL Removal

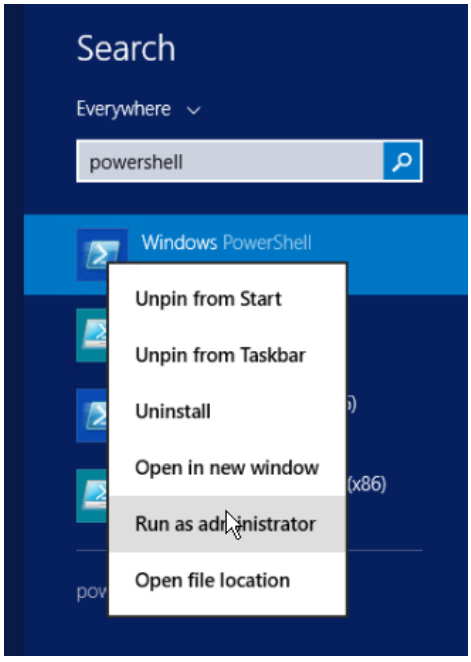


11. Before beginning the install, remove any old Apache Tomcat (prior to 8.0.53):
    - from Control Panel - Programs and Features - uninstall Apache Tomcat 8.0 (stop the Apache Tomcat service if it is running prior to uninstall)

12. Extract the MAG3_0P249_CVIX_Scripts.zip file introduced in MAG*3.0*249. Copy the included PowerShell scripts into the directory C:\Program Files\VistA\Imaging\Scripts. These scripts include:
    - p249_vix_preinstall_config_backups.ps1
    - p249_vix_config_edits.ps1
    - p249_vix_ssl_binder.ps1
    - p249_task_scheduler.ps1
    - p249_vix_services.ps1
13. *This step is needed only if this is an upgrade of the CVIX* so that backup copies of the prior patch config files are created. Execute the config backups script (p249_vix_preinstall_config_backups.ps1) to make timestamped backups of the following config files for later referential purposes:
    - C:\Program Files\VistA\Imaging\VIX.Config\VIX.Render.config
    - C:\Program Files\VistA\Imaging\VIX.Config\VIX.Viewer.config
    - C:\Program Files\Apache Software Foundation\Tomcat 8.0\conf\server.xml.
    - C:\Program Files\Apache Software Foundation\Tomcat 8.0\webapps\Awiv\Awiv.html

    a. Choose **Start**, type `PowerShell`, and then right click **Windows PowerShell** and run as an administrator (Figure 3).

Figure 3: Execute Windows PowerShell

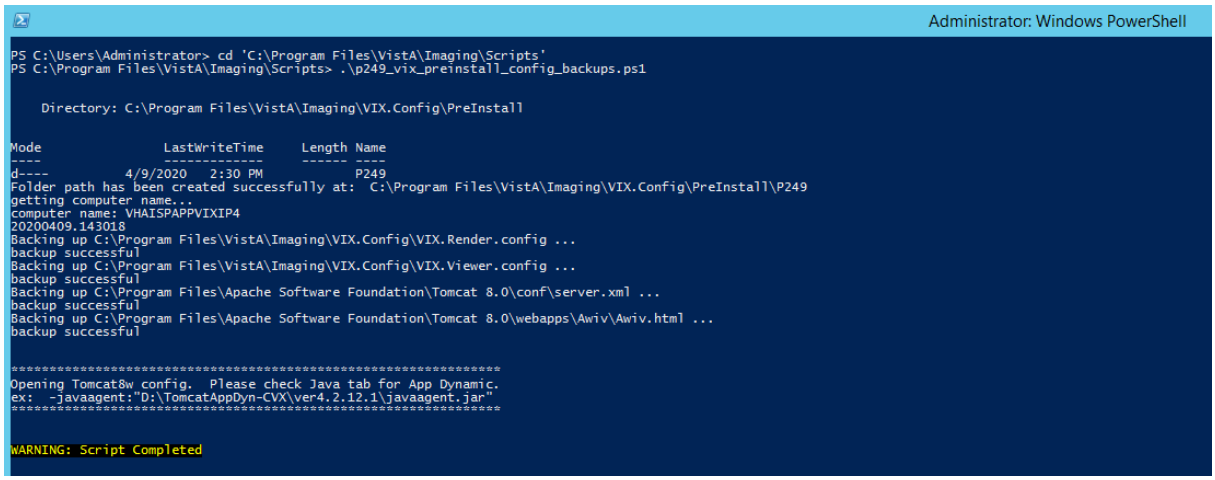


Once PowerShell launches, type in the commands:

```
cd 'C:\Program Files\VistA\Imaging\Scripts'(press enter)
.\p249_vix_preinstall_config_backups.ps1
```

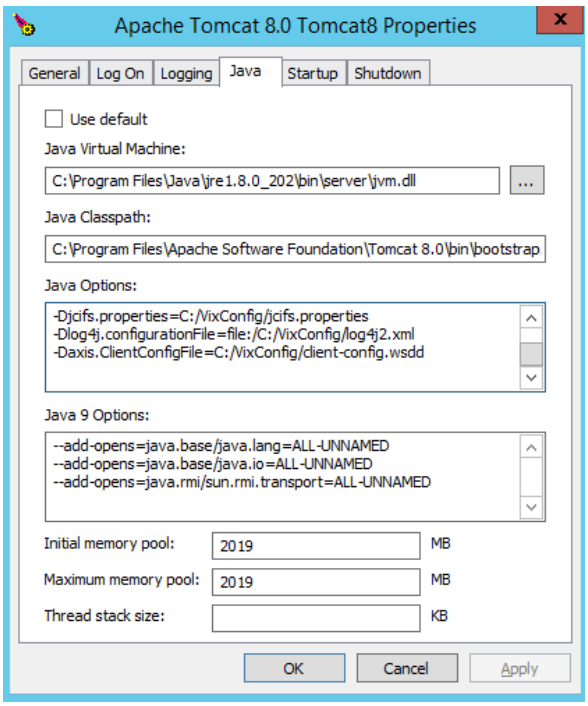
Then press **ENTER** to execute the back-up files script. Wait for the script to complete (Figure 4).

Figure 4: Windows PowerShell Back-up Files Script



b. The script will launch the Apache Tomcat 8 properties. *In the case of an upgrade and if AppDynamics is not needed*, under the java tab Javaoptions (at the end - Figure 5) remove this line (if it exists): -javaagent:"D:\TomcatAppDyn-CVX\ver4.2.12.1\javaagent.jar". Then click Apply & OK.
c. Then close PowerShell.

Figure 5: Windows PowerShell Back-up Files Script



Verify that required patches and any optional patches that support desired or needed features have been installed.

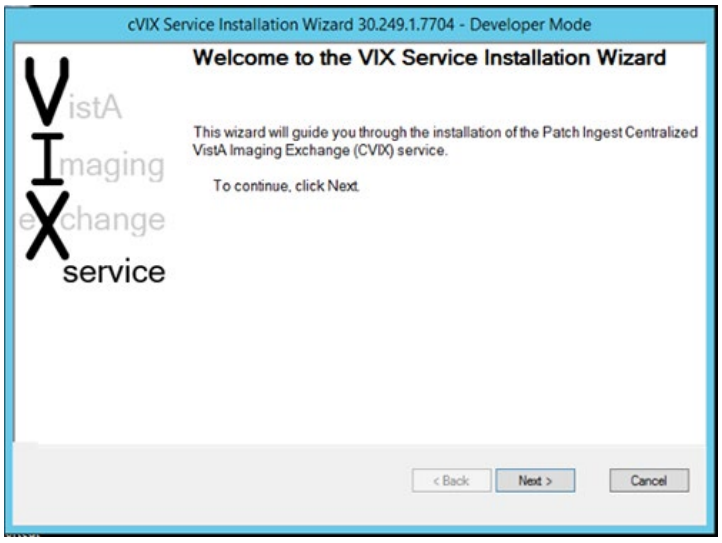
CVIX Installation

The installation process needs to be done as a user with admin rights. The steps below assume a clean installation. Upgrades to a server node can follow the same process; however, many of the steps do not need to be repeated. For additional information about the CVIX installation, see the MAG*3.0*249 CVIX documentation for the Production Operations Manual (POM) and the Administrator's Guide.

Note: In the event the node has other than CVIX VISA product(s) installed (i.e. VIX, HDIG, etc.), remove the "vixconfig" system environment variable using the Environment Variables menu (from System Properties menu).

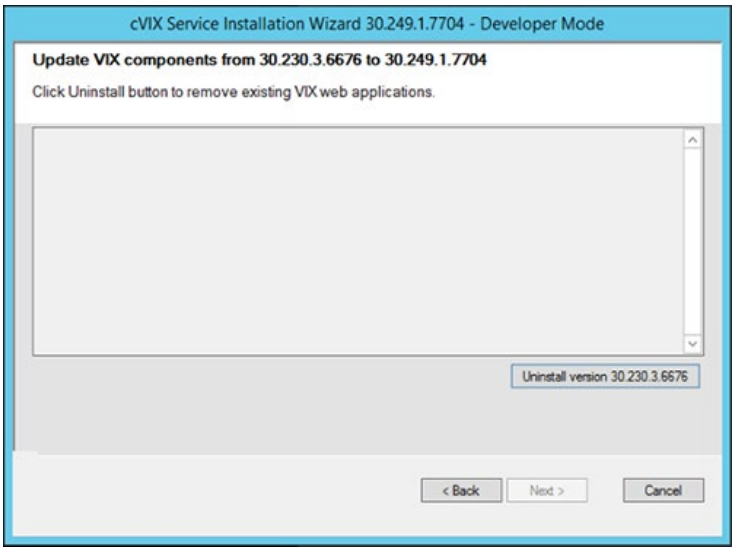
1. Double click the CVIX MSI installation to install the CVIX installer. Currently the latest version of this installation is MAG3_0P249_CVIX_Setup.msi
2. Click **Next** through the installation dialogs taking all defaults to complete the CVIX installation.
3. Click **Close** when the installation is complete.
4. From the C:\Program Files (x86)\Vista\Imaging\CvixInstaller folder, right click *VixInstaller.exe* and run as administrator. The cVIX Service Installation Wizard will then launch (Figure 6).

