HP Client Automation Application Virtualization

For the Windows ® operating system

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Publishing and Updating Virtual Applications

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Introduction

This document describes how an administrator can publish and update virtual applications to the HP Client Automation Configuration Server Database (CSDB) and deploy to HPCA agents. The following two types of virtual applications can be published, deployed, and used in HPCA environment.

- VMware ThinApp
- Microsoft Application Virtualization (Microsoft App-V)

About this Guide

This user guide describes how

- you can use the VMware ThinApp Setup Capture application to create packages that can be published to the CSDB.
- the HPCA Administrator Publisher (Publisher) can identify ThinApp Applications embedded within published `.msi` files.
- you can use the Publisher to tag `.msi` files to be updated by the VMware Application Sync technology.
- you can create a Job in the HPCA Core server to perform automatic updates of Application Sync-enabled packages that have been deployed to HPCA agents.
- you can publish the Microsoft App-V applications to the CSDB and entitle and deploy the Microsoft App-V applications services to the users and clients.

Terminology

The following terms are used to refer to service deployment methods.

Normal Mode

Supports deployment of ThinApp packages with Application Sync (AppSync) disabled. The package is deployed by HPCA using a scheduled job.

Streamed Mode with Caching

Supports deployment of ThinApp packages with AppSync enabled. In this mode, the entire ThinApp package is delivered to the managed device. The AppSync utility checks for updates to any ThinApp application on the managed device, when the user accesses a ThinApp application or periodically using the VMware ThinApp sync scheduled job. If an update is found, the update package is delivered to the managed device. This method allows the user to access the application whether they are online or offline.

Streamed Mode No Caching

Supports asynchronous communication between the server and the managed device to provide access to the updated ThinApp application. This method is not currently supported by ThinApp Updater. With this mode, a ThinApp application is not available when the user is offline.

Virtualized Applications

A virtualized application is encapsulated into a package that contains all the files and settings it needs to execute. It is isolated from other applications and its host operating system and hardware. Therefore, when the virtualized application is installed, it does not make any changes to the host PC. In addition other applications on the same PC are completely unaware of it. This ensures host integrity, flexibility, portability, and makes deployment easier and faster.

Abbreviations and Variables

Abbreviations Used in this Guide

Abbreviation	Definition
HPCA	HP Client Automation
Core and Satellite	HPCA Enterprise environment consisting of one Core server and one or more Satellite servers. All features are installed as part of the Core or Satellite server installation.
CSDB	Configuration Server Database
Portal	HPCA Portal

Variables Used in this Guide

Variable	Description	Default Values
InstallDir	Location where the HPCA server is installed	For a 32-bit OS: `C:\Program Files\Hewlett-Packard\HPCA` For a 64-bit OS: `C:\Program Files(x86)\Hewlett-Packard\HPCA`
SystemDrive	Drive label for the drive where the HPCA server is installed	C:

Using VMware ThinApp Applications

This chapter describes how an administrator can publish, deploy, and upgrade a VMware ThinApp Application package in HPCA environment.

Requirements

This section briefly describes what components you will need in order to use the HP Client Automation ThinApp Updater. These requirements are comprised of software that you need to license directly from VMware, and components of the HP Client Automation product suite.

HP Client Automation

- **HPCA Core Server**
  You need the HPCA Core server installed on a clean machine.
- **HPCA Administrator**
  You need the HPCA Administrator installed on the machine where you will be publishing applications.

VMware

You need to obtain and license VMware ThinApp software directly from VMware. Go to the VMware web site to get more information: http://www.VMware.com/. The ThinApp software contains two important components that you will use:

- **Setup Capture Wizard**
  Setup Capture Wizard allows you to package a VMware ThinApp application.
- **Application Sync**
  Application Sync allows you to automatically deploy updates to ThinApp packages that have been properly tagged as being Application Sync-enabled. When an AppSync-enabled application starts, it queries a Web server to see if a newer version is available. If so, the differences are downloaded and used to create an updated version of the package. This application needs to be distributed to each client that will be managed by the ThinApp Updater service.

