

Administrator's Guide for Microsoft Application Virtualization (App-V) 5.0

MDOP Information Experience Team

Guide

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Summary: Microsoft Application Virtualization (App-V) 5.0 helps businesses provide their end users with access to virtually any application, anywhere without installing applications directly on their computers.

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Getting Started With App-V 5.0

App-V 5.0 requires thorough planning before you deploy it or use its features. If you plan your deployment carefully and manage it so that it meets your business needs.

If you are new to this product, we recommend that you read the documentation thoroughly. Before you deploy it to a production environment, we also recommend that you validate your deployment plan in a test network environment. You might also consider taking a class about relevant technologies. For more information about Microsoft training opportunities, see the Microsoft Training Overview at <http://go.microsoft.com/fwlink/p/?LinkId=80347>.

Note

You can download this administrator's guide at <http://go.microsoft.com/fwlink/?LinkId=269810> (<http://go.microsoft.com/fwlink/?LinkId=269810>).

This section of the App-V 5.0 Administrator's Guide includes high-level information about App-V 5.0 to provide you with a basic understanding of the product before you begin the deployment planning.

- [About App-V 5.0](#)
Provides a high-level overview of App-V 5.0 and how it can be used in your organization.
- [Evaluating App-V 5.0](#)
Provides information about how you can best evaluate App-V 5.0 for use in your organization.
- [High Level Architecture for App-V 5.0](#)
Provides a description of the App-V 5.0 features and how they work together.
- [Accessibility for App-V 5.0](#)
Provides information about features and services that make this product and its corresponding documentation more accessible for people with disabilities.

About App-V 5.0

What's new?

The following list displays what is new with App-V 5.0:

- **IT Diagnostics and Monitoring** - App-V 5.0 enhances the ability to generate reporting information about computers running the App-V 5.0 client and virtualized packages.
- **End-to-End Programmability** - Leveraging PowerShell 3.0, App-V 5.0 offers a complete programmability solution for packaging, client and server operations.
- **Simple and Effective Client Console** - App-V 5.0 offers a modern client console designed to simplify the top end user and Tier 1 support engineer scenarios.

Use the following link to view updated product information and known issues for [App-V 5.0](#).

What's New in App-V 5.0

This section is for users who are already familiar with App-V and want to know what has changed in App-V 5.0. If you are not already familiar with App-V, you should start by reading [Planning for App-V 5.0](#).

Changes in Standard Functionality

The following sections contain information about the changes in standard functionality for App-V 5.0.

Changes to Supported Operating Systems

For more information, see [App-V 5.0 Supported Configurations](#).

Changes to the sequencer

The following sections contain information about the changes in the App-V 5.0 sequencer.

Specific change to the sequencer

The following table displays information about what has changed with the App-V 5.0 sequencer

Sequencer Feature	App-V 5.0 Sequencer Functionality
Reboot processing	When an application prompts for a restart, you should allow the application to restart the computer running the sequencer. The computer running the sequencer will restart and the sequencer will resume in monitoring mode.
Specifying the virtual application directory	Virtual Application Directory is a mandatory parameter. For best results, it should match the installation directory of the application installer. This results in more optimal performance and application compatibility.
Editing shortcuts/FTAs	The Shortcuts/FTA page is on the Advanced editing page after the sequencing wizard has completed.
Change History Tab	The Change History tab has been removed for App-V 5.0.
OSD Tab	The OSD tab has been removed for App-V 5.0.
Virtual Services Tab	The virtual services tab has been removed for

Sequencer Feature	App-V 5.0 Sequencer Functionality
	App-V 5.0.
Files/Virtual File System Tab	These tabs are combined and allow you to modify package files.
Deployment Tab	There are no longer options to configure the server URL in the packages. You should configure this now using deployment configuration, or the management server.
Package Converter Tool	You can now use PowerShell to convert packages created in previous versions.
Add-on/Middleware	You can expand parent packages when you are sequencing an Add-On or Middleware application. Add-ons and Middleware packages must be connected using connection groups in App-V 5.0.
Files output	The following files are created with App-V 5.0, Windows Installer (.msi), .appv, deployment configuration, user configuration, and the Report.XML.
Compression/Security descriptors/MSI packages	Compression and the creation of a Windows Installer (.msi) file are automatic for all packages and you can no longer override security descriptors.
Tools / Options	The Diagnostics window has been removed as well as several other settings.
Installation Drive	An installation drive is no longer required when you install an application.
OOS Streaming	If no stream optimization is performed, packages are stream faulted when they are requested by computers running the App-V 5.0 client until they can launch.

Sequencing error detection

The App-V 5.0 sequencer can detect common sequencing issues during sequencing. The **Installation Report** page at the end of the sequencing wizard displays diagnostic messages categorized into **Errors**, **Warnings**, and **Info** depending on the severity of the issue.

To display more detailed information about an event, double-click the item you want to review in the report. The sequencing issues, as well as suggestions about how to resolve the issues are displayed. Information from the system preparation report and the installation report are summarized when you have finished creating a package. The following list displays the types of issues available in the report:

- Excluded files.
- Driver information.
- COM+ system differences.
- Side-by-side (SxS) conflicts.
- Shell Extensions.
- Information about unsupported services.
- DCOM.

Connection Groups

The App-V feature formerly known as **Dynamic Suite Composition** is now referred to as **Connection Groups** in App-V 5.0. For more information about using Connection Groups see [Managing Connection Groups](#).

Release Notes for App-V 5.0

Read the following release notes thoroughly before you install App-V 5.0:

<http://go.microsoft.com/fwlink/?LinkId=263602>

Evaluating App-V 5.0

Before you deploy Microsoft Application Virtualization (App-V) 5.0 into a production environment, you should evaluate it in a lab environment. You can use the information in this topic to set up App-V 5.0 in a lab environment for evaluation purposes only.

Configure lab computers for App-V 5.0 Evaluation

Use the following link for information about setting up the App-V 5.0 sequencer on a computer in your lab environment.

Installing the App-V 5.0 Sequencer and Creating Packages

Use the following links for information about setting up the App-V 5.0 sequencer and creating packages in your lab environment.

- [How to Install the Sequencer](#)
- [Creating and Managing App-V 5.0 Virtualized Applications](#)

Configuring the App-V 5.0 Server

Use the following links for information about setting up the App-V 5.0 server in your lab environment.

- [How to Deploy the App-V 5.0 Server](#)
- [Administering App-V 5.0 Virtual Applications](#)

Installing the App-V 5.0 Client

Use the following link for more information about creating and managing virtualized packages in your lab environment.

- [How to Deploy the Client](#)
- [How to Configure the Client to Receive Package and Connection Groups Updates From the Publishing Server](#)

High Level Architecture for App-V 5.0

Use the following information to help you simplify your Microsoft Application Virtualization (App-V) 5.0 deployment.

Architecture Overview

A typical App-V 5.0 implementation consists of the following elements.

Element	More information
App-V 5.0 Management Server	<p>The App-V 5.0 Management server provides overall management functionality for the App-V 5.0 infrastructure. Additionally, you can install more than one instance of the management server in your environment which provides the following benefits:</p> <ul style="list-style-type: none">• Fault Tolerance and High Availability – Installing and configuring the App-V 5.0 Management server on two separate computers can help in situations when one of the servers is unavailable or offline. You can also help increase App-V 5.0 availability by installing the Management server on multiple computers. In this scenario, a network load balancer should also be considered so that server requests are balanced.• Scalability – You can add additional management servers as necessary to support a high load, for example you can

Element	More information
	install multiple servers behind a load balancer.
App-V 5.0 Publishing Server	<p>The App-V 5.0 publishing server provides functionality for virtual application hosting and streaming. The publishing server does not require a database connection and supports the following protocols:</p> <ul style="list-style-type: none"> • HTTP, and HTTPS <p>You can also help increase App-V 5.0 availability by installing the Publishing server on multiple computers. A network load balancer should also be considered so that server requests are balanced.</p>
App-V 5.0 Reporting Server	<p>The App-V 5.0 Reporting server enables authorized users to run and view existing App-V 5.0 reports and ad hoc reports that can help them manage the App-V 5.0 infrastructure. The Reporting server requires a connection to the App-V 5.0 reporting database. You can also help increase App-V 5.0 availability by installing the Reporting server on multiple computers. A network load balancer should also be considered so that server requests are balanced.</p>
App-V 5.0 Client	The App-V 5.0 client enables packages created using App-V 5.0 to run on target computers.



Note

If you are using App-V 5.0 with Electronic Software Distribution (ESD) you are not required to use the App-V 5.0 Management server, however you can still utilize the reporting and streaming functionality of App-V 5.0.

Accessibility for App-V 5.0

Microsoft is committed to making its products and services easier for everyone to use. This section provides information about features and services that make this product and its corresponding documentation more accessible for people with disabilities.

Access Any Command with a Few Keystrokes

Important

The information in this section only applies to the App-V 5.0 sequencer. For specific information about the App-V 5.0 server, see the Keyboard Shortcuts for the App-V 5.0 Management Server section of this document.

Access keys let you quickly use a command by pressing a few keys. You can get to most commands by using two keystrokes. To use an access key:

1. Press ALT.

The keyboard shortcuts are displayed over each feature that is available in the current view.

2. Press the letter shown in the keyboard shortcut over the feature that you want to use.

Note

To cancel the action that you are taking and hide the keyboard shortcuts, press ALT.

Keyboard Shortcuts for the App-V 5.0 Management Server

Keyboard Shortcuts for the App-V 5.0 Management Server:

To do this	Press
Rename App-V 5.0 connection groups or the App-V 5.0 publishing server description.	F2
Transfer access and configuration information from an existing App-V 5.0 package.	CTRL + Shift + A
Transfer default configurations from an existing App-V 5.0 package.	CTRL + Shift + C
Refresh the current page of the App-V 5.0 client console.	F5
On the Connections Groups page of the client management console, copies as a new version.	CTRL + Shift + C

Documentation in Alternative Formats

If you have difficulty reading or handling printed materials, you can obtain the documentation for many Microsoft products in more accessible formats. You can view an index of accessible product documentation on the Microsoft Accessibility website. In addition, you can obtain additional Microsoft publications from Learning Ally (formerly Recording for the Blind & Dyslexic, Inc.). Learning Ally distributes these documents to registered, eligible members of their distribution service.

For information about the availability of Microsoft product documentation and books from Microsoft Press, contact:

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Telephone number from within the United States:	(800) 221-4792
Telephone number from outside the United States and Canada:	(609) 452-0606
Fax:	(609) 987-8116
http://www.learningally.org/	Web addresses can change, so you might be unable to connect to the website or sites mentioned here.

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- For customer service, contact Microsoft Sales Information Center at (800) 892-5234 between 6:30 AM and 5:30 PM Pacific Time, Monday through Friday, excluding holidays.
- For technical assistance in the United States, contact Microsoft Product Support Services at (800) 892-5234 between 6:00 AM and 6:00 PM Pacific Time, Monday through Friday, excluding holidays. In Canada, dial (905) 568-9641 between 8:00 AM and 8:00 PM Eastern Time, Monday through Friday, excluding holidays.

Microsoft Support Services are subject to the prices, terms, and conditions in place at the time the service is used.

For More Information

For more information about how accessible technology for computers helps to improve the lives of people with disabilities, see the [Microsoft Accessibility website](#).

Planning for App-V 5.0

The goal of deployment planning is to successfully and efficiently deploy Microsoft Application Virtualization (App-V) 5.0 so that it does not disrupt your users or the network.

There are a number of different deployment configurations and prerequisites that you must consider before you create your deployment plan. This section includes information that can help

you gather the information that you must have to formulate a deployment plan that best meets your business requirements.

Planning information

- [Preparing Your Environment for App-V 5.0](#)

This section describes the computing environment requirements and installation prerequisites that should be planned for before beginning App-V 5.0 setup.

- [Planning to Deploy App-V](#)

This section describes the minimum hardware and software requirements necessary for App-V 5.0 client, sequencer and server feature installations. Additionally, associated feature planning information is also displayed.

- [App-V 5.0 Planning Checklist](#)

Planning checklist that can be used to assist in App-V 5.0 deployment planning.

Preparing Your Environment for App-V 5.0

There are a number of different deployment configurations and prerequisites that you must consider before you create your deployment plan. This section includes information that can help you gather the information that you must have to formulate a deployment plan that best meets your business requirements.”

Planning information

- [App-V 5.0 Prerequisites](#)

Provides information about configuring your environment for running the App-V 5.0 client, Remote Desktop Services client, sequencer, and server

App-V 5.0 Prerequisites

Before you begin the Microsoft Application Virtualization (App-V) 5.0 Setup, you should make sure that you have met the prerequisites to install the product. This topic contains information to help you successfully plan for preparing your computing environment before you deploy the App-V 5.0 features.

For computers that run Windows 8 or Windows Server 2012, the following prerequisites are already installed:

- Microsoft Windows .NET Framework 4.5. This eliminates the Microsoft Windows .NET Framework 4 requirement.
- Windows PowerShell 3.0
- Update for Windows KB2533623

Installation prerequisites for App-V 5.0



Note

The following prerequisites are already installed for computers that run Windows 8.

Each of the App-V 5.0 features have specific prerequisites that must be met before the App-V 5.0 features can be successfully installed.

Prerequisites for the App-V 5.0 client

The following table lists the installation prerequisites for the App-V 5.0 client:

Prerequisite	Details
Software requirements	<ul style="list-style-type: none"> • Microsoft Windows .NET Framework 4 (Full Package) (http://go.microsoft.com/fwlink/?LinkId=272940) • Windows PowerShell 3.0 (http://www.microsoft.com/en-us/download/details.aspx?id=29939) <p> Note Installing PowerShell 3.0 requires a restart.</p> <ul style="list-style-type: none"> • Download and install KB2533623 (http://go.microsoft.com/fwlink/?LinkId=272935) • The client installer will detect if it is necessary to install the following prerequisites, and it will do so accordingly: <ul style="list-style-type: none"> • The Microsoft Visual C++ 2010 Redistributable (http://go.microsoft.com/fwlink/?LinkId=268896) • The Microsoft Visual C++ 2005 SP1 Redistributable

Prerequisites for the App-V 5.0 Remote Desktop Services client

 **Note**

The following prerequisites are already installed for computers that run Windows Server 2012.

The following table lists the installation prerequisites for the App-V 5.0 Remote Desktop Services client:

Prerequisite	Details
Software requirements	<ul style="list-style-type: none"> • Microsoft Windows .NET Framework 4 (Full Package) (http://go.microsoft.com/fwlink/?LinkId=272940)

Prerequisite	Details
	<ul style="list-style-type: none"> • Windows PowerShell 3.0 (http://www.microsoft.com/en-us/download/details.aspx?id=29939) <p> Note Installing PowerShell 3.0 requires a restart.</p> <ul style="list-style-type: none"> • Download and install KB2533623 (http://go.microsoft.com/fwlink/?LinkId=272935) • The client installer will detect if it is necessary to install the following prerequisites, and it will do so accordingly: <ul style="list-style-type: none"> • The Microsoft Visual C++ 2010 Redistributable (http://go.microsoft.com/fwlink/?LinkId=268896) • The Microsoft Visual C++ 2005 SP1 Redistributable

Prerequisites for the App-V 5.0 Sequencer

 **Note**

The following prerequisites are already installed for computers that run Windows 8 and Windows Server 2012.

The following table lists the installation prerequisites for the App-V 5.0 Sequencer. If possible, the computer that runs the Sequencer should have the same hardware and software configurations as the computers that will run the virtual applications.

 **Note**

If the system requirements of a locally installed application exceed the requirements of the Sequencer, you must meet the requirements of that application. Additionally, because the sequencing process is system resource-intensive, we recommend that the computer that runs the Sequencer has plenty of memory, a fast processor, and a fast hard drive. For more information see [App-V 5.0 Supported Configurations](#).

Prerequisite	Details
Software requirements	<ul style="list-style-type: none"> • Microsoft Windows .NET Framework 4 (Full Package) (http://go.microsoft.com/fwlink/?LinkId=272940)

Prerequisite	Details
	<ul style="list-style-type: none"> • Windows PowerShell 3.0 (http://www.microsoft.com/en-us/download/details.aspx?id=29939) • Download and install KB2533623 (http://go.microsoft.com/fwlink/?LinkId=272935)

Prerequisites for the App-V 5.0 server

Note

The following prerequisites are already installed for computers that run Windows Server 2012:

- Microsoft Windows .NET Framework 4.5. This eliminates the Microsoft Windows .NET Framework 4 requirement.
- Windows PowerShell 3.0
- Update for Windows KB2533623

The following table lists the installation prerequisites for the App-V 5.0 server. The account that you use to install the server components must have administrative rights on the computer that you are installing on. This account must also have the ability to query Active Directory Directory Services. Before you install and configure the App-V 5.0 servers, you must specify a port where each component will be hosted. You must also add the associated firewall rules to allow incoming requests to the specified ports.

Note

Web Distributed Authoring and Versioning (WebDAV) is automatically disabled for the Management Service.

The App-V 5.0 server is supported for a standalone deployment, where all the components are deployed on the same server, and a distributed deployment. Depending on the topology that you use to deploy the App-V 5.0 server, the data that you will need for each component will slightly change.

Important

The installation of the App-V 5.0 server on a computer that runs any previous version or component of App-V is not supported. Additionally, the installation of the server components on a computer that runs Server Core or a Domain Controller is also not supported.

Prerequisite	Details
Management Server	<ul style="list-style-type: none"> • Microsoft Windows .NET Framework 4 (Full Package) (http://go.microsoft.com/fwlink/?LinkId=272935)

Prerequisite	Details
	<p>940)</p> <ul style="list-style-type: none"> • Windows PowerShell 3.0 (http://www.microsoft.com/en-us/download/details.aspx?id=29939) <p> Note Installing PowerShell 3.0 requires a restart.</p> <ul style="list-style-type: none"> • Windows Web Server with the IIS role enabled and the following features: Common HTTP Features (static content and default document), Application Development (ASP.NET, .NET Extensibility, ISAPI Extensions and ISAPI Filters), Security (Windows Authentication, Request Filtering), Management Tools (IIS Management Console). • Download and install KB2533623 (http://go.microsoft.com/fwlink/?LinkId=272935) • Microsoft Visual C++ 2010 SP1 Redistributable Package (x64) (http://go.microsoft.com/fwlink/?LinkId=272937) • Microsoft Visual C++ 2010 SP1 Redistributable Package (x86) (http://go.microsoft.com/fwlink/?LinkId=272938) • 64-bit ASP.NET registration <p>The App-V 5.0 server components are dependent but they have varying requirements and installation options that must be deployed. Use the following information to prepare your environment to run the App-V 5.0 management server.</p> <ul style="list-style-type: none"> • Installation location - by default this component will be installed to: %PROGRAMFILES%\Microsoft Application Virtualization Server. • Location of the App-V 5.0 management database - SQL Server Name, SQL Instance Name, Database Name.