Figure 6: CVIX Installation Wizard



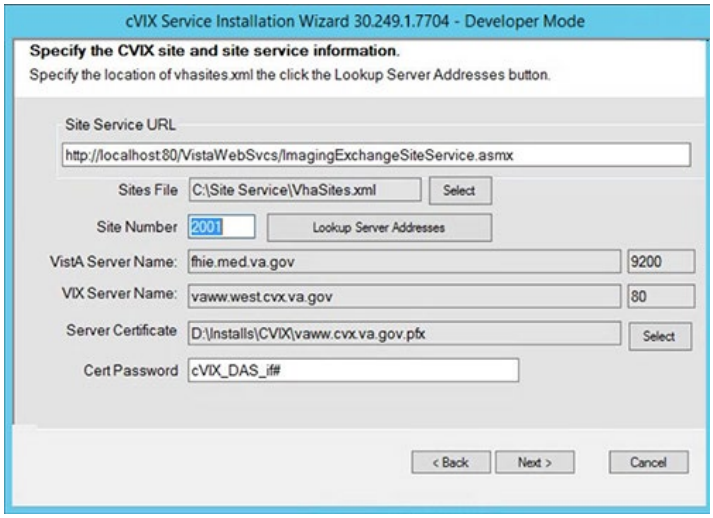
5. Select **Developer Mode** (lower left grey notch – to be able to point to the CVIX's own site service file), then Press **Ne**xt.
6. Click to uninstall the previous version (Figure 7).

Figure 7: Specify Site and Site Service Information



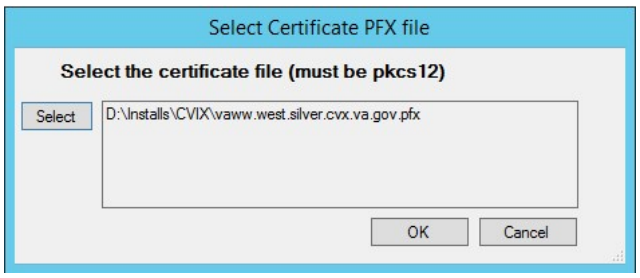
7. When uninstalling 30.230.x.x is finished, (if not a clean install), click **Next** to start the installation process.
8. By default, the C:\SiteService\vhasites.xml file is set with 2001 Site Number. Do not change the Site Number unless otherwise directed to.
9. Press **Lookup Server Addresses** and verify the information is correct (Figure 8).

Figure 8: Specify Site and Site Service Information



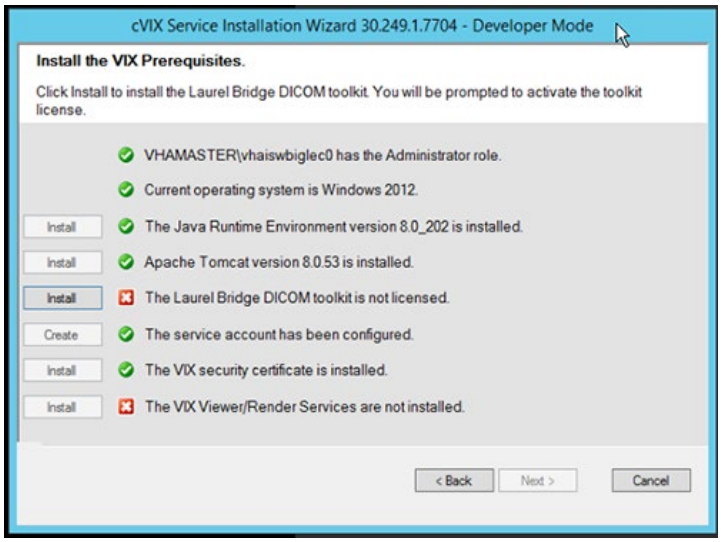
10. *If this is an upgrade, skip this step*. To introduce the CVIX's certificate (pfx file), click the Server Certificate item's **Select** button (Figure 9) and point to the pfx file provided in prerequisites: Click **OK**.

Figure 9: Select Server Certificate PFX File



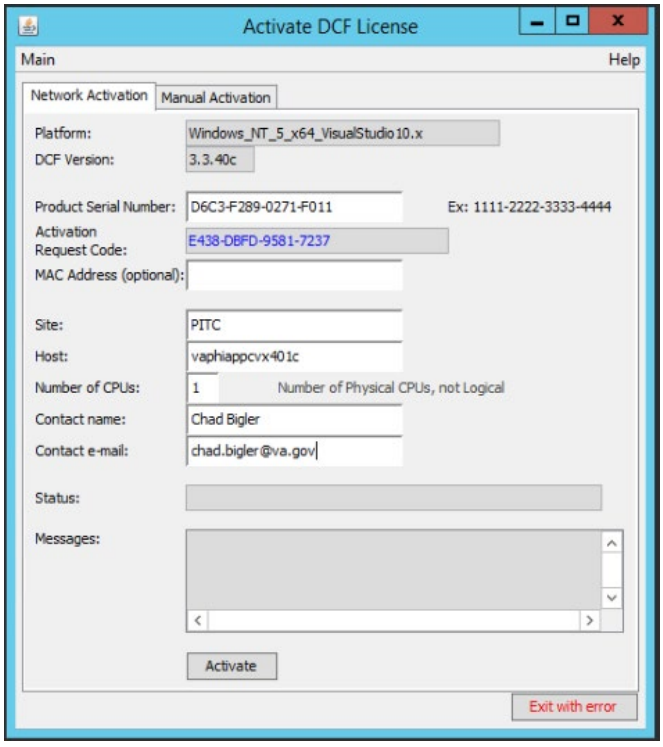
11. *If this is an upgrade, skip this step*. In the main menu's CertPassword field enter the password provided in prerequisites; (position the cursor to any other active field to make the **Next** button active).
12. Click **Next**.
13. The Install the VIX Prerequisites screen (Figure 10) comes up with Install buttons to most components. Install each prerequisite for the CVIX installation by pressing **Install** next to each component if it shows a ☐ checkbox. Only one prerequisite can be installed at a time. Click **Next** once there are no more ☐ icons.

Figure 10: Install the VIX Prerequisites



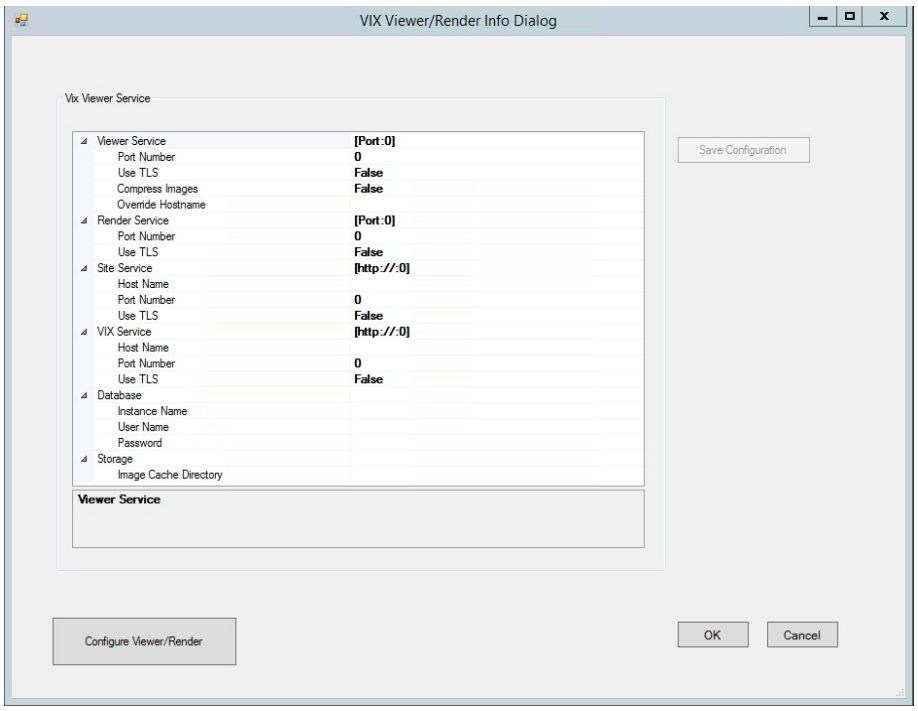
14. If Java 8.0.202 is not installed, allow the installer to install the software.
15. Install Tomcat 8.0.53. Refer to the separate KeePass file for the Tomcat password.
16. *If this a clean install or the DCF toolkit expired,* the Laurel Bridge DICOM toolkit will require the Product Serial Number. Enter `Austin AITC, TX` for the AITC CVIX and `Philadelphia PITC, PA` for the PITC COOP CVIX, **`1`** for the Number of CPUs and enter `your contact information`. Press **Activate** (Figure 11). When successful, click **Exit with Success**.

Figure 11: Activate DCF License



17. If asked the question, "Reapply previous service account password?", answer NO and enter the Tomcat password, and click **OK**. Refer to the separate KeePass file for the Tomcat password.
18. For the VIX certificate, use the CVIX Federation certificate provided (on initial install only).
19. *If this is the first time the MAG*3.0*249 installation is being completed,* the Viewer/Render Services must be (re)installed: click **Install** and wait until the following screen (Figure 12) comes up:

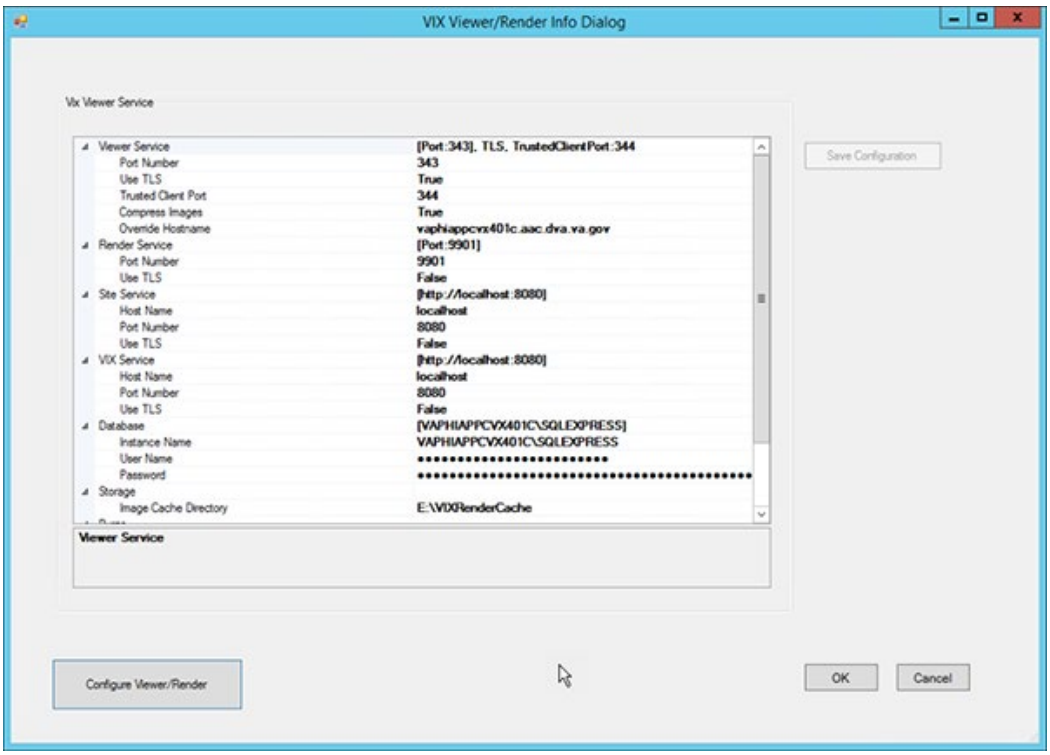
Figure 12: VIX Viewer/Render Info Dialog for Installation