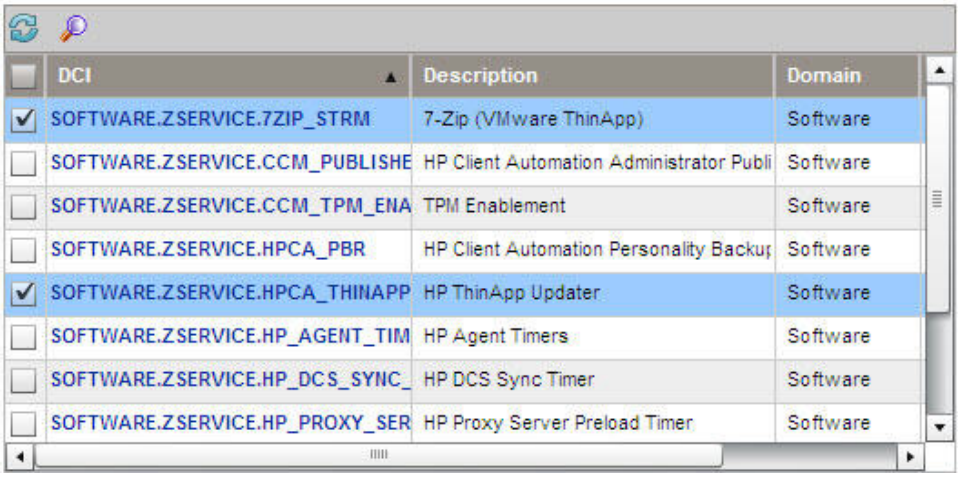
These two components will be discussed further later in this chapter.

Installation

The ThinApp Updater is installed with the HPCA Core server installation (Enterprise). The VMware Setup Capture Wizard and the VMware Application Sync components are not installed with the HPCA Core Server.

You need these VMware components to schedule automatic updates to ThinApp services deployed to an HPCA environment.

The VMware components, specifically the `AppSync.exe` executable, are required on the managed device. We recommend the administrator publish and entitle the VMware `AppSync.exe` component to the managed devices prior to publishing any ThinApp services. The following figure shows the VMware ThinApp application and the ThinApp Updater entitlement in the Policy Management Wizard.



After installation the following features are shown in the Reporting Views:

- ThinApp Services
- Managed ThinApp Services
- ThinApp Update Activity

The Reporting Views will be empty until ThinApp Applications have been deployed (For more details, see "VMware ThinApp Reports" (on page 15)).

Publishing and Deploying VMware ThinApp Applications in HPCA Environment

This section describes how to use the HP Client Automation ThinApp Updater to automatically update VMware ThinApp Applications published to an HPCA environment. It refers you to the appropriate VMware documentation, identifies the VMware applications that you need to obtain and use, and explains the modifications you need to make to the VMware and HPCA processes that you will use.

Complete the following tasks to publish and deploy VMware ThinApp applications:

Task 1: "Packaging an Application with VMware Setup Capture" (on page 10)

Task 2: "Publishing an Application to the HPCA Database" (on page 11)

Task 3: "Entitling Users to Services" (on page 12)

Task 4: "Deploying the ThinApp and the ThinApp Updater Service" (on page 13)

Task 5: "Creating a Job" (on page 13)

Packaging an Application with VMware Setup Capture

The VMware Setup Capture wizard is used to package applications for use in the HP Client Automation environment. To use this wizard, you need to acquire and license the VMware ThinApp technology from VMware. See http://www.VMware.com/products/thinapp/ for the details.

The VMware Setup Capture wizard allows you to package an application. See the VMware ThinApp User's Manual at http://www.VMware.com/support/pubs/thinapp_pubs.html for details on how to use this wizard.

To package an application using the VMware Setup Capture wizard:

1. Open the Setup Capture wizard and follow the instruction in the *VMware ThinApp User's Manual* in the section *Capture an Application with the Setup Capture Wizard*. Briefly, this involves:
   a. Running a prescan of your machine.
   b. Minimizing the Setup Capture Wizard.
   c. Installing the application you want to package using its native installation method.
   d. Maximizing and continuing with the postscan of the Setup Capture wizard.
2. When you get to the **Select user-accessible entry points** screen, clear all check boxes in the list, except for the program executable file, which is usually the first item in the list.
   On this screen, note the inventory name. You will need this information when you publish this package to the HP Client Automation Configuration Server Database (CSDB).
3. When you get to the **Project location** screen, select the **Build MSI package** check box.
4. If this is the updated package, make sure that when you get to the **To configure advanced features** screen, you click **Browse Project**, to edit the `MSIProductVersion` in the `package.ini` file, as described in the *VMware ThinApp User's Manual* section on "Application Sync."
5. In the `package.ini` file, scroll to the `AppSync Parameters` section.
6. You can choose how the ThinApp updates will be delivered as long as your choices are consistent in the packaging and publishing steps. (For information on the two available Deployment Methods, see " Terminology" (on page 7) .)

Deployment Method	Action
Normal Mode	No action; leave AppSyncURL commented out
Streamed with Caching	Uncomment the first line (AppSyncUrl)

7. Uncomment the second line, and change the value of the `AppSyncUpdateFrequency`= to `365d`.
8. Finish building the package according to instruction in the *VMware ThinApp User's Manual*.

