Implement ........................................................................................................................................... 37

**Maintenance** .................................................................................................................................. 38

Maintaining XenApp Servers .................................................................................................................. 39

New Virtual Disk Creation .................................................................................................................... 39

New vDisk Modification ......................................................................................................................... 43

vDisk Automatic Update ....................................................................................................................... 43
Part I

Overview
Provisioning Services with XenApp Overview

Creating a XenApp environment that is more dynamic and easier to maintain is a goal for many XenApp administrators. Hours of server builds, elaborate disaster recovery plans, and countless troubleshooting sessions often synonymous with XenApp farm maintenance is a thing of the past. The time required to do these items can be greatly reduced and the environment simplified with the inclusion of Provisioning Services in XenApp Platinum.

When Provisioning Services is used with XenApp, the following benefits can be expected:

- **Consistency:** As a best practice, every XenApp server delivering the same applications should be 100% identical. Provisioning Services will make this practice a reality.
- **Maintenance:** Updating an application or a server oftentimes means hundreds of servers must be updated or else consistency is lost. Provisioning Services will make maintenance tasks easier and faster.
- **Dynamic:** XenApp environments are often static, meaning that a XenApp server will host the same applications, regardless of need until they are rebuilt, which in of itself is a time consuming process. Provisioning Services will turn the XenApp servers into dynamic servers.
- **Disaster Recovery:** Creating a disaster recovery plan for the XenApp environment often requires complex processes, scripts and configurations. Provisioning Services will simplify the entire process.

This implementation guide will show, step-by-step, how to setup Provisioning Services with XenApp (physical or virtual).
Part II

Infrastructure
Networking Resources

In order for target devices to obtain the boot server and bootfile, the appropriate DHCP options must be set. The following shows how to configure Microsoft DHCP.

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![DHCP Console](image)

**Within the DHCP console**
- Right-click **Scope Options**
- Select **Configure Options**

<table>
<thead>
<tr>
<th>Scope Options</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Scope Options](image)

**Within the Scope Options screen**
- Select **066 Boot Server Host Name**
- Enter in a valid address for the server hosting the boot image file (TFTP Server)

```
String value:
172.16.0.13
```
- Select 067 Bootfile Name
- Enter in ardbp32.bin
- Select OK

The appropriate DHCP options are now set. If PXE is used in addition to DHCP, then option 60 should be used instead of options 66 and 67. DHCP option 60 should point to the PXE server. The PXE server should then be configured with options 66 and 67.
Provisioning Services Configuration

In order to effectively utilize Provisioning Services, a few configuration settings must be applied to the environment. These changes include:

- Active Directory Integration
- Device Collections

Active Directory Integration

Within the Provisioning Services Console
- Navigate to Farm – Site – SiteName – Servers
- Right-click the server and select Properties

Within the Server Properties screen
- Select the Options tab
- Select Check for new versions of a vDisk
- Select Enable automatic password support

Note: Verify that the corresponding Active Directory policy is set. This policy is located here: Computer Configuration > Windows Settings > Security Settings > Local Policies > Security Options, enable Domain member: Disable machine account password changes by clicking Enable.
**Active Directory Integration**

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Active Directory Integration" /></td>
<td>On an Active Directory controller, or in the local server policy, the machine account password changes must be disabled because Provisioning Services will manage this responsibility. This policy should be set only on the OU containing Provisioning Services target devices. The policy <strong>Domain member: Disable machine account password changes</strong> is located here: Computer Configuration &gt; Windows Settings &gt; Security Settings &gt; Local Policies &gt; Security Options</td>
</tr>
</tbody>
</table>

**Device Collection**

As a general practice, it is a good idea to group all similar target devices within Provisioning Services in Device Collections. This section shows how to create a collection.

