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### Revision History

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<td>Event Source Register Tool section: Rewrote. Added the following sections: Event Source Register Tool, Turn Off ClearType and Create Folders and Assign Permissions. Added instructions for adding a second processor. Customize the SQL Server: Add Users and Groups section: Changed group to Hines/VbecsProdSqlSupport. Revised Step 6 under Create a Validation Directory and Document to Record Screen Captures section. Add .NET Framework Version 4.0 section: Eliminated framework folder. Deleted Windows Update step. Apply Hotfixes section: Noted that hotfixes folder has to be created. Added new sections: Apply AITC Fixes and KB2645410 sections. Revised Copy Installation Support Files section. Appendix A: Reworded the prerequisite. Added steps to join the domain.</td>
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<td>Customize the App Server: Added new sections: Install Audio Support (KB2495012) and Disable VBECs Services. Install Fonts section: Changed folder name from “Arial Fonts” to “Fonts”. Create Error Files section: Corrected the path names. Create a Validation Directory section: Removed.</td>
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Introduction

This guide details the creation of the templates for the VBECS 2.0.0 system. It contains instructions for both the App and SQL Server. Creating the templates is a task that only needs to be executed once.

It will also be necessary to update the templates. Appendix A: Update a Template contains instructions for turning the templates into live Virtual Machines (VMs), where they can be updated and then changed back to a template.

Before executing this guide, the Creating a Virtual Machine Template work instruction must be executed to create the base template from which the VBECS templates will be created.

Prerequisites

The following tasks must have been completed before creating either template:

- The base template, Windows Enterprise Server 2008 R2 (x64), must have been created using the Creating a Virtual Machine Template work instruction (WI).
- The template creator must have administrative access to the vSphere environment. Administrator access is granted by adding your normal user id (NMEA ID will not work) to the HinesVBECSVMwareAdmins group in active directory.
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Create the Server Templates

These instructions detail the process for creating the server templates. These steps apply to both the App and SQL Servers and must be executed by a vSphere administrator.

1 Create Server Templates from the Base Template

Prerequisite

Except when noted, these instructions must be executed from the vSphere Web Client. Navigate to https://IPADDRESS:9443 in the browser and login with your normal (not NMEA) account. If you are warned about a security certificate, proceed to the site.

1) Select VMs and Templates to open the VMs and Templates view (Figure 1).

Figure 1: Example of vSphere Client

2) In the Templates folder, right-click on the Windows Enterprise Server 2008 R2 (x64) template and click Clone to Template (Figure 2).

Figure 2: Example of Template Folder

3) Enter VBECS 2.n.n.n App Server n.n (if creating the SQL template, enter VBECS 2.n.n.n SQL Server n.n) for the template name (Consult the VBECS 2.0.0 Virtual Machine Template Device Master Index to determine the name of the template). Select the Templates folder (Figure 3). Click Next.
4) Expand **VBECSCluster** and select the **IPADDRESS** host (Figure 4). Click **Next**.

5) Change virtual disk format to **Thin Provision** (Figure 5). Click **Next**.
6) Click **Finish** (Figure 6).

**Figure 6: Example of Clone Template To Template**

![Windows Enterprise Server 2008 R2 (x64) - Clone Template To Template](image)

- **Edit settings**
  - 1a Select a name and folder
  - 1b Select a compute resource
  - 1c Select storage
  - **2 Ready to complete**

- **Provisioning type:** Clone template to template
- **Source template:** Windows Enterprise Server 2008 R2 (x64)
- **Template name:** VBECS 2.0.0.5 App Server 1.0
- **Folder:** Templates
- **Host:** 10.3.7.100
- **Datastore:** Primary
- **Disk storage:** Thin Provision
2 Customize the App Server

Prerequisite
These instructions are for customizing the App Server. If customizing the SQL Server, go to Customize the SQL Server.

1) Execute Steps 1 through 9 from Appendix A: Update a Template to turn the App Server template into a VM and note the IP address. After you have the IP, remote into the App Server using the local administrator account.

App Server Template Configuration
Follow these steps to configure Windows and software settings.

Disable User Access Control
2) Login to the App Server with the Administrator ID.
3) Click Start. In the search field, enter UAC.
4) Click Change User Account Control Settings.
5) Drag the slider down to Never notify. Click OK (Figure 7). Click Yes on the confirmation window that follows.

