Purpose:

This document is intended to be used during the first moments of working with App-V. The tutorial includes steps on how to sequence an application with the Sequencer 4.6 and how to import the virtual applications into the App-V Management Console. There is also a topic looking at the client side of the Application Virtualization.
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1. How To Create A Bubble In App-V With Sequencer 4.6

1.1. Environmental Setup

- Install Hyper-V or VMware and create a Virtual Machine.
- Choose the Operating System you want to install: WinXP / WinVista / Win7.
- Choose the architecture you want to use: x86 or x64.
- Install the Virtual Machine in a sandboxed environment.
- Partition the HDD and create a Q: drive with approx. 20GB.
- Once the OS is installed, install the “Microsoft Application Virtualization Sequencer”. You have to install the Sequencer with the same architecture as the OS!
- Choose the Sequencer you want to use: Sequencer 4.5 or 4.6.
1.2. Sequencer 4.6 Setup

Microsoft Application Virtualization Sequencer - InstallShield Wizard

Welcome to the InstallShield Wizard for Microsoft Application Virtualization Sequencer

The InstallShield(R) Wizard will install Microsoft Application Virtualization Sequencer on your computer. To continue, click Next.

WARNING: This program is protected by copyright law and international treaties.

License Agreement

Please read the following license agreement carefully.

MICROSOFT APPLICATION VIRTUALIZATION SEQUENCER, VERSION 4.6

PLEASE NOTE: Your use of this software is subject to the terms and conditions of your volume license agreement or service provider license agreement. You may not use this software if you have not acquired a license for it under your volume license agreement or service provider license agreement.

I accept the terms in the license agreement
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InstallShield

Next >
Destination folder

Click Next to install to this folder, or click Change to install to a different folder.

Install Microsoft Application Virtualization Sequencer to:
C:\Program Files\Microsoft Application Virtualization Sequencer

Ready to Install the Program

The wizard is ready to begin installation.

Click install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
Installing Microsoft Application Virtualization Sequencer

The program features you selected are being installed.

Please wait while the InstallShield Wizard installs Microsoft Application Virtualization Sequencer. This may take several minutes.

Status:

InstallShield Wizard Completed

The InstallShield Wizard has successfully installed Microsoft Application Virtualization Sequencer. Click Finish to exit the wizard.

Launch the program
1.3. Recommended Best Practices For Sequencing

*Quoted from: Microsoft Application Virtualization 4.6 Sequencing Guide (by Jeremy Johnson, Steve Chadly & Matt McDermott)*

This section covers Microsoft’s recommended best practices for sequencing applications.

It is recommended that you familiarize yourself with the installation and execution of the application prior to sequencing. Be sure to read all installation instructions associated with the application. It is also recommended that you learn how the application runs and the components of the application that the user will need.

To improve the process of sequencing an application, one should document step-by-step the installation and post-configuration procedures for the application. Step-by-step documentation will ensure that no unnecessary troubleshooting occurs during the sequencing process since no important steps will be skipped. Always document the sequencing process step-by-step creating a “recipe” using a standardized template. Documenting the sequencing process step-by-step will allow you to hand the recipe to someone else in your organization and have them recreate the same package.

Items to document in a recipe include:

- What application components are needed and will be required to complete the installation of the application?
- What updates, such as adding new files to the package, need to be performed in the Sequencer after the installation?
- What post-installation configuration steps need to take place in the Sequencer?
- How do users commonly use this application immediately after its launch?
- Does this application do something that App-V currently does not support? If so, check the Microsoft Knowledge Base to see if a workaround is available.

Recommended settings, configurations, and process include:

- When sequencing on Windows Vista or Windows 7, ensure sure you have User Account Control (UAC) enabled on the sequencing machine if the client machine you are deploying the application to will have UAC enabled as well.
- Use the Comments field in the Sequencer (Abstract Tag) to note any details about the package you may want to include. This will allow you to revisit the Sequence later and have a record of this information.
- The installation drive on your Sequencer should match the virtual drive on the client. In some cases this may not be possible (if, say, packaging for multiple organizations), and you may be required to go back and edit the virtual registry or some individual files to point to the correct locations.
- Sequence to a unique, 8.3 directory name. This applies to both the Asset and Installation Directories. (‘Q:\MYAPP’ is correct, ‘Q:\My Application’ is incorrect. Q:\MYAPP.001 is also correct.)

- Sequence to a folder in the root of the drive, not to a subdirectory. (‘Q:\MYAPP’ is correct; ‘Q:\ is incorrect; ‘Q:\Temp_Junk\MYFOLD’ is incorrect). If the suite has multiple parts, install each application in a subdirectory of the Asset Directory. For example, if a package contains a Line of Business Application along with the Oracle Client, use Q:\AppSuite as the Asset Directory; sequence the LOB application to Q:\AppSuite\LOB; and sequence the Oracle client to Q:\AppSuite\OracleClient.