Publishing an Application to the HPCA Database

The HPCA Administrator Publisher (Publisher) recognizes the existence of a VMware ThinApp Isolated Application packaged inside an `.msi`. If detected, Advanced Publishing Mode is disabled and the associated service is marked as containing a VMware ThinApp. The administrator will be asked if he wants to enable auto-updates of the ThinApp by using VMware's Application Sync facility. If selected, this option is also indicated inside the associated service for future processing.

Now that you have a packaged application, use the HPCA Administrator Publisher (Publisher) to publish the application to the HP Client Automation Configuration Server Database (CSDB). For instructions on how to do this, see the *Publishing* chapter of the *HP Client Automation Core and Satellite Enterprise Edition User Guide*.

To publish the package to the CSDB:

1. Open the Publisher and use the Windows Installer publishing option.
2. In the Select Windows Installer file to publish, navigate to the `InventoryName.msi` that you packaged in the Step 2 under "Packaging an Application with VMware Setup Capture" (on page 10). This is located in `C:\Program Files\VMware\VWware ThinApp\Captures\`*`inventory name`*`\bin`, where *inventory name* is the Inventory name you entered in Step 2 under "Packaging an Application with VMware Setup Capture" (on page 10).
   As soon as you select the `.msi` file, the Publisher recognized that it contains an embedded ThinApp, and Basic is the only publishing mode available.
3. Click **Next**. A message box opens asking "Do you want to enable auto-update via AppSync for this application?"
4. Choose your response according the Deployment Method you want to use. (See " Terminology" (on page 7).)

Deployment Method	AppSync Enabled
Normal Mode	No
Streamed with Caching	Yes

5. The Edit window opens. Changes are usually not required on this screen. *Note: The Verify and Notify methods are intentionally blank*.
6. Continue with the remaining publishing steps as described in the *HP Client Automation Administrator Installation and User Guide*.

Note: Only domains that contain an Application (ZSERVICE) class which has a BASE INSTANCE APPTYPE attribute will be listed as possible domains. By default, the only domain that has a BASE INSTANCE APPTYPE attribute is the SOFTWARE domain. If you have used advanced features to create additional domains, they may require modification. (Custom domains created by copying the 7.8 SOFTWARE domain will have the BASE INSTANCE APPTYPE attribute).

7. After publishing ThinApp Applications, you should run `discover-thinapps.tcl` on the Core server.
   a. Open command prompt on the Core Server.
   b. Type `CD install directory \Hewlett-Packard\HPCA\ThinApp`
   c. Run `nvdkit.exe discover-thinapps.tcl -?` to get option details.
      Note: The `-service` option will allow you to keep from crawling the entire database when you know your services are in a limited domain.
   d. Run `discover-thinapps.tcl` with your selected options.

Entitling Users to Services

You need to use entitlement policy of HPCA to give users permissions to install the ThinApp Applications you have published and to utilize the ThinApp Updater (`HPCA_THINAPP`) service to update those packages. For details on how to do this, see the *Implementing Entitlement Policy* chapter of the *HP Client Automation Application Manager and Application Self-Service Manager Installation and Configuration Guide*.

Perhaps the most important feature of the ThinApp Updater service is that you do not need to entitle the users to the updated package when you publish it. If they are entitled to the original package, they will be automatically entitled to the updated package.

Make sure to perform the following two tasks.

1. Entitle the user to the ThinApp package you just published to the CSDB.
2. Entitle the user machines to the HPCA_THINAPP service.

Note: If you have not already done so, entitle users to the ThinApp Updater service. The following figure shows that the ThinApp Updater must have higher priority than ThinApp Applications deployed at the same time. Otherwise, the ThinApp Updater will not be available to use.

Policy Type	Domain	Class	Instance	Description	Policy Configuration	Priority
Policy	Software	Service	HPCA_THINAPP	HP ThinApp Updater	Allow	High
Policy	Software	Service	7ZIP_STRM	7-Zip (VMware ThinApp)	Allow	Low

Deploying the ThinApp and the ThinApp Updater Service

Note: You *must* deploy the VMware Application Sync application to each client that will be managed by the ThinApp Updater service before deploying a ThinApp to that client. For complete instructions, see the *Deploying Services* chapter of the *HP Client Automation Application Manager and Application Self-Service Manager Installation and Configuration Guide*.

1. Deploy `AppSync.exe` to the managed device.
2. Deploy ThinApp Updater service (`HPCA_THINAPP`) to the managed device. Once you have deployed the service, you can begin deploying ThinApp application packages.
3. Deploy the original published ThinApp service to the managed device.

Note: The original ThinApp package for an application must be deployed to each managed device entitled to that application before update packages are deployed to the device. If the original ThinApp has not been deployed and the managed device entitled to it, the update package will not recognize the device as entitled to the update.