20. *If this is a new installation*, click **Configure Viewer/Render**. It will fill all fields with default values (Figure 13). Verify/Edit the following items:

    - Viewer port must be set to 343
    - Trusted Client Port must be set to 344
    - Compress Image must be set to True
    - In Override Hostname enter the CVIX domain name /FQDN/
    - Site Service port must be set to 8080
    - VIX service Host Name must be set to localhost
    - Instance Name must be .\SQLEXPRESS
    - Image Cache Directory is set to a dedicated CVIX cache drive (Set the same drive letter that will be used for the VixCache in step 16; always E: in production: “E:\VIXRenderCache”)

Figure 13: VIX Viewer/Render Info Dialog Configure Default Values



21. Click **Save Configuration** if any changes have been made, otherwise Click **OK**.
22. *If prompted to install the SQL server*, click **OK** and select (Figure 14) the SQLEXPRESS_X64-14_0_1000_169.ZIP found in the "VIXSqlInstaller" folder in the temporary folder on the desktop (Figure 15). Depending on the server, this step may take up to twenty minutes (Figure 16).

Figure 14: Select the SQLEXPRESS_X64-14_0_1000_169.ZIP dialog

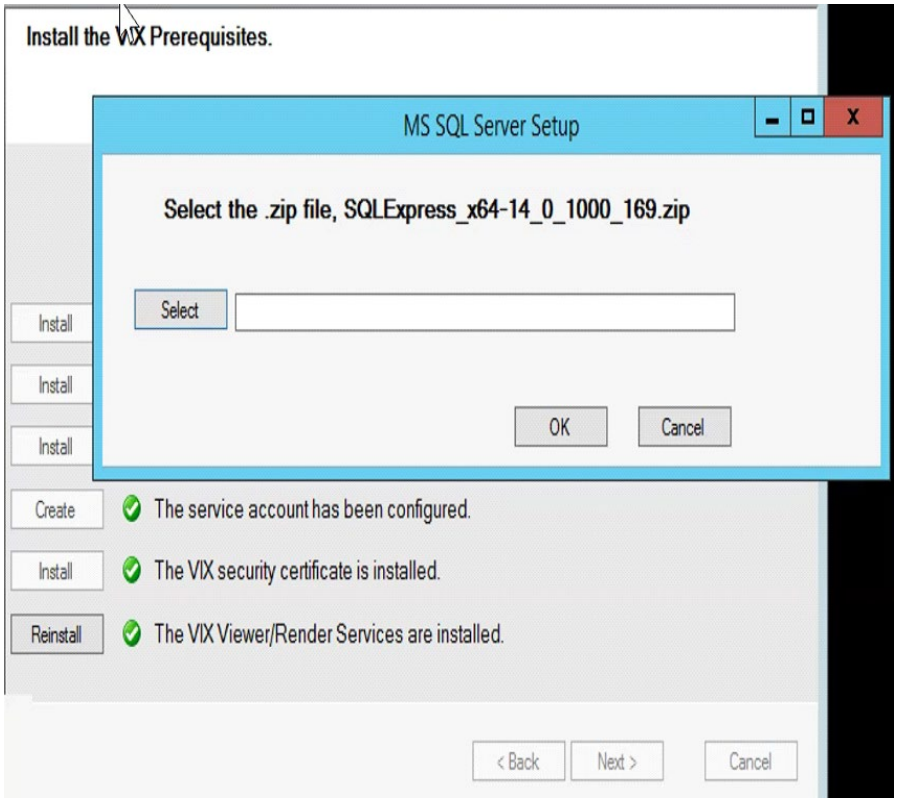


Figure 15: Location of SQLEXPRESS_X64-14_0_1000_169.ZIP file

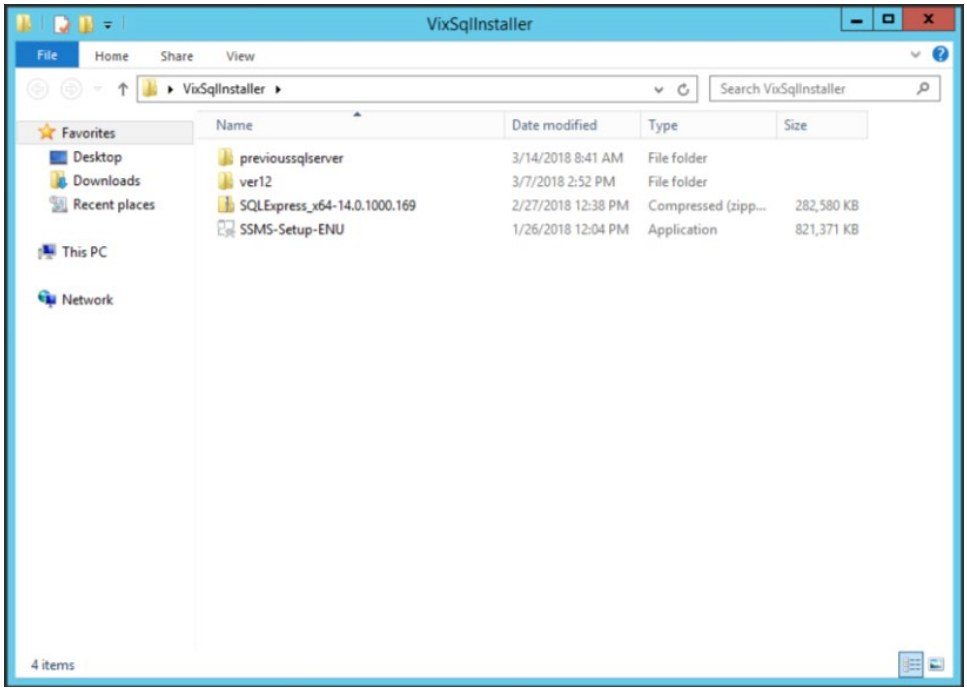
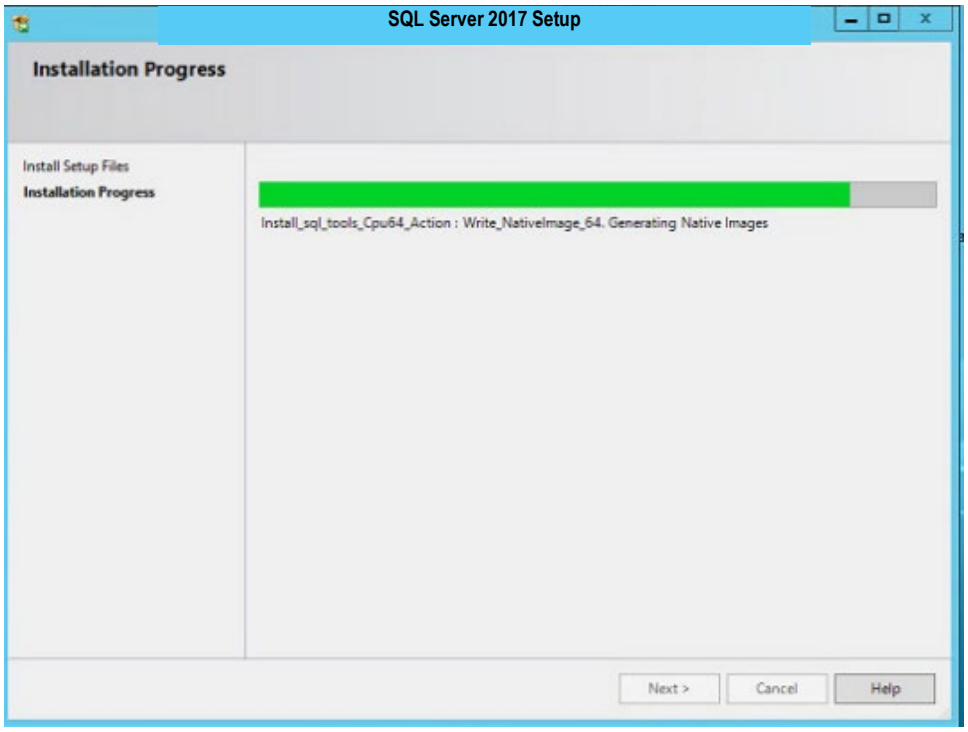
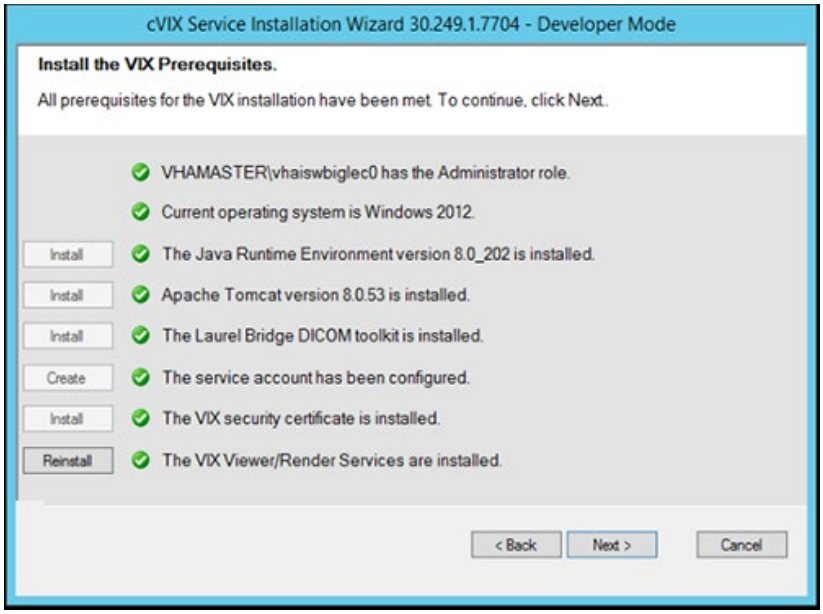