- Always use globally unique paths and package names across the set of application sequencings. Do not install, for example, multiple Microsoft Office sequencings to the same Asset Directory name. Use a standardized naming scheme for the Asset Directory that can be incremented for new revisions, for example Q:\OFFXP.v1 or Q:\OFFXP.001. Failure to make these unique can cause conflicts with your applications.

- Configure and test the application in the Installation Phase. Completing the installation of an application often requires performing several manual steps that are not part of the application installation process. These steps can involve configuring a connection to a ‘back-end’ database, copying updated files, etc. Do this configuration in the Installation Phase and run the application to make sure it works.

- Execute the application, multiple times if necessary, until the program is in a static state in the Installation Phase. For example, run the application multiple times to get past all registration and dialog box requests. Some applications perform different tasks on first launch, second launch, and sometimes subsequent launches. The multiple launches will make sure that any post-installation tasks that are required by the application can be completed (e.g. accepting a license agreement or setting file type associations).

- Use the Application Wizard to launch each executable in a suite of applications. This will ensure that each application will have the required initial launch data on the App-V Client.

- Disable “Install on First Use.” Some applications have the option to “Install on First Use” for certain components. It is required that none of the components are sequenced with this option. It is necessary to choose either “Run from My Computer” (install this component) or “Not Available” (do not install this component). For application components that will not be used by any of the targeted users, it is recommended that the components not be installed.

- Disable “Auto Update” features. Some applications have the ability to check a web site or a server for the latest application updates. This feature should be turned off, as version control should be performed via sequencing new versions.

- Operations made during the Launch Phase will be included in the primary feature block. As a general rule, when building the primary feature block make sure you execute the application’s most common operations (e.g., in Microsoft Word, open a document and misspell a word to include spell check function) so that they are included in the initial streaming of the application and you have an accurate primary feature block. If this is not done, users will see delays as they start to use the application and will regard it as being slow if many of the features they use are not in primary feature block. Additionally, if you are in an environment where bandwidth is limited, then you want to have an accurate primary
feature block so that users are not constantly making calls to the server to download additional files in cache.

- There are several online articles relating to sequencing best practices:
  - Microsoft Support: [http://support.microsoft.com/kb/932137](http://support.microsoft.com/kb/932137)
1.4. Example Of Creating A Bubble

Before starting the App-V Sequencer, the installation & destination folder need to be created. In this case I created the folder “CuteFT80.000” on the desktop (this is where the Sequencing Project (.sprj) will be saved) and once on the Q:\-drive (this is where the physical installation will be performed).
Figure 1: Create a package. This can be done in 2 ways.

Figure 2: Insert the Package Name and the Comments. Note that the first name in the ‘Package Name’ is the common name of the application separated with an underscore of the App-V package name.
Figure 3: Advanced Options for the Monitoring.

Figure 4: Start the Monitoring.
Figure 5: Choose the path on the Q:\ where the physical installation of the application will be performed.

Figure 6: When you have chosen the correct path the Sequencer will wait until the application is completely installed. You have to click the button [Stop Monitoring] manually.
Figure 7: Browse to your installer and start the installation of the application.

Figure 8: Install CuteFTP 8.0. (The installer used is created with Wise Studio).
Figure 9: Install CuteFTP 8.0.

Figure 10: Install CuteFTP 8.0 on the Q:\. Try to keep the folder structure like in the normal installation.
Figure 11: Install CuteFTP 8.0.

Figure 12: Finish the installation of CuteFTP 8.0.
Figure 13: Launch the application to check if it is installed correctly. Check also if there may be some settings for the automatic updates or the need to input a license. When this is done during the monitoring, App-V will pick up the changes and put it all together in the bubble.

Figure 14: Stop the monitoring if you are sure that the installation is completed.
Figure 15: Monitoring is stopped.

Figure 16: Configure the shortcuts of the application. You have 2 options: Remove or Edit the shortcut.
Figure 17: You have 2 options with the shortcuts: Remove or Edit. Every shortcut will generate an .OSD file.

Figure 18: Change the properties of the shortcut.
Figure 19: Create the ‘Feature Block 1’ by launching some applications.

Figure 20: Sequencer is creating ‘Feature Block 1’
Figure 21: The [V]-indication in front of the application means that the application is working.

Figure 22: Sequencing of the Package is completed. Click [Finish]
Figure 23: Main screen with all the settings for the Sequencing Project.

Figure 24: Configure the Server Settings.
Figure 25: The correct Server Settings. Leaving the [Selected]-field empty means that it suits all the Operating Systems.

Figure 26: Info about the Change History. This can be useful when a package will be upgraded/edited.
Figure 27: View of all the files the Sequencer monitored during the installation.

Figure 28: View of all the Registry Changes the Sequencer monitored during the installation.
Figure 29: In this tab you can see all the files that are installed on the machine during the installation.

Figure 30: View of all the Services that are created during the installation.
Figure 31: A view of all the OSD’s (OSD = Open Software Description) in the Sequencer Project.