**Device Collection**

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Device Collection](image2.png) | Within the **Provisioning Services Console**  
- Navigate to Farm – Site – SiteName – Device Collections  
- Right-click **Device Collections** and select **Create Device Collection** |
| ![Device Collection Properties](image3.png) | Within the **Device Collection Properties** screen  
- Enter in a name for the collection: XenApp 5 – Office Servers  
- Select OK |
Part III

Image Creation
XenApp Server Installation

In order to successfully utilize Provisioning Services for XenApp workloads, a valid and stable XenApp server must be built. The server should have all operating system settings, XenApp settings and applications installed and configured. If the XenApp server is virtualized, XenServer Tools should also be included in the system before image capture. Once the server has been setup and configured appropriately, the next section will show how to prepare the environment for image capture.

Image Preparation

Setup Provisioning Services vDisk

The XenApp server, created in the previous section, must be captured within a streaming file (vDisk) that can be distributed to any number of physical or virtual XenApp servers. The following process will create a blank vDisk for the incoming image.

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Screenshot](image.png) | On the Provisioning Services in production
  - Select Sites – **SiteName** – vDisk Pool
  - Select Action – Create vDisk |
The **Create vDisk** window will appear.

- Enter a Filename: XenApp 5 – Office (Rev 1)
- Enter a Description: XenApp 5 image consisting of Windows 2008, XenApp 5 and the Office application set.
- Select the appropriate size of the vDisk. It must be large enough to encompass the entire virtual server disk
- Select VHD format: **Dynamic**
- Select **Create vDisk**

Once the wizard completes, the new vDisk will appear within the console.

- Select the vDisk
- Select *Action - Properties*
Within the \textit{vDisk Properties} window

- Select \textit{Edit file properties}

\textbf{Load Balancing}

A load balancing algorithm may be used to provide the vDisk to the target devices or a single server may be used.

- Use the load balancing algorithm
- Use this server to provide the vDisk

\textbf{BIOS menu text (optional)}:


\textbf{Note:} The Class setting will be used as part of the maintenance procedure detailed in a later section.
**Setup Provisioning Services vDisk**

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within the vDisk File Properties window</td>
</tr>
<tr>
<td>• Select the Mode tab</td>
</tr>
<tr>
<td>• Set Access Mode to Private Image</td>
</tr>
<tr>
<td>• Select OK</td>
</tr>
<tr>
<td>The Private Image mode allows changes to be made to the vDisk. As we need to populate the vDisk with the XenApp server image, we need to allow changes.</td>
</tr>
</tbody>
</table>

**Create Provisioning Services Target Device**

In order to link the XenApp server with the vDisk just created, a Provisioning Services target device must be created with the same MAC address as the XenApp server. The following process shows how to create a Provisioning Services target device.

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within the Provisioning Services console</td>
</tr>
<tr>
<td>• Select the XenApp 5 – Office Servers collection</td>
</tr>
<tr>
<td>• Select Action – Create Device</td>
</tr>
<tr>
<td>Create Provisioning Services Target Device</td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td><strong>Screenshot</strong></td>
</tr>
<tr>
<td><strong>Create Device</strong></td>
</tr>
<tr>
<td>Name: XA5-OfficeBase</td>
</tr>
<tr>
<td>Description: Device used to create vDisk</td>
</tr>
<tr>
<td>MAC: F6-D7-17-19-C3-98</td>
</tr>
<tr>
<td>Select OK</td>
</tr>
<tr>
<td>Select the newly created target device</td>
</tr>
<tr>
<td>On the General tab</td>
</tr>
<tr>
<td>Name: XA5-OfficeBase</td>
</tr>
<tr>
<td>Description:</td>
</tr>
<tr>
<td>Class: XenApp 5 - Office</td>
</tr>
<tr>
<td>Boot from: Hard Disk</td>
</tr>
<tr>
<td>Screenshot</td>
</tr>
<tr>
<td>------------</td>
</tr>
</tbody>
</table>
| **On the vDisks tab**  
  - Select Add  
  - Select OK  
  - Select OK |

**Assign vDisks**

- Select the appropriate vDisk: *XenApp Store\XenApp5-Base (Rev 1)*  
- Select OK  
- Select OK
Update Server Boot Preferences

The XenApp server’s boot preferences should be set to do a network boot. This is done in the BIOS settings of the physical server. The steps that follow show how to do this for XenApp servers virtualized with XenServer. Once the server has been set for a network boot, the XenApp server should be restarted.