Creating a Job

Create a job using the VMware ThinApp Sync job action template. This instructs the managed device to check with the Core/Satellite server to see if there are any updates to the ThinApp services it is entitled to.

Update ThinApp Application

To update a ThinApp application:

1. Package ThinApp application using the VMware Setup Capture Wizard.
   - Be sure that the product name of the update package is identical to the currently deployed package.

- Be sure to increment the MSIProductVersion in the `package.ini` file appropriately (For more information, see "Packaging an Application with VMware Setup Capture" (on page 10)).

2. Publish the ThinApp package to the HPCA CSDB.
   - Republish using a new package and service name.
3. Run `discover-thinapps.tcl` to process any `.msi`'s that have been published to the CSDB containing ThinApp Applications.
4. Create a Notify job using the VMware ThinApp Sync template to deploy the update immediately. Alternatively, create a DTM job using the VMware ThinApp Sync template to periodically deploy the updates (For more information, see " Creating a Notify Job" (on page 14)).

Using the HPCA Console to Manage ThinApp Applications

This section describes how to use the HPCA Core and Satellite console and the ThinApp Updater to manage VMware ThinApp Applications that have been packaged, published to the HPCA Configuration Server Database (CSDB), and deployed to clients.

This section discusses the following topics:

- "Application Sync" (`AppSync.exe`)
- " Creating a Notify Job" (on page 14)

Application Sync

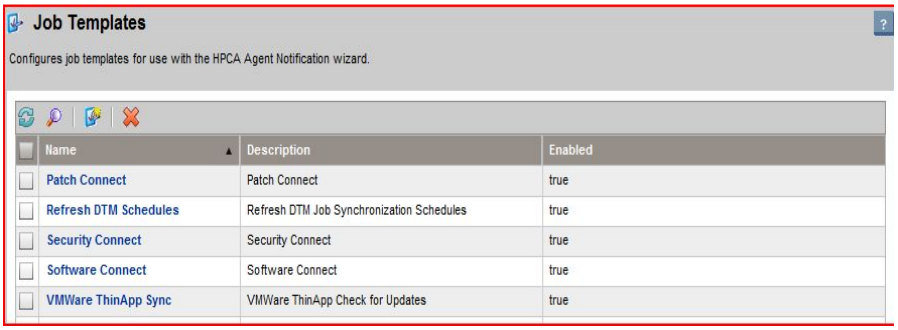
The Application Sync utility (`AppSync.exe`) is provided with the VMware ThinApp. It is used to automatically update deployed applications. The ThinApp Updater uses Application Sync to update packed applications that have been deployed to clients with updated versions of the same applications that have been packaged, published, and deployed to a predetermined URL.

Creating a Notify Job

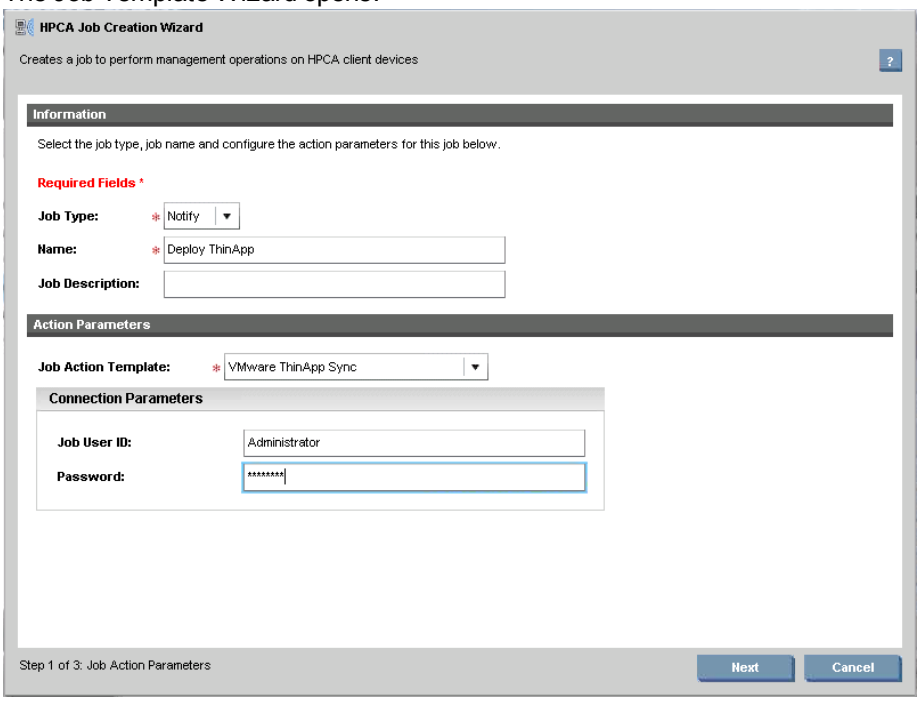
You now need to create a Notify job that instructs the client to update the application. For complete instructions on how to do this, see the *Managing the Enterprise* chapter of the *HP Client Automation Core and Satellite Enterprise Edition User Guide*.