Figure 16: SQL Server Setup



23. When all prerequisites are completed (all green), click **Next** (Figure 17).

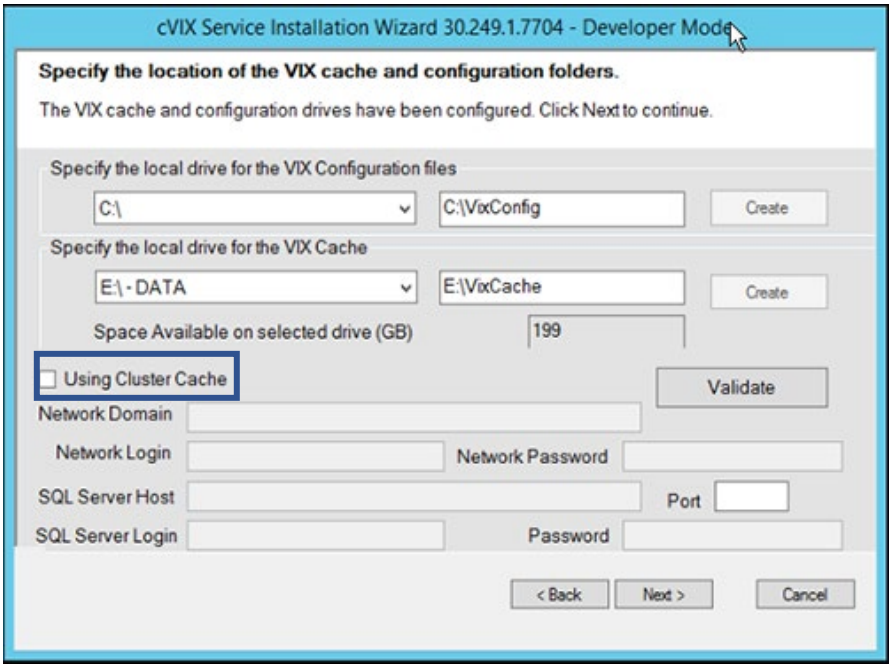
Figure 17: All VIX Prerequisites Installed or Configured



24. On the next screen, if necessary, press **Create** to create the VixConfig and VixCache directories.

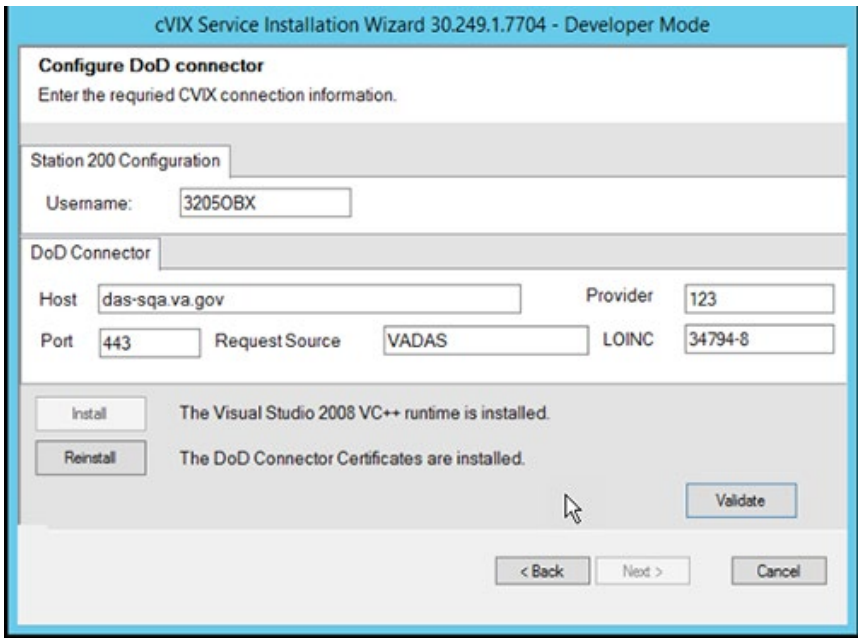
25. Ensure that the “Using Cluster Cache" box is *NOT* checked (Figure 18)

Figure 18: Using Cluster Cache NOT checked.



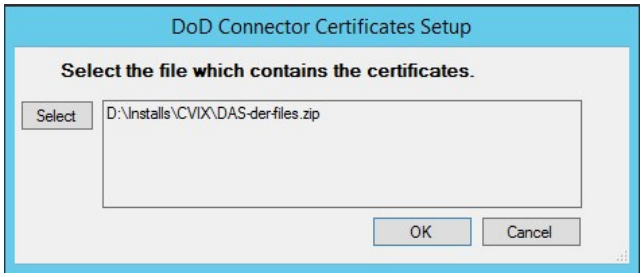
26. Press **Next.**
27. DAS (DOD connector) configuration (Figure 19) settings must be filled:
    - Username: the Vista Access code in Station 200 VistA database for DOD authentication
    - Host: domain name (like das.va.gov)
    - Provider: ID string (like 123)
    - Port: 443 (preset – do not change)
    - Request Source: VADAS (constant unless instructed differently)
    - LOINC: 34794-8 (only that code is used until VA implements LOINC nomenclature)

Figure 19: Configure DoD Connector settings



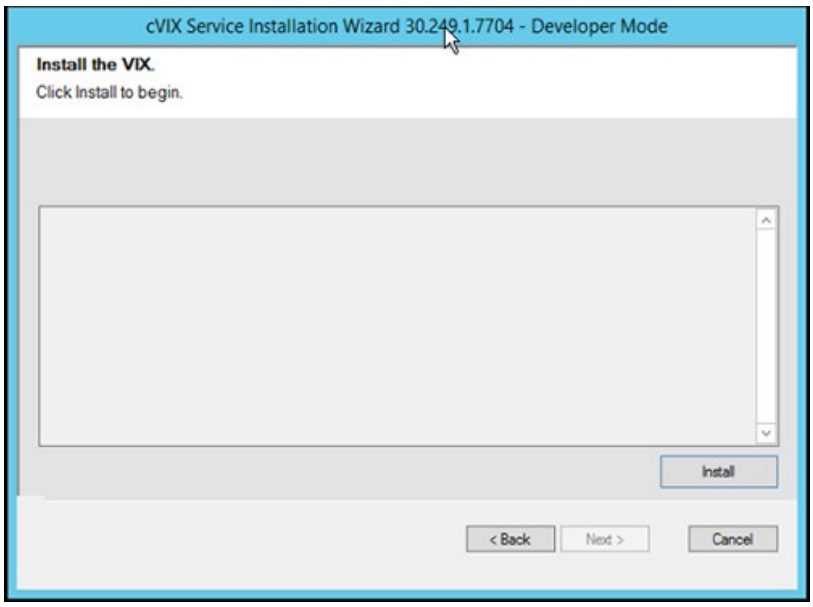
28. *If needed*, press **Install** to install the Visual Studio 2008 VC++ runtime.
29. *If this a new installation,* Install the DoD Connector (DAS) certificates, by selecting the zip file DAS provided in the DoD Connector Certificates Setup (Figure 20): The certificates and the update procedures will be stored in the following share location:

Figure 20: Install the DoD Connector (DAS) Certificates Setup



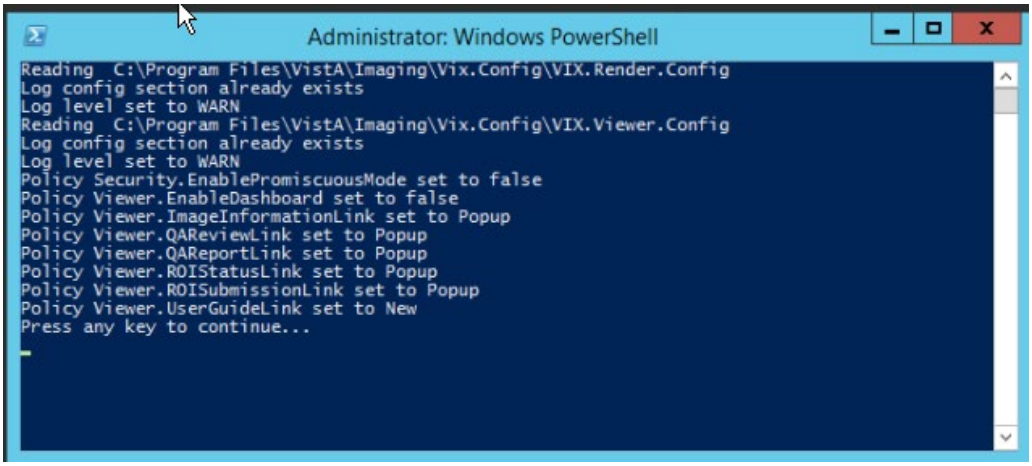
30. Press **Validate** on the DOD Connector screen and then **Next** to continue (Figure 19)
31. Press **Install** (Figure 21) to install the CVIX. This will start the installation process.