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| Within the XenCenter console  
- Select the XenApp server virtual machine  
- With the General tab highlighted, select **Properties** |
| In the virtual machine Properties screen  
- Select the **Startup Options** tab  
- Move **Network** to the top of the list  
- Select **OK** |
Install Provisioning Services Tools

When the XenApp server restarts, the Provisioning Services Target Device software must be installed. The target device software allows the XenApp server to connect to the vDisk, which will allow for the imaging of the XenApp server.

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Provisioning Server" /></td>
<td>On the XenApp server, insert the Provisioning Services installation media and select Install Target Device for 64 bit Platform. &lt;br&gt;Note: The appropriate bit-level should be selected.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Welcome Screen" /></td>
<td>On the Welcome screen&lt;br&gt;• Select Next</td>
</tr>
<tr>
<td>Screenshot</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>License Agreement</strong> screen</td>
<td>• Select <strong>I accept the terms in the license agreement</strong></td>
</tr>
<tr>
<td></td>
<td>• Select <strong>Next</strong></td>
</tr>
<tr>
<td><strong>Customer Information</strong> screen</td>
<td>• Enter in valid information</td>
</tr>
<tr>
<td></td>
<td>• Select <strong>Next</strong></td>
</tr>
<tr>
<td><strong>Destination Folder</strong> screen</td>
<td>• Leave the default location and select <strong>Next</strong></td>
</tr>
<tr>
<td>Screenshot</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| [Image -0x18 to 612x46]                                                   | **On the Ready to Install screen**  
  - Select Install                                                                                                                                 |
|                                                | **On the Complete screen**  
  - Select Finish                                                                                                                              |
| [Image 562x746]                                                          | **On the Reboot screen**  
  - Select Yes                                                                                                                                      |
| [Image -0x18 to 612x46]                                                   | When the server restarts, the Provisioning Services agent will automatically start and be located in the system tray. Verify the icon says **Active**. This shows that the XenApp server has a connection to the Provisioning Services and the configured vDisk. |
Install XenApp Prep

Because each XenApp server must have a unique identity within the XenApp farm, the base XenApp install must be prepared before a Provisioning Services build is started. This section shows the preparation of a XenApp server with the XenApp Prep utility.

<table>
<thead>
<tr>
<th>XenApp Prep</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screenshot</td>
<td>On the XenAppPrep Welcome screen, select Next</td>
</tr>
<tr>
<td>Screenshot</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| ![Screenshot](image1.png) | **On the License Agreement screen**  
- Select **I accept the terms in the License Agreement**  
- Select **Next** |
| ![Screenshot](image2.png) | **On the Destination Folder screen**  
- Change the path or leave the default  
- Select **Next** |
| ![Screenshot](image3.png) | **On the Install screen**  
- Select **Install** |
### XenApp Prep

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![XenApp Prep Setup](image) | On the **Completion** screen  
- Select **Finish** |
| ![XenApp Prep Command Prompt](image) | - Launch a command prompt and navigate to: `C:\Program Files\Citrix\XenAppPrep`  
- Execute the command: `XenAppPrep /PVS`  
- Do **NOT** reboot  
The tool will prepare the system for cloning, which involves shutting down certain services and updating critical registry keys. For a complete list of changes, please refer to the guide included with the XenAppPrep installation. |
Build Image

With the XenApp server linked to a blank vDisk and the server prepped for XenApp provisioning with Provisioning Services, it is now time to create an image. The following process will take the XenApp server and synchronize the hard disk to the vDisk.