Figure 32: Saving the Sequencer Project to the folder on the C: drive.
Figure 33: A view of all the files that come with the Sequencer Project (.sprj).
2. How To Import A Virtual Package In The Management Console

2.1. Use The Import Function

Before importing the application, the Management Console needs to be opened. Browse down the tree until you reach the “Applications” layer.

Figure 1: Browse to the “Applications” layer.
Figure 2: Browse to the application group where you want to import the application. This can be done directly under the “Applications” root or you can create a subgroup in an existing application group.
Figure 3: Right click on the group and choose to create a “New Application Group”.
**Figure 4:** Insert the correct name of the virtual application with optionally the version number. Create a standard guideline for everyone with which info needs to be present. Most commonly the full name of the application and the version number are used.
Figure 5: The ‘CuteFTP 8.0’ Application Group has been created in the ‘Test Application’ Application Group. Right click the ‘CuteFTP 8.0’ Group and choose “Import Applications”.
Figure 6: Go to the server where all the virtual application (which are all sequenced with one or multiple OSD files) are stored and choose the .sprj file of the ‘CuteFTP 8.0’ package.
Figure 7: Change the settings of the application in the ‘General Information’ screen. Normally, all info stated should be correct except from the last option: Server Group. This setting is by default set to <none>. Also note that the [Enabled]-option is by default check marked.
Figure 8: The ‘Server Group’ has been changed from <none> to ‘Default Server Group’.
Figure 9: Choose the settings for the shortcuts. Do you want to have them published to both your Desktop and ‘Start Menu’ or just to the Desktop? If you want to publish the application to the ‘Start Menu’ you can manually type the path to the application (for example: \GlobalSCAPE\Cute FTP). The application will then be available at the client side at ‘Start Menu\Programs\GlobalSCAPE\Cute FTP’.
Figure 10: Choose the file associations for the application. CuteFTP is not associated with any so the list be empty. There is the possibility to manually add a certain ‘File Association’.
Figure 11: Important! Give the correct permissions for the utilization of the application. Active Directory will be used to grant/deny access.
Figure 12: Search in Active Directory to the users/groups you want to grant access to.
**Figure 13:** Access has been granted to a certain user/group.
**Figure 14:** A small *summary* at the end of the import concerning the physical location of the package.
Figure 15: The ‘CuteFTP 8.0 Professional’ package has been successfully added to the ‘CuteFTP 8.0’ Application Group.
2.2. Manually Add An Application

Like mentioned in the previous method, the Application Virtualization Management Console needs to be opened. Scroll down in the tree until you reach the “Packages” layer. During a manual import of an application 2 actions need to be taken whereas the automatic import only takes one. We first need to add the package to the list of packages (so it is available for use). Secondly, we need to bind the package to the Application Group.

![Figure 1: Browse to the ‘Packages’ layer.](image)
Figure 2: Right click the ‘Packages’ and choose “New Package”. We are adding the application to the application pool. This step is needed so the package is available for adding it to an ‘Application Group’ afterwards.
Figure 3: Give the package a name. As a best practice add the _Package to the “Package Name”. This way the difference between a package and a group is easier to spot. Browse to the path where the .sft file is stored for the package.
**Figure 4:** Fill in the relative path for the package.
Figure 5: Summary of the “New Package”. Be sure that the package is copied to a network/content share.
Figure 6: When searching through the list we can find the package. At the left side of the Console you have some basic Actions you can use.
Figure 7: Once the package is created, we can add the application to an Application Group. Don’t choose “Import Application” but choose “New Application” instead.
Figure 8: Fill in all the fields and don’t forget to change the ‘Server Group’ to ‘Default Server Group’.
Figure 9: Select the package in the list of packages. This is not in alphabetical order.
Figure 10: Choose the location where the shortcuts may be published.
Figure 11: Add/Edit or Remove ‘File Associations’.
Figure 12: Grant certain users/groups specific rights for the application.
Figure 13: Search in Active Directory to the users/groups you want to grant access to.
**Figure 14:** Access has been granted to a certain user/group.
Figure 15: Summary.
Figure 16: The Application has been added to an “Application Group”.
3. How To Stream An Application

When the application has been added in the Application Virtualization Management Console and you have been granted access, you should be able to use the application. This chapter will describe how to receive, stream and use the application.

Figure 1: Click in the Programs list on the Application Virtualization Client or open the [Run]-box and type the command sftcmc.msc. This will open up the same App-V client.

Figure 2: The Application Virtualization Client.
Figure 3: Refresh the **App-V Streaming Server**.

Figure 4: After the refresh of the server (which takes +/- 10 seconds) the ‘**CuteFTP 8 Professional**’ package should be visible in the list. Because the application is not used yet the ‘Package Status’ is
0%. If you want to load the application without launching it you can right click the Application and choose ‘Load’.

**Figure 5:** The path to the Application like configured in Topic 2.2 (Figure 10).

**Figure 6:** When launching the application for the first time it will be loaded into the cache. This is a one-time event.
Figure 7: The ‘Package Status’ has reached the 100% (because it has been launched).

Figure 8: Proof that the App-V package is working perfectly on the computer.