Figure 21: Begin the VIX Install display



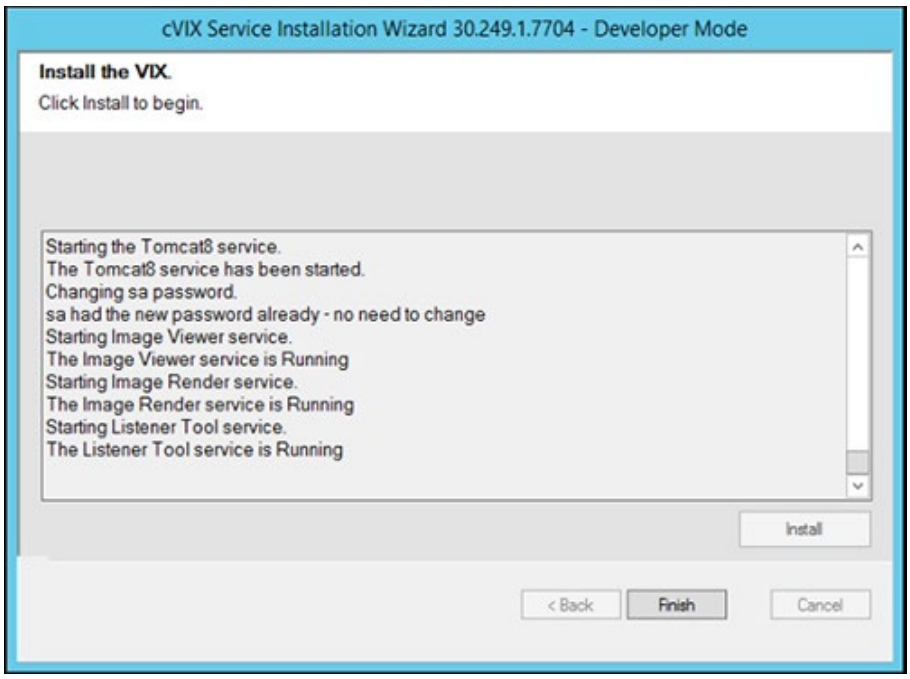
Wait until the Installation is complete. At the end, the additional PowerShell checking utility will pop-up to verify the Viewer and Render configuration files (Figure 22). Press ***any key*** to close it.

Figure 22: PowerShell Pop-Up



32. When complete, the CVIX should be installed, and the Viewer and Render processes are also running. Press **Finish** to close the CVIX installation wizard (Figure 23).

Figure 23: VIX Install Finish

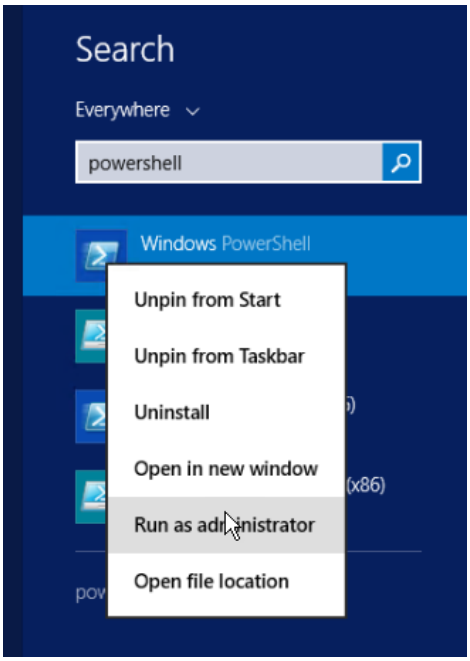


33. If installing in production, stop the VIX Viewer service to prevent the load balancer from sending requests to this server.
34. Wait for Apache tomcat to fully start up - use http://localhost/ from a local browser and wait approximately 4-7 minutes until the VISA Version is displayed.
35. Stop ApacheTomcat 8.0 in Services.
36. Check \VixConfig\VistaConnectionConfiguration.config and verify the newStyleLoginEnabled flag is set 'false' and the oldStyleLoginEnabled flag is 'true'.
37. Edit Tomcat8.0/conf/server.xml, - in the Host name="2001.med.va.gov" section, under field additionalUserRoles - define all access codes with the additional non-VA customers next to the DOD Username entered above. No spaces. For each entry:
    - the Access code followed by ':vista-user', the user roles are separated by ';'-s.
38. *If AppDynamics is needed*, please run PF/Tomcat8.0/bin/tomcat8w.exe and under the java tab Javaoptions (at the end) add this line:
    -javaagent:"D:\TomcatAppDyn-CVX\ver4.2.12.1\javaagent.jar"
    then click **Apply** & **OK.**
    (also make sure that D:\TomcatAppDyn-CVX\ is present with 8 items within (a total of 192 MB)
39. Stop the Listener Tool, VIX Viewer, and VIX Render service in Services.
40. This step will execute the config files edit script (p249_vix_config_edits.ps1). This script will update the encrypted connections between the CVIX and VIX servers and improve performance in TIFF to PDF conversions. This script backs up the original

two config files (VIX.Viewer.config and VIX.Render.config) before editing the VIX.Render.config config files. It also replaces the Awiv.html file created during the installation with the original pre-install back-up of Awiv.html.

a. Choose **Start**, type `PowerShell` and then right click **Windows PowerShell** and run as an administrator (Figure 24).

Figure 24: Execute Windows PowerShell

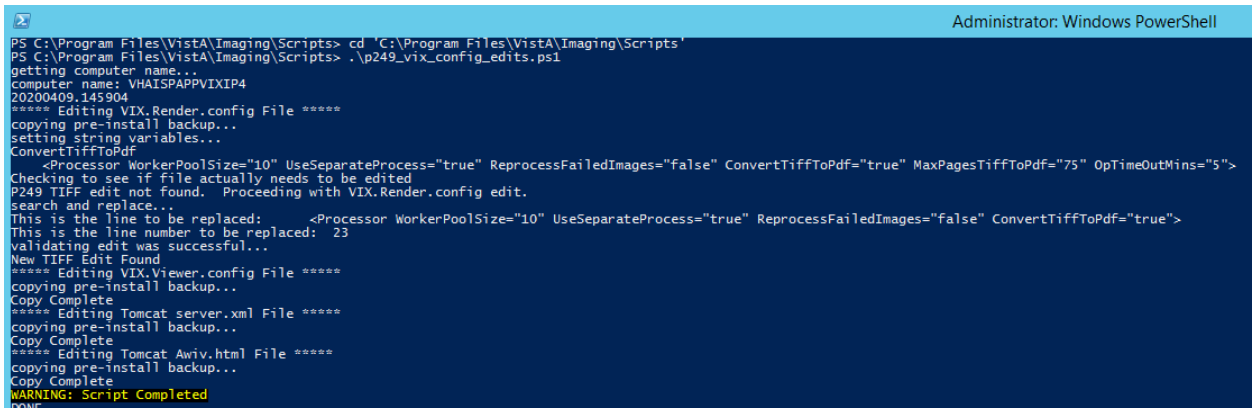


b. Within the same PowerShell environment, type in the command:

```
cd 'C:\Program Files\VistA\Imaging\Scripts'(press enter)
.\p249_vix_config_edits.ps1
```

Press **ENTER** to execute the config files edit script. Wait for the script to complete (Figure 25).

Figure 25: Windows PowerShell VIX Viewer and Render Config Files Edit Script



41. This step verifies successful execution of the config files edit script (p249_vix_config_edits.ps1). Locate the VIX.Render.config file in the folder C:\Program Files\VistA\Imaging\VIX.Config. For line 23, inside the processor tag <Processor> two additional parameters MaxPagesTiffToPdf="75" and OpTimeOutMins="5" will now be present. The values for these two parameters can be changed as desired.

    Before (*Parameters may vary by site*):

    ```
    <Processor WorkerPoolSize="10" UseSeparateProcess="true"
    ReprocessFailedImages="false" ConvertTiffToPdf="true">
    ```

    After:

    ```
     <Processor WorkerPoolSize="10" UseSeparateProcess="true"
    ReprocessFailedImages="false" ConvertTiffToPdf="true"
    MaxPagesTiffToPdf="75" OpTimeOutMins="5">
    ```

42. To verify valid certificates are bound on both port 343 and 344, execute the ssl binding script (p249_vix_ssl_binder.ps1) to first check if the ports are bound and if not bind both ports.

    Note: This step assumes Windows PowerShell remains open after previously running the config files edit script (p249_vix_config_edits.ps1). If PowerShell is not open, launch Windows PowerShell as an administrator and, once PowerShell launches, type in the command:

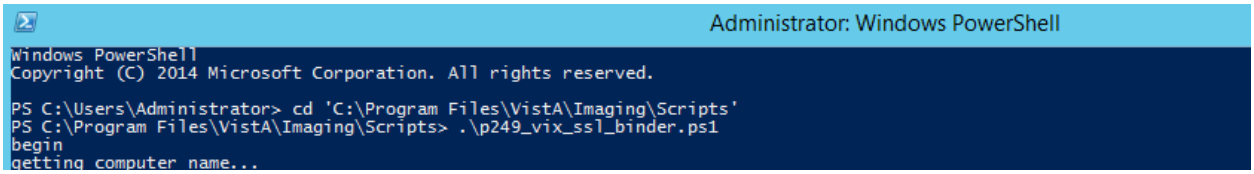
    ```
    cd 'C:\Program Files\VistA\Imaging\Scripts' (press enter)
    ```

    a. Within the same PowerShell environment as before, **type** in the command:

    ```
    .\p249_vix_ssl_binder.ps1
    ```

Then press **ENTER** to execute the ssl binding script. Wait for the script to complete (Figure 26).

Figure 26: Windows PowerShell SSL Binding Script



In the event of failure of the ssl binding script, the following steps can be performed manually from a command prompt window:

a. run the command `netsh http show sslcert`
b. Tie the production vaww.cvx.va.gov.pfx imported certificates' thumbprint to port 344 using C:> `netsh http add sslcert ipport=0.0.0.0:344 certhash=5ebb6c3eed6f4f2ab8e1cdb5634adb16d58ca2ca appid={e53beb34-bcf4-4708-869e-3f2758c85b59}`
c. The certhash value is taken from existing production (URL from anywhere to a prod CVIX and view cert in browser; get thumbprint)
d. The appid field is required but not used (taken from netsh http show sslcert for existing port 343 binding)
e. Repeat step b above for port 343

43. Installation procedures to install Consuming Application Certificates are available in the CVIX Certificate Maintenance document.
44. This step will execute the task scheduler script (p249_task_scheduler.ps1) to schedule as a scheduled daily task a restart of the VIX Viewer and VIX Render services, Listener Tool and the Apache Tomcat service. The script sets the daily restart time to 04:00 A.M, but this can optionally be adjusted prior to execution by editing line 2 of the script ($Trigger = New-ScheduledTaskTrigger -Daily -At 4:00am).