### Build Image

#### Screenshot

- Launch Disk Management
- A new disk should be visible with a red mark on it. Select the disk and select **Online**
- If asked to format the drive now, select **No**
- Close the Disk Management utility

#### Description

- Open Explorer and select the new disk
- Right-click and select **Format**
- Set the format for **Quick Format**
- Select **Start**
- Select **OK** when the format is complete
### Build Image

**Screenshot**

The Device Image Builder creates a duplicate of the currently active system for use during remote boot of the device. All system image files will be copied from the local hard disk to the destination path selected below.

Run Provisioning Server Device Optimization Tool to configure Windows for optimal Virtual Disk performance

<table>
<thead>
<tr>
<th>Source Drive</th>
<th>Destination Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>C:\ (Windows System Partition)</td>
<td>E:\</td>
</tr>
</tbody>
</table>

- **Verify all options are enabled**
- **Select OK**
- **Select Build**

### Description

- Launch the **Device Image Builder** tool from the Start Menu
- Verify the **Destination Drive** is the newly formatted drive
- Select **Optimize**

- After verifying the drives are correct, select **Yes**

---

**Confirm Build**

A device image will be built using the currently active system. The resulting image files will be stored in the following destination path:

E:\

All files in the above destination path will be deleted prior to the build.

Continue with the device image build?

- **Yes**
- **No**
The XenApp server's system partition will be copied to the Provisioning Services vDisk. When the server reboots, the vDisk has been populated with the XenApp server.
Part IV

Delivery
Physical/Virtual Server Definition

Once the image capturing phase is complete, it is now time to use the image for implementation. This process first requires the proper setup of the physical or virtual XenApp servers.

Physical Server Configuration

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Each physical XenApp server must have the following items set:</td>
</tr>
<tr>
<td></td>
<td>• BIOS Boot Preference: <strong>Network Boot</strong></td>
</tr>
<tr>
<td></td>
<td>Additionally, the MAC address for each XenApp server must be obtained. This information will be used in the Provisioning Services Target Device Creation step.</td>
</tr>
</tbody>
</table>

Virtual Server Configuration

To setup a virtual server to accept the Provisioning Services image, the following must be done.

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Within XenCenter, select the Resource Pool</td>
</tr>
<tr>
<td></td>
<td>• Select <strong>Server – New VM</strong></td>
</tr>
<tr>
<td><strong>Virtual Server Configuration</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><a href="image">Screenshot</a></td>
<td>Go through the entire wizard as before and select:</td>
</tr>
<tr>
<td></td>
<td>- Operating System: <strong>Citrix XenApp</strong></td>
</tr>
<tr>
<td></td>
<td>- Name: <strong>XA5-CoreApps1</strong></td>
</tr>
<tr>
<td></td>
<td>- Installation Media: <strong>Physical DVD drive</strong></td>
</tr>
<tr>
<td></td>
<td>- Location: <strong>Automatically select a home server with available resources</strong></td>
</tr>
<tr>
<td></td>
<td>- Number of vCPUs: <strong>2</strong></td>
</tr>
<tr>
<td></td>
<td>- Initial Memory: <strong>2048</strong></td>
</tr>
<tr>
<td></td>
<td>- Virtual Disks: <strong>Default</strong></td>
</tr>
<tr>
<td></td>
<td>- Virtual Network: <strong>Default</strong></td>
</tr>
<tr>
<td></td>
<td>- Start VM Automatically: <strong>No</strong></td>
</tr>
<tr>
<td>When the new VM wizard is complete</td>
<td>Select the newly created VM</td>
</tr>
<tr>
<td></td>
<td>Select <strong>Properties</strong></td>
</tr>
<tr>
<td>In the virtual machine <strong>Properties</strong> screen</td>
<td>Select the <strong>Startup Options</strong> tab</td>
</tr>
<tr>
<td></td>
<td>Move <strong>Network</strong> to the top of the list</td>
</tr>
<tr>
<td></td>
<td>Select OK</td>
</tr>
</tbody>
</table>
### Virtual Server Configuration

**Screenshot**

In the virtual machine Properties screen
- Select the **Optimizations** tab
- Verify **Optimize for Citrix XenApp** is selected
- Select **OK**