Prerequisite	Details
	<ul style="list-style-type: none"> • Access rights for the App-V 5.0 management console - This is the user or the group that should be granted access to the management console at the end of the deployment. After the deployment, only these users will have access to the management console until additional administrators are added through the management console. <p> Note Security groups and single users are not supported. You must specify an AD DS group.</p> <ul style="list-style-type: none"> • App-V 5.0 management service website name – specify a name for the website or use the default name. • App-V 5.0 management service port binding - this should be a unique port number that is not used by another website on the computer. • Support for Microsoft Silverlight– Microsoft Silverlight must be installed before the management console is available. While this is not a requirement for the deployment, the server must be able to support Microsoft Silverlight.
<p>Management Database</p>	<p> Note The database is required only when using the App-V 5.0 management server.</p> <ul style="list-style-type: none"> • Microsoft Windows .NET Framework 4 (Full Package) (http://go.microsoft.com/fwlink/?LinkId=272940) • Microsoft Visual C++ 2010 SP1 Redistributable Package (x86) (http://go.microsoft.com/fwlink/?LinkId=267110) <p>The App-V 5.0 server components are dependent but they have varying requirements</p>

Prerequisite	Details
	<p>and installation options that must be deployed. Use the following information to prepare your environment to run the App-V 5.0 management database.</p> <ul style="list-style-type: none"> • Installation location - by default this component will be installed to %PROGRAMFILES%\Microsoft Application Virtualization Server. • Custom SQL Server instance name (if applicable) – the format should be INSTANCENAME, because the installation assumes that it is on the local machine. If you specify the name with the following format, SVR\INSTANCE will fail. • Custom App-V 5.0 database name (if applicable) – you must specify a unique database name. The default value for the management database is AppVManagement. • App-V 5.0 management server location – specifies the machine account on which the management server is deployed. This should be specified in the following format Domain\MachineAccount. • App-V 5.0 management server installation administrator - specifies the account that will be used to install the App-V 5.0 management server. You should use the following format: Domain\AdministratorLoginName.
<p>Reporting Server</p>	<ul style="list-style-type: none"> • Microsoft Windows .NET Framework 4 (Full Package) (http://www.microsoft.com/en-us/download/details.aspx?id=17718) • Microsoft Visual C++ 2010 SP1 Redistributable Package (x86) (http://go.microsoft.com/fwlink/?LinkId=267110) • Windows Web Server with the IIS role with the following features: Common HTTP Features (static content and default document), Application Development (ASP.NET, .NET Extensibility, ISAPI

Prerequisite	Details
	<p>Extensions and ISAPI Filters), Security (Windows Authentication, Request Filtering), Security (Windows Authentication, Request Filtering), Management Tools (IIS Management Console)</p> <ul style="list-style-type: none"> • 64-bit ASP.NET registration • Installation location - by default this component is installed to %PROGRAMFILES%\Microsoft Application Virtualization Server. • App-V 5.0 reporting service website name – specifies the name of the website or the default name that will be used. • App-V 5.0 reporting service port binding - This should be a unique port number that is not already used by another website that runs on the computer.
<p>Reporting Database</p>	<p> Note</p> <p>The database is required only when using the App-V 5.0 reporting server.</p> <ul style="list-style-type: none"> • Microsoft Windows .NET Framework 4 (Full Package) (http://www.microsoft.com/en-us/download/details.aspx?id=17718) • Microsoft Visual C++ 2010 SP1 Redistributable Package (x86) (http://go.microsoft.com/fwlink/?LinkId=267110) <p>The App-V 5.0 server components are dependent but they have varying requirements and installation options that must be deployed. Use the following information to prepare your environment to run the App-V 5.0 reporting database.</p> <ul style="list-style-type: none"> • Installation location - by default this component will be installed to %PROGRAMFILES%\Microsoft Application Virtualization Server. • Custom SQL Server instance name (if applicable) – the format should be

Prerequisite	Details
	<p>INSTANCENAME, because the installation assumes that it is on the local machine. If you specify the name with the following format, SVRINSTANCE will fail.</p> <ul style="list-style-type: none"> • Custom App-V 5.0 database name (if applicable) – you must specify a unique database name. The default value for the reporting database is AppVReporting. • App-V 5.0 reporting server location – specifies the machine account on which the reporting server is deployed. This should be specified in the following format DomainMachineAccount. • App-V 5.0 reporting server installation administrator - specifies the account that will be used to install the App-V 5.0 reporting server. You should use the following format: Domain\AdministratorLoginName.
<p>Publishing Server</p>	<ul style="list-style-type: none"> • Microsoft Windows .NET Framework 4 (Full Package) (http://www.microsoft.com/en-us/download/details.aspx?id=17718) • Microsoft Visual C++ 2010 SP1 Redistributable Package (x86) (http://go.microsoft.com/fwlink/?LinkId=267110) • Windows Web Server with the IIS role with the following features: Common HTTP Features (static content and default document), Application Development (ASP.NET, .NET Extensibility, ISAPI Extensions and ISAPI Filters), Security (Windows Authentication, Request Filtering), Security (Windows Authentication, Request Filtering), Management Tools (IIS Management Console) • 64-bit ASP.NET registration <p>The App-V 5.0 server components are dependent but they have varying requirements and installation options that must be deployed. Use the following information to prepare your</p>

Prerequisite	Details
	<p>environment to run the App-V 5.0 publishing server.</p> <ul style="list-style-type: none"> • Installation location - by default this component is installed to %PROGRAMFILES%\Microsoft Application Virtualization Server. • App-V 5.0 management service URL – specifies the URL of the App-V 5.0 management service. This is the port that the publishing server communicates with, and it should be specified using the following format: http://localhost:12345. • App-V 5.0 publishing service website name – specifies the name of the website or the default name that will be used. • App-V 5.0 publishing service port binding - This should be a unique port number that is not already used by another website that runs on the computer.

Planning to Deploy App-V

You should consider a number of different deployment configurations and prerequisites before you create your deployment plan for Microsoft Application Virtualization (App-V) 5.0. This section includes information that can help you gather the information that you must have to formulate a deployment plan that best meets your business requirements.

Review the App-V 5.0 Supported Configurations

After preparing your computing environment for the App-V 5.0 feature installation, make sure that you review the Supported Configurations information for App-V 5.0 to confirm that the computers on which you are installing the App-V 5.0 features meet the minimum hardware and operating system requirements. For more information about App-V 5.0 prerequisites, see [App-V 5.0 Prerequisites](#).

[App-V 5.0 Supported Configurations](#)

Plan for App-V 5.0 Server deployment

If you plan to use a server-based deployment scenario for your App-V 5.0 environment, it is important to understand the differences between the types and functions of the App-V 5.0 servers.

[Planning for the App-V 5.0 Server Deployment](#)

Plan for App-V 5.0 Sequencer and Client

Sequencing, the process used by App-V 5.0 to create virtual applications and application packages, requires the use of a computer with the App-V 5.0 software installed. Before you install the sequencer you should understand the best methods for running the sequencer and creating virtualized applications.

[Planning for the App-V 5.0 Sequencer and Client Deployment](#)

Planning for Migrating from a Previous Version

Before attempting to upgrade to App-V 5.0 you should understand the recommended path so that existing server configurations, packages and clients will function in your new App-V 5.0 environment.

[Planning for Migrating From a Previous Version](#)

App-V 5.0 Supported Configurations

This topic specifies the requirements that are necessary to install and run Microsoft Application Virtualization (App-V) 5.0 in your environment.

App-V 5.0 server system requirements

Important

The App-V 5.0 server does not support the following scenarios:

- Deployment to a computer that runs Microsoft Windows Server Core.
- Deployment to a computer that runs a previous version of App-V 5.0 server components.



Note

You can install App-V 5.0 side-by-side with the App-V 4.5 Lightweight Streaming Server (LWS) server only. Deployment of App-V 5.0 side-by-side with the App-V 4.5 Application Virtualization Management Service (HWS) server is not supported.

- Deployment to a computer that runs Microsoft SQL Server Express edition.
- Remote deployment of the management server database or the reporting database. The installer must be run directly on the computer running Microsoft SQL for the database installation to succeed.
- Deployment to a domain controller.
- Short paths are not supported. If you plan to use a short path you must create a new volume.

Management Server operating system requirements

The following table lists the operating systems that are supported for the App-V 5.0 management server installation.

 **Note**

Microsoft provides support for the current service pack and, in some cases, the immediately preceding service pack. To find the support timelines for your product, see the [Lifecycle Supported Service Packs](#). For additional information about Microsoft Support Lifecycle Policy, see [Microsoft Support Lifecycle Support Policy FAQ](#).

Operating system	Edition	Service pack	System architecture
Microsoft Windows Server 2008 (Standard, Enterprise, Datacenter, or Web Server)	R2	SP1 and higher	64-bit
Microsoft Windows Server 2012 (Standard, Datacenter)			64-bit

 **Important**

Deployment of the management server role to a computer with Remote Desktop Sharing (RDS) enabled is not supported.

Management Server hardware requirements

- Processor—1.4 GHz or faster, 64-bit (x64) processor
- RAM— 1 GB RAM (64-bit)
- Disk space—200 MB available hard disk space, not including the content directory.

Publishing Server operating system requirements

The following table lists the operating systems that are supported for the App-V 5.0 publishing server installation.

 **Note**

Microsoft provides support for the current service pack and, in some cases, the immediately preceding service pack. To find the support timelines for your product, see the [Lifecycle Supported Service Packs](#). For additional information about Microsoft Support Lifecycle Policy, see [Microsoft Support Lifecycle Support Policy FAQ](#).

Operating system	Edition	Service pack	System architecture
Microsoft Windows Server 2008 (Standard,	R2		64-bit

Operating system	Edition	Service pack	System architecture
Enterprise, Datacenter, or Web Server)			
Microsoft Windows Server 2012 (Standard, Datacenter)			64-bit

Publishing Server hardware requirements

- Processor—1.4 GHz or faster. 64-bit (x64) processor
- RAM— 2 GB RAM (64-bit)
- Disk space—200 MB available hard disk space. not including content directory

Reporting Server operating system requirements

The following table lists the operating systems that are supported for the App-V 5.0 reporting server installation.

Note

Microsoft provides support for the current service pack and, in some cases, the immediately preceding service pack. To find the support timelines for your product, see the [Lifecycle Supported Service Packs](#). For additional information about Microsoft Support Lifecycle Policy, see [Microsoft Support Lifecycle Support Policy FAQ](#).

Operating system	Edition	Service Pack	System architecture
Microsoft Windows Server 2008 (Standard, Enterprise, Datacenter, or Web Server)	R2		64-bit
Microsoft Windows Server 2012 (Standard, Datacenter)			64-bit

Reporting Server hardware requirements

- Processor—1.4 GHz or faster. 64-bit (x64) processor
- RAM—2 GB RAM (64-bit)
- Disk space—200 MB available hard disk space

SQL Server database requirements

The following table lists the SQL Server versions that are supported for the App-V 5.0 database and server installation.

App-V 5.0 server type	SQL Server version	Edition	Service pack	System architecture
Management / Reporting	Microsoft SQL Server 2008 (Standard, Enterprise, Datacenter, or the Developer Edition with the following feature: Database Engine Services .)			32-bit or 64-bit
Management / Reporting	Microsoft SQL Server 2008 (Standard, Enterprise, Datacenter, or the Developer Edition with the following feature: Database Engine Services .)	R2	SP2	32-bit or 64-bit
Management / Reporting	Microsoft SQL Server 2012 (Standard, Enterprise, Datacenter, or the Developer Edition with the following feature: Database Engine Services .)			32-bit or 64-bit

App-V 5.0 client system requirements

Note

The installation of the App-V 5.0 client on a computer that runs Windows Server is not supported.

The following table lists the operating systems that are supported for the App-V 5.0 client installation.

 **Note**

Microsoft provides support for the current service pack and, in some cases, the immediately preceding service pack. To find the support timelines for your product, see the [Lifecycle Supported Service Packs](#). For additional information about Microsoft Support Lifecycle Policy, see [Microsoft Support Lifecycle Support Policy FAQ](#).

Operating system	Service pack	System architecture
Microsoft Windows 7	SP1	32-bit or 64-bit
Microsoft Windows 8 Professional		32-bit or 64-bit

Client hardware requirements

The following list displays the supported hardware configuration for the App-V 5.0 client installation.

- Processor— 1.4 GHz or faster 32-bit (x86) or 64-bit (x64) processor
- RAM— 1 GB (32-bit) or 2 GB (64-bit)
- Disk— 100 MB for installation, not including the disk space that is used by virtualized applications.

App-V 5.0 Remote Desktop client system requirements

The following table lists the operating systems that are supported for App-V 5.0 Remote Desktop client installation.

 **Note**

Microsoft provides support for the current service pack and, in some cases, the immediately preceding service pack. To find the support timelines for your product, see the [Lifecycle Supported Service Packs](#). For additional information about Microsoft Support Lifecycle Policy, see [Microsoft Support Lifecycle Support Policy FAQ](#).

Operating system	Edition	Service pack
Microsoft Windows Server 2008	R2	SP1
Microsoft Windows Server 2012		

Remote Desktop client hardware requirements

The following list displays the supported hardware configuration for the App-V 5.0 client installation.

- Processor— 1.4 GHz or faster 32-bit (x86) or 64-bit (x64) processor
- RAM— 1 GB (32-bit) or 2 GB (64-bit)
- Disk— 100 MB for installation, not including the disk space that is used by virtualized applications.

App-V 5.0 Sequencer system requirements

The following table lists the operating systems that are supported for App-V 5.0 Sequencer installation.

 **Note**

Microsoft provides support for the current service pack and, in some cases, the immediately preceding service pack. To find the support timelines for your product, see the [Lifecycle Supported Service Packs](#). For additional information about Microsoft Support Lifecycle Policy, see [Microsoft Support Lifecycle Support Policy FAQ](#).

Operating system	Edition	Service pack	System architecture
Microsoft Windows 7		SP1	32-bit and 64-bit
Microsoft Windows 8			32-bit and 64-bit
Microsoft Windows Server 2008	R2	SP1	32-bit and 64-bit
Microsoft Windows Server 2012			32-bit and 64-bit

Planning for the App-V 5.0 Server Deployment

The Microsoft Application Virtualization (App-V) 5.0 server infrastructure consists of a set of specialized features that can be installed on one or more server computers, based on the requirements of the enterprise.

Planning for App-V 5.0 Server Deployment

The App-V 5.0 server consists of the following features:

- Management Server – provides overall management functionality for the App-V 5.0 infrastructure.
- Management Database – facilitates database predeployments for App-V 5.0 management.
- Publishing Server – provides hosting and streaming functionality for virtual applications.
- Reporting Server – provides App-V 5.0 reporting services.

- Reporting Database – facilitates database predeployments for App-V 5.0 reporting.
- Listed following are the recommended methods for installing the App-V 5.0 server infrastructure:
- Install the App-V 5.0 server. For more information, see [How to Deploy the App-V 5.0 Server](#).
 - Install the database, reporting, and management features on separate computers. For more information, see [How to Install the Management and Reporting Databases on Separate Computers from the Management and Reporting Services](#).
 - Use Electronic Software Distribution (ESD). For more information, see [How to deploy App-V 5.0 Packages Using Electronic Software Distribution](#).
 - Install all server features on a single computer.

Server-Related Protocols and External Features

The following displays information about server-related protocols used by the App-V 5.0 servers. The table also includes the reporting mechanism for each server type.

Server Type	Protocols	External Features Needed	Reporting
IIS server	HTTP HTTPS	This server-protocol combination requires a mechanism to synchronize the content between the Management Server and the Streaming Server. When using HTTP or HTTPS, use an IIS server to download ICO and OSD files and a firewall to protect the server from exposure to the Internet.	Internal
File	SMB	This server-protocol combination requires support to synchronize the content between the Management Server and the Streaming Server. Use a client computer with file sharing or streaming	Internal

Server Type	Protocols	External Features Needed	Reporting
		capability.	

Planning for the App-V 5.0 Sequencer and Client Deployment

Before you can start to use Microsoft Application Virtualization (App-V) 5.0, you must install the App-V 5.0 sequencer, the App-V 5.0 client, and optionally the App-V 5.0 shared content store. The following sections address planning for these installations.

Planning for App-V 5.0 sequencer deployment

App-V 5.0 uses a process called sequencing to create virtualized applications and application packages. Sequencing requires the use of a computer that runs the App-V 5.0 sequencer.

Note

For information about the new functionality of App-V 5.0 sequencer, see the **Changes to the sequencer** section of [What's New in App-V 5.0](#).

The computer that runs the App-V 5.0 sequencer must meet the minimum system requirements. For a list of these requirements, see [App-V 5.0 Supported Configurations](#).

Ideally, you should install the sequencer on a computer running as a virtual machine. This enables you to more easily revert the computer running the sequencer to a “clean” state before sequencing another application. When you install the sequencer using a virtual machine, you should perform the following steps:

1. Install all associated sequencer prerequisites.
2. Install the sequencer.
3. Take a “snapshot” of the environment.

Important

You should have your corporate security team review and approve the sequencing process plan. For security reasons, you should keep the sequencer operations in a lab that is separate from the production environment. The separation arrangement can be as simple or as comprehensive as necessary, based on your business requirements. The sequencing computers must be able to connect to the corporate network to copy finished packages to the production servers. However, because the sequencing computers are typically operated without antivirus protection, they must not be on the corporate network unprotected. For example, you might be able to operate behind a firewall or on an isolated network segment. You might also be able to use virtual machines that are configured to share an isolated virtual network. Follow your corporate security policies to safely address these concerns.

[How to Install the Sequencer](#)

Planning for App-V 5.0 client deployment

To run virtualized packages on target computers, you must install the App-V 5.0 client on the target computers. The App-V 5.0 client is the component that runs a virtualized application on a target computer. The client enables users to interact with icons and specific file types to start virtualized applications. The client also helps obtain application content from the management server and caches the content before the client starts the application. There are two different client types: the client for Remote Desktop Services, which is used on Remote Desktop Session Host (RD Session Host) server systems and the App-V 5.0 client, which is used for all other computers.

The App-V 5.0 client should be configured by using either the installer command line or by using a PowerShell script after the installation has been completed.

The settings must be defined carefully in advance in order to expedite the deployment of the App-V 5.0 client software. This is especially important when you have computers in different offices where the clients must be configured to use different source locations.

You must also determine how you will deploy the client software. Although it is possible to deploy the client manually on each computer, most organizations prefer to deploy the client through an automated process. A larger organization might have an operational Electronic Software Distribution (ESD) system, which is an ideal client deployment system. If no ESD system exists, you can use your organization's standard method of installing software. Possible methods include Group Policy or various scripting techniques. Depending on the quantity and disparate locations of your client computers, this deployment process can be complex. You must use a structured approach to ensure that all computers get the client installed with the correct configuration.

For a list of the client minimum requirements see [App-V 5.0 Prerequisites](#).

[How to Deploy the Client](#)

Planning for the App-V 5.0 Shared Content Store (SCS)

The App-V 5.0 shared content store mode allows the computer running the App-V 5.0 client to run virtualized applications and none of the package contents is saved on the computer running the App-V 5.0 client. Virtual applications are streamed to target computers only when requested by the client.

The following list displays some of the benefits of using the App-V 5.0 shared content store:

- Reduced app-to-app and multi-user application conflicts and hence a reduced need for regression testing
- Accelerated application deployment by reduction of deployment risk
- Simplified profile management

[How to Install the App-V 5.0 Client for Shared Content Store Mode](#)

Planning for Migrating From a Previous Version

The following sections provide information about how to migrate from a previous version of Microsoft Application Virtualization (App-V) 5.0.

Before you attempt to upgrade to App-V 5.0 or later versions, any version prior to 4.6 SP2 must be upgraded to version 4.6 SP2. You should plan to upgrade your clients first, and then upgrade the server components.

 **Important**

App-V 5.0 supports only packages that are created using App-V 5.0 or packages that have been converted to the App-V 5.0 (.appv) format.