To create a Notify job for VMware ThinApp Sync:

1. In the HPCA Core and Satellite console, go to **Management** tab > **Devices**.
2. Follow the instructions in the *HPCA Core and Satellite Enterprise User Guide*, or the online help to create a new job. Select the VMware ThinApp Sync Job Template shown here:



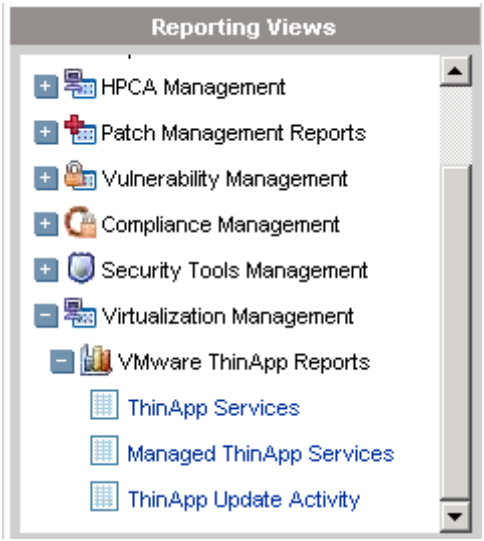
3. The Job Template Wizard opens:



4. From the Job Type drop-down list, select **Notify**.
5. In the Name text box type any name of your choice, for example, `Deploy ThinApp`.
6. From the Job Action Template drop-down list, select **VMware ThinApp Sync**.
7. In the Connection Parameters area, enter the machine ID and password for the Job User ID and Password, respectively.
8. Complete Steps 2 and 3 of the Job Creation Wizard.

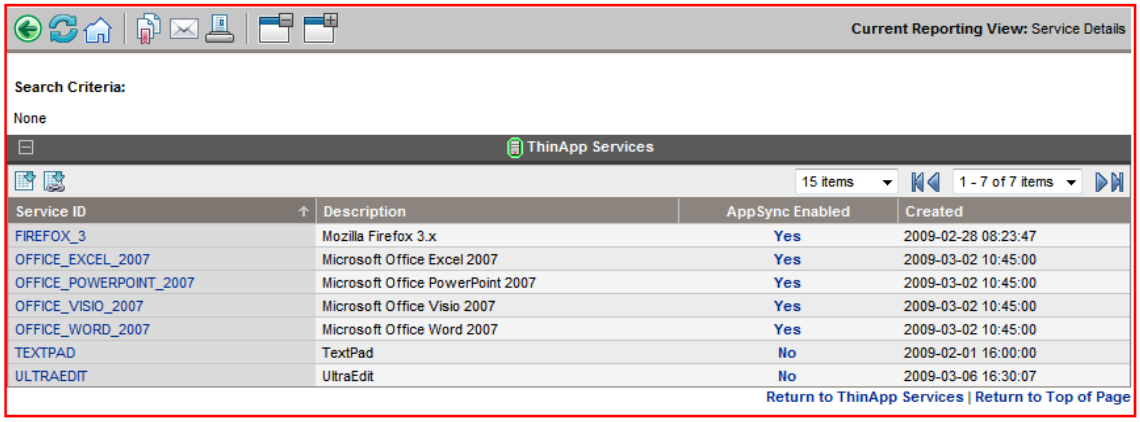
VMware ThinApp Reports

To view the available VMware ThinApp Reports, use the Virtualization Management category under the Reporting tab of the HPCA Core console.



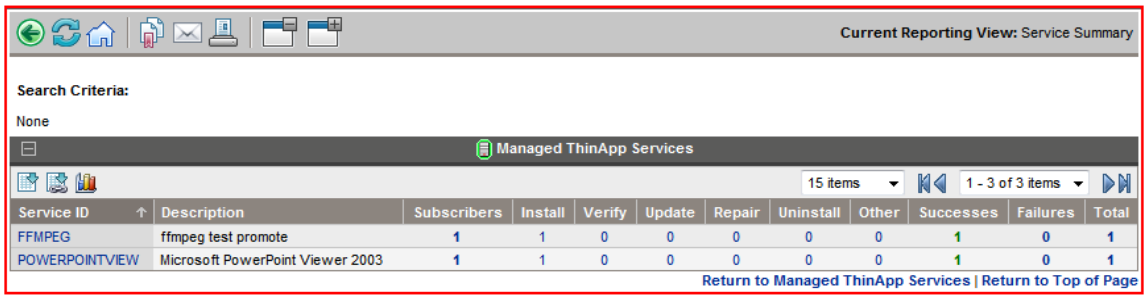
ThinApp Services

The ThinApp Services area lists all the VMware ThinApp Applications that have been published to the HP Client Automation Configuration Server Database (CSDB). It also shows which services have been AppSync enabled. When these services are deployed to a client, they will be automatically updated according to the notify schedule.