**Description**

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Screenshot](image1.png) | With the virtual machine still selected
- Select the **Storage** tab
- **Delete** the attached storage |
| ![Screenshot](image2.png) | - Select the **Network** tab
- Make note of the virtual machine's MAC Address |

- [Image 1](image1.png)
- [Image 2](image2.png)
Virtual Server Configuration

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Virtual Server Configuration](image) | To quickly replicate the virtual machine, do the following:  
  - Right-click the virtual machine to copy, and select **Copy VM**  
  - On the Copy Virtual Machine window  
    - Enter a name for the new virtual machine  
    - Select **Fast Clone**  
    - Select **Copy**  
  - Make note of the virtual machine’s MAC address. |

vDisk Configuration

Provisioning Services images are only updatable when they are in Private Image mode. During this mode, only one target device can access the vDisk at a time. When wanting multiple devices to use the same image, this is called Standard Image mode and the vDisk is read-only. The process that follows shows how to change the vDisk into a standard image mode for XenApp delivery.

<table>
<thead>
<tr>
<th>Change Provisioning Services Image to Standard</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Change Provisioning Services Image to Standard](image) | Within the Provisioning Services console  
  - Select the appropriate vDisk within the **vDisk Pool**  
  - Select **Action – Properties** |
**Change Provisioning Services Image to Standard**

### Screenshot

**vDisk Properties**

- **Store:** Base Store
- **Site:** Springfield
- **Filename:** XenApp 5 - Core Apps

**Description:**

Base Image for XenApp 5 with Core Application Set

**BIOS menu text (optional):**

- **Load Balancing:** A load balancing algorithm may be used to provide the vDisk to the target devices or a single server may be used.
  - Use the load balancing algorithm
  - Use this server to provide the vDisk
  - **Server:** SKINNER

- **Allow use of this vDisk:**

### Description

- Within the **vDisk Properties** window
  - Select **Edit file properties**

### vDisk File Properties

**Name:** XenApp5Base (Rev T)

**Size:** 1884 MB

**Description:**

- **Class:** XenApp 5 - Office
- **Type:**

### Description

- Within the **vDisk File Properties** window
  - Verify the class is set as: **Office 5 – Office**
  - Select the **Mode** tab
Change Provisioning Services Image to Standard

**Screenshot**

**Description**

Within the **vDisk File Properties** window
- Set Access Mode to **Standard Image**
- Select the **Enable automatic updates for this vDisk**

---

Provisioning Services Target Device Creation

In order for the image to be streamed to the physical or virtual XenApp servers, the devices must be defined within the Provisioning Services console and added into Active Directory. The following sections show how this process is completed.

**Target Device Creation**

**Screenshot**

**Description**

Within the **Provisioning Services** console
- Select the **XenApp 5 – Office Servers** collection
- Select **Action – Create Device**
<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Create Device** window | Within the *Create Device* window:  
  - Enter in a name: XA5-Office0001  
  - Enter in a description  
  - Enter in a MAC Address: This address should be the same MAC address for the newly created XenApp virtual server  
  - Select OK |

| **Select the newly created target device** |  
  - Select *Action* – *Properties* |

| **Target Device Properties** |  
  - On the *Properties* tab:  
    - Select Boot from: vDisk  
    - Set the Class: XenApp 5 - Office  
    - Selection vDisks tab |
### Target Device Creation

**Screenshot**

<table>
<thead>
<tr>
<th>Target Device Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
</tr>
<tr>
<td>vDisks for this Device:</td>
</tr>
<tr>
<td>Options:</td>
</tr>
<tr>
<td>Excludes the local HD as a boot device</td>
</tr>
<tr>
<td>Custom bootstraps list:</td>
</tr>
</tbody>
</table>

(Noise: Enabling multiple vDisks or options will cause a menu to be displayed on the device)

- Select **Add**
- Select **OK**
- Select **OK**

Repeat this process for the remaining XenApp servers.