App-V 5.0 client coexistence with previous version

App-V 5.0 client is allowed to run on the same computer with the App-V 4.6 SP2 version of the client. This coexistence helps to make the migration easier. With both client versions running, you can convert an App-V 4.6 SP2 package to the App-V 5.0 format and both packages can be published. You can define the migration policy for the converted package, which will allow the converted App-V 5.0 package to assume the file type associations and shortcuts from the App-V 4.6 SP2 package.

 **Important**

App-V 5.0 can co-exist only on computers that run App-V 4.6 SP2. The migration is not supported if App-V 4.6 SP2 is not installed. You must apply App-V 4.6 SP2 before you install App-V 5.0.

App-V 5.0 client coexistence is supported for the following scenario:

The computer is running App-V 4.6 SP2, and App-V 5.0 is also installed on the same computer.

For more information about how to configure App-V 5.0 client coexistence, see [How to Install the App-V 4.6 SP2 Client and the App-V 5.0 Client on the Same Computer](#).

Convert previous-version packages using the package converter

Before you migrate a package that was created using App- 4.6 SP2 or earlier to App-V 5.0, you must convert the package to the .appv file format.

 **Note**

The Package Converter only supports direct conversion of packages created using App-V 4.5 and later. To use the package converter on a package created using a previous version, you must use an App-V 4.5 or later version of the sequencer to upgrade the package, and then you can perform the package conversion.

For more information about converting a package using the package converter, see [How to Convert a Package Created in a Previous Version of App-V](#). After the file has been converted, you can deploy to target computers that run the App-V 5.0 client.

App-V 5.0 Planning Checklist

This checklist can be used to help you plan for preparing your computing environment for Microsoft Application Virtualization (App-V) 5.0 deployment.

 **Note**

This checklist outlines the recommended steps and a high-level list of items to consider when planning for an App-V 5.0 deployment. It is recommended that you copy this checklist into a spreadsheet program and customize it for your use.

	Task	References	Notes
<input type="checkbox"/>	Review the getting started information about App-V 5.0 to gain a basic understanding of the product before beginning deployment planning.	Getting Started With App-V 5.0	
<input type="checkbox"/>	Plan for App-V 5.0 1.0 Deployment Prerequisites and prepare your computing environment.	App-V 5.0 Prerequisites	
<input type="checkbox"/>	If you plan to use the App-V 5.0 management server, plan for the required roles.	Planning for the App-V 5.0 Server Deployment	
<input type="checkbox"/>	Plan for the App-V 5.0 sequencer and client so you to create and run virtualized applications.	Planning for the App-V 5.0 Sequencer and Client Deployment	
<input type="checkbox"/>	If applicable, review the options and steps for migrating from a previous version of App-V.	Planning for Migrating From a Previous Version	
<input type="checkbox"/>	Plan for running App-V 5.0 clients using in shared content store mode.	How to Install the App-V 5.0 Client for Shared Content Store Mode	

Deploying App-V 5.0

Microsoft Application Virtualization (App-V) 5.0 (App-V 5.0) supports a number of different deployment options. This section of the App-V 5.0 Administrator's Guide includes information you should consider about the deployment of App-V 5.0 and step-by-step procedures to help you successfully perform the tasks that you must complete at different stages of your deployment.

App-V 5.0 Deployment Information

- [Deploying the App-V 5.0 Sequencer and Client](#)

This section describes how to install the App-V 5.0 sequencer which is used to virtualize applications, and the App-V 5.0 client which runs on target computers to facilitate virtualized packages.

- [Deploying the App-V 5.0 Server](#)

This section provides information about installing the App-V 5.0 management, publishing, database and reporting servers.

- [App-V 5.0 Deployment Checklist](#)

This section provides a deployment checklist that can be used to assist with installing App-V 5.0.

Deploying the App-V 5.0 Sequencer and Client

The App-V 5.0 Sequencer and client enable administrators to virtualize and run virtualized applications.

Deploy the client

The App-V 5.0 client is the component that runs a virtualized application on a target computer. The client enables users to interact with icons and to double-click file types, so that they can start a virtualized application. The client can also obtain the virtual application content from the management server.

Note

Installation of the standard version of the App-V 5.0 client on computers that run Windows Server is not supported. Installation of the App-V 5.0 Remote Desktop services client is only supported for RDS enabled servers.

By default, after you install the App-V 5.0 client, the client information is stored in the registry in the following registry key:

HKEY_LOCAL_MACHINE \ SOFTWARE \ MICROSOFT \ APPV \ CLIENT. When you deploy a virtualized package to a client, the associated package data is stored in the following location: **C: \ ProgramData \ App-V.** However, this location can be re-configured with the following registry key:

HKEY_LOCAL_MACHINE \ SOFTWARE \ MICROSOFT \ SOFTWARE \ MICROSOFT \ APPV \ CLIENT \ STREAMING \ PACKAGEINSTALLATIONROOT.

The following directories must be available on a local volume for each user that logs into the computer running the App-V 5.0 client:

- **%APPDATA% \ Microsoft \ AppV \ Client \ VFS**
- **%LOCALAPPDATA% \ Microsoft \ AppV \ Client \ VFS**

For log file information that is associated with the App-V 5.0 client, search in the following log:
Event logs / Applications and Services Logs / Microsoft / AppV.

Finally, packages that are currently stored on computers that run the App-V 5.0 client are saved to the following location: **C:\ProgramData\App-V\<package id>\<version id>**.

You can also deploy the App-V 4.6 client side-by-side with the App-V 5.0 client. Client coexistence requires that you add or publish virtualized applications by using either a deployment configuration file or a user configuration file, because there are certain settings in these configuration files that must be configured in order for App-V 5.0 to function with App-V 4.6 clients. When a package is upgraded by using either the client or the server, the package must resubmit the configuration file. This is true for any package that has a corresponding configuration file, so it is not specific to client coexistence. However, if you do not submit the configuration file during the package upgrade, then the package state will not function as expected in coexistence scenarios.

App-V 5.0 dynamic configuration files customize a package for a specific user. You must create the dynamic user configuration (.xml) file or the dynamic deployment configuration file before you can use them. To create the file it requires an advanced manual operation.

When a dynamic user configuration file is used, none of the App-V 5.0 information for the extension in the manifest file is used. This means that the dynamic user configuration file must include everything for the extension that is specific to App-V 5.0 in the manifest file, as well as the changes that you want to make, such as, deletions and updates. For more information about how to create a custom configuration file, see [How to Create a Custom Configuration File Using the App-V 5.0 Management Console](#).

[How to Deploy the Client](#)

[How to Uninstall the App-V 5.0 Client](#)

[How to Install the App-V 4.6 SP2 Client and the App-V 5.0 Client on the Same Computer](#)

Client Configuration Settings

The App-V 5.0 client stores its configuration in the registry. You can gather some useful information about the client if you understand the format of data in the registry. You can also configure many client actions by changing registry entries.

[About Client Configuration Settings](#)

Configure the client by using the ADMX template and Group Policy

You can use the Microsoft ADMX template to configure the client settings for the App-V 5.0 client and the Remote Desktop Services client. The ADMX template manages common client configurations by using an existing Group Policy infrastructure and it includes settings for the App-V 5.0 client configuration.

Important

You can obtain the App-V 5.0 ADMX template from the Microsoft Download Center.

After you download and install the ADMX template, perform the following steps on the computer that you will use to manage Group Policy. This is typically the Domain Controller.

1. Save the **.admx** file to the following directory: **Windows \ PolicyDefinitions**

2. Save the **.adml** file to the following directory: **Windows \ PolicyDefinitions \ <Language Directory>**

After you have completed the preceding steps, you can manage the App-V 5.0 client configuration settings with the **Group Policy Management** console.

The App-V 5.0 client also stores its configuration in the registry. You can gather some useful information about the client if you understand the format of the data in the registry. You can also configure many client actions by changing registry entries.

[How to Modify Client Configuration Using the ADMX Template and Group Policy](#)

Deploy the client by using the Shared Content Store mode

The App-V 5.0 Shared Content Store (SCS) mode enables the SCS App-V 5.0 clients to run virtualized applications without saving any of the associated package data locally. All required virtualized package data is transmitted across the network; therefore, you should only use the SCS mode in environments with a fast connection. Both the Remote Desktop Services (RDS) and the standard version of the App-V 5.0 client are supported with SCS mode.

Important

If the App-V 5.0 client is configured to run in the SCS mode, the location where the App-V 5.0 packages are streamed from must be available, otherwise, the virtualized package will fail. Additionally, we do not recommend deployment of virtualized applications to computers that run the App-V 5.0 client in the SCS mode across the internet.

Additionally, the SCS is not a physical location that contains virtualized packages. It is a mode that allows the App-V 5.0 client to stream the required virtualized package data across the network.

The SCS mode is helpful in the following scenarios:

- Virtual desktop infrastructure (VDI) deployments
- Remote desktop services (RDS) deployments

To use SCS in your environment, you must enable the App-V 5.0 client to run in SCS mode. This setting should be specified during installation. By default, the client is not configured to use SCS mode. You should install the client by using the suggested procedure if you plan to use SCS. However, you can configure an existing App-V 5.0 client to run in SCS mode by entering the following PowerShell command on the computer that runs the App-V 5.0 client:

set-AppvClientConfiguration -SharedContentStoreMode 1

There might be cases when the administrator pre-loads some virtual applications on the computer that runs the App-V 5.0 client in SCS mode. This can be accomplished with PowerShell commands to add, publish, and mount the package. For example, if a package is pre-loaded on all computers, the administrator could add, publish, and mount the package by using PowerShell commands. The package would not stream across the network because it would be locally stored.

Deploy the Sequencer

The Sequencer is a tool that is used to convert standard applications into virtual packages for deployment to computers that run the App-V 5.0 client. The Sequencer helps provide a simple and predictable conversion process with minimal changes to prior sequencing workflows. In addition, the Sequencer allows users to more easily configure applications to enable connections of virtualized applications.

For a list of changes in the App-V 5.0 Sequencer, see [What's New in App-V 5.0](#).

[How to Install the Sequencer](#)

App-V 5.0 client and Sequencer logs

You can use the App-V 5.0 Sequencer log information to help troubleshoot the Sequencer installation and operational events while using App-V 5.0. The Sequencer-related log information can be reviewed with the **Event Viewer**. The following line displays the specific path for Sequencer-related events:

Event Viewer \ Applications and Services Logs \ Microsoft \ App V. Sequencer-related events are prepended with **AppV_Sequencer**. Client-related events are prepended with **AppV_Client**.

How to Deploy the Client

Use the following procedure to install the Microsoft Application Virtualization (App-V) 5.0 client and Remote Desktop Services client. You must install the version of the client that matches the operating system of the target computer.

Running the App-V 5.0 client on computers running App-V 4.6 SP1 or prior versions is not supported. Additionally, installing the client on a computer that runs Windows Server is not supported.

Important

The computer on which you plan to install the App-V 5.0 client must be running Microsoft .NET 4 Framework (Full) and Microsoft KB 2533623, and PowerShell 3.0. Otherwise, the installation will fail.

To install the App-V 5.0 client

1. Copy the App-V 5.0 client installation files to the computer on which it will be installed. To install the standard version of the client, double-click **appv_client_setup.exe** and click **Install**. To install the Remote Desktop Services version of the client, double-click **appv_client_setup_rds.exe** and click **Install**. Before the installation begins, the installer will evaluate the computer for any missing [App-V 5.0 Prerequisites](#).
2. On the **Software License Terms** page, review the license terms. To accept the license

terms, select **I accept the license terms**. Click **Next**.

3. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, to enable Microsoft updates, select **Use Microsoft Update when I check for updates (recommended)**. To disable Microsoft updates, select **I don't want to use Microsoft Update**. Click **Next**.
4. On the **Customer Experience Improvement Program** page, to participate in the program, select **Join the Customer Experience Improvement Program**. This will allow information to be collected about how you use App-V 5.0. If you don't want to participate in the program, select **I don't want to join the program at this time**. Click **Install**.
5. On the **Setup completed successfully** page, click **Close**. After you complete the installation there will be multiple entries in **Programs** for the App-V 5.0 client. There will be an instance for the associated **exe**, **.msi**, and for the **language pack**. Only the **.exe** entry can be uninstalled.



Note

When you uninstall the App-V 5.0 client by using **Programs / Uninstall a program**, all virtualized packages will also be removed.

► Troubleshoot the App-V 5.0 client installation

1. For more information about how to troubleshoot the client installation, you can view the error log in the **%temp%** folder. To review the log files, click **Start**, type **%temp%**, and then look for the **appv_log**.

► To install the App-V 5.0 client using a script

1. To use a script to install the App-V 5.0 client, use the following parameters with **appv_server_setup.exe**. When you install the client using an **.msi** file, if any prerequisites are missing, the installation will fail.



Note

The client Windows Installer (.msi) supports the same set of switches except for the **/LOG** parameter.

<code>/INSTALLDIR</code>	Specifies the installation directory. Example usage: <code>/INSTALLDIR=C:\Program Files\AppV Client</code>
<code>/CEILOPTIN</code>	Enables participation in the Customer Experience Improvement Program. Example usage: <code>/CEILOPTIN=[0 1]</code>
<code>/MUOPTIN</code>	Enables Microsoft Update. Example usage: <code>/MUOPTIN=[0 1]</code>
<code>/PACKAGEINSTALLATION ROOT</code>	Specifies the directory in which to install all new applications and updates. Example usage: <code>/PACKAGEINSTALLATIONROOT='C:\App-V</code>

	Packages'
/PACKAGESOURCEROOT	Overrides the source location for downloading package content. Example usage: /PACKAGESOURCEROOT='http://packageStore'
/AUTOLOAD	Specifies how new packages will be loaded by App-V 5.0 on a specific computer. The following options are enabled: [1]; automatically load all packages [2]; or automatically load no packages [0]. Example usage: /AUTOLOAD=[0 1 2]
/SHAREDCONTENTSTOREMODE	Specifies that streamed package contents will be not be saved to the local hard disk. Example usage: /SHAREDCONTENTSTOREMODE=[0 1]
/MIGRATIONMODE	Allows the App-V 5.0 client to modify the shortcuts and FTAs that are associated with the packages that are created with a previous version. Example usage: /MIGRATIONMODE=[0 1]
/ENABLEPACKAGESCRIPTS	Enables the scripts that are defined in the package manifest file or configuration files that should run. Example usage: /ENABLEPACKAGESCRIPTS=[0 1]
/ROAMINGREGISTRYEXCLUSIONS	Specifies the registry paths that will not roam with a user profile. Example usage: /ROAMINGREGISTRYEXCLUSIONS=software\classes;software\clients
/ROAMINGFILEEXCLUSIONS	Specifies the file paths relative to %userprofile% that do not roam with a user's profile. Example usage: /ROAMINGFILEEXCLUSIONS 'desktop;my pictures'
/S[1-5]PUBLISHINGSERVERNAME	Displays the name of the publishing server. Example usage: /S2PUBLISHINGSERVERNAME=MyPublishingServer
/S[1-5]PUBLISHINGSERVERURL	Displays the URL of the publishing server. Example usage: /S2PUBLISHINGSERVERURL=\\pubserver
/S[1-5]GLOBALREFRESHENABLED -	Enables a global publishing refresh. Example usage: /S2GLOBALREFRESHENABLED=[0 1]
/S[1-5]GLOBALREFRESHONLOGON	Initiates a global publishing refresh when a user logs on. Example usage: /S2LOGONREFRESH=[0 1]

/S[1-5]GLOBALREFRESHINTERVAL -	Specifies the publishing refresh interval, where 0 indicates do not periodically refresh. Example usage: /S2PERIODICREFRESHINTERVAL=[0-744]
/S[1-5]GLOBALREFRESHINTERVALUNIT	Specifies the interval unit (Hours[0], Days[1]). Example usage: /S2GLOBALREFRESHINTERVALUNIT=[0 1]
/S[1-5]USERREFRESHENABLED	Enables user publishing refresh. Example usage: /S2USERREFRESHENABLED=[0 1]
/S[1-5]USERREFRESHONLOGON	Initiates a user publishing refresh when a user logs on. Example usage: /S2LOGONREFRESH=[0 1]
/S[1-5]USERREFRESHINTERVAL -	Specifies the publishing refresh interval, where 0 indicates do not periodically refresh. Example usage: /S2PERIODICREFRESHINTERVAL=[0-744]
/S[1-5]USERREFRESHINTERVALUNIT	Specifies the interval unit (Hours[0], Days[1]). Example usage: /S2USERREFRESHINTERVALUNIT=[0 1]
/Log	Specifies a location where the log information is saved. The default location is %Temp%. Example usage: /log C:\logs\log.log
/q	Specifies an unattended installation.
/REPAIR	Repairs a previous client installation.
/NORESTART	Disallows the computer to restart after the client installation.
/UNINSTALL	Uninstalls the client.
/? , /h, /help	Requests help about the previous installation parameters.

► To install the App-V 5.0 client Windows Installer (.msi) file

1. Before you start this procedure, you should ensure that all the target computers have been configured with the [App-V 5.0 Prerequisites](#). If any of the prerequisites are not met the installation will fail.

 **Note**

You should also ensure that the target computers do not have any pending restarts before you install the client using the App-V 5.0 Windows Installer (.msi) files. The Windows Installer files do not flag a pending restart.

Deploy one of the following Windows Installer files to the target computer. The Windows Installer file you specify must match the configuration of the target computer.

- If the target computer is running a 32-bit Microsoft Windows operating system, deploy the **appv_client_MSI_x86.msi**.
- If the target computer is running a 64-bit Microsoft Windows operating system, deploy the **appv_client_MSI_x64.msi**.
- If you are deploying the App-V 5.0 Remote Desktop Services client, deploy the **appv_client_rds_MSI_x64.msi**.

You must also specify and deploy an associated language pack. Select the appropriate language pack **.msi**, based on the desired set of languages required for the target computer:

- If the target computer is running a 32-bit operating system, deploy the **appv_client_LP_xxxx_x86.msi**.
- If the target computer is running a 64-bit operating system, deploy the **appv_client_LP_xxxx_x64.msi**.



Note

Where **xxxx** refers to the target locale of the language pack.

The language packs are common to both the standard App-V 5.0 client and the Remote Desktop Services version of the App-V 5.0 Client.

If you install the App-V 5.0 client using the **.exe**, the installer will only deploy the language pack that matches the operating system running on the target computer. To deploy additional language packs on a target computer, you should use the preceding **To install the App-V 5.0 client Windows Installer (.msi) file** procedure to deploy the additional language packs (.msi).

2. You must also specify and deploy an associated language pack. Select the appropriate language pack **.msi**, based on the desired set of languages required for the target computer:
 - If the target computer is running a 32-bit operating system, deploy the

appv_client_LP_xxxx_x86.msi.

- If the target computer is running a 64-bit operating system, deploy the **appv_client_LP_xxxx_x64.msi.**



Note

Where **xxxx** refers to the target locale of the language pack.

The language packs are common to both the standard App-V 5.0 client and the Remote Desktop Services version of the App-V 5.0 Client.

If you install the App-V 5.0 client using the **.exe**, the installer will only deploy the language pack that matches the operating system running on the target computer. To deploy additional language packs on a target computer, you should use the preceding **To install the App-V 5.0 client Windows Installer (.msi) file** procedure to deploy the additional language packs (.msi).