Figure 7: User Account Control Settings

Adjust the hard drive
6) Open Administrative Tools, Computer Management, Disk Management.
7) Right-click on the C: drive and choose Extend Volume.
8) Click Next.
9) Click Next.
10) Click Finish. The C: drive will now have a capacity of 79.90 GB. Leave Computer Management open for the next step.

Configure IDs
11) Open Administrative Tools, Computer Management.
12) Expand Local Users and Groups and select the Users folder.
13) Right-click on the apatosaurus ID and choose Delete. Click Yes to confirm. Click OK on the second confirmation.
14) Right-click on the installer ID and choose Delete. Click Yes to confirm. Click Yes to confirm. Click OK on the second confirmation.
15) Right-click on the Administrator ID and choose Rename.
16) Rename the ID vaaacnimda and close Computer Management. From this point on, remember to log into the App Server Template with the vaaacnimda id instead of Administrator.

**Update the PowerShell Execution Policy**

17) Launch PowerShell (x64) by clicking the icon in the Task Bar.
18) Run the following command: `set-executionpolicy unrestricted`.
19) When prompted, enter Y. Close the window.
20) Click Start and in the Search programs and files search, type Windows PowerShell (x86) and press Enter.
21) Run the following command: `set-executionpolicy unrestricted`.
22) When prompted, enter Y. Close the window.

**Update Audio Files**

23) In Windows Explorer, navigate to c:\Windows\Media.
24) Rename the Windows Exclamation.wav file Windows Critical Stop.wav and vice versa. Add permissions from Trusted Installer if prompted.

**Enable Port 25**

25) Click Start, All Programs, McAfee, VirusScan Console.
26) Double-click Access Protection.
27) Select Anti-virus Standard Protection.
28) Deselect Prevent mass-mailing worms from sending mail in both the Block and Report categories.

**Update the Registry for Security Issues**

29) At the run prompt, type `regedit` and click OK.
30) Navigate to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\ac.sharedstore.
31) Double-click onImagePath.
32) Put double quotes around the Value data so the entry looks like this: “C:\Program Files\Common Files\ActivIdentity\ac.sharedstore.exe”
33) Click OK to save.
34) Navigate to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager.
35) Right-click on Session Manager and select New, DWORD (32-bit) Value.
36) Name the new value CWDIllegalInDllSearch.
37) Right-click and select Modify.
38) Enter 1 and click OK to save. Close the Registry Editor.

**Rename and Adjust NICs**

39) Open Control Panel, Network and Internet, Network and Sharing Center, Change Adapter Settings.
40) Rename Local Area Connection #2 GSS and Local Area Connection #3 Backup.
41) Right-click on the Backup NIC and choose Properties.
42) Uncheck everything except for IPv4 and IPv6. Click OK.
43) Right-click on the Backup NIC and choose Properties, Configure, Advanced tab.
44) There are four Checksum Offload properties, two for IPv4 and two for IPv6. Disable them all. Click OK to save and close the network configuration windows.

**Add a Second Drive**

45) In the vSphere Web Client, right-click the template and select Edit Settings.
46) In the New device control, select New Hard Disk.
47) Click Add.
48) In the Hardware tab, click Add.
49) Change the disk size to 10 GB and provision as thin (Thin provision setting).
50) Click **OK** to save. Restart the App Server.
51) Login to the App Server with the local Administrator ID.
52) Launch the command prompt.
53) Type `diskpart` and press **Enter**.
54) Type `select disk 1` and press **Enter**.
55) Type `attributes disk clear readonly` and press **Enter**.
56) Type `online disk` and press **Enter**.
57) Click **Start**, Administrative Tools, Computer Management, Disk Management.
58) The Initialize Disk dialog automatically launches. (If it doesn’t launch, right-click and choose Bring Online. Then, right-click and choose Initialize.) Click **OK**.
59) Right-click on the disk and choose New Simple Volume.
60) In the Welcome window, click **Next**.
61) In the Specify Volume Size window, click **Next**.
62) In the Assign Drive Letter or Path window, click **Next**.
63) In the Format Partition window, change the Volume label to Reports. Click **Next**.
64) Click **Finish** to create the drive and close the window.