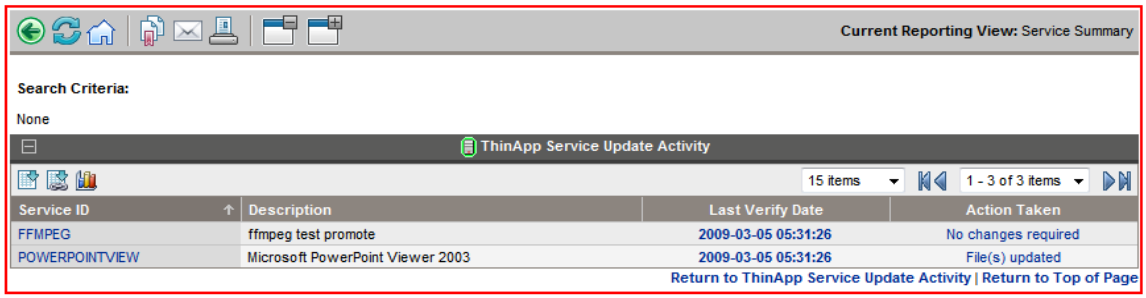
Managed ThinApp Services

The Managed ThinApp Services area lists all the VMware ThinApp Applications that have been deployed to clients.



ThinApp Update Activity

The ThinApp Update Activity reports the ThinApp Applications that have had updates applied by the ThinApp Updater service.



Troubleshooting ThinApp Packaging and Publishing

Most problems encountered with the ThinApp Updater are caused by inconsistencies between the package deployment mode and settings in the `package.ini` file.

Deployment Issues

ThinApp Updates Deployment Method	AppSync-Enabled (Publishing an Application to the HPCA Database", step 4)	Package.ini (" Packaging an Application with VMware Setup Capture", step 7)
Normal Mode	No	AppSyncURL should be commented out
Streamed Mode with Caching	Yes	AppSyncURL should be uncommented
Streamed Mode no Caching	Not available	

General Issues

Condition	Possible Cause	Recommended Action
The following message exists in the `Appsync.log` on the agent: `Error: AppSync.exe not found at C:\PROG~1\HEWLET~1\ HPCA\Agent`. Exiting...	`AppSync.exe` does not exist on agent system. The ThinApp Updater script (`updatethinapp.tcl`) that executes on agent systems requires that the VMware AppSync executable (`AppSync.exe`) exists in the IDMSYS (Agent) directory on the agent	Because of licensing restrictions this executable is not included with the ThinApp Updater (`HPCA_THINAPP`) service. Users must get this from VMware as part of VMware ThinApp and distribute this to the agent systems using a method of their choice (subject to VMware licensing restrictions).
The expected ThinApp does not exist in *<InstallDir>*`\Media\virtual\thinapp\`*<Product>* on the CORE server	The `discover-thinapps.tcl` was not executed after publishing a ThinApp MSI	After publishing VMware ThinApp MSI packages to the CSDB using the HPCA Administrative Publisher the user must run the `discover-thinapps.tcl` script in the *<InstallDir>*`\ThinApp` directory. Executing the `discover-thinapps.tcl` script will extract the ThinApp MSI's from the CSDB, extract the ThinApp exectuable from the highest version of each Product and place the ThinApp executable in the *<InstallDir>*`\Media\virtual\thinapp\`*<Product>* directory.