About Client Configuration Settings

The Microsoft Application Virtualization (App-V) 5.0 client stores its configuration in the registry. You can gather some useful information about the client if you understand the format of data in the registry. You can also configure many client actions by changing registry entries. This topic lists the App-V 5.0 Client configuration settings and explains their uses. You can use PowerShell to modify the client configuration settings. For more information about using PowerShell and App-V 5.0 see [Administering App-V using PowerShell](#).

App-V 5.0 Client Configuration Settings

The following table displays information about the App-V 5.0 client configuration settings:

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
PackageInstallationRoot	PACKAG EINSTAL LATIONR OOT	Specifies directory where all new applications and updates will be installed.	String	Streaming\Packa geInstallationRo ot	Policy value not written (same as Not Configured)

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
PackageSourceRoot	PACKAGESOURCE_ROOT	Overrides source location for downloading package content.	String	Streaming\PackageSourceRoot	Policy value not written (same as Not Configured)
AllowHighCostLaunch	Not available.	This setting controls whether virtualized applications are launched on Windows 8 machines connected via a metered network connection (For example, 4G).	True (enabled); False (Disabled state)	Streaming\AllowHighCostLaunch	0
ReestablishmentRetries	Not available.	Specifies the number of times to retry a dropped session.	Integer (0-99)	Streaming\ReestablishmentRetries	Policy value not written (same as Not Configured)
ReestablishmentInterval	Not available.	Specifies the number of seconds between attempts to reestablish a dropped session.	Integer (0-3600)	Streaming\ReestablishmentInterval	Policy value not written (same as Not Configured)
AutoLoad	AUTOLOAD	Specifies how new packages should be	(0x0) None; (0x1)	Streaming\AutoLoad	Policy value not written (same as

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
		loaded automatically by App-V on a specific computer.	Previously used; (0x2) All		Not Configured)
LocationProvider	Not available.	Specifies the CLSID for a compatible implementation of the IAppvPackage LocationProvider interface.	String	Streaming\LocationProvider	Policy value not written (same as Not Configured)
CertFilterForClientSsl	Not available.	Specifies the path to a valid certificate in the certificate store.	String	Streaming\CertFilterForClientSsl	Policy value not written (same as Not Configured)
VerifyCertificateRevocationList	Not available.	Verifies Server certificate revocation status before streaming using HTTPS.	True(enabled); False(Disabled state)	Streaming\VerifyCertificateRevocationList	0
SharedContentStoreMode	SHARED CONTENTSTORE MODE	Specifies that streamed package contents will be not be saved to the local hard disk.	True(enabled); False(Disabled state)	Streaming\SharedContentStoreMode	0
Name  Note This setting cannot be	PUBLISHINGSERVERNAME	Displays the name of publishing server.	String	Publishing\Servers\{serverId}\FriendlyName	Policy value not written (same as Not Configured)

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
<p>modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.</p>					
<p>URL</p> <p> Note This setting cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.</p>	PUBLISHINGSERVERURL	Displays the URL of publishing server.	String	Publishing\Servers\{serverId}\URL	Policy value not written (same as Not Configured)
<p>GlobalRefreshEnabled</p> <p> Note This setting cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.</p>	GLOBALREFRESHENABLED	Enables global publishing refresh (Boolean)	True(enabled); False(Disabled state)	Publishing\Servers\{serverId}\GlobalEnabled	False

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
ngServer cmdlet.					
GlobalRefreshOnLogon  Note This setting cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.	GLOBAL REFRESHONLOGON	Triggers a global publishing refresh on logon. (Boolean)	True(enabled); False(Disabled state)	Publishing\Servers\{serverId}\GlobalLogonRefresh	False
GlobalRefreshInterval  Note This setting cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.	GLOBAL REFRESHINTERVAL	Specifies the publishing refresh interval using the GlobalRefreshIntervalUnit. To disable package refresh, select 0.	Integer (0-744)	Publishing\Servers\{serverId}\GlobalPeriodicRefreshInterval	0
GlobalRefreshIntervalUnit  Note This setting	GLOBAL REFRESHINTERVALUNIT	Specifies the interval unit (Hour 0-23, Day 0-31).	0 for hour, 1 for day	Publishing\Servers\{serverId}\GlobalPeriodicRefreshIntervalUnit	1

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.					
UserRefreshEnabled  Note This setting cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.	USERREFRESHENABLED	Enables user publishing refresh (Boolean)	True(enabled); False(Disabled state)	Publishing\Servers\{serverId}\UserEnabled	False
UserRefreshOnLogon  Note This setting cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-	USERREFRESHONLOGON	Triggers a user publishing refresh onlogon. (Boolean) Word count (with spaces): 60	True(enabled); False(Disabled state)	Publishing\Servers\{serverId}\UserLogonRefresh	False

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
AppvPublishingServer cmdlet.					
UserRefreshInterval  Note This setting cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.	USERREFRESHINTERVAL	Specifies the publishing refresh interval using the UserRefreshIntervalUnit. To disable package refresh, select 0. Word count (with spaces): 85	Integer (0-744)	Publishing\Servers\{serverId}\UserPeriodicRefreshInterval	0
UserRefreshIntervalUnit  Note This setting cannot be modified using the set-AppvclientConfiguration cmdlet. You must use the Set-AppvPublishingServer cmdlet.	USERREFRESHINTERVALUNIT	Specifies the interval unit (Hour 0-23, Day 0-31).	0 for hour, 1 for day	Publishing\Servers\{serverId}\UserPeriodicRefreshIntervalUnit	1
MigrationMode	MIGRATIONMODE	Migration mode allows the App-V client to modify	True(enabled state); False	Coexistence\MigrationMode	

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
		shortcuts and FTA's for packages created using a previous version of App-V.	(disabled state)		
ExperienceImprovementOptIn	EXPERIENCEOPTIN	ExperienceOptIn allows the App-V client to collect certain usage information about the Client to allow us to further improve the application	SOFTWARE\Policies\Microsoft\AppV\SQM\CEIPEnable		1
EnablePackageScripts	ENABLEPACKAGESCRIPTS	Enables scripts defined in the package manifest of configuration files that should run.	True(enabled); False(Disabled state)	\Scripting\EnablePackageScripts	
RoamingFileExclusions	ROAMINGFILEEXCLUSIONS	Specifies the file paths relative to %userprofile% that do not roam with a user's profile. Example usage: /ROAMINGFILEEXCLUSIONS='desktop;my			

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
		pictures'			
RoamingRegistryExclusions	ROAMINGREGISTRYEXCLUSIONS	Specifies the registry paths that do not roam with a user profile. Example usage: /ROAMINGREGISTRYEXCLUSIONS=software\classes;software\clients	String	Integration\RoamingRegistryExclusions	Policy value not written (same as Not Configured)
IntegrationRootUser	Not available.	Specifies the location to create symbolic links associated with the current version of a per-user published package. All virtual application extensions, for example shortcuts and file type associations, will point to this path. If you do not specify a path, symbolic links will not be used when you publish the package. For	String	Integration\IntegrationRootUser	Policy value not written (same as Not Configured)

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
		example: %localappdata %\MicrosoftAp p\VCient\Integ ration.			
IntegrationRootGlobal	Not available.	Specifies the location to create symbolic links associated with the current version of a globally published package. all virtual application extensions, for example shortcuts and file type associations, will point to this path. If you do not specify a path, symbolic links will not be used when you publish the package. For example: %allusersprofil e%\Microsoft\A pp\VCient\Inte gration	String	Integration\Integr ationRootGlobal	Policy value not written (same as Not Configured)
VirtualizableExtensions	Not available.	A comma delineated list of file name	String	Integration\VirtualizableExtension	Policy value not written

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
		<p>extensions that can be used to determine if a locally installed application can be run in the virtual environment. During publishing when shortcuts, FTA's, and other extension points are created, if the application associated with the extension point is locally installed App-V will compare the file name extension to the list. If the extension is located the run virtual command line parameter will be added and the application will run virtually.</p>		s	
ReportingEnabled	Not available.	Enables the client to return	True (enabled	Reporting\EnableReporting	False

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
		information to a reporting server.); False (Disabled state)		
ReportingServerURL	Not available.	Specifies the location on the reporting server where client information is saved.	String	Reporting\ReportingServer	Policy value not written (same as Not Configured)
ReportingDataCacheLimit	Not available.	Specifies the maximum size in megabytes (MB) of the XML cache for storing reporting information. The size applies to the cache in memory. When the limit is reached, the log file will roll over. Set between 0 and 1024.	Integer [0-1024]	Reporting\DataCacheLimit	Policy value not written (same as Not Configured)
ReportingDataBlockSize	Not available.	Specifies the maximum size in bytes to transmit to the server for reporting upload requests. This can help avoid	Integer [1024 - Unlimited]	Reporting\DataBlockSize	Policy value not written (same as Not Configured)

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
		permanent transmission failures when the log has reached a significant size. Set between 1024 and unlimited.			
ReportingStartTime	Not available.	Specifies the date and time to initiate the client to send data to the reporting server. You must specify a valid date and time. By default the ReportingStartTime will start on the current day at 10 P.M.	DateTime	Reporting\StartTime	Policy value not written (same as Not Configured)
ReportingInterval	Not available.	Specifies the retry interval that the client will use to resend data to the reporting server.	Integer	Reporting\RetryInterval	Policy value not written (same as Not Configured)
ReportingRandomDelay	Not available.	Specifies the maximum delay (in minutes) for data to be sent to the reporting	Integer [0 - ReportingRandomDelay]	Reporting\RandomDelay	Policy value not written (same as Not Configured)

Setting Name	Setup Flag	Description	Setting Options	Registry Key Value	Disabled Policy State Keys and Values
		server. When the scheduled task is started, the client generates a random delay between 0 and ReportingRandomDelay and will wait the specified duration before sending data. This can help to prevent collisions on the server.			

How to Install the App-V 4.6 SP2 Client and the App-V 5.0 Client on the Same Computer

Use the following information to install the App-V 5.0 client and the App-V 4.6 SP2client on the same computer.

► To install the App-V 5.0 client and App-V 4.6 SP2 client on the same computer

1. Install [Microsoft Application Virtualization 4.6 Service Pack 2](http://go.microsoft.com/fwlink/?LinkId=262687) (http://go.microsoft.com/fwlink/?LinkId=262687) on the computer running App-V 4.6.
2. Install the App-V 5.0 client on the computer running the App-V 4.6 SP2 version of the client.
3. Publish the App-V 4.6 SP2 package to users. For more information about publishing a packages see, [How to Publish a Package Using the Management Console](#).
4. To convert the packages, use the App-V 5.0 package converter and convert the required packages to the App-V 5.0 (.appv) file format.

How to Install the App-V 5.0 Client for Shared Content Store Mode

Use the following procedure to install the Microsoft Application Virtualization (App-V) 5.0 client so that it uses the App-V 5.0 Shared Content Store (SCS) mode. You should ensure that all required

prerequisites are installed on the computer you plan to install to. Use the following link for a [App-V 5.0 Prerequisites](#).

 **Note**

Before performing this procedure if necessary uninstall any existing version of the App-V 5.0 client.

 **Install and configure the App-V 5.0 client for SCS mode**

1. Copy the App-V 5.0 client installation files to the computer on which it will be installed. Open a command line and from the directory where the installation files are saved type one of the following options depending on the version of the client you are installing:
 - To install the RDS version of the App-V 5.0 client type: **appv_client_setup_rds.exe /SHAREDCONTENTSTOREMODE=1 /q**
 - To install the standard version of the App-V 5.0 client type: **appv_client_setup.exe /SHAREDCONTENTSTOREMODE=1 /q**

 **Important**

You must perform a silent installation or the installation will fail.

2. After you have completed the installation you can deploy packages to the computer running the client and all package contents will be streamed across the network.

How to Install the Sequencer

Use the following procedure to install the Microsoft Application Virtualization (App-V) 5.0 sequencer. The computer that will run the sequencer must not be running any version of the App-V 5.0 client.

Upgrading a previous installation of the App-V sequencer is not supported.

 **Important**

For a full list of the sequencer requirements see sequencer sections of [App-V 5.0 Prerequisites](#) and [App-V 5.0 Supported Configurations](#).

 **To install the App-V 5.0 sequencer**

1. Copy the App-V 5.0 sequencer installation files to the computer on which it will be installed. Double-click **appv_sequencer_setup.exe** and then click **Install**.
2. On the **Software License Terms** page, you should review the license terms. To accept the license terms select **I accept the license terms**. Click **Next**.
3. On the **Use Microsoft Update to help keep your computer secure and up-to-date**

page, to enable Microsoft updates select **Use Microsoft Update when I check for updates (recommended)**. To disable Microsoft updates from running select **I don't want to use Microsoft Update**. Click **Next**.

4. On the **Customer Experience Improvement Program** page, to participate in the program select **Join the Customer Experience Improvement Program**. This will allow information to be collected about how you are using App-V 5.0. If you don't want to participate in the program select **I don't want to join the program at this time**. Click **Install**.
5. To open the sequencer, click **Start** and then click **Microsoft Application Virtualization Sequencer**.

▶ To troubleshoot the App-V 5.0 sequencer installation

1. For more information regarding the sequencer installation, you can view the error log in the **%temp%** folder. To review the log files, click **Start**, type **%temp%**, and then look for the **appv_log**.

How to Modify Client Configuration Using the ADMX Template and Group Policy

Use the App-V 5.0 ADMX template to configure App-V 5.0 client settings using the ADMX Template and Group Policy.

▶ To modify App-V 5.0 client configuration using Group Policy

1. To modify the App-V 5.0 client configuration, locate the **ADMXTemplate** files that are available with App-V 5.0.



Note

Use the following link to download the App-V 5.0 **ADMX Templates**:

<http://go.microsoft.com/fwlink/?LinkId=271742>.

2. On the computer where you manage group Policy, typically the domain controller, copy the template **.admx** file to the following directory: **<Installation Drive> \ Windows \ PolicyDefinitions**.

Next, on the same computer, copy the **.adml** file to the following directory:

<InstallationDrive> \ Windows \ PolicyDefinitions \ en-US.

3. After you have copied the files open the Group Policy Management Console, to modify the policies associated with your App-V 5.0 clients browse to **Computer Configuration / Policies / Administrative Templates / System / App-V**.

How to Uninstall the App-V 5.0 Client

Use the following procedure to uninstall the App-V 5.0 client from a computer. When you uninstall the App-V 5.0 client all packages published to the computer running the client are also removed. If the uninstall operation does not complete the packages will need to be re-published to the computer running the App-V 5.0 client.

Important

You should ensure that the App-V 5.0 client service is running prior to performing the uninstall procedure.

To uninstall the App-V 5.0 Client

1. In Control Panel, double-click **Programs / Uninstall a Program**, and then double-click **Microsoft Application Virtualization Client**.
2. In the dialog box that appears, click **Yes** to continue with the uninstall process.

Important

The uninstall process cannot be canceled or interrupted.

3. A progress bar shows the time remaining. When this step finishes, you must restart the computer so that all associated drivers can be stopped to complete the uninstall process.

Note

You can also use the command line to uninstall the App-V 5.0 client with the following switch: **/UNINSTALL**.

Deploying the App-V 5.0 Server

You can install the App-V 5.0 server features by using different configurations. The various deployment configurations are described in this topic. Before you install the server features, you should also read and understand the server section of [App-V 5.0 Security Considerations](#).

Important

Before you install and configure the App-V 5.0 servers, you must specify a port where each component will be hosted. You must also add the associated firewall rules to allow incoming requests to access the specified ports. The installer does not modify firewall settings.

App-V 5.0 Server overview

The App-V 5.0 Server is made up of five components. Each component serves a different purpose within the App-V 5.0 environment. Each of the five components is briefly described here:

- Management Server – provides overall management functionality for the App-V 5.0 infrastructure.
- Management Database – facilitates database predeployments for App-V 5.0 management.
- Publishing Server – provides hosting and streaming functionality for virtual applications.
- Reporting Server – provides App-V 5.0 reporting services.
- Reporting Database – facilitates database predeployments for App-V 5.0 reporting.

App-V 5.0 standalone deployment

The App-V 5.0 standalone deployment provides a good topology for a small deployment or a test environment. When you use this type of implementation, all server components are deployed to a single computer. The services and associated databases will compete for the resources on the computer that runs the App-V 5.0 components. Therefore, you should not use this topology for larger deployments.

[How to Deploy the App-V 5.0 Server](#)

[How to Deploy the App-V 5.0 Server Using a Script](#)

App-V 5.0 Server distributed deployment

The distributed deployment topology can support a large App-V 5.0 client base and it allows you to more easily manage and scale your environment. When you use this type of deployment, the App-V 5.0 Server components are deployed across multiple computers, based on the structure and requirements of the organization.

[How to Install the Management and Reporting Databases on Separate Computers from the Management and Reporting Services](#)

[How to install the Reporting Server on a Standalone Computer and Connect it to the Database](#)

[How to Deploy the App-V 5.0 Server Using a Script](#)

[How to Install the Publishing Server on a Remote Computer](#)

[How to install the Management Server on a Standalone Computer and Connect it to the Database](#)

Using an Enterprise Software Distribution (ESD) solution and App-V 5.0

You can also deploy the App-V 5.0 clients and packages by using an ESD without having to deploy App-V 5.0. The full capabilities for integration will vary depending on the ESD that you use.



Note

The App-V 5.0 reporting server and reporting database can still be deployed alongside the ESD to collect the reporting data from the App-V 5.0 clients. However, the other three server components should not be deployed, because they will conflict with the ESD functionality.

[Deploying App-V 5.0 Packages by Using Electronic Software Distribution \(ESD\)](#)

App-V 5.0 Server logs

You can use App-V 5.0 server log information to help troubleshoot the server installation and operational events while using App-V 5.0. The server-related log information can be reviewed with the **Event Viewer**. The following line displays the specific path for Server-related events:

Event Viewer \ Applications and Services Logs \ Microsoft \ App V

Associated setup logs are saved in the following directory:

%temp%

App-V 5.0 reporting

App-V 5.0 reporting allows App-V 5.0 clients to collect data and then send it back to be stored in a central repository. You can use this information to get a better view of the virtual application usage within your organization. The following list displays some of the types of information the App-V 5.0 client collects:

- Information about the computer that runs the App-V 5.0 client.
- Information about virtualized packages on a specific computer that runs the App-V 5.0 client.
- Information about package open and shutdown for a specific user.

The reporting information will be maintained until it is successfully sent to the reporting server database. After the data is in the database, you can use Microsoft SQL Server Reporting Services to generate any necessary reports.

If you want to retrieve report information, you must use Microsoft SQL Server Reporting Services (SSRS) which is available with Microsoft SQL. SSRS is not installed when you install the App-V 5.0 reporting server and it must be deployed separately to generate the associated reports.

[How to Enable Reporting on the App-V 5.0 Client using PowerShell](#)

How to Deploy the App-V 5.0 Server

Use the following procedure to install the App-V 5.0 server.

Important

You should read and understand the [App-V 5.0 Prerequisites](#) before installing the App-V 5.0 server.

To install the App-V 5.0 server

1. Copy the App-V 5.0 server installation files to the computer on which you want to install it on. To start the App-V 5.0 server installation right-click and run **appv_server_setup.exe** as an administrator. Click **Install**.
2. On the **Getting Started** page, review the license terms. To accept the license terms select **I accept the license terms**. Click **Next**.
3. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, to enable Microsoft updates, select **Use Microsoft Update when I check for**

updates (recommended). To disable Microsoft updates, select **I don't want to use Microsoft Update**. Click **Next**.