**Permissions**
65) Open Control Panel, System and Security, System.
66) Click **Change settings**.
67) Click **Change**.
68) Enter **VBECSAPPTMPST** for the computer name.
69) Select the domain radio button and enter **vha.domain.ext**. Click **OK**. Restart to join the domain.
70) Navigate to Administrative Tools, Computer Management, Local Users and Groups, Groups.
71) Open the local Administrators group.
72) Add the group. The service IDs will be manually added post-installation. Close the Window.

**Turn Off ClearType**
73) Click **Start**.
74) In the Search programs and files text box, enter clear type.
75) Click on Adjust ClearType text. The ClearType Text Tuner window launches.
76) Deselect Turn on ClearType.
77) Click **Next** 5 times and then **Finish**.
Create Folders and Assign Permissions

78) Navigate to D:\ and create the following folders:

- VBECReports
- Prod Logs
- Test Logs

For the Prod Logs and Test Logs folders, grant the permissions detailed in Figure 8 to the Everyone group. Note that the Read permission (cannot be seen in figure) should also be Allowed.

Figure 8: Permissions

Delete Microsoft XPS printer

79) Open Devices and Printers and delete the Microsoft XPS Document Writer printer (right-click and select Remove Device).

Windows Services

80) Open Services and set the Startup Type on the Windows Audio service to Automatic.
Software Installation
Follow these configuration steps to install software.

**Install and Configure SNMP**
1) Open **Server Manager** and click **Features**, **Add Features**.
2) Select **SNMP Services** which will automatically select the two sub features. Click **Next**.
3) Click **Install**.
4) Click **Close**.
5) Copy the ```\CDimages\_software\_VBECS 2.0\Both\SNMP scripts``` folder to **C:\temp**.
6) Launch **PowerShell (x64)** by clicking the icon () in the Task Bar.
7) Run the following command: “```c:temp\SNMP script\updatesnmp```”
8) Close the PowerShell console.
9) In **c:\temp\SNMP scripts**, double-click **SNMP-config** to run the registry edit.
10) A warning will appear, click **Yes** followed by **OK** on the confirmation message.

**Install Audio Support (KB2495012)**
11) Open **Server Manager** and click **Features**, **Add Features**.
12) Select **Desktop Experience**.
13) The **Add Features Wizard** launches. Click **Add Required Features**.
14) Click **Next**.
15) Click **Install**.
16) Click **Close** and restart the server when prompted.
17) The server will take a bit longer than usual to restart. Once it restarts and you log back in, the installation will continue. You will see a **Resume Configuration Wizard**. When complete, click **Close**.
18) Open a command prompt and type: ```sc config beep start= auto``` (Figure 9). Press **Enter**.

**Figure 9: Beep Service Configuration**

![Beep Service Configuration](image)

19) Click **Start**, **Administrative Tools**, **Task Scheduler**. The **Task Scheduler** launches.
20) Navigate to **Task Scheduler Library**, **Microsoft**, **Windows**, **Multimedia**. Right-click on **SystemSoundService** and select **Enable**.
21) Close the **Task Scheduler**.

**Disable and Delete Windows Defender Service**
22) Navigate to **Control Panel** and open **Windows Defender**.
23) Click **Tools**, **Options**.
24) In the left pane, click **Administrator**. In the right pane, uncheck **Use this program**. Click **Save**.
25) You will see a window confirming that Windows Defender is turned off. Click **Close**.
26) Close Control Panel.
27) Navigate to Administrative Tools and open the Services.
28) Right-click on **Windows Defender** and click **Properties**.
29) Change the **Startup type** to **Disabled**. Click **OK**.
30) Close the Services console and Administrative Tools.
31) Open a command prompt and type `sc delete windefend` (Figure 10). Press Enter.

**Figure 10: Delete Windows Defender**

Image Redacted

**Copy Printer Drivers**

32) The printer drivers are located on the `\CDimages\software\_VBECS 2.0\App Server\share`. Copy the `HP9040 PCL6 Driver` folder to `C:\temp`.

**Add .NET Framework Version 3.5**

33) Open **Server Manager** and click **Features**, **Add Features**.
34) Select **.NET Framework 3.5.1 Features**.
35) The **Add Features Wizard** launches. Click **Add Required Role Services**.
36) Click Next.
37) Click Next.
38) Click Next.
39) Click **Install**.
40) Click **Close** when complete.

**Add .NET Framework Version 4.5**

41) Copy the `\CDimages\software\_VBECS 2.0\App Server\4.5 Framework` folder to `C:\temp` and install.
42) After installation is complete, reapply all critical Windows Updates. Do not install any new versions of Internet Explorer.