    Note: This step assumes Windows PowerShell remains open after previously running the ssl binding script (p249_vix_ssl_binder.ps1). If PowerShell is not open, launch Windows PowerShell as an administrator and, once PowerShell launches, type in the command:

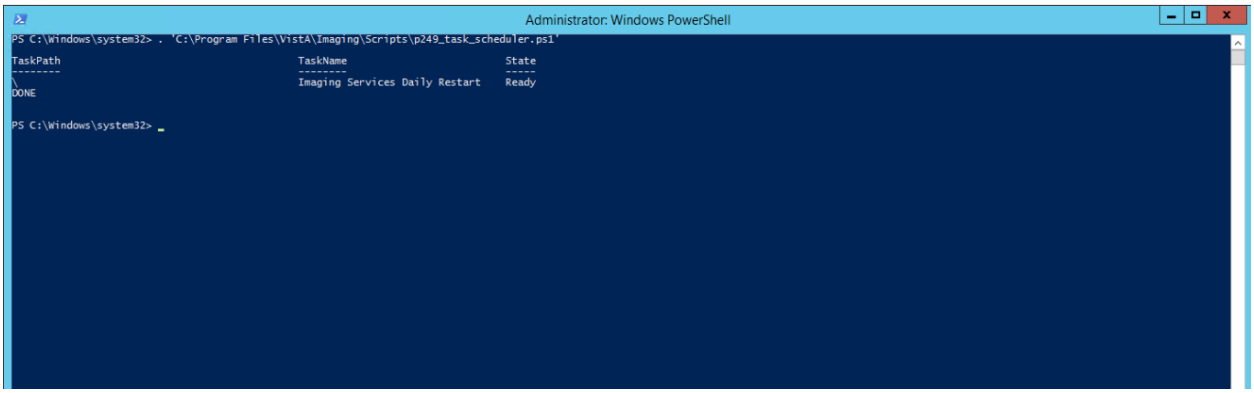
    `cd 'C:\Program Files\VistA\Imaging\Scripts' (press enter)`

    b. Within the same PowerShell environment as before, **type** in the command:

    `.\p249_task_scheduler.ps1`

Then press **ENTER** to execute the task scheduler script. Wait for the script to complete (Figure 27).

Figure 27: Windows PowerShell Task Scheduler Script



45. This step will execute the restart script (p249_vix_services.ps1) to restart the VIX Viewer and VIX Render services, Listener Tool and the Apache Tomcat service.

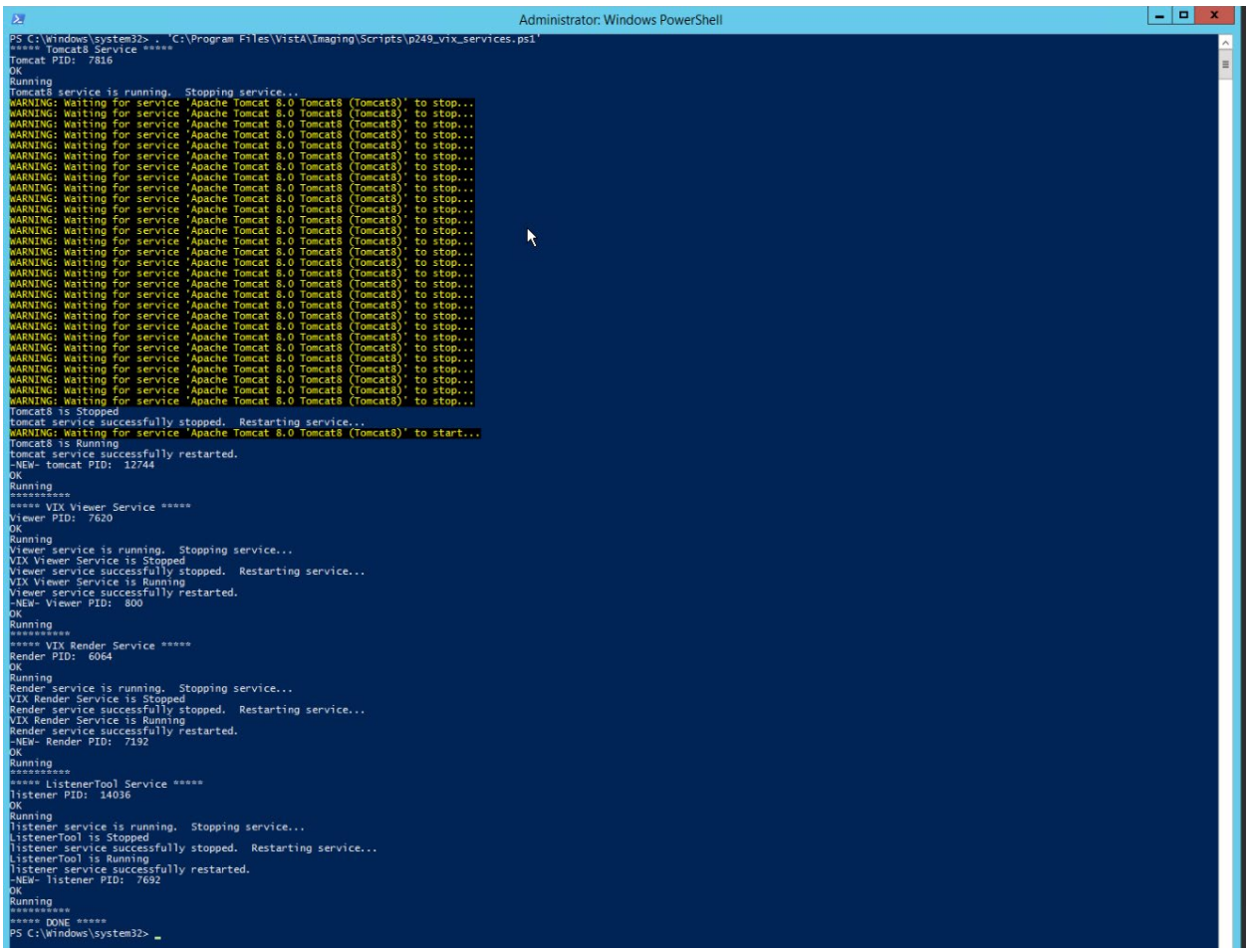
    Note: This step assumes Windows PowerShell remains open after previously running the task scheduler script (p249_task_scheduler.ps1). If PowerShell is not open, launch Windows PowerShell as an administrator and, once PowerShell launches, type in the command:
    `cd 'C:\Program Files\VistA\Imaging\Scripts' (press enter)`

    a. Within the same PowerShell environment as before, **type** in the command:

    `.\p249_vix_services.ps1`

    Then press **ENTER** to execute the restart script. Wait for the script to complete (Figure 28).

Figure 28: Windows PowerShell Restart Script



Now close PowerShell.

Wait for completion -- use http://localhost/ from local browser and wait until the VISA Version is displayed (4-7 minutes).

Post Install Steps

After the CVIX installation is completed, the server must be configured properly for the CVIX to work. The following steps only need to be done once for each server node. (Note that DAS MIX/DX interface Configuration Settings will be completed by MAG*3.0*249 Installer).

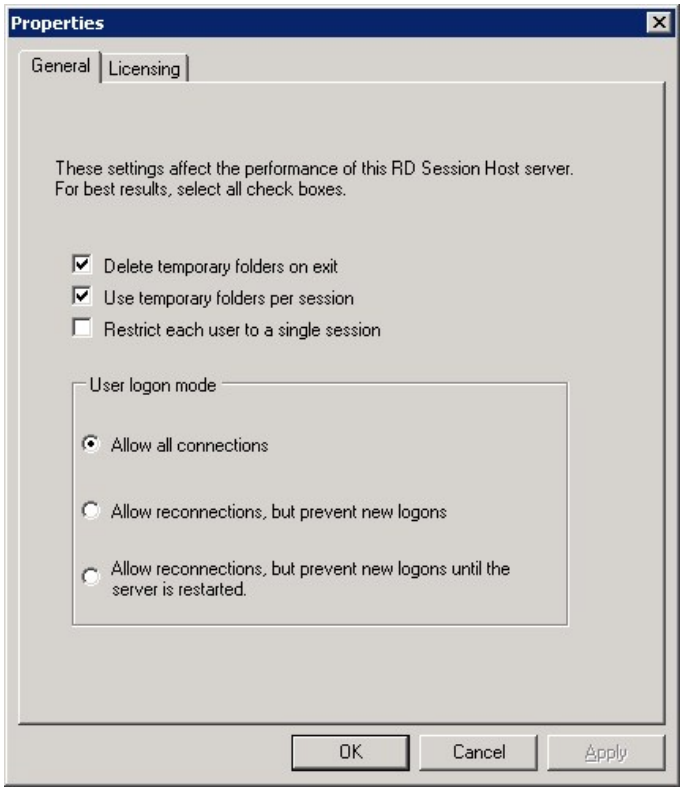
Enable Remote Desktop

By default, Remote Desktop in Windows Server 2012 R2 only allows one connection at a time.

Modify this to allow multiple remote connections:

1. Start →Administrative Tools →Remote Desktop Services →Remote Desktop Session Host Configuration
2. Click *Restrict each user to a single session*
3. Uncheck *Restrict each user to a single session* (Figure 29)
4. Click **OK**

Figure 29: Remote Desktop Session Properties



Prevent Automatic Java Update

The java installer (oracle) by default requests for jre updates that must be suppressed. The following sequence must be executed for the manual steps to prevent automatic java updates.

(**Note**: These steps are not needed if the MAG*3.0*249 installer installed Java Runtime Environment version 8.0_202 during installation.).

1. Click **Windows Start**
2. Type `JavaC` and select **Configure Java**
    a. If the update tab does not display, no additional steps are needed.
3. The Java Control Panel window will come up; in the Update tab, disable automatic updates by clearing the *Check for Updates Automatically* checkbox 4. In the pop-up window click **Do Not Check**.
4. Click **Apply** (lower right corner), before hitting **OK**

Apply CVIX Patch MAG*3.0*249 Hotfix

Apply the CVIX only hotfix to fix the Print and Export options missing from the context menu after a JLV Claims user right-clicks on an image.

1. Extract the MAG3_0P249_CVIX_Hotfix01.zip file introduced in MAG*3.0*249 to obtain the replacement Hydra.VistA.dll file.
2. Stop the VIX Viewer and VIX Render service in Services.
3. In File Explorer open the folder: C:\Program Files\VistA\Imaging\VIX.Viewer.Service and rename Hydra.VistA.dll to Hydra.VistA_P249.dll
4. Move the Hydra.VistA.dll file included in the extracted contents of the hotfix to the the folder C:\Program Files\VistA\Imaging\VIX.Viewer.Service.
5. Start the VIX Viewer and VIX Render service in Services.