4. On the **Feature Selection** page, select all five of the components:

The following list has more information about each component:

- Management Server – provides overall management functionality for the App-V 5.0 infrastructure.
- Management Database – facilitates database predeployments for App-V 5.0 management.
- Publishing Server – provides hosting and streaming functionality for virtual applications.
- Reporting Server – provides App-V 5.0 reporting services.
- Reporting Database – facilitates database predeployments for App-V 5.0 reporting.

Click **Next**.

5. On the **Installation Location** page confirm the location where the selected components will be installed. You should accept the default. To change the location, type a new path on the **Installation Location** line. Click **Next**.
6. On the initial **Create New Management Database** page configure the **Microsoft SQL Server instance** and **Management Server database**.
 - If you are using a custom Microsoft SQL Server instance, select **Use the custom instance** and type the name of the instance. For example, the format should be **INSTANCENAME** and the installation will assume it is on the local computer.



Note

Specifying the server name using the following format **ServerName \ INSTANCE** is not supported.

- If you are using a custom database name, select **Custom configuration**. and type the database name.



Note

The database name provided must be unique. If an existing database name is specified the installation will fail.

Click **Next**.

7. On the **Configure** page, accept the default value: **Use this local computer**. Click **Next**.



Note

If you are installing the management server and management database side-by-side, options on this page are not available. In this scenario the appropriate options are selected by default and cannot be changed.

8. On the initial **Create New Reporting Database** page configure the **Microsoft SQL Server instance** and **Reporting Server database**.
 - If you are using a custom Microsoft SQL Server instance, select **Use the custom**

instance and type the name of the instance. For example, the format should be **INSTANCENAME** and the installation will assume it is on the local computer.



Note

Specifying the server name using the following format **ServerName \ INSTANCE** is not supported.

- If you are using a custom database name, select **Custom configuration**. and type the database name.



Note

The database name provided must be unique. If an existing database name is specified the installation will fail.

Click **Next**.

9. On the **Configure** page, accept the default value: **Use this local computer**. Click **Next**.



Note

If you are installing the reporting server and reporting database side-by-side, options on this page are not available. In this scenario the appropriate options are selected by default and cannot be changed.

10. On the **Configure** (Management Server Configuration) page, specify the following:
 - Type the AD group with sufficient permissions to manage the App-V 5.0 environment. For example, **MyDomain\MyUser**.



Note

You can add additional users or groups using the management console after installation. However, global security groups and Active Directory Domain Services (AD DS) distribution groups are not supported. You must use **Domain local** or **Universal** groups are required to perform this action.

- On the **Website name** line specify the custom name that will be used to run the publishing service. If you do not have a custom name, do not make any changes.
- For the **Port binding**, specify a unique port number that will be used by App-V 5.0, for example **12345**. You should also ensure that the port specified is not being used by another website.

Click **Next**.

11. On the **Configure Publishing Server Configuration** page specify the following:
 - Specify the URL for the management service. This is the address the publishing server uses to connect to. For example, **http://localhost:12345**.
 - Specify the Website Name that you want to use for the Publishing Service. Leave the default unchanged if you do not have a custom name.
 - For the **Port binding**, specify a unique port number that will be used by App-V 5.0,

for example **54321**. You should also ensure that the port specified is not being used by another website.

Click **Next**.

12. On the **Reporting Server** page, specify the following:
 - Specify the Website Name that you want to use for the Reporting Service. Leave the default unchanged if you do not have a custom name.
 - For the **Port binding**, specify a unique port number that will be used by App-V 5.0, for example **55555**. You should also ensure that the port specified is not being used by another website.
13. On the **Ready** page, to start the installation, click **Install**.
14. On the **Finished** page, to close the wizard, click **Close**.
15. To confirm that setup completed successfully, open a web browser, and type the following URL: **http://<Management server machine name>:<Management service port number>/Console.html**. For example, **http://localhost:12345/console.html**. If the installation succeeded the App-V 5.0 management console will be displayed without any errors.

How to Deploy the App-V 5.0 Server Using a Script

In order to complete the **appv_server_setup.exe** Server setup successfully using the command line, you must specify and combine multiple parameters.

▶ To Install the App-V 5.0 server using a script

1. Use the following tables for more information about installing the App-V 5.0 server using the command line.



Note

The information in the following tables can also be accessed using the command line by typing the following command: **appv_server_setup.exe /?**.

Common parameters and Examples

To Install the Management server and Management database on a local machine.	To use the default instance of Microsoft SQL Server, use the following parameters: <ul style="list-style-type: none">• /MANAGEMENT_SERVER• /MANAGEMENT_ADMINACCOUNT• /MANAGEMENT_WEBSITE_NAME• /MANAGEMENT_WEBSITE_PORT• /DB_PREDEPLOY_MANAGEMENT
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	<ul style="list-style-type: none"> • /MANAGEMENT_DB_SQLINSTANCE_USE_DEFAULT • /MANAGEMENT_DB_NAME <p>To use a custom instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /MANAGEMENT_SERVER • /MANAGEMENT_ADMINACCOUNT • /MANAGEMENT_WEBSITE_NAME • /MANAGEMENT_WEBSITE_PORT • /DB_PREDEPLOY_MANAGEMENT • /MANAGEMENT_DB_CUSTOM_SQLINSTANCE • /MANAGEMENT_DB_NAME <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /MANAGEMENT_SERVER /MANAGEMENT_ADMINACCOUNT="Domain\AdminGroup" /MANAGEMENT_WEBSITE_NAME="Microsoft AppV Management Service" /MANAGEMENT_WEBSITE_PORT="8080" /DB_PREDEPLOY_MANAGEMENT /MANAGEMENT_DB_CUSTOM_SQLINSTANCE="SqlInstanceName" /MANAGEMENT_DB_NAME="AppVManagement" </pre>
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<p>To Install the Management server using an existing Management database on a local machine.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /MANAGEMENT_SERVER • /MANAGEMENT_ADMINACCOUNT • /MANAGEMENT_WEBSITE_NAME • /MANAGEMENT_WEBSITE_PORT • /EXISTING_MANAGEMENT_DB_SQL_SERVER_USE_LOCAL • /EXISTING_MANAGEMENT_DB_SQLINSTANCE_USE_DEFAULT • /EXISTING_MANAGEMENT_DB_NAME <p>To use a custom instance of Microsoft SQL Server, use these parameters:</p> <ul style="list-style-type: none"> • /MANAGEMENT_SERVER • /MANAGEMENT_ADMINACCOUNT
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	<ul style="list-style-type: none"> • /MANAGEMENT_WEBSITE_NAME • /MANAGEMENT_WEBSITE_PORT • /EXISTING_MANAGEMENT_DB_SQL_SERVER_USE_LOCAL • /EXISTING_MANAGEMENT_DB_CUSTOM_SQLINSTANCE • /EXISTING_MANAGEMENT_DB_NAME <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /MANAGEMENT_SERVER /MANAGEMENT_ADMINACCOUNT="Domain\AdminGroup" /MANAGEMENT_WEBSITE_NAME="Microsoft AppV Management Service" /MANAGEMENT_WEBSITE_PORT="8080" /EXISTING_MANAGEMENT_DB_SQL_SERVER_USE_LOCAL /EXISTING_MANAGEMENT_DB_CUSTOM_SQLINSTANCE ="SqlInstanceName" /EXISTING_MANAGEMENT_DB_NAME ="AppVManagement" </pre>
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<p>To install the Management server using an existing Management database on a remote machine.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /MANAGEMENT_SERVER • /MANAGEMENT_ADMINACCOUNT • /MANAGEMENT_WEBSITE_NAME • /MANAGEMENT_WEBSITE_PORT • /EXISTING_MANAGEMENT_DB_REMOTE_SQL_SERVER_NAME • /EXISTING_MANAGEMENT_DB_SQLINSTANCE_USE_DEFAULT • /EXISTING_MANAGEMENT_DB_NAME <p>To use a custom instance of Microsoft SQL Server, use these parameters:</p> <ul style="list-style-type: none"> • /MANAGEMENT_SERVER • /MANAGEMENT_ADMINACCOUNT • /MANAGEMENT_WEBSITE_NAME • /MANAGEMENT_WEBSITE_PORT • /EXISTING_MANAGEMENT_DB_REMOTE_SQL_SERVER_NAME
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	<ul style="list-style-type: none"> • /EXISTING_MANAGEMENT_DB_CUSTOM_SQLINSTANCE • /EXISTING_MANAGEMENT_DB_NAME <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /MANAGEMENT_SERVER /MANAGEMENT_ADMINACCOUNT="Domain\AdminGroup" /MANAGEMENT_WEBSITE_NAME="Microsoft AppV Management Service" /MANAGEMENT_WEBSITE_PORT="8080" /EXISTING_MANAGEMENT_DB_REMOTE_SQL_SERVER_NAME="SqlServermachine.domainName" /EXISTING_MANAGEMENT_DB_CUSTOM_SQLINSTANCE="SqlInstanceName" /EXISTING_MANAGEMENT_DB_NAME="AppVManagement" </pre>
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<p>To Install the Management database and the Management Server on the same computer.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /DB_PREDEPLOY_MANAGEMENT • /MANAGEMENT_DB_SQLINSTANCE_USE_DEFAULT • /MANAGEMENT_DB_NAME • /MANAGEMENT_SERVER_MACHINE_USE_LOCAL • /MANAGEMENT_SERVER_INSTALL_ADMIN_ACCOUNT <p>To use a custom instance of Microsoft SQL Server, use these parameters:</p> <ul style="list-style-type: none"> • /DB_PREDEPLOY_MANAGEMENT • /MANAGEMENT_DB_CUSTOM_SQLINSTANCE • /MANAGEMENT_DB_NAME • /MANAGEMENT_SERVER_MACHINE_USE_LOCAL • /MANAGEMENT_SERVER_INSTALL_ADMIN_ACCOUNT <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /DB_PREDEPLOY_MANAGEMENT /MANAGEMENT_DB_CUSTOM_SQLINSTANCE="SqlInstanceName" /MANAGEMENT_DB_NAME="AppVManagement" /MANAGEMENT_SERVER_MACHINE_USE_LOCAL /MANAGEMENT_SERVER_INSTALL_ADMIN_ACCOUNT="Domain\InstallAdminAccount" </pre>
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<p>To install the Management database on a different computer than the Management server.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /DB_PREDEPLOY_MANAGEMENT • /MANAGEMENT_DB_SQLINSTANCE_USE_DEFAULT • /MANAGEMENT_DB_NAME • /MANAGEMENT_REMOTE_SERVER_MACHINE_ACCOUNT • /MANAGEMENT_SERVER_INSTALL_ADMIN_ACCOUNT <p>To use a custom instance of Microsoft SQL Server, use these parameters:</p> <ul style="list-style-type: none"> • /DB_PREDEPLOY_MANAGEMENT • /MANAGEMENT_DB_CUSTOM_SQLINSTANCE • /MANAGEMENT_DB_NAME • /MANAGEMENT_REMOTE_SERVER_MACHINE_ACCOUNT • /MANAGEMENT_SERVER_INSTALL_ADMIN_ACCOUNT <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /DB_PREDEPLOY_MANAGEMENT /MANAGEMENT_DB_CUSTOM_SQLINSTANCE="SqlInstanceName" /MANAGEMENT_DB_NAME="AppVManagement" /MANAGEMENT_REMOTE_SERVER_MACHINE_ACCOUNT="Domain\MachineAccount" /MANAGEMENT_SERVER_INSTALL_ADMIN_ACCOUNT="Domain\InstallAdminAccount" </pre>
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<p>To Install the publishing server.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /PUBLISHING_SERVER • /PUBLISHING_MGT_SERVER • /PUBLISHING_WEBSITE_NAME • /PUBLISHING_PUBLISHING_PORT <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /PUBLISHING_SERVER /PUBLISHING_MGT_SERVER="http://ManagementServerName:ManagementPort" /PUBLISHING_WEBSITE_NAME="Microsoft AppV Publishing Service" /PUBLISHING_PUBLISHING_PORT="8081" </pre>
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<p>To Install the Reporting server and Reporting database on a local machine.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /REPORTING_SERVER • /REPORTING_WEBSITE_NAME • /REPORTING_WEBSITE_PORT • /DB_PREDEPLOY_REPORTING • /REPORTING_DB_SQLINSTANCE_USE_DEFAULT • /REPORTING_DB_NAME <p>To use a custom instance of Microsoft SQL Server, use these parameters:</p> <ul style="list-style-type: none"> • /REPORTING_SERVER • /REPORTING_ADMINACCOUNT • /REPORTING_WEBSITE_NAME • /REPORTING_WEBSITE_PORT • /DB_PREDEPLOY_REPORTING • /REPORTING_DB_CUSTOM_SQLINSTANCE • /REPORTING_DB_NAME <p>Using a custom instance of Microsoft SQL Server example:</p> <ul style="list-style-type: none"> • /appv_server_setup.exe /QUIET • /REPORTING_SERVER • /REPORTING_WEBSITE_NAME="Microsoft AppV Reporting Service" • /REPORTING_WEBSITE_PORT="8082" • /DB_PREDEPLOY_REPORTING • /REPORTING_DB_CUSTOM_SQLINSTANCE="SqlInstanceName" • /REPORTING_DB_NAME="AppVReporting"
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<p>To Install the Reporting server and using an existing Reporting database on a local machine.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /REPORTING_SERVER • /REPORTING_WEBSITE_NAME • /REPORTING_WEBSITE_PORT • /EXISTING_REPORTING_DB_SQL_SERVER_USE_LOCAL • /EXISTING_REPORTING_DB_SQLINSTANCE_USE_DEFAULT • /EXISTING_REPORTING_DB_NAME <p>To use a custom instance of Microsoft SQL Server, use these</p>
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	<p>parameters:</p> <ul style="list-style-type: none"> • /REPORTING_SERVER • /REPORTING_ADMINACCOUNT • /REPORTING_WEBSITE_NAME • /REPORTING_WEBSITE_PORT • /EXISTING_REPORTING_DB_SQL_SERVER_USE_LOCAL • /EXISTING_REPORTING_DB_CUSTOM_SQLINSTANCE • /EXISTING_REPORTING_DB_NAME <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /REPORTING_SERVER /REPORTING_WEBSITE_NAME="Microsoft AppV Reporting Service" /REPORTING_WEBSITE_PORT="8082" /EXISTING_REPORTING_DB_SQL_SERVER_USE_LOCAL /EXISTING_REPORTING _DB_CUSTOM_SQLINSTANCE="SqlInstanceName" /EXISTING_REPORTING_DB_NAME="AppVReporting" </pre>
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<p>To Install the Reporting server using an existing Reporting database on a remote machine.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /REPORTING_SERVER • /REPORTING_WEBSITE_NAME • /REPORTING_WEBSITE_PORT • /EXISTING_REPORTING_DB_REMOTE_SQL_SERVER_NAME • /EXISTING_REPORTING_DB_SQLINSTANCE_USE_DEFAULT • /EXISTING_REPORTING_DB_NAME <p>To use a custom instance of Microsoft SQL Server, use these parameters:</p> <ul style="list-style-type: none"> • /REPORTING_SERVER • /REPORTING_ADMINACCOUNT • /REPORTING_WEBSITE_NAME • /REPORTING_WEBSITE_PORT • /EXISTING_REPORTING_DB_REMOTE_SQL_SERVER_NAME • /EXISTING_REPORTING_DB_CUSTOM_SQLINSTANCE • /EXISTING_REPORTING_DB_NAME <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET </pre>
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<pre> /REPORTING_SERVER /REPORTING_WEBSITE_NAME="Microsoft AppV Reporting Service" /REPORTING_WEBSITE_PORT="8082" /EXISTING_REPORTING_DB_REMOTE_SQL_SERVER_NAME="SqlServer Machine.DomainName" /EXISTING_REPORTING _DB_CUSTOM_SQLINSTANCE="SqlInstanceName" /EXITING_REPORTING_DB_NAME="AppVReporting" </pre>

<p>To install the Reporting database on the same computer as the Reporting server.</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /DB_PREDEPLOY_REPORTING • /REPORTING_DB_SQLINSTANCE_USE_DEFAULT • /REPORTING_DB_NAME • /REPORTING_SERVER_MACHINE_USE_LOCAL • /REPORTING_SERVER_INSTALL_ADMIN_ACCOUNT <p>To use a custom instance of Microsoft SQL Server, use these parameters:</p> <ul style="list-style-type: none"> • /DB_PREDEPLOY_REPORTING • /REPORTING_DB_CUSTOM_SQLINSTANCE • /REPORTING_DB_NAME • /REPORTING_SERVER_MACHINE_USE_LOCAL • /REPORTING_SERVER_INSTALL_ADMIN_ACCOUNT <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /DB_PREDEPLOY_REPORTING /REPORTING_DB_CUSTOM_SQLINSTANCE="SqlInstanceName" /REPORTING_DB_NAME="AppVReporting" /REPORTING_SERVER_MACHINE_USE_LOCAL /REPORTING_SERVER_INSTALL_ADMIN_ACCOUNT="Domain\InstallAdminAccount" </pre>
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<p>To install the Reporting database</p>	<p>To use the default instance of Microsoft SQL Server, use the following parameters:</p> <ul style="list-style-type: none"> • /DB_PREDEPLOY_REPORTING • /REPORTING_DB_SQLINSTANCE_USE_DEFAULT • /REPORTING_DB_NAME
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<p>e on a different computer than the Reporting server.</p>	<ul style="list-style-type: none"> • /REPORTING_REMOTE_SERVER_MACHINE_ACCOUNT • /REPORTING_SERVER_INSTALL_ADMIN_ACCOUNT <p>To use a custom instance of Microsoft SQL Server, use these parameters:</p> <ul style="list-style-type: none"> • /DB_PREDEPLOY_REPORTING • /REPORTING_DB_CUSTOM_SQLINSTANCE • /REPORTING_DB_NAME • /REPORTING_REMOTE_SERVER_MACHINE_ACCOUNT • /REPORTING_SERVER_INSTALL_ADMIN_ACCOUNT <p>Using a custom instance of Microsoft SQL Server example:</p> <pre> /appv_server_setup.exe /QUIET /DB_PREDEPLOY_REPORTING /REPORTING_DB_CUSTOM_SQLINSTANCE="SqlInstanceName" /REPORTING_DB_NAME="AppVReporting" /REPORTING_REMOTE_SERVER_MACHINE_ACCOUNT="Domain\MachineAccount" /REPORTING_SERVER_INSTALL_ADMIN_ACCOUNT="Domain\InstallAdminAccount" </pre>
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Parameter Definitions

General Parameters

Parameter	Information
/QUIET	Specifies silent install.
/UNINSTALL	Specifies an uninstall.
/LAYOUT	Specifies layout action. This extracts the MSIs and script files to a folder without actually installing the product. No value is expected.
/LAYOUTDIR	Specifies the layout directory. Takes a string. For example, /LAYOUTDIR="C:\Application Virtualization Server"
/INSTALLDIR	Specifies the installation directory. Takes a string. E.g. /INSTALLDIR="C:\Program Files\Application Virtualization\Server"
/MUOPTIN	Enables Microsoft Update. No value is

expected

Management Server Installation Parameters

Parameter	Information
/MANAGEMENT_SERVER	Specifies that the management server will be installed. No value is expected
/MANAGEMENT_ADMINACCOUNT	Specifies the account that will be allowed to Administrator access to the management server This account can be an individual user account or a group. Example usage: /MANAGEMENT_ADMINACCOUNT="mydomain\admin" . If /MANAGEMENT_SERVER is not specified, this will be ignored. Specifies the account that will be allowed to Administrator access to the management server. This can be a user account or a group. For example, /MANAGEMENT_ADMINACCOUNT="mydomain\admin" .
/MANAGEMENT_WEBSITE_NAME	Specifies name of the website that will be created for the management service. For example, /MANAGEMENT_WEBSITE_NAME="Microsoft App-V Management Service"
MANAGEMENT_WEBSITE_PORT	Specifies the port number that will be used by the management service will use. For example, /MANAGEMENT_WEBSITE_PORT=82 .