**Install Security Update for .NET Framework 4 (KB2898851)**

43) Copy the `\CDimages\software\_VBECS 2.0\Both\KB2898851` folder to `C:\temp`.
44) Double-click on `Windows6.0-KB2898851-x64` to start the installation.
45) Click **Yes** to proceed with the installation.
46) Click **Close**.

**Install SQL Client Tools**

47) Copy the `\CDimages\software\_VBECS 2.0\App Server\SQLCMD` folder to `C:\temp`.
48) Double-click `sqlncli` to start the installation.
49) Click **Next**.
50) Accept the license and click **Next**.
51) Click **Next**.
52) Click **Install**.
53) Click **Finish**.
54) Double-click `SqlCmdLnUtils` to start the installation.
55) Click **Next**.
56) Accept the license and click **Next**.
57) Click **Install**.
58) Click **Finish**.

**Install Attachmate Reflection**

59) Copy the `\CDimages\software\Attachmate` folder to `C:\temp`.
60) Double-click on `Reflection1404BaseInstall.bat` to install.

**Install Hotfix for Report Support**

61) Copy the `\CDimages\software\_VBECS 2.0\App Server\Report Hotfix` folder to `C:\temp` and install.

**Install HHActiveX DLL**

62) Copy the `\CDimages\software\_VBECS 2.0\App Server\` folder to `C:\Windows\SysWOW64`. 
63) Open a command prompt and execute the following command: `regsvr32 c:\Windows\SysWOW64\HHActiveX\HHActiveX.dll`

Install Fonts
64) The fonts for VBECS are located on the `\\CDimages\_software\_VBECS 2.0\App Server\` share. Copy the contents of the Fonts folder over to the Fonts folder in Control Panel (Control Panel, Appearance, Fonts).

Copy NAnt Files
65) Copy the `\\CDImages\_software\_VBECS 2.0\App Server\nant-0.92` folder to `c:\Program Files`.

Add Audio Support for VMware
66) Click Start, Run. Type `mmc` and click OK.
67) Click File/Add Remove Snap-in. Add the Group Policy Object Editor snap-in. Click OK.
69) In Device and Resource Redirection, change Allow audio and video playback redirection to Enable. Save and close.

Install Remote Desktop
70) Open Server Manager.
71) Click Roles, Add Roles.
72) Click Next.
73) Select Remote Desktop Services. Click Next.
74) Click Next.
75) Select Remote Desktop Session Host. Click Next.
76) Click Next.
77) Select Do not require Network Level Authentication. Click Next.
78) Select Per Device. Click Next.
79) Click Next.
80) Click Next.
81) Click Install. You will be prompted to reboot upon completion. Reboot.

Install Reporting Support Files
82) Copy the `\\CDImages\_software\ReportViewer` folder to `c:\temp`
83) Double-click the SQLSysClrTypes.msi file to install. When done, double-click the ReportViewer.msi file to install.

Install SCCM
84) Copy the `\\CDImages\_software\_VBECS 2.0\Both\SCCM scripts` folder to `c:\temp`.
85) Double-click on IsolatedSystemClientInstall.bat (in the Client folder) to install SCCM. The installation takes about 30 seconds.
86) From the command line, execute the following command: `net stop ccmexec`. You will see a message stating that the SMS Agent Host service has stopped successfully.
87) Open Windows Services and set the SMS Agent Host service Startup type to Disabled.
88) Click Start, Run. In the Run box, type MMC and press OK.
89) Click File, Add/Remove Snap-in...
90) Select Certificates and click Add.
91) Select Computer account and click Next.
92) Select Local Computer and click Finish.
93) Click OK to close the Add or Remove window.
94) Expand the Certificates, SMS. Delete both certificates.
95) Close the console.
Event Source Register Tool
96) Copy the EventRegister.exe and sources.xml files to C:\temp. They found in VSS Dev, Source Event XML, Compiled.
97) Double-click on EventRegister.exe to launch the application.
98) Click Enter All.
99) Close the application.

Install VBECS
100) Follow the instructions from the VBECS 2.0.0 Installation Guide to install both the test and production versions of VBECS.