Condition	Possible Cause	Recommended Action
After 'VMware ThinApp Sync' job completes succcessfully on an agent system, the ThinApp does not work.	Packaged ThinApp contains more than 1 file	Each ThinApp MSI must contain only 1 executable. This is a limitation in the current version of the AppSync utility.
The correct version of the ThinApp exists at *<InstallDir>*`\Media\ virtual \thinapp\ <Product>` on the CORE server but running a 'VMware ThinApp Sync' job does not update the ThinApp on the agent system. `appsync.log` on agent system states something similar to 'No updates available'	The ThinApp Deployment Method settings are not consistent.	If you uncomment AppSyncURL in `package.ini` when packaging the ThinApp, you must answer **Yes** to the "Enable AppSync?" prompt when publishing the ThinApp. If you leave the AppSyncURL commented out in `package.ini`, you must answer **No** to the the `"Enable AppSync?"` prompt when publishing the ThinApp.
The updated Thin App does not have the appropriate `Product Name`.	Packaged ThinApp does not have appropriate `Product Name`	In order for updated versions of a ThinApp service to supersede a previous version the Inventory Name in the `ThinApp Package.ini` file the name must be the same for each version of the application. This value is set during the VMware ThinApp Setup Capture by specifying the Inventory Name or explicitly modifying the `Package.ini`. Unless it is the same, the user continues to see the old version of the app. The new version is placed in the `media/virtual/thinapp/`*<product name>* directory, but the update utility will not look for it there because it is using the old name to check for updates.
Updated product shows previous version number.	Packaged ThinApp does not have appropriate `Product Version` property	In order for updated versions of a ThinApp to supersede a previous version the `MSIProductVersion` in the `ThinApp Package.ini` file must be increased for each new version of the ThinApp
ThinApp does not appear on agent.	Agent is not entitled to *base* version on the desired ThinApp service	The Agent device must be entitled to the *base* version of the desired ThinApp service and the service must be deployed to the agent system.

Condition	Possible Cause	Recommended Action
ThinApp Services are not discovered	Packaged ThinApp service (`ZSERVICE`) does not have `APPTYPE` attribute of `ThinAppStrm`.	The `discover-thinapps.tcl` script uses the `APPTYPE` attribute on the `ZSERVICE` instances to determine which `ZSERVICE`'s contain AppSync enabled ThinApp Applications. This value is set by the HPCA Administrator Publisher. the user will not see any entries for the ThinApp Services in the reports, none of the AppSync enabled services will be extracted to the `media/virtual/thinapp/<product name>` directories, Streaming of ThinApp services will not work
ThinApp Services are not discovered	Custom domain with `ZSERVICE` does not have `APPTYPE` attribute	Software resides in a custom domain other than SOFTWARE domain that does not have the `APPTYPE` attribute.

Using Microsoft App-V Applications

This chapter describes how an administrator can publish, deploy, and upgrade a Microsoft Application Virtualization (App-V) package in HPCA environment. HPCA supports only standalone App-V `.msi` files.

Requirements

This section briefly describes what components you will need in order to use the App-V applications in HPCA environment. These requirements are comprised of software that you need to license directly from Microsoft, and components of the HP Client Automation product suite.

HP Client Automation

- **HPCA Core Server**
  You need the HPCA Core server installed on a clean machine.

  For HPCA Core server installation information, see *HP Client Automation Enterprise Edition Getting Started and Concepts Guide.*

- **HPCA Administrator**
  You need the HPCA Administrator installed on the machine where you will be publishing applications.

  For HPCA Administrator installation information, see *HP Client Automation Administrator Installation and User Guide.*

Microsoft

You need to obtain and license Microsoft Application Virtualization software directly from Microsoft. Go to the Microsoft web site to get more information: http://www.Microsoft.com/. The Microsoft App-V software contains two important components that you will use:

- **Microsoft Application Virtualization Sequencer (App-V Sequencer)**:
  App-V Sequencer enables you to transform individual applications into virtual applications. These virtual applications are bundled in application packages.

  For more information on how to create application packages using App-V Sequencer, see Microsoft Application Virtualization documentation.

- **Microsoft Application Virtualization Desktop Client (App-V Client)**:
  App-V client sets up and manages virtual environments required for App-V applications to be used on client systems or the users desktops. App-V Client enables you to interact with the App-V applications after they have been deployed to the client computer.

Publishing and Deploying App-V Client

The HPCA administrator is required to publish and deploy the App-V Client first on the managed devices to run App-V applications.

To publish the App-V Client package to the CSDB:

1. Open the HPCA Publisher and select the Windows Installer publishing option.
2. In the Select Windows Installer file to publish, navigate to the `setup.msi` for App-V Client. The **Basic** publishing mode is selected by default.