Parameters for the Management Server Database

Parameter	Information
/DB_PREDEPLOY_MANAGEMENT	Specifies that the management database will be installed. You must have sufficient database permissions to complete this installation. No value is expected
/MANAGEMENT_DB_SQLINSTANCE_USE_DEFAULT	Indicates that the default SQL instance should be used. No value is expected.
/MANAGEMENT_DB_CUSTOM_SQLINSTANCE	Specifies the name of the custom SQL instance that should be used to create a new database. Example usage: /MANAGEMENT_DB_

	CUSTOM_SQLINSTANCE="MYSQLSERVER" . If /DB_PREDEPLOY_MANAGEMENT is not specified, this will be ignored.
/MANAGEMENT_DB_NAME	Specifies the name of the new management database that should be created. Example usage: /MANAGEMENT_DB_NAME="AppVMgmtDB" . If /DB_PREDEPLOY_MANAGEMENT is not specified, this will be ignored.
/MANAGEMENT_SERVER_MACHINE_USE_LOCAL	Indicates if the management server that will be accessing the database is installed on the local server. Switch parameter so no value is expected.
/MANAGEMENT_REMOTE_SERVER_MACHINE_ACCOUNT	Specifies the machine account of the remote machine that the management server will be installed on. Example usage: /MANAGEMENT_REMOTE_SERVER_MACHINE_ACCOUNT="domain\computername"
/MANAGEMENT_SERVER_INSTALL_ADMIN_ACCOUNT	Indicates the Administrator account that will be used to install the management server. Example usage: /MANAGEMENT_SERVER_INSTALL_ADMIN_ACCOUNT="domain\alias"

Parameters for Installing Publishing Server

Parameter	Information
/PUBLISHING_SERVER	Specifies that the Publishing Server will be installed. No value is expected
/PUBLISHING_MGT_SERVER	Specifies the URL to Management Service the Publishing server will connect to. Example usage: http://<management server name>:<Management server port number> . If /PUBLISHING_SERVER is not used, this parameter will be ignored
/PUBLISHING_WEBSITE_NAME	Specifies name of the website that will be created for the publishing service. For example, /PUBLISHING_WEBSITE_NAME="Microsoft App-V Publishing Service"
/PUBLISHING_WEBSITE_PORT	Specifies the port number used by the

	publishing service. For example, /PUBLISHING_WEBSITE_PORT=83
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Parameters for Reporting Server

Parameter	Information
/REPORTING_SERVER	Specifies that the Reporting Server will be installed. No value is expected
/REPORTING_WEBSITE_NAME	Specifies name of the website that will be created for the Reporting Service. E.g. /REPORTING_WEBSITE_NAME="Microsoft App-V ReportingService"
/REPORTING_WEBSITE_PORT	Specifies the port number that the Reporting Service will use. E.g. /REPORTING_WEBSITE_PORT=82

Parameters for using an Existing Reporting Server Database

Parameter	Information
/EXISTING_REPORTING_DB_SQL_SERVER_USE_LOCAL	Indicates that the Microsoft SQL Server is installed on the local server. Switch parameter so no value is expected.
/EXISTING_REPORTING_DB_REMOTE_SQL_SERVER_NAME	Specifies the name of the remote computer that SQL Server is installed on. Takes a string. E.g. /EXISTING_REPORTING_DB_REMOTE_SQL_SERVER_NAME="my computer1"
/EXISTING_REPORTING_DB_SQLINSTANCE_USE_DEFAULT	Indicates that the default SQL instance is to be used. Switch parameter so no value is expected.
/EXISTING_REPORTING_DB_CUSTOM_SQLINSTANCE	Specifies the name of the custom SQL instance that should be used. Takes a string. E.g. /EXISTING_REPORTING_DB_CUSTOM_SQLINSTANCE="MYSQLSERVER"
/EXISTING_REPORTING_DB_NAME	Specifies the name of the existing

	Reporting database that should be used. Takes a string. E.g. /EXISTING_REPORTING_DB_NAME ="AppVReporting"
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Parameters for installing Reporting Server Database

Parameter	Information
/DB_PREDEPLOY_REPORTING	Specifies that the Reporting Database will be installed. DBA permissions are required for this installation. No value is expected
/REPORTING_DB_SQLINSTANCE_USE_DEFAULT	Specifies the name of the custom SQL instance that should be used. Takes a string. E.g. /REPORTING_DB_CUSTOM_SQLINSTANCE="MYSQLSERVER"
/REPORTING_DB_NAME	Specifies the name of the new Reporting database that should be created. Takes a string. E.g. /REPORTING_DB_NAME="AppVMgmtDB"
/REPORTING_SERVER_MACHINE_USE_LOCAL	Indicates that the Reporting server that will be accessing the database is installed on the local server. Switch parameter so no value is expected.
/REPORTING_REMOTE_SERVER_MACHINE_ACCOUNT	Specifies the machine account of the remote machine that the Reporting server will be installed on. Takes a string. E.g. /REPORTING_REMOTE_SERVER_MACHINE_ACCOUNT = "domain\computename"
/REPORTING_SERVER_INSTALL_ADMIN_ACCOUNT	Indicates the Administrator account that will be used to install the App-V Reporting Server. Takes a string. E.g. /REPORTING_SERVER_INSTALL_ADMIN_ACCOUNT = "domain\alias"

Parameters for using an existing Management Server Database

Parameter	Information
/EXISTING_MANAGEMENT_DB_SQL_SERVER_USE_LOCAL	Indicates that the SQL Server is installed on the local server. Switch parameter so no value is expected. If /DB_PREDEPLOY_MANAGEMENT is specified, this will be ignored.
/EXISTING_MANAGEMENT_DB_REMOTE_SQL_SERVER_NAME	Specifies the name of the remote computer that SQL Server is installed on. Takes a string. E.g. /EXISTING_MANAGEMENT_DB_REMOTE_SQL_SERVER_NAME="mycomputer1"
/EXISTING_MANAGEMENT_DB_SQLINSTANCE_USE_DEFAULT	Indicates that the default SQL instance is to be used. Switch parameter so no value is expected. If /DB_PREDEPLOY_MANAGEMENT is specified, this will be ignored.
/EXISTING_MANAGEMENT_DB_CUSTOM_SQLINSTANCE	Specifies the name of the custom SQL instance that will be used. Example usage /EXISTING_MANAGEMENT_DB_CUSTOM_SQLINSTANCE="AppVManagement" . If /DB_PREDEPLOY_MANAGEMENT is specified, this will be ignored.
/EXISTING_MANAGEMENT_DB_NAME	Specifies the name of the existing management database that should be used. Example usage: /EXISTING_MANAGEMENT_DB_NAME="AppVMgmtDB" . If /DB_PREDEPLOY_MANAGEMENT is specified, this will be ignored.

How to Install the Publishing Server on a Remote Computer

Use the following procedure to install the publishing server on a separate computer. Before you perform the following procedure, ensure the database and management server are available.

► To install the publishing server on a separate computer

1. Copy the App-V 5.0 server installation files to the computer on which you want to install it

- on. To start the App-V 5.0 server installation right-click and run **appv_server_setup.exe** as an administrator. Click **Install**.
2. On the **Getting Started** page, review and accept the license terms, and click **Next**.
 3. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, to enable Microsoft updates, select **Use Microsoft Update when I check for updates (recommended)**. To disable Microsoft updates, select **I don't want to use Microsoft Update**. Click **Next**.
 4. On the **Feature Selection** page, select the **Publishing Server** checkbox and click **Next**.
 5. On the **Installation Location** page, accept the default location and click **Next**.
 6. On the **Configure Publishing Server Configuration** page, specify the following items:
 - The URL for the management service that the publishing server will connect to. For example, **http://ManagementServerName:12345**.
 - Specify the website name that you want to use for the publishing service. Accept the default if you do not have a custom name.
 - For the **Port Binding**, specify a unique port number that will be used by App-V 5.0, for example **54321**.
 7. On the **Ready to Install** page, click **Install**.
 8. After the installation is complete, the publishing server must be registered with the management server. In the App-V 5.0 management console, use the following steps to register the server:
 - a. Open the App-V 5.0 management server console.
 - b. In the left pane, select **Servers**, and then select **Register New Server**.
 - c. Type the name of this server and a description (if required) and click **Add**.
 9. To verify if the publishing server is running correctly, you should import a package to the management server, entitle the package to an AD group, and publish the package. Using an internet browser, open the following URL: **http://publishingserver:pubport**. If the server is running correctly information similar to the following will be displayed:

```
<Publishing Protocol="1.0">
  <Packages>
    <Package PackageId="28115343-06e2-44dc-a327-3a0b9b868bda" VersionId="5d03c08f-51dc-4026-8cf9-15ebe3d65a72" PackageUrl="//server\share\file.appv" />
  </Packages>
  <NoGroup>
    <Package PackageId="28115343-06e2-44dc-a327-3a0b9b868bda" />
  </NoGroup>
</Publishing>
```

How to Install the Management and Reporting Databases on Separate Computers from the Management and Reporting Services

Use the following procedure to install the database server and management server on different computers. The computer you plan to install the database server on must be running a supported version of Microsoft SQL or the installation will fail.

Note

After you complete the deployment, the **Microsoft SQL Server name**, **instance name** and **database name** will be required by the administrator installing the service to be able to connect to these databases.

To install the management database and the management server on separate computers

1. Copy the App-V 5.0 server installation files to the computer on which you want to install it on. To start the App-V 5.0 server installation right-click and run **appv_server_setup.exe** as an administrator. Click **Install**.
2. On the **Getting Started** page, review and accept the license terms, and click **Next**.
3. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, to enable Microsoft updates, select **Use Microsoft Update when I check for updates (recommended)**. To disable Microsoft updates, select **I don't want to use Microsoft Update**. Click **Next**.
4. On the **Feature Selection** page, select the components you want to install by selecting the **Management Server Database** checkbox and click **Next**.
5. On the **Installation Location** page, accept the default location and click **Next**.
6. On the initial **Create New Management Server Database** page, accept the default selections if appropriate, and click **Next**.

If you are using a custom SQL Server instance, then select **Use a custom instance** and type the name of the instance.

If you are using a custom database name, then select **Custom configuration** and type the database name.

7. On the next **Create New Management Server Database** page, select **Use a remote computer**, and type the remote machine account using the following format: **Domain\MachineAccount**.

Note

If you plan to deploy the management server on the same computer you must select **Use this local computer**.

Specify the user name for the management server **Install Administrator** using the following format: **Domain\AdministratorLoginName**. Click **Next**.

8. To start the installation, click **Install**.

To install the reporting database and the reporting server on separate computers

1. Copy the App-V 5.0 server installation files to the computer on which you want to install it on. To start the App-V 5.0 server installation right-click and run **appv_server_setup.exe** as an administrator. Click **Install**.
2. On the **Getting Started** page, review and accept the license terms, and click **Next**.
3. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, to enable Microsoft updates, select **Use Microsoft Update when I check for updates (recommended)**. To disable Microsoft updates, select **I don't want to use Microsoft Update**. Click **Next**.
4. On the **Feature Selection** page, select the components you want to install by selecting the **Reporting Server Database** checkbox and click **Next**.
5. On the **Installation Location** page, accept the default location and click **Next**.
6. On the initial **Create New Reporting Server Database** page, accept the default selections if appropriate, and click **Next**.

If you are using a custom SQL Server instance, then select **Use a custom instance** and type the name of the instance.

If you are using a custom database name, then select **Custom configuration** and type the database name.

7. On the next **Create New Reporting Server Database** page, select **Use a remote computer**, and type the remote machine account using the following format: **Domain\MachineAccount**.



Note

If you plan to deploy the reporting server on the same computer you must select **Use this local computer**.

Specify the user name for the reporting server **Install Administrator** using the following format: **Domain\AdministratorLoginName**. Click **Next**.

8. To start the installation, click **Install**.

▶ To install the management and reporting databases using App-V 5.0 database scripts

1. Copy the App-V 5.0 server installation files to the computer on which you want to install it on.
2. To extract the App-V 5.0 database scripts, open a command prompt and specify the location where the installation files are saved and run the following command:
appv_server_setup.exe /LAYOUT /LAYOUTDIR="InstallationExtractionLocation".
3. After the extraction has been completed, to access the App-V 5.0 database scripts and instructions readme file:
 - The App-V 5.0 Management Database scripts and instructions readme are located in the following folder: **InstallationExtractionLocation \ Database Scripts \ Management Database**.
 - The App-V 5.0 Reporting Database scripts and instructions readme are located in the following folder: **InstallationExtractionLocation \ Database Scripts \ Reporting**

Database.

4. For each database, copy the scripts to a share and modify them following the instructions in the readme file.



Note

For more information about modifying the required SIDs contained in the scripts see, [How To Install the App-V Databases and Convert the Associated Security Identifiers \(SID\) Using PowerShell.](#)

5. Run the scripts on the computer running Microsoft SQL Server.

How to install the Management Server on a Standalone Computer and Connect it to the Database

Use the following procedure to install the management server on a standalone computer and connect it to the database.

► To install the management server on a standalone computer and connect it to the database

1. Copy the App-V 5.0 server installation files to the computer on which you want to install it on. To start the App-V 5.0 server installation right-click and run **appv_server_setup.exe** as an administrator. Click **Install**.
2. On the **Getting Started** page, review and accept the license terms, and click **Next**.
3. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, to enable Microsoft updates, select **Use Microsoft Update when I check for updates (recommended)**. To disable Microsoft updates, select **I don't want to use Microsoft Update**. Click **Next**.
4. On the **Feature Selection** page, select the **Management Server** checkbox and click **Next**.
5. On the **Installation Location** page, accept the default location and click **Next**.
6. On the **Configure Existing Management Database** page, select **Use a remote SQL Server**, and type the machine name of the computer running Microsoft SQL SQL, for example **SqlServerMachine**.



Note

If the Microsoft SQL Server is deployed on the same server, select **Use local SQL Server**.

For the SQL Server Instance, select **Use the default instance**. If you are using a custom Microsoft SQL Server instance, you must select **Use a custom instance** and then type the name of the instance.

Specify the **SQL Server Database name** that this management server will use, for example **AppvManagement**.

7. On the **Configure Management Server Configuration** page, specify the AD group or account that will connect to the management console for administrative purposes for

example **MyDomain\MyUser** or **MyDomain\AdminGroup**. The account or AD group you specify will be enabled to manage the server through the management console. You can add additional users or groups using the management console after installation

Specify the **Website Name** that you want to use for the management service. Accept the default if you do not have a custom name. For the **Port Binding**, specify a unique port number to be used, for example **12345**.

8. Click **Install**.
9. To confirm that the setup has completed successfully, open a web browser, and type the following URL: `http://managementserver:portnumber/Console.html` if the installation was successful you should see the **Silverlight Management Console** appear without any error messages or warnings being displayed.

How to install the Reporting Server on a Standalone Computer and Connect it to the Database

Use the following procedure to install the reporting server on a standalone computer and connect it to the database.

▶ To install the reporting server on a standalone computer and connect it to the database

1. Copy the App-V 5.0 server installation files to the computer on which you want to install it on. To start the App-V 5.0 server installation right-click and run **appv_server_setup.exe** as an administrator. Click **Install**.
2. On the **Getting Started** page, review and accept the license terms, and click **Next**.
3. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, to enable Microsoft updates, select **Use Microsoft Update when I check for updates (recommended)**. To disable Microsoft updates, select **I don't want to use Microsoft Update**. Click **Next**.
4. On the **Feature Selection** page, select the **Reporting Server** checkbox and click **Next**.
5. On the **Installation Location** page, accept the default location and click **Next**.
6. On the **Configure Existing Reporting Database** page, select **Use a remote SQL Server**, and type the machine name of the computer running Microsoft SQL Server, for example **SqlServerMachine**.



Note

If the Microsoft SQL Server is deployed on the same server, select **Use local SQL Server**.

For the SQL Server Instance, select **Use the default instance**. If you are using a custom Microsoft SQL Server instance, you must select **Use a custom instance** and then type the name of the instance.

Specify the **SQL Server Database name** that this reporting server will use, for example **AppvReporting**.

7. On the **Configure Reporting Server Configuration** page.

- Specify the Website Name that you want to use for the Reporting Service. Leave the default unchanged if you do not have a custom name.
- For the **Port binding**, specify a unique port number that will be used by App-V 5.0, for example **55555**. You should also ensure that the port specified is not being used by another website.

8. Click **Install**.

App-V 5.0 Deployment Checklist

This checklist can be used to help you during Microsoft Application Virtualization (App-V) 5.0 deployment.



Note

This checklist outlines the recommended steps and a high-level list of items to consider when deploying App-V 5.0 features. It is recommended that you copy this checklist into a spreadsheet program and customize it for your use.

	Task	References	Notes
<input type="checkbox"/>	Complete the planning phase to prepare the computing environment for App-V 5.0 deployment.	App-V 5.0 Planning Checklist	
<input type="checkbox"/>	Review the App-V 5.0 supported configurations information to make sure selected client and server computers are supported for App-V 5.0 feature installation.	App-V 5.0 Supported Configurations	
<input type="checkbox"/>	Run App-V 5.0 Setup to deploy the required App-V 5.0 features for your environment. Note Keep track of the names of the servers and associated URL's	<ul style="list-style-type: none"> • How to Install the Sequencer • How to Deploy the Client • How to Deploy the App-V 5.0 Server 	

	Task	References	Notes
	created during installation. This information will be used throughout the installation process.		

Operations for App-V 5.0

This section of the App-V 5.0 Administrator's Guide includes information about the various types of App-V 5.0 administration and operating tasks that are typically performed by an administrator. This section also includes step-by-step procedures to help you successfully perform those tasks.

Operations Information

- [Creating and Managing App-V 5.0 Virtualized Applications](#)
After completing all necessary planning and then deploying App-V 5.0, you can create, modify, and convert virtualized packages.
- [Administering App-V 5.0 Virtual Applications](#)
This section describes how to connect to the App-V 5.0 management console to perform tasks for existing virtualized packages.
- [Deploying App-V 5.0 Packages by Using Electronic Software Distribution \(ESD\)](#)
This section describes how to deploy virtualized applications.
- [Using the App-V 5.0 Client Management Console](#)
This section describes how perform client configuration tasks using the client management console.
- [Security and Privacy for App-V 5.0](#)
This section describes an overview of App-V 5.0 security considerations and explains many of the data collection and use practices of App-V.
- [Administering App-V using PowerShell](#)
This section describes the set of Windows PowerShell cmdlets available for administrators performing various App-V 5.0 server tasks.

Creating and Managing App-V 5.0 Virtualized Applications

Microsoft Application Virtualization (App-V) 5.0 Sequencer, you can use it to monitor and record the installation and setup process for an application to be run as a virtualized application.

Sequencing an application

You can use the App-V 5.0 Sequencer to perform the following tasks:

- Create virtual packages that can be deployed to computers running the App-V 5.0 client.
- Upgrade existing packages. You can expand an existing package onto the computer running the sequencer and then upgrade the application to create a newer version.
- Edit configuration information associated with an existing package. For example, you can add a shortcut or modify a file type association.
- Convert existing virtual packages.