Disable VBECS Services
101) Click Start, Administrative Tools, Services.
102) Right-click each of the following listed services (both Prod and Test) and select Properties. Set the Startup type to Disabled and click Apply:
   • VBECS <Environment> HL7 Dispatcher
   • VBECS <Environment> HL7 Listener
   • VBECS <Environment> Report Scheduler
   • VBECS <Environment> VistALink Listener

Create Error Files
103) Navigate to C:\Program Files\VistA\VBECS Prod folder.
104) Create a file named vbecserror.log
105) Assign the local Users group Full control permissions.
106) Navigate to C:\Program Files\VistA\VBECS Test folder and repeat above steps to create a log file in the test folder.

Adjust Memory and Add Second Processor in vSphere
107) Shut down the virtual machine.
108) In the vSphere Client, navigate to the VMs and Templates view.
109) Right-click on the VM and click **Edit Settings**. Change the Memory Size to **6 GB** (6144 MB). Click on **CPU** and change the **CPUs** to 2. Click **OK** to close (Figure 11).

**Figure 11: Example of App Server**

<table>
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<th>vApp Options</th>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Memory</strong></td>
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<td>GB</td>
<td></td>
</tr>
<tr>
<td>Hard disk 1</td>
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<td>GB</td>
<td></td>
</tr>
<tr>
<td>Hard disk 2</td>
<td>10</td>
<td>GB</td>
<td></td>
</tr>
<tr>
<td>SCSI controller 0</td>
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<td>LSI Logic SAS</td>
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<td>Connect...</td>
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<td><strong>VM Network</strong></td>
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<td>Host Device</td>
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**Turn the VM into a Template**

110) Right-click on the VM and choose **Template, Convert to Template**. Consult the **VECES 2.0.0 Virtual Machine Template Device Master Index** to determine the name of the template.

111) Continue with Appendix A: Update a Template, Step 12.
3 Customize the SQL Server

Prerequisite
These instructions are for customizing the SQL Server. If working on the App Server, go to Customize the App Server.

1) Execute Steps 1 through 9 from Appendix A: Update a Template to turn the SQL Server template into a VM and note the IP address. After you have the IP, remote into the SQL Server using the local administrator account.

SQL Server Template Configuration
Follow these steps to configure Windows and software settings.

Disable User Access Control
2) Click Start. In the search field, enter UAC.
3) Click Change User Account Control Settings.
4) Drag the slider down to Never notify. Click OK (Figure 12). Click Yes on the confirmation window that follows.

Figure 12: User Account Control Settings

Adjust the hard drive
5) Open Administrative Tools, Disk Management.
6) Right-click on the C: drive and choose Extend Volume.
7) Click Next.
8) Click Next.
9) Click Finish. The C: drive will now have a capacity of 80 GB.

Configure IDs
10) Open Administrative Tools, Computer Management.
11) Expand Local Users and Groups and select the Users folder.
12) Right-click on the apatosaurus ID and choose Delete.
13) Right-click on the installer ID and choose Delete.
14) Right-click on the Administrator ID and choose Rename.
15) Rename the ID vaaacnimda and close Computer Management. From this point on, remember to log into the App Server Template with the vaaacnimda id instead of Administrator.

Enable Port 25
16) Click Start, All Programs, McAfee, VirusScan Console.
17) Double-click Access Protection.
18) Select Anti-virus Standard Protection.
19) Deselect Prevent mass-mailing worms from sending mail in both the Block and Report categories.

Update the Registry for Security Issues
20) At the run prompt, type regedit and click OK.
21) Navigate to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\ac.sharedstore.
22) Double-click on ImagePath.
23) Put double quotes around the Value data so the entry looks like this: “C:\Program Files\Common Files\ActivIdentity\ac.sharedstore.exe”
24) Click OK to save.
25) Navigate to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager.
26) Right-click on Session Manager and select New, DWORD (32-bit) Value.
27) Name the new value CWDIIlegalInDllSearch.
28) Right-click and select Modify.
29) Enter 1 and click OK to save.

Rename and Adjust NICs
30) Open Control Panel, Network and Internet, Network Connections.
31) Rename adapter #1 GSS and adapter #2 Backup.
32) Right-click on the Backup NIC and choose Properties.
33) Uncheck everything except for IPv4 and IPv6. Click OK.
34) Right-click on the Backup NIC and choose Properties, Configure, Advanced tab.
35) There are four Checksum Offload properties, two for IPv4 and two for IPv6. Disable them all. Click OK to save.