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the <strong>vDisks</strong> tab</td>
</tr>
<tr>
<td>- Select <strong>Add</strong></td>
</tr>
</tbody>
</table>

### Assign vDisks

<table>
<thead>
<tr>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store: All Stores</td>
</tr>
<tr>
<td>Server: All Servers</td>
</tr>
</tbody>
</table>

- Select the appropriate vDisk: **XenApp Store:XenApp5-Base (Rev 1)**
- Select **OK**
- Select **OK**

Repeat this process for the remaining XenApp servers.
**Integrate Active Directory**

Even though the Provisioning Services device is now linked with the virtual machine, the target device is still not ready for delivery. The new target device must be a member of Active Directory in order for domain accounts to work correctly. Provisioning Services will manage the machine accounts automatically by following these steps.

<table>
<thead>
<tr>
<th>Integrate Active Directory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Screenshot</strong></td>
<td>Within the Provisioning Services console</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>- Select the new Target Device</td>
</tr>
<tr>
<td></td>
<td>- Select <em>Action – Active Directory – Create Machine Account</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Create Machine Accounts in Active Directory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Domain</strong></td>
<td>In the <em>Create Machine Accounts</em> screen</td>
</tr>
<tr>
<td><strong>Organization unit:</strong></td>
<td>- Select the correct domain</td>
</tr>
<tr>
<td><strong>Devices:</strong></td>
<td>- Enter in a valid organizational unit in which to place the new account</td>
</tr>
<tr>
<td><strong>Target Device</strong></td>
<td>- Select <em>Create Account</em></td>
</tr>
<tr>
<td>XAS Office0001</td>
<td>- When a success is shown, select <em>Close</em></td>
</tr>
</tbody>
</table>
Implement

As each target device is created, the physical or virtual server can be activated, which will

- Receive a stream from Provisioning Services
- Boot the Operating System
- Automatically add themselves into the XenApp farm
Part V

Maintenance
Maintaining XenApp Servers

Delivering XenApp servers is one aspect of a complete XenApp solution; however, maintaining the XenApp servers is the second aspect, which is critical. Being able to keep the XenApp servers in sync with the latest hot fixes and security patches is paramount to the stability and security of the environment. This section will show how to modify the base XenApp image and to have all XenApp servers start using that image upon next reboot without requiring extensive modifications to the environment. This process is broken down into the following:

- New vDisk Creation
- New vDisk Modification
- Automatic vDisk Updates

A few environment settings have already been made, including:

- Enable automatic updates on the vDisk and on the Provisioning Services
- Setting Class identification on the vDisk and on the target devices

New Virtual Disk Creation

A new vDisk should be created from the current vDisk. This allows for a phased update approach where the old version is used until a new version is ready for release.

<table>
<thead>
<tr>
<th>New Virtual Disk Creation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screenshot</td>
<td>On the Provisioning Services</td>
</tr>
<tr>
<td></td>
<td>- Launch Explorer and navigate to the location of the base virtual desktop image</td>
</tr>
<tr>
<td></td>
<td>- Make a copy of the XenApp5-Base (Rev 1) image and rename it to XenApp5-Base (Rev 2)</td>
</tr>
</tbody>
</table>
### New Virtual Disk Creation

**Screenshot**

![Screenshot](image)

**Description**

- Within the Provisioning Services console, select **vDisk Pool**
- Select **Properties – Add Existing vDisks**

---

### Add Existing vDisks

**In the Add Existing vDisks screen**
- Verify the Store to search is set
- Verify the server to search on is set
- Select **Search**
- Select the appropriate vDisk
- Select **Add**
- Select **Close**
### New Virtual Disk Creation

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Virtual Disk Creation Screenshot](image) | - Select the newly added virtual disk
- Select **Action - Properties** |

---

**vDisk Properties**

- **General**
  - Store: XenApp Store
  - Site: Minneapolis
  - Filename: XenApp5 BASE (Rev 2)
  - Description: 
  - BIOS menu text (optional):