The sequencer uses the `%TMP% \ Scratch` or `%TEMP% \ Scratch` directory and the `Temp` directory to store temporary files during sequencing. On the computer that runs the sequencer, you should configure these directories with free disk space equivalent to the estimated application installation requirements. Configuring the temp directories and the Temp directory on different hard drive partitions can help improve performance during sequencing.

When you use the sequencer to create a new virtual application, the following listed files are created. These files comprise the App-V 5.0 package.

- `.msi` file. This Windows Installer (`.msi`) file is created by the sequencer and is used to install the virtual package on target computers.
- `Report.xml` file. In this file, the sequencer saves all issues, warnings, and errors that were discovered during sequencing. It displays the information after the package has been created. You can use this report for diagnosing and troubleshooting.
- `.appv` file. This is the virtual application file.
- Deployment configuration file. The deployment configuration file determines how the virtual application will be deployed to target computers.
- User configuration file. The user configuration file determines how the virtual application will run on target computers.

Important

You must configure the `%TMP%` and `%TEMP%` folders that the package converter uses to be a secure location and directory. A secure location is only accessible by an administrator. Additionally, when you sequence the package you should save the package to a location that is secure, or make sure that no other user is allowed to be logged in during the conversion and monitoring process.

The **Options** dialog box in the sequencer console contains the following tabs:

- **General.** Use this tab to enable Microsoft Updates to run during sequencing. Select **Append Package Version to Filename** to configure the sequence to add a version number to the virtualized package that is being sequenced. Select **Always trust the source of Package Accelerators** to create virtualized packages using a package accelerator without being prompted for authorization.

Important

Package Accelerators created using App-V 4.6 are not supported by App-V 5.0.

- **Parse Items.** This tab displays the associated file path locations that will be parsed or tokenized into in the virtual environment. Tokens are useful for adding files using the **Package Files** tab in **Advanced Editing**.

- **Exclusion Items.** Use this tab to specify which folders and directories should not be monitored during sequencing. To add local application data that is saved in the Local App Data folder in the package, click **New** and specify the location and the associated **Mapping Type**. This option is required for some packages.

App-V 5.0 supports applications that include Microsoft Windows Services. If an application includes a Windows service, the Service will be included in the sequenced virtual package as long as it is installed while being monitored by the sequencer. If a virtual application creates a Windows service when it initially runs, then later, after installation, the application must be run while the sequencer is monitoring so that the Windows Service will be added to the package. Only Services that run under the Local System account are supported. Services that are configured for AutoStart or Delayed AutoStart are started before the first virtual application in a package runs inside the package's Virtual Environment. Windows Services that are configured to be started on demand by an application are started when the virtual application inside the package starts the Service via API call.

[How to Sequence a New Application with App-V 5.0](#)

Modifying an existing virtual application package

You can use the sequencer to modify an existing package. The computer on which you do this should match the chip architecture of the computer you used to create the application. For example, if you initially sequenced a package using a computer running a 64-bit operating system, you should modify the package using a computer running a 64-bit operating system.

[How to Modify an Existing Virtual Application Package](#)

Creating a project template

A .appvt file is a project template that can be used to save commonly applied, customized settings. You can then more easily use these settings for future sequencings.

App-V 5.0 project templates differ from App-V 5.0 Application Accelerators because App-V 5.0 Application Accelerators are application-specific, and App-V 5.0 project templates can be applied to multiple applications. Additionally, you cannot use a project template when you use a Package Accelerator to create a virtual application package. The following general settings are saved with an App-V 5.0 project template:

A template can specify and store multiple settings as follows:

- **Advanced Monitoring Options.** Enables Microsoft Update to run during monitoring. Saves allow local interaction option settings
- **General Options.** Enables the use of **Windows Installer, Append Package Version to Filename.**
- **Exclusion Items.** Contains the Exclusion pattern list.

Creating a package accelerator

You can use App-V 5.0 package accelerators to automatically generate a new virtual application packages. After you have successfully created a package accelerator, you can reuse and share the package accelerator.

In some situations, to create the package accelerator, you might have to install the application locally on the computer that runs the sequencer. In such cases, you should first try to create the package accelerator with the installation media. If multiple missing files are required, you should install the application locally to the computer that runs the sequencer, and then create the package accelerator.

After you have successfully created a Package Accelerator, you can reuse and share the Package Accelerator. Creating App-V 5.0 Package Accelerators is an advanced task. Package Accelerators can contain password and user-specific information. Therefore you must save Package Accelerators and the associated installation media in a secure location, and you should digitally sign the Package Accelerator after you create it so that the publisher can be verified when the App-V 5.0 Package Accelerator is applied.

[How to Create a Package Accelerator](#)

[How to Create a Virtual Application Package Using an App-V Package Accelerator](#)

Sequencer error reporting

The App-V 5.0 Sequencer can detect common sequencing issues during sequencing. The **Installation Report** page at the end of the sequencing wizard displays diagnostic messages categorized into **Errors**, **Warnings**, and **Info** depending on the severity of the issue.

You can also find additional information about sequencing errors using the Windows Event Viewer.

How to Sequence a New Application with App-V 5.0

The Microsoft Application Virtualization (App-V) 5.0 Sequencer enables you to create the following three types of virtualized application packages:

- Standard application
- Add-on or plug-in
- Middleware

Use the following table to help determine which type of application you are sequencing.

Application type	Description	
Standard	Select this option to create a package that contains an	

Application type	Description	
	application or a suite of applications. This is the preferred option for most application types.	
Add-on or plug-in	Select this option to create a package that extends the functionality of a standard application. For example: a plug-in for Microsoft Excel. Additionally, you can use plug-ins for natively installed applications, or for another package that is linked by the use of App-V 5.0 connection groups.	
Middleware	Select this option to create a package that is required by a standard application, for example, Java. Middleware packages are used for linking to other packages by using connection groups.	

If an application installer modifies security access to a file or directory, existing or new, that those changes are not captured into the package.

Use the following procedures to create new virtualized application packages based on the type of application you are sequencing.

 **Important**

You should copy all required installation files to the computer running the sequencer before you begin any of the following procedures. You should also capture a backup image of your virtual environment before sequencing an application, and then revert to that image each time you complete sequencing an application.

When you sequence an application, if the target volume for the App-V 5.0 virtualized packages has short-paths disabled, you must also sequence the package to a volume that was created and still has short-paths disabled. It must not be the system volume.

 **To sequence a new standard application**

1. On the computer that runs the sequencer, click **All Programs**, and then Click **Microsoft Application Virtualization**, and then click **Microsoft Application Virtualization Sequencer**.

2. In the sequencer, click **Create a New Virtual Application Package**. Select **Create Package (default)**, and then click **Next**.
3. On the **Prepare Computer** page, review the issues that could cause the package creation to fail or could cause the package to contain unnecessary data. You should resolve all potential issues before you continue. After making any corrections, click **Refresh** to display the updated information. After you have resolved all potential issues, click **Next**.



Important

If you are required to disable virus scanning software, you should first scan the computer that runs the sequencer in order to ensure that no unwanted or malicious files could be added to the package.

4. On the **Type of Application** page, click the **Standard Application (default)** check box, and then click **Next**.
5. On the **Select Installer** page, click **Browse** and specify the installation file for the application.



Note

If the specified application installer modifies security access to a file or directory, existing or new, the associated changes will not be captured into the package.

If the application does not have an associated installer file and you plan to run all installation steps manually, select the **Perform a Custom Installation** check box, and then Click **Next**.

6. On the **Package Name** page, type a name that will be associated with the package. Use a name that helps identify the purpose and version of the application that will be added to the package. The package name is displayed in the App-V 5.0 Management Console. The **Primary Virtual Application Directory** displays the path where the application will be installed on target computers. To specify this location, select **Browse**.



Important

The primary application virtual directory should match the installation location for the application that is being sequenced. For example, if you install Notepad to **C:\Program Files\Notepad**; you should configure **C:\Program Files\Notepad** as your primary virtual directory. Alternatively, you can choose to set **C:\Notepad** as the primary virtual application directory, as long as during installation time, you configure the installer to install to **C:\Notepad**. Editing the Application Virtualization path is an advanced configuration task. For most applications, the default path is recommended for the following reasons:

- Application Compatibility. Some virtualized applications will not function correctly, or will fail to open if the directories are not configured with identical virtual directory paths.
- Performance. Since no file system redirection is required, the runtime performance can improve.



Tip

It is recommended that prior to Sequencing an application, you open the associated installer to determine the default installation directory, and then configure that location as the **Primary Virtual Application Directory**.

Click **Next**.

7. On the **Installation** page, when the sequencer and application installer are ready you can proceed to install the application so that the sequencer can monitor the installation process.



Important

You should always install applications to a secure location and make sure no other users are logged on to the computer running the sequencer during monitoring.

Use the application's installation process to perform the installation. If additional installation files must be run as part of the installation, click **Run** to locate and run the additional installation files. When you are finished with the installation, select **I am finished installing**. Click **Next**.

8. On the **Installation** page, wait while the sequencer configures the virtualized application package.
9. On the **Configure Software** page, optionally run the programs contained in the package. This step allows you to complete any necessary license or configuration tasks before you deploy and run the package on target computers. To run all the programs at one time, select at least one program, and then click **Run All**. To run specific programs, select the program or programs, and then click **Run Selected**. Complete the required configuration tasks and then close the applications. You may need to wait several minutes for all programs to run.



Note

To run first-use tasks for any application that is not available in the list, open the application. The associated information will be captured during this step.

Click **Next**.

10. On the **Installation Report** page, you can review information about the virtualized application package you have just sequenced. In **Additional Information**, double-click an event to obtain more detailed information. To proceed, click **Next**.
11. The **Customize** page is displayed. If you are finished installing and configuring the virtual application, select **Stop now** and skip to step 14 of this procedure. To perform either of the following customizations, select **Customize**.
 - Prepare the virtual package for streaming. Streaming improves the experience when the virtual application package is run on target computers.
 - Specify the operating systems that can run this package.

Click **Next**.

12. On the **Streaming** page, run each program so that it can be optimized and run more efficiently on target computers. It can take several minutes for all the applications to run. After all applications have run, close each of the applications, and then click **Next**.



Note

If you do not open any applications during this step, the default streaming method is on-demand streaming delivery. This means applications will be downloaded bit by bit until it can be opened, and then depending on how the background loading is configured, will load the rest of the application.

13. On the **Target OS** page, specify the operating systems that can run this package. To allow all supported operating systems in your environment to run this package, select **Allow this package to run on any operating system**. To configure this package to run only on specific operating systems, select **Allow this package to run only on the following operating systems** and select the operating systems that can run this package. Click **Next**.



Important

Make sure that the operating systems you specify here are supported by the application you are sequencing.

14. The **Create Package** page is displayed. To modify the package without saving it, select **Continue to modify package without saving using the package editor**. This option opens the package in the sequencer console so that you can modify the package before it is saved. Click **Next**.

To save the package immediately, select **Save the package now** (default). Add optional **Comments** to be associated with the package. Comments are useful for identifying the program version and other information about the package.



Important

The system does not support non-printable characters in **Comments** and **Descriptions**.

The default **Save Location** is also displayed on this page. To change the default location, click **Browse** and specify the new location. Click **Create**.

15. The **Completion** page is displayed. Review the information in the **Virtual Application Package Report** pane as needed, then click **Close**. This information is also available in the **Report.xml** file that is located in the directory where the package was created.

The package is now available in the sequencer.



Important

After you have successfully created a virtual application package, you cannot run the virtual application package on the computer that is running the sequencer.

1.



Note

Before performing the following procedure, install the parent application locally on the computer that is running the sequencer. Or if you have the parent application virtualized, you can follow the steps in the add-on or plug-in workflow to unpack the parent application on the computer.

For example, if you are sequencing a plug-in for Microsoft Excel, install Microsoft Excel locally on the computer that is running the sequencer. Also install the parent application in the same directory where the application is installed on target computers. If the plug-in or add-on is going to be used with an existing virtual application package, install the application on the same virtual application drive that was used when you created the parent virtual application package.

On the computer that runs the sequencer, click **All Programs**, and then Click **Microsoft Application Virtualization**, and then click **Microsoft Application Virtualization Sequencer**.

2. In the sequencer, click **Create a New Virtual Application Package**. Select **Create Package (default)**, and then click **Next**.
3. On the **Prepare Computer** page, review the issues that might cause the package creation to fail or could cause the package to contain unnecessary data. You should resolve all potential issues before you continue. After making any corrections, click **Refresh** to display the updated information. After you have resolved all potential issues, click **Next**.



Important

If you are required to disable virus scanning software, you should first scan the computer that runs the sequencer in order to ensure that no unwanted or malicious files could be added to the package.

4. On the **Type of Application** page, select **Add-on or Plug-in**, and then click **Next**.
5. On the **Select Installer** page, click **Browse** and specify the installation file for the add-on or plug-in. If the add-on or plug-in does not have an associated installer file and you plan to run all installation steps manually, select the **Select this option to perform a custom installation** check box, and then click **Next**.
6. On the **Install Primary** page, ensure that the primary application is installed on the computer that runs the sequencer. Alternatively, you can expand an existing package that has been saved locally on the computer that runs the sequencer. To do this, click **Expand Package**, and then select the package. After you have expanded or installed the parent program, select **I have installed the primary parent program**.
Click **Next**.
7. On the **Package Name** page, type a name that will be associated with the package. Use a name that helps identify the purpose and version of the application that will be added to the package. The package name will be displayed in the App-V 5.0 Management

Console. The **Primary Virtual Application Directory** displays the path where the application will be installed. To specify this location, type the path, or click **Browse**.

Click **Next**.

8. On the **Installation** page, when the sequencer and application installer are ready you can proceed to install the plug-in or add-in application so the sequencer can monitor the installation process. Use the application's installation process to perform the installation. If additional installation files must be run as part of the installation, click **Run** and locate and run the additional installation files. When you are finished with the installation, select **I am finished installing**, and then click **Next**.
9. On the **Installation Report** page, you can review information about the virtual application package that you just sequenced. For a more detailed explanation about the information displayed in **Additional Information**, double-click the event. After you have reviewed the information, click **Next**.
10. The **Customize** page is displayed. If you are finished installing and configuring the virtual application, select **Stop now** and skip to step 12 of this procedure. To perform either of the following customizations, select **Customize**.
 - Optimize how the package will run across a slow or unreliable network.
 - Specify the operating systems that can run this package.

Click **Next**.

11. On the **Streaming** page, run each program so that it can be optimized and run more efficiently on target computers. Streaming improves the experience when the virtual application package is run on target computers on high-latency networks. It can take several minutes for all the applications to run. After all applications have run, close each of the applications. You can also configure the package to be required to be fully downloaded before opening by selecting the **Force applications to be downloaded** check-box. Click **Next**.



Note

If necessary, you can stop an application from loading during this step. In the **Application Launch** dialog box, click **Stop** and select one of the check boxes: **Stop all applications** or **Stop this application only**.

12. On the **Target OS** page, specify the operating systems that can run this package. To allow all supported operating systems in your environment to run this package, select the **Allow this package to run on any operating system** check box. To configure this package to run only on specific operating systems, select the **Allow this package to run only on the following operating systems** check box, and then select the operating systems that can run this package. Click **Next**.
13. The **Create Package** page is displayed. To modify the package without saving it, select **Continue to modify package without saving using the package editor** check box. This option opens the package in the sequencer console so that you can modify the package before it is saved. Click **Next**.

To save the package immediately, select **Save the package now**. Optionally, add a **Description** that will be associated with the package. Descriptions are useful for identifying the version and other information about the package.

 **Important**

The system does not support non-printable characters in Comments and Descriptions.

The default **Save Location** is also displayed on this page. To change the default location, click **Browse** and specify the new location. Click **Create**.

 **To sequence a middleware application**

1. On the computer that runs the sequencer, click **All Programs**, and then Click **Microsoft Application Virtualization**, and then click **Microsoft Application Virtualization Sequencer**.
2. In the sequencer, click **Create a New Virtual Application Package**. Select **Create Package (default)**, and then click **Next**.
3. On the **Prepare Computer** page, review the issues that could cause the package creation to fail or could cause the package to contain unnecessary data. You should resolve all potential issues before you continue. After making any corrections, click **Refresh** to display the updated information. After you have resolved all potential issues, click **Next**.

 **Important**

If you are required to disable virus scanning software, you should first scan the computer that runs the App-V 5.0 Sequencer in order to ensure that no unwanted or malicious files can be added to the package.

4. On the **Type of Application** page, select **Middleware**, and then click **Next**.
5. On the **Select Installer** page, click **Browse** and specify the installation file for the application. If the application does not have an associated installer file and you plan to run all installation steps manually, select the **Select this option to perform a custom installation** check box, and then click **Next**.
6. On the **Package Name** page, type a name that will be associated with the package. Use a name that helps identify the purpose and version of the application that will be added to the package. The package name is displayed in the App-V 5.0 Management Console. The **Primary Virtual Application Directory** displays the path where the application will be installed. To specify this location, type the path or click **Browse**.
Click **Next**.
7. On the **Installation** page, when the sequencer and middleware application installer are ready you can proceed to install the application so that the sequencer can monitor the installation process. Use the application's installation process to perform the installation. If additional installation files must be run as part of the installation, click **Run**, to locate and run the additional installation files. When you are finished with the installation, select

the **I am finished installing** check box, and then click **Next**.

8. On the **Installation** page, wait while the sequencer configures the virtual application package.
9. On the **Installation Report** page, you can review information about the virtual application package that you have just sequenced. In **Additional Information**, double-click an event to obtain more detailed information. To proceed, click **Next**.
10. On the **Target OS** page, specify the operating systems that can run this package. To enable all supported operating systems in your environment to run this package, select the **Allow this package to run on any operating system** check box. To configure this package to run only on specific operating systems, select the **Allow this package to run only on the following operating systems** check box and select the operating systems that can run this package. Click **Next**.
11. On the **Create Package** page is displayed. To modify the package without saving it, select **Continue to modify package without saving using the package editor**. This option opens the package in the sequencer console so that you can modify the package before it is saved. Click **Next**.

To save the package immediately, select **Save the package now**. Optionally, add a **Description** to be associated with the package. Descriptions are useful for identifying the program version and other information about the package.

 **Important**

The system does not support non-printable characters in Comments and Descriptions.

The default **Save Location** is also displayed on this page. To change the default location, click **Browse** and specify the new location. Click **Create**.

12. The **Completion** page is displayed. Review the information in the **Virtual Application Package Report** pane as needed, then click **Close**. This information is also available in the **Report.xml** file that is located in the directory specified in step 11 of this procedure. The package is now available in the sequencer. To edit the package properties, click **Edit [Package Name]**.

 **Important**

After you have successfully created a virtual application package, you cannot run the virtual application package on the computer that is running the sequencer.

How to Modify an Existing Virtual Application Package

This topic includes procedures to modify an existing virtual application package: update an application in the package; modify properties associated with the package; and add a new application to the package. Each of these procedures is described in its own section, following in this topic.

You must have the Microsoft Application Virtualization (App-V) Sequencer installed to be able to modify a virtual application package. For more information about installing the App-V Sequencer, see [How to Install the Sequencer](#).

Important

Before you modify a virtual application package, you should save the .appv file in a secure location and always trust the source before attempting to open the package for editing.