Permissions
37) Click Change settings.
38) Click Change.
39) Enter VBECSQLTEMPLATE for the computer name.
40) Select the domain radio button and enter vha.domain.ext. Click OK. Restart to join the domain.
41) Navigate to Administrative Tools, Computer Management, Local Users and Groups, Groups.
42) Open the local Administrators group.
43) Add the HinesVbeesProdSqlSupport group.

Create a Validation Directory and Document to Record Screen Captures
44) On the C: drive, create a folder named validation.
45) In the validation folder, create subfolders named cluster and sql.
46) The validation.rtf file is located at in VSS Dev, SQL 2012 Install. Copy it to the validation folder (Figure 13).

Figure 13: Validation Folders

![Validation Folders](image)

SQL Server Software Installation

Follow these configuration steps to install software.

**Install and Configure SNMP**

47) Open Server Manager and click Features, Add Features.
48) Select SNMP Services which will automatically select the two sub features. Click Next.
49) Click Install.
50) Click Close.
51) Copy the `\CDimages\software\VBECS 2.0\Both\SNMP scripts` folder to `C:\temp`.
52) Launch PowerShell (x64) by clicking the icon in the Task Bar.
53) Run the following command: `"c:\temp\SNMP script\updatesnmp"`
54) Close the PowerShell console.
55) In `c:\temp\SNMP scripts`, double-click SNMP-config to run the registry edit.
56) A warning will appear, click Yes followed by OK on the confirmation message.

**Add .NET Framework Version 4.0**

57) The Version 4.0 framework is located on the `\CDimages\software\VBECS 2.0\SQL Server\4.0 Framework` share. Copy it to `C:\temp` and install.

**Install Security Update for .NET Framework 3.5.1 (KB2898851)**

58) Copy the `\CDimages\software\VBECS 2.0\Both\KB2898851` folder to `C:\temp`.
59) Double-click on `Windows6.0-KB2898851-x64` to start the installation.
60) Click Yes to proceed with the installation.
61) Click Close.

**Install Security Update for .NET Framework 4.0 (KB2938780)**

62) Copy the `\CDimages\software\VBECS 2.0\SQL Server\KB2938780` folder to `C:\temp`.
63) Double-click on `NPD40-KB2938780-x64` to start the installation.
64) Click Next.
65) Accept the license and click Next.
66) Click Finish to complete the installation.
Apply Hotfixes
67) The hotfixes are located on the \CDimages\_software\_VBECS 2.0\SQL Server\Hot Fixes share. Copy them to C:\temp\hotfixes (create this folder) and install. After installation is complete, reapply Windows Updates. Do not install any new version of Internet Explorer.

Apply AITC Fixes
68) The hotfixes are located on the \CDimages\_software\_VBECS 2.0\SQL Server\AITC Updates share. Copy them to C:\temp\hotfixes and install. After installation is complete, reapply Windows Updates. Do not install any new versions of Internet Explorer.

Copy KB2645410
69) Copy the \CDimages\_software\_VBECS 2.0\SQL Server\KB2645410 folder to C:\temp.

Copy SQL Server Installation Files
70) The SQL installation files are located on the \CDimages\_software\SQL2012_Ent share. Copy the contents of the en_sql_server_2012_enterprise_edition_x86_x64_dvd_813294 folder to C:\temp\SQL 2012.

Copy Installation Support Files
71) The installation support files are located in VSS Dev in the SQL 2012 Install folder. Copy the contents of the folder to C:\temp\SQL 2012.

Copy SQL Fixes
72) The SQL fixes are located on the \CDimages\_software\_VBECS 2.0\SQL Server\SQL Fixes share. Copy the following file to C:\temp\SQL2012Updates.
   • SQLServer2012SP2-KB2958429-x64-ENU

Install SCCM
73) Copy the \CDImages\_software\_VBECS 2.0\Both\SCCM scripts folder to c:\temp.
74) Double-click on IsolatedSystemClientInstall.bat (in the Client folder) to install SCCM. The installation takes about 30 seconds.
75) From the command line, execute the following command: net stop ccmexec. You will see a message stating that the SMS Agent Host service has stopped successfully.
76) Open Windows Services and set the SMS Agent Host service Startup type to Disabled.
77) Click Start, Run. In the Run box, type MMC and press OK.
78) Click File, Add/Remove Snap-in…
79) Select Certificates and click Add.
80) Select Computer account and click Next.
81) Select Local Computer and click Finish.
82) Click OK to close the Add or Remove window.
83) Expand the Certificates, SMS. Delete both certificates.
84) Close the console.