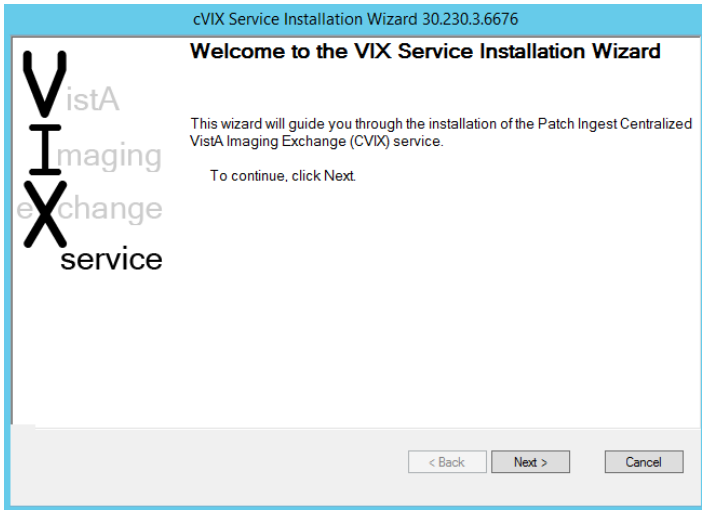
Backout Plan

To back out the VIX and replace it with a prior version, please do the following:

- Use Control Panel\All Control Panel Items\Programs and Features to uninstall the MAG*3.0*249 CVIX installer.
- Create backup copies of:
    a. C:\Program Files\Apache Software Foundation\Tomcat 8.0
    b. C:\Program Files\VistA\Imaging\VIX.Config
    c. C:\Program Files\VistA\Imaging\VIX.Render.Service
    d. C:\Program Files\VistA\Imaging\VIX.Viewer.Service
    e. Retrieve latest MAG3_0P230_CVIX_Setup.msi from the file directory. (It will be located in D:\Installs\CVIX on most machines)

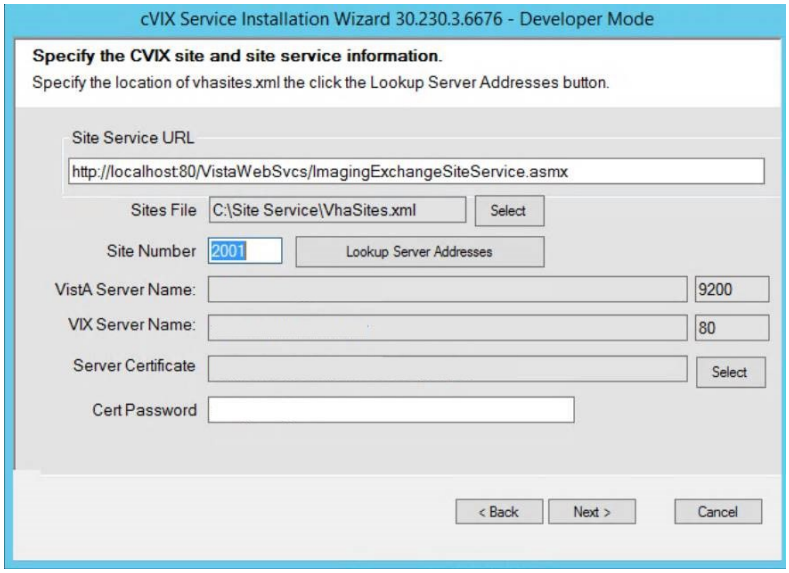
- Complete the installation:
  1. Double click the CVIX MSI installation to install the CVIX installer (MAG3_0P230_CVIX_Setup.msi).
  2. Click **Next** through the installation dialogs taking all defaults to install the CVIX Installation.
  3. Click **Close** when the installation is complete.
  4. From the C:\Program Files (x86)\Vista\Imaging\CvixInstaller folder double-click VixInstaller.exe and run as administrator. The cVIX Service Installation Wizard will then launch (Figure 30).

Figure 30: CVIX Installation Wizard



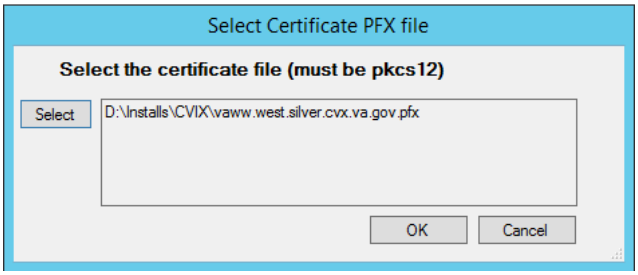
  5. Press **Next**
  6. When Uninstall is finished (if not a clean install), click **Next** to start the installation process.
  7. By default, the C:\SiteService\vhasites.xml file is set with 2001 Site Number.
  8. If necessary, adjust the site number.
  9. Press **Lookup Server Addresses** (Figure 31) button and verify the information is correct.

Figure 31: Specify Site and Site Service Information



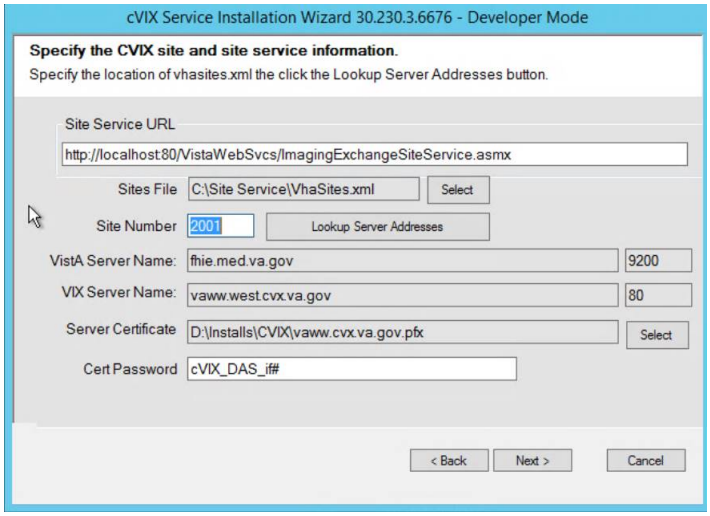
In order to introduce the CVIX's certificate (pfx file), click the Server Certificate item's **Select** button (Figure 32) and point to the pfx file provided in the prerequisites:

Figure 32: Select Server Certificate PFX File



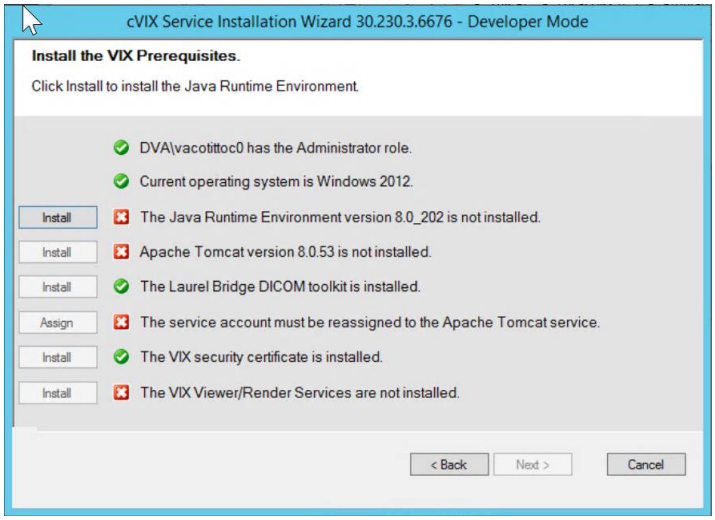
10. In the Cert Password field, enter the password provided in the prerequisites and click **Tab** to enable the **Next** button (Figure 33).

Figure 33: Enter Cert Password



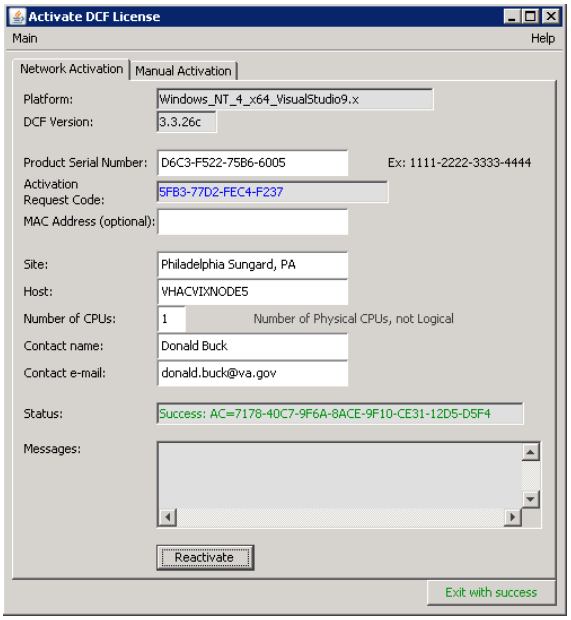
11. Click **Next**.
12. The Install the VIX Prerequisites screen comes up (Figure 34) with Install buttons to most components. Install each prerequisite for the CVIX installation by pressing **Install** next to each component if it shows a ☒ checkbox. Click **Next** once there are no more ☒ icons!

Figure 34: Install the VIX Prerequisites



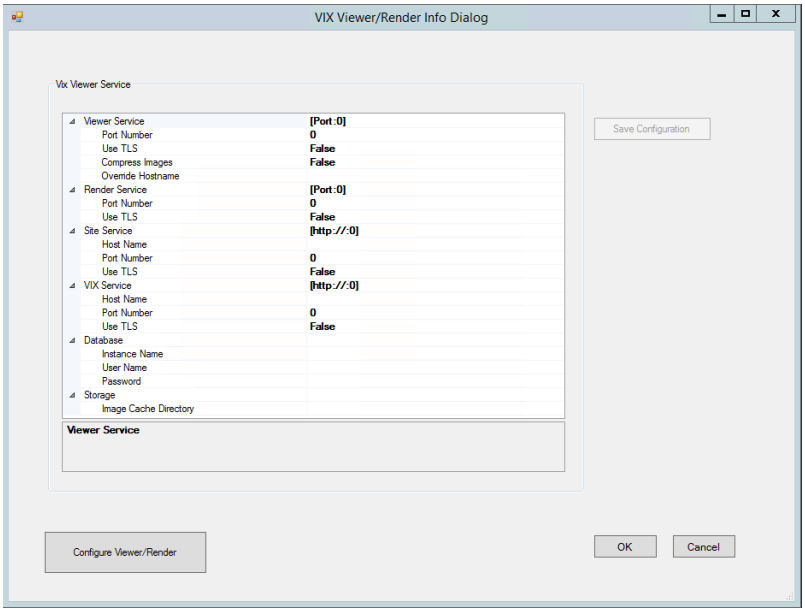
13. For the Laurel Bridge DICOM toolkit will require the Product Serial Number. Enter `Austin AITC, TX` for AITC CVIX and `Philadelphia PITC, PA` for the PITC COOP CVIX, `1` for the Number of CPUs and enter your contact information. Press **Activate** (Figure 35). When successful click **Exit with success**.