- **Load Balancing**
  - A load balancing algorithm may be used to provide the vDisk to the target devices or a single server may be used.
  - Use the load balancing algorithm
  - Use this server to provide the vDisk
  - Server: PV51

- **Allow use of this vDisk**: [ ]

---

- **OK**
- **Cancel**
- **Help**
### New Virtual Disk Creation

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Screenshot](image.png) | **On the vDisk File Properties screen**  
- Select the **Mode** tab  
- Change the **Access Mode** to **Private Image**  
- Verify the **Enable automatic updates for this vDisk** is selected  
- Select **Ok** |

| ![Screenshot](image.png) | **Within the Provisioning Services Console**  
- Select the Template target device: **XA5-OfficeBase**  
- Select **Action - Properties** |
New Virtual Disk Creation

Within the Target Device Properties screen
- Remove the current vDisk
- Select Add
- Add the new vDisk (Rev2)

New vDisk Modification

Using the newly create virtual disk running in private mode will allow all changes to be saved into the virtual disk for propagation to the other target devices. Start the appropriate XenApp server and make the necessary changes.

Note: These changes should first be tested in the test environment and then repopulated to the production image through the process already identified in this document during the Validation and Build phases.

vDisk Automatic Update

With the virtual disk changes complete, the target devices must be set to utilize the latest and greatest image. The following steps outline the process.

vDisk Automatic Update

Within the Provisioning Services Console
- Select Site – SiteName – vDisk Pool
- Select the new vDisk (Rev2)
- Select Action - Properties
**vDisk Automatic Update**

### vDisk Properties

**General**
- Store: XenApp Store
- Site: Minneapolis
- Filename: XenApp5-Base (Rev 2)
- Description:

**BIOS menu text (optional):**

**Load Balancing**
- A load balancing algorithm may be used to provide the vDisk to the target devices or a single server may be used.
  - [ ] Use the load balancing algorithm
  - [x] Use this server to provide the vDisk
    - Server: PVS1

- [x] Allow use of this vDisk

### vDisk File Properties

**General**
- Name: XenApp5-Base (Rev 1)
- Size: 19994MB
- Description:

**Class:** XenApp 5 - Office

**Type:**

### Description

Within the **vDisk Properties** screen:
- Select **Edit file properties**

On the **vDisk File Properties** screen:
- Verify the Class is set to **XenApp 5 - Office**
- Select the **Mode** tab
### vDisk Automatic Update

#### Screenshot

<table>
<thead>
<tr>
<th>vDisk File Properties</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access mode</strong></td>
<td>• Set the Access Mode: <strong>Standard Image</strong></td>
</tr>
<tr>
<td></td>
<td>• Select: <strong>Enable automatic updates for this vDisk</strong></td>
</tr>
<tr>
<td></td>
<td>• Select <strong>Identification</strong> tab</td>
</tr>
</tbody>
</table>

#### Identification

<table>
<thead>
<tr>
<th>Major</th>
<th>Minor</th>
<th>Build</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Serial #</th>
<th>5602536e-7fda-11e8-a000-000000000000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>02/15/2009 12:05:37</td>
</tr>
</tbody>
</table>

- Increment the Build number by 1
- Select **OK**
vDisk Automatic Update

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![vDisk Automatic Update Screenshot](image) | - Right-click the Provisioning Services and select **Check For Updates → Automatic**
- A window will appear informing you that an update check is occurring. Select **OK**.

Provisioning Services will look at all target devices Class field to see if they match the base and updated disks. In situations where they do, Provisioning Services will change the target device’s assigned virtual disk to the virtual disk with the greatest build number.

Upon each target devices next reboot, they will be utilizing the latest virtual disk image. As new changes are added to the base build, the steps outlined in this section should be followed. |
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| Version History |
|-----------------|-----------------|-------------------|-----------------|
| **Author**      | **Version**     | **Change Log**    | **Date**        |
| Daniel Feller   | 1.0             | Document released | February 17, 2009 |

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