Adjust Memory and Central Processing Unit
85) Shut down the virtual machine.
86) In the vSphere Client, navigate to the VMs and Templates view.
87) Right-click on the VM and click **Edit Settings**. Change the Memory Size to **32 GB** (32768 MB). Click on **CPU** and change the **CPUs** to 4. Click **OK** to close (Figure 14).

**Figure 14: Example of Virtual Machine Properties**

![Virtual Machine Properties](image)

**Turn the VM into a Template**

88) Right-click on the VM and choose **Template, Convert to Template**.

89) Continue with Appendix A: Update a Template, Step 12.
Appendix A: Update a Template
These steps must be executed by a vSphere Administrator.

Prerequisites
- The server VM is online.

1) Determine the name of the template by viewing the *VBEC 2.0.0 Virtual Machine Template Device Master Index, Table 1*.
2) Open the vSphere console with administrative privileges and navigate to the **VMs and Templates** view. Right-click on the template that you wish to modify and select **Convert to Virtual Machine** (Figure 15).

![Figure 15: Example of vSphere Web Client](image)

3) Expand **VBECSCluster** and select **IPADDRESS**. Click **Next** (Figure 16).

![Figure 16: Example of Convert Template to Virtual Machine](image)

4) Click **Finish** (Figure 17).

![Figure 17: Example of Convert Template to Virtual Machine](image)

5) If creating the template for the first time, execute Appendix B: Updating NIC and Hard Drive Settings.
6) The template has now been turned into a server. Right-click the server and click **Power On** (Figure 18).

**Figure 18: Example of vSphere Web Client**

![Example of vSphere Web Client](image)

7) Before you can remote into the VM, you must assign an IP address. Right-click on the VM and click **Open Console** (Figure 19).

**Figure 19: Example of vSphere Client**

![Example of vSphere Client](image)

8) The console window appears (Figure 20). Press **Ctrl-Alt-Insert** (not **Delete**) to login. Use the local administrator account.

**Figure 20: Example of a Template**

![Example of a Template](image)

9) Open a command prompt and type **ipconfig**. Note the **IPv4 Address** (Figure 21). If the server doesn’t have an IP address, assign one to **Local Area Connection 2** in **Control Panel**. At this point, you can continue to use the console or establish a connection with the server via Remote Desktop. Accessing through the console is extremely slow, so accessing through RDC is recommended.
10) Make any changes you need to make to the server. When done, shut down the server.

11) Open the vSphere Console and right-click on server and click All vCenter Actions, **Convert to Template** (Figure 22).

**Figure 22: Example of Convert to Template**

Note: The vSphere Web Client does not yet support all features that the traditional client does. To execute the rest of these steps, run the vSphere Client on .

12) To export the template, select it and click **File, Export, Export OVF Template** (Figure 23).

**Figure 23: Create a Template**
13) Click the ellipsis and specify the \E:\VBEC Virtual Machine Templates folder. Click OK (Figure 24). The template will then be exported.

**Figure 24: Example of Export OVF Template**

![Export OVF Template](image)

14) If this was a template update, update the *VBEC 2.0.0 Virtual Machine Template Tracking Log*, following the steps in *Error! Reference source not found.*
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Appendix B: Updating NIC and Hard Drive Settings

These steps must be executed by a vSphere Administrator.

Prerequisites

- The server VM is online.

1) Right-click on the template and select Edit Settings (Figure 25).

Figure 25: Edit Settings

![Edit Settings](image)

2) In the Network adapter row, click the X to remove Network adapter 1 (Figure 26).

Figure 26: Remove Network Adapter

![Remove Network Adapter](image)

3) Click Select and choose Network (Figure 27).

Figure 27: Network

![Network](image)
4) Click **Add** twice to add two NICs. The screen will look like Figure 28 when done.

**Figure 28: Two NICs**

5) Change the adapter type to **VMXNET 3** for both adapters (Figure 29).

**Figure 29: Adapter settings**

6) Change the size of **Hard disk 1** to 80 GB (Figure 30).

**Figure 30: Hard disk 1**

7) In the CD/DVD drive row, click the **X** to remove the drive. Click **OK** to save changes.
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This is the last page of *VistA Blood Establishment Computer Software (VBECs) 2.0.0 Template Creation Guide*. 