Figure 35: Activate DCF License



14. For the VIX certificate, use the CVIX Federation certificate provided.
15. For the Viewer/Renderer Services installation click **Install** and wait until the following screen (Figure 36) comes up:

Figure 36: VIX Viewer/Render Info Dialog for Installation

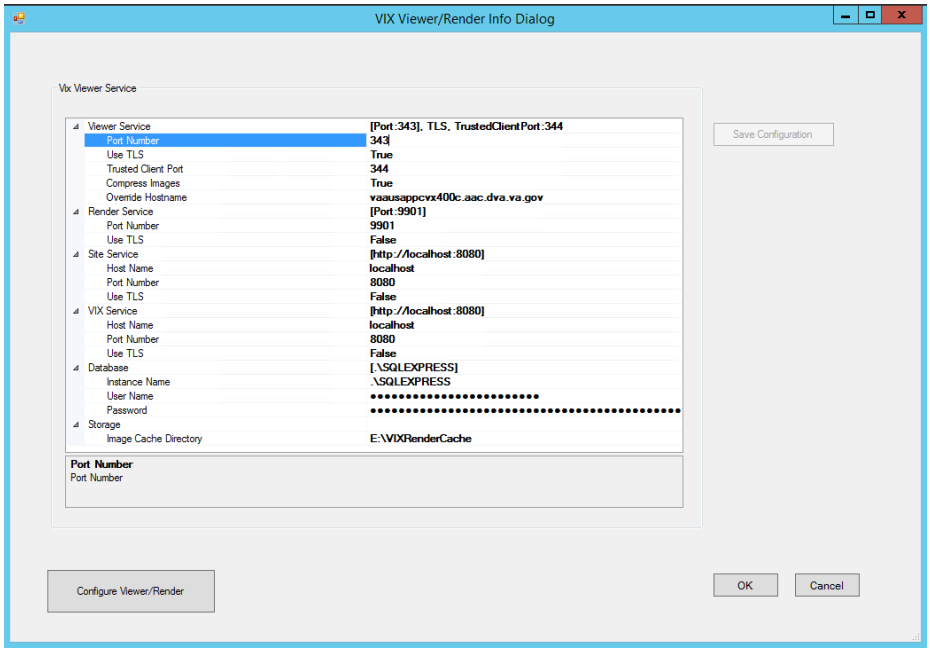


Click **Configure**, it will fill all fields with default values. Verify/Edit the following items (Figure 37):

a. Viewer port must be set to 343

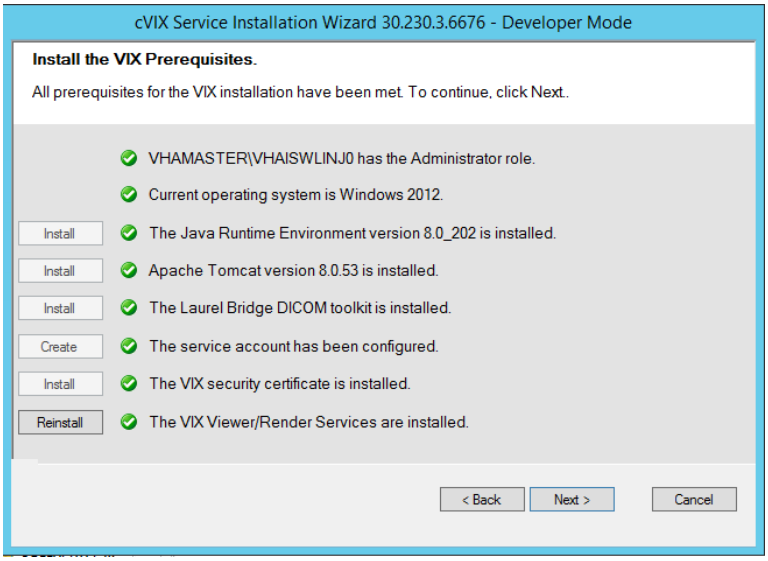
b. Trusted Client Port must be set to 344
c. Compress Image must be set to True
d. In Override Hostname enter the CVIX domain name /FQDN/
e. Site Service port must be set to 8080
f. VIX service hostname must be set to localhost
g. Instance Name must be .\SQLEXPRESS
h. Image Cache Directory is set to a dedicated CVIX cache drive (For Example: "D:\VIXRenderCache")

Figure 37: VIX Viewer/Render Info Dialog Configure Default Values



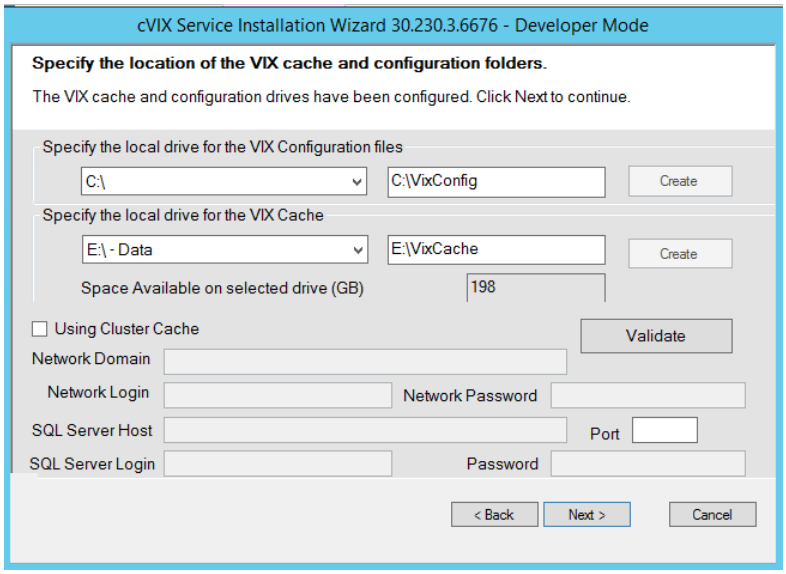
16. Click **Save Configuration**, then select **OK**.
17. If prompted to install the SQL server, Click **OK** and select the SQLExpress_x64-14.0.1000.169.zip file (this install step, depending on the server, might take up to 20 minutes).
18. When all prerequisites are completed (all green), press **Next** (Figure 38).

Figure 38: All VIX Prerequisites Installed or Configured



19. Check to ensure that the checkbox for Using Cluster Cache is NOT checked (Figure 39).

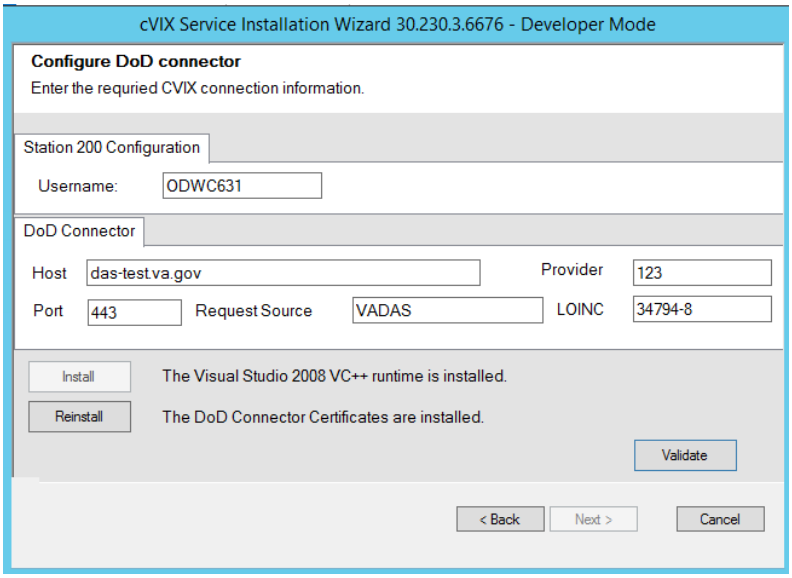
Figure 39: Using Cluster Cache NOT checked



20. Press **Create** to create the VixConfig and VixCache directories, then press **NEXT**
21. DAS (DoD Connector) configuration settings (Figure 40) must be filled:
    a. Host: domain name (like das.va.gov)
    b. Provider: ID string (like 123)
    c. Port: 443 (preset – do not change)
    d. Request Source: VADAS (constant unless instructed differently)

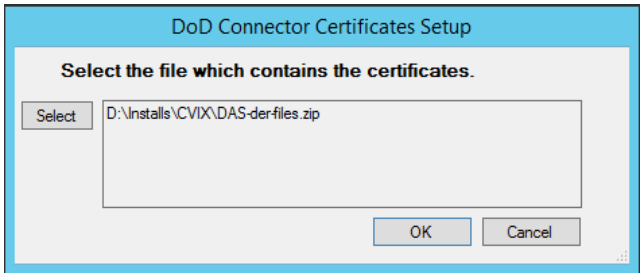
e. LOINC: 34794-8 (only that code is used until VA implements LOINC nomenclature)

Figure 40: Configure DoD Connector settings



22. If needed, press **Install** to install the Visual Studio 2008 VC++ runtime.
23. For installing The DoD Connector (DAS) certificates (Figure 41), select the zip file DAS provided:

Figure 41: Install the DoD Connector (DAS) Certificates Setup



24. Press **Validate,** and then **Next** to continue.
25. Press **Install** to install the CVIX.
26. When complete, the CVIX should be installed. Select **Finish** to close the CVIX installation wizard.

Post Install Steps

After the CVIX installation has been completed, the server must be configured properly for the CVIX to work. *The following steps only need to be done once for a server node.*

Prevent Automatic Java Update

The java installer (oracle) by default requests for jre updates that must be suppressed. The following manual steps will prevent automatic java updates. (Note: these steps are not needed if the MAG*3.0*230 installer installed Java Runtime Environment version 8.0_202 during installation.).

1. Click **Windows Start**.
2. Type `JavaC` and select **Configure Java**.
    a. If the update tab does not display, no additional steps are needed.
3. The Java Control Panel window will pop up; in the Update tab, disable automatic updates by clearing the “Check for Updates Automatically” checkbox 4. In the pop-up window, click **Do Not Check**.
4. Click **Apply** (lower right corner), before hitting **OK**.