3. Click **Next**. The Edit window opens.
4. The **Use setup** radio button in the Management Options area is selected by default. Use the default selection.
5. The **Create** text box under the Methods area is populated with the following command:
```
&(ZLIBDRV)&(ZLIBDIR)Setup.exe /S/v/qn /V"/qn SWICACHESIZE=\"12144\"
SWISKIPDATASETTINGS=\"false\" SWIGLOBALDATA=\"C:\AppVirt\Global\"
SWIUSERDATA=\"^%APPDATA^%\" SWIFSDRIVE=\"Q:\"
REQUIREAUTHORIZATIONIFCACHED=\"0\" ALLOWINDEPENDENTSTREAMING=\"1\"
AUTOLOADONLAUNCH=\"0\" AUTOLOADONLOGIN=\"0\""
```
   Note: You can customize the parameters values as per your requirement.
6. Click **Additional Files** link. The Publisher automatically selects the two additional files, `setup.exe` and `Support\Watson\dw20shared.msi` that are required for the package to install.
7. Click **Next**. The Package Information section appears. Type the Name and Display Name of the package. Use the Limit package to systems with section to limit the package to any specific operating system or hardware.
8. Click **Next**. The Service Information window opens.
9. Type the Name of the service in this window.
10. Click **Next** to go to the Publish window.
11. Click **Publish** to publish it into the CSDB.

After you published the App-V Client package as service in the Configuration Server Database, entitle the service to the users as you would do for normal application. For details on how to do this, see the *Connecting Services to Groups* section of the *HP Client Automation Administrator Installation and User Guide*.

Publishing and Deploying App-V Applications in HPCA Environment

Complete the following tasks to publish and deploy App-V applications or packages to an HPCA environment:

Task 1: Packaging an Application with App-V Sequencer

Task 2: Publishing the App-V Application Package to the HPCA Database

Task 3: Entitling Users to the Published App-V Application Service

Packaging an Application with App-V Sequencer

Package the applications that you want to publish into the Configuration Server Database using App-V Sequencer. The output package must be an MSI and related files. For more information on how to package the applications, see Microsoft Virtualization Application documentation.

Publishing an Application to the HPCA Database

Now that you have a packaged application, use the HPCA Administrator Publisher (Publisher) to publish the application to the HP Client Automation Configuration Server Database (CSDB).

To publish the package to the CSDB:

1. Open the Publisher and use the Windows Installer publishing option.
2. In the Select Windows Installer file to publish, navigate to the `.msi` file that you created in the Packaging an Application with App-V Sequencer section.
   On selecting the `.msi` file, the Publisher recognizes that it contains an embedded App-V Application, and Basic option is the only publishing mode available.
3. Click **Next**. The Edit window opens.
4. Click **Additional Files** link to apply all available additional files.
5. Click **Next**. The Package Information section appears. Type the Name and Display Name of the package. Use the **Limit package to systems with** section to limit the package to any specific operating system or hardware.
6. Click **Next**. The Service Information window opens.
7. Type the Name of the service in this window.
8. Click **Next** to go to the Publish window.
9. Click **Publish** to create the content bundle and publish it into the CSDB.
   In addition, you can also select the **Only Content Bundle** checkbox, and click **Bundle** to create the content bundle. The content bundle is created at `DataDir\Publisher\content\bundles\appv` location by default. You can copy the content bundle from the specified location to the HPCA Core Server.

   Here, `DataDir` is the user-configurable data directory specified during the HPCA Core installation.

   For more details on publishing, see the *Publishing* chapter of the *HP Client Automation Core and Satellite Enterprise Edition User Guide*.

Note: Only domains that contain an Application (ZSERVICE) class which has a BASE INSTANCE APPTYPE attribute will be listed as possible domains. By default, the only domain that has a BASE INSTANCE APPTYPE attribute is the SOFTWARE domain. If you have used advanced features to create additional domains, they may require modification. (Custom domains created by copying the 7.8 SOFTWARE domain will have the BASE INSTANCE APPTYPE attribute.)

Entitling Users to the Published App-V Application Service

After publishing the App-V Application package, use entitlement policy of HPCA to give users permissions to install the App-V Application. For details on how to entitle services to users and groups, see the *Connecting Services to Groups* section of the *HP Client Automation Administrator Installation and User Guide*.

Upgrading App-V Applications in HPCA Environment

To upgrade the existing deployed App-V application, complete the following steps:

1. Package App-V application using the App-V Sequencer.
   - In stand-alone mode: Standalone Mode replaces the existing application with same or higher version of the application.

- In side-by-side installation mode: Side-by-side Installation enables you to have multiple versions of an application on the client system.

The upgrade mode you select depends on the method how the new App-V application has been packaged using App-V Sequencer and how the HPCA administrator wants to implement the upgrade.

2. Publish the App-V package to the HPCA CSDB.

Microsoft App-V Reports

To view the available Microsoft App-V Reports, use the Virtualization Management category under the Reporting tab of the HPCA Core console.

Published App-V Services

This report lists all the Microsoft App-V applications that have been published to the HPCA CSDB. You can also view when these applications were published.

Managed App-V Services

This report gives detailed information on the Microsoft App-V applications that have been deployed to clients. You can view the count of subscribers, total number of the operations performed, and status. You can also view number of times the application was installed, uninstalled, verified, updated, or repaired.

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