To update an application in an existing virtual application package

1. On the computer that runs the sequencer, click **All Programs** and then point to **Microsoft Application Virtualization**, and then click **Microsoft Application Virtualization Sequencer**.
2. In the App-V Sequencer, click **Modify an Existing Virtual Application Package**, and then click **Next**.
3. On the **Select Task** page, click **Update Application in Existing Package**, and then click **Next**.
4. On the **Select Package** page, click **Browse** to locate the virtual application package that contains the application to update, and then click **Next**.
5. On the **Prepare Computer** page, review the issues that could cause the application update to fail or could cause the updated application to contain unnecessary data. You should resolve all potential issues before you continue. After making any corrections, click **Refresh** to display the updated information. After you have resolved all potential issues, click **Next**.

Important

If you are required to disable virus scanning software, you should first scan the computer that runs the sequencer to ensure that no unwanted or malicious files are added to the package.

6. On the **Select Installer** page, click **Browse** and specify the update installation file for the application. If the update does not have an associated installer file and you plan to run all installation steps manually, select the check box **Select this option to perform a custom installation**, and then click **Next**.
7. On the **Installation** page, when the sequencer and application installer are ready you can proceed to install the application update so the sequencer can monitor the installation process. If additional installation files must be run as part of the installation, click **Run**, and then locate and run the additional installation files. When you are finished with the installation, select **I am finished installing**. Click **Next**.

Note

The sequencer monitors all changes and installations that occur on the computer that runs the sequencer. This includes any changes and installations that are performed outside of the sequencing wizard.

8. On the **Installation Report** page, you can review information about the updated virtual application. In **Additional Information**, double-click the event to obtain more detailed information. To proceed, click **Next**.
9. On the **Streaming** page, run each program so that it can be optimized and run more efficiently on target computers. It can take several minutes for all of the applications to run. After all applications have run, close each of the applications, and then click **Next**.



Note

You can stop an application from loading during this step. In the **Application Launch** dialog box, click **Stop**, and then select either **Stop all applications** or **Stop this application only**.

10. On the **Create Package** page, to modify the package without saving it, select the check box for **Continue to modify package without saving using the package editor**. When you select this option, the package opens in the App-V Sequencer console where you can modify the package before it is saved. Click **Next**.

To save the package immediately, select the default **Save the package now**. Add optional **Comments** to be associated with the package. Comments are useful to identify the application version and provide other information about the package. The default **Save Location** is also displayed. To change the default location, click **Browse** and specify the new location. Click **Create**.

11. On the **Completion** page, click **Close** to close the wizard. The package is now available in the sequencer.

▶ To modify the properties associated with an existing virtual application package

1. On the computer that runs the sequencer, click **All Programs** and then point to **Microsoft Application Virtualization**, and then click **Microsoft Application Virtualization Sequencer**.
2. In the App-V Sequencer, click **Modify an Existing Virtual Application Package**, and then click **Next**.
3. On the **Select Task** page, click **Edit Package**, and then click **Next**.
4. On the **Select Package** page, click **Browse** to locate the virtual application package that contains the application properties to modify, and then click **Edit**.
5. In the App-V Sequencer console, perform any of the following tasks as needed:
 - View package properties.
 - View associated package files.
 - Edit registry settings.
 - Review additional package settings (except operating system file properties).
 - Set virtualized registry key state (override or merge).
 - Set virtualized folder state.
 - Add or edit shortcuts and file type associations.



Note

To edit shortcuts or file type associations you must first open the package for upgrade to add a new application and then proceed to the final editing page.

6. When you are done modifying the package properties, click **File / Save** to save the package.

▶ To add a new application to an existing virtual application package

1. On the computer that runs the sequencer, click **All Programs** and then point to **Microsoft Application Virtualization**, and then click **Microsoft Application Virtualization Sequencer**.
2. In the App-V Sequencer, click **Modify an Existing Virtual Application Package**, and then click **Next**.
3. On the **Select Task** page, click **Add New Application**, and then click **Next**.
4. On the **Select Package** page, click **Browse** to locate the virtual application package to which you will add the application, and then click **Next**.
5. On the **Prepare Computer** page, review the issues that could cause the package creation to fail or could cause the revised package to contain unnecessary data. You should resolve all potential issues before you continue. After making any corrections, click **Refresh** to display the updated information. After you have resolved all potential issues, click **Next**.



Important

If you are required to disable virus scanning software, you should first scan the computer that runs the sequencer to ensure that no unwanted or malicious files can be added to the package.

6. On the **Select Installer** page, click **Browse** and specify the installation file for the application. If the application does not have an associated installer file and you plan to run all installation steps manually, select the check box **Select this option to perform a custom installation**, and then click **Next**.
7. On the **Installation** page, when the sequencer and application installer are ready you can proceed to install the application so the sequencer can monitor the installation process. If additional installation files must be run as part of the installation, click **Run**, and locate and run the additional installation files. When you are finished with the installation, select **I am finished installing**, and then click **Next**. In the **Browse for Folder** dialog box, specify the primary directory where the application will be installed. This should be a new location so that you do not overwrite the existing version of the virtual application package.



Note

The sequencer monitors all changes and installations that occur on the computer that runs the sequencer. This includes any changes and installations that are performed outside of the sequencing wizard.

8. On the **Configure Software** page, optionally run the programs contained in the package. This step helps complete any associated license or configuration tasks that are required to run the application before you deploy and run the package on target computers. To run all the programs at the same time, select at least one program, and then click **Run All**. To run specific programs, select the program or programs you want to run, and then click **Run Selected**. Complete the required configuration tasks and then close the applications. It can take several minutes for all programs to run. Click **Next**.
9. On the **Installation Report** page, you can review information about the updated virtual application. In **Additional Information**, double-click the event to obtain more detailed information. To proceed, click **Next**.
10. The **Customize** page is now displayed. If you are finished installing and configuring the virtual application, select **Stop now** and skip to step 13 of this procedure. If you want to perform the following described customization, click **Customize**.
 - Prepare the virtual package for streaming. Streaming improves the experience when the virtual application package is run on target computers.

Click **Next**.

11. On the **Streaming** page, run each program so that it can be optimized and run more efficiently on target computers. It can take several minutes for all the applications to run. After all applications have run, close each of the applications, and then click **Next**.



Note

You can stop an application from loading during this step. In the **Application Launch** dialog box, click **Stop** and then select either **Stop all applications** or **Stop this application only**.

12. The **Create Package** page is displayed. To modify the package without saving it, select the check box for **Continue to modify package without saving using the package editor**. When you select this option, the package opens in the App-V Sequencer console where you can modify the package before it is saved. Click **Next**.

To save the package immediately, select the default **Save the package now**. Add optional **Comments** to be associated with the package. Comments are useful for providing application versions and other information about the package. The default **Save Location** is also displayed. To change the default location, click **Browse** and specify the new location. The uncompressed package size is displayed. Click **Create**.

13. On the **Completion** page, click **Close**. The package is now available in the sequencer.

How to Create and Use a ProjectTemplate

You can use an App-V 5.0 project template to save commonly applied settings associated with an existing virtual application package. These settings can then be applied when you create new virtual application packages in your environment. Using a project template can streamline the process of creating virtual application packages.



Note

You can, and often should apply an App-V 5.0 project template during a package upgrade. For example, if you sequenced an application with a custom exclusion list, it is recommended that an associated template is created and saved for later use while upgrading the sequenced application.

App-V 5.0 project templates differ from App-V 5.0 Application Accelerators because App-V 5.0 Application Accelerators are application-specific, and App-V 5.0 project templates can be applied to multiple applications.

Use the following procedures to create and apply a new template.

▶ To create a project template

1. To start the App-V 5.0 sequencer, on the computer that is running the sequencer, click **Start / All Programs / Microsoft Application Virtualization / Microsoft Application Virtualization Sequencer**.

2.



Note

If the virtual application package is currently open in the App-V 5.0 Sequencer console, skip to step 3 of this procedure.

To open the existing virtual application package that contains the settings you want to save with the App-V 5.0 project template, click **File / Open**, and then click **Edit Package**. On the **Select Package** page, click **Browse** and locate the virtual application package that you want to open. Click **Edit**.

3. In the App-V 5.0 Sequencer console, to save the template file, click **File / Save As Template**. After you have reviewed the settings that will be saved with the new template, click **OK**. Specify a name that will be associated with the new App-V 5.0 project template. Click **Save**.

The new App-V 5.0 project template is saved in the directory specified in step 3 of this procedure.

▶ To apply a project template

1.



Important

Creating a virtual application package using a project template in conjunction with a Package Accelerator is not supported.

To start the App-V 5.0 sequencer, on the computer that is running the sequencer, click **Start / All Programs / Microsoft Application Virtualization / Microsoft Application Virtualization Sequencer**.

2. To create or upgrade a new virtual application package by using an App-V 5.0 project template, click **File / New From Template**.
3. To select the project template that you want to use, browse to the directory where the project template is saved, select the project template, and then click **Open**.

Create the new virtual application package. The settings saved with the specified template will be applied to the new virtual application package that you are creating.

How to Create a Package Accelerator

App-V 5.0 package accelerators automatically generate new virtual application packages.

Note

You can use PowerShell to create a package accelerator. For more information see [How to Create a Package Accelerator Using PowerShell](#).

Use the following procedure to create a package accelerator.

Important

Package Accelerators can contain password and user-specific information. Therefore you must save Package Accelerators and the associated installation media in a secure location, and you should digitally sign the Package Accelerator after you create it so that the publisher can be verified when the App-V 5.0 Package Accelerator is applied.

Important

Before you begin the following procedure, you should perform the following:

- Copy the virtual application package that you will use to create the package accelerator locally to the computer running the sequencer.
- Copy all required installation files associated with the virtual application package to the computer running the sequencer.

To create a package accelerator

1.

Important

The App-V 5.0 Sequencer does not grant any license rights to the software application you are using to create the Package Accelerator. You must abide by all end user license terms for the application you are using. It is your responsibility to make sure the software application's license terms allow you to create a Package Accelerator using App-V 5.0 Sequencer.

To start the App-V 5.0 sequencer, on the computer that is running the sequencer, click **Start / All Programs / Microsoft Application Virtualization / Microsoft Application Virtualization Sequencer**.

2. To start the App-V 5.0 **Create Package Accelerator** wizard, in the App-V 5.0 sequencer console, click **Tools / Create Accelerator**.
3. On the **Select Package** page, to specify an existing virtual application package to use to create the Package Accelerator, click **Browse**, and locate the existing virtual application package (.appv file).

Tip

Copy the files associated with the virtual application package you plan to use locally to the computer running the Sequencer.

Click **Next**.

4. On the **Installation Files** page, to specify the folder that contains the installation files that you used to create the original virtual application package, click **Browse**, and then select the directory that contains the installation files.



Tip

Copy the folder that contains the required installation files to the computer running the Sequencer.

5. If the application is already installed on the computer running the sequencer, to specify the installation file, select **Files installed on local system**. To use this option, the application must already be installed in the default installation location.
6. On the **Gathering Information** page, review the files that were not found in the location specified on the **Installation Files** page of this wizard. If the files displayed are not required, select **Remove these files**, and then click **Next**. If the files are required, click **Previous** and copy the required files to the directory specified on the **Installation Files** page.



Note

You must either remove the unrequired files, or click **Previous** and locate the required files to advance to the next page of this wizard.

7. On the **Select Files** page, carefully review the files that were detected, and clear any file that should be removed from the package accelerator. Select only files that are required for the application to run successfully, and then click **Next**.
8. On the **Verify Applications** page, confirm that all installation files that are required to build the package are displayed. When the Package Accelerator is used to create a new package, all installation files displayed in the **Applications** pane are required to create the package.

If necessary, to add additional Installer files, click **Add**. To remove unnecessary installation files, select the Installer file, and then click **Delete**. To edit the properties associated with an installer, click **Edit**. The installation files specified in this step will be required when the Package Accelerator is used to create a new virtual application package. After you have confirmed the information displayed, click **Next**.

9. On the **Select Guidance** page, to specify a file that contains information about how the Package Accelerator, click **Browse**. For example, this file can contain information about how the computer running the Sequencer should be configured, application prerequisite information for target computers, and general notes. You should provide all required information for the Package Accelerator to be successfully applied. The file you select must be in rich text (.rtf) or text file (.txt) format. Click **Next**.
10. On the **Create Package Accelerator** page, to specify where to save the Package Accelerator, click **Browse** and select the directory.
11. On the **Completion** page, to close the **Create Package Accelerator** wizard, click **Close**.

Important

To help ensure that the package accelerator is as secure as possible, and so that the publisher can be verified when the package accelerator is applied, you should always digitally sign the package accelerator.

How to Create a Virtual Application Package Using an App-V Package Accelerator

Important

The App-V 5.0 Sequencer does not grant any license rights to the software application that you use to create the Package Accelerator. You must abide by all end user license terms for the application that you use. It is your responsibility to make sure that the software application's license terms allow you to create a Package Accelerator with the App-V 5.0 Sequencer.

Use the following procedure to create a virtual application package with the App-V 5.0 Package Accelerator.

Note

Before you start this procedure, copy the required Package Accelerator locally to the computer that runs the App-V 5.0 Sequencer. You should also copy all required installation files for the package to a local directory on the computer that runs the Sequencer. This is the directory that you have to specify in step 5 of this procedure.

To create a virtual application package with an App-V 5.0 Package Accelerator

1. To start the App-V Sequencer, on the computer that runs the App-V 5.0 Sequencer, click **Start / All Programs / Microsoft Application Virtualization / Microsoft Application Virtualization Sequencer**.
2. To start the **Create New Package Wizard**, click **Create a New Virtual Application Package**. To create the package, select the **Create Package using a Package Accelerator** check box, and then click **Next**.
3. To specify the package accelerator that will be used to create the new virtual application package, click **Browse** on the **Select Package Accelerator** page. Click **Next**.

Important

If the publisher of the package accelerator cannot be verified and does not contain a valid digital signature, then before you click **Run**, you must confirm that you trust the source of the package accelerator. Confirm your choice in the **Security Warning** dialog box.

4. On the **Guidance** page, review the publishing guidance information that is displayed in the information pane. This information was added when the Package Accelerator was created and it contains guidance about how to create and publish the package. To export

the guidance information to a text (.txt) file, click **Export** and specify the location where the file should be saved, and then click **Next**.

5. On the **Select Installation Files** page, click **Make New Folder** to create a local folder that contains all required installation files for the package, and specify where the folder should be saved. You must also specify a name to be assigned to the folder. You must then copy all required installation files to the location that you specified. If the folder that contains the installation files already exists on the computer that runs the Sequencer, click **Browse** to select the folder.

Alternatively, if you have already copied the installation files to a directory on this computer, click **Make New Folder**, browse to the folder that contains the installation files, and then click **Next**.



Note

You can specify the following types of supported installation files:

- Windows Installer files (.msi)
- Cabinet files (.cab)
- Compressed files with a .zip file name extension
- The actual application files

The following file types are not supported: **.msp** and **.exe** files. If you specify an **.exe** file, you must extract the installation files manually.

If the package accelerator requires an application to be installed before you apply the Package Accelerator, and if you have already installed the required application, select **I have installed all applications**, and then click **Next** on the **Local Installation** page.

6. On the **Package Name** page, specify a name that will be associated with the package. The name that you specify identifies the package in the App-V Management Console. Click **Next**.
7. On the **Create Package** page, provide comments that will be associated with the package. The comments should contain identifying information about the package that you are creating. To confirm the location where the package is created, review the information that is displayed in **Save Location**. To compress the package, select **Compress Package**. Select the **Compress Package** check box if the package will be streamed across the network, or when the package size exceeds 4 GB.
To create the package, click **Create**. After the package is created, click **Next**.
8. On the **Configure Software** page, to enable the Sequencer to configure the applications that are contained in the package, select **Configure Software**. In this step you can configure any associated tasks that must be completed in order to run the application on the target computers. For example, you can configure any associated license agreements.

If you select **Configure Software**, the following items can be configured using the Sequencer as part of this step:

- **Load Package**. The Sequencer loads the files that are associated with the package. It can take several seconds to an hour to decode the package.

- **Run Each Program.** Optionally run the programs that are contained in the package. This step is helpful to complete any associated license or configuration tasks that are required to run the application before you deploy and run the package on target computers. To run all the programs at once, select at least one program, and then click **Run All**. To run specific programs, select the program or programs that you want to run, and then click **Run Selected**. Complete the required configuration tasks, and then close the applications. It can take several minutes for all programs to run. Click **Next**.
- **Save Package.** The Sequencer saves the package.
- **Primary Feature Block.** The Sequencer optimizes the package for streaming by rebuilding the primary feature block.

If you do not want to configure the applications, click **Skip this step**, and to go to step 9 of this procedure, and then click **Next**.

9. On the **Completion** page, after you review the information that is displayed in the **Virtual Application Package Report** pane, click **Close**.

The package is now available in the Sequencer. To edit the package properties, click **Edit [Package Name]**. For more information about how to modify a package, see [How to Modify an Existing Virtual Application Package](#).

Administering App-V 5.0 Virtual Applications

Use the Microsoft Application Virtualization (App-V) 5.0 management server to manage packages, connection groups, and package access in your environment. The server publishes application icons, shortcuts, and file type associations to authorized computers that run the App-V 5.0 client. In most configurations that use this server, one or more management servers share a common data store for configuration and package information.

The management servers use Active Directory groups to manage user authorization. In addition to Active Directory Domain Services, these servers have SQL Server installed to manage the database and data store.

Because the management servers stream applications to end-users on demand, these servers are ideally suited for system configurations that have reliable, high-bandwidth LANs. The management server consists of the following components:

1. Management Server – Use the management server to manage packages and connection groups.
2. Publishing Server – Use the publishing server to deploy packages to computers that run the App-V 5.0 client.
3. Management Database - Use the management database to manage the package access and to publish the server's synchronization with the management server.

Management Console tasks

The following list displays the primary common tasks that you can accomplish with the App-V 5.0 management server.

- Connect to the Management Console.
- Add or upgrade a package.
- Manage package permissions.
- Publish a package.
- Search for a package.
- View and edit default package configurations.
- Delete a package.
- Transfer permissions and package configurations to another package.
- Manage administrators.
- Register and unregister publishing servers.

The following information describes the main elements of the App-V 5.0 Management Console.

Management Console tab	Description
Overview	<ul style="list-style-type: none"> • App-V Sequencer - Select this option to review general information about using the App-V 5.0 sequencer. • Application Packages Library – Select this option to open the PACKAGES page of the Management Console. Use this page to review packages that have been added to the server. You can also manage the connection groups, as well as add or upgrade packages. • SERVERS – Select this option to open the SERVERS page of the Management Console. Use this page to review the list of servers that have been registered with your App-V 5.0 infrastructure. • CLIENTS – Select this option to review general information about App-V 5.0 clients.
Packages tab	Use the PACKAGES tab to add or upgrade packages. You can also manage connection groups by clicking CONNECTION GROUPS .
Servers tab	Use the SERVERS tab to register a new server.

Management Console tab	Description
Administrators tab	Use the ADMINISTRATORS tab to register, add, or remove administrators in your App-V 5.0 environment.

Manage connection groups

You can use connection groups to create connections between applications.

Note

In previous versions of App-V 5.0, connection groups were referred to as Dynamic Suite Composition.

Connection Groups allow you to create connections between applications. These applications can then communicate with each other while running in the virtual environment.

[Managing Connection Groups](#)

Create a dynamic configuration file

You can use a dynamic configuration to customize an App-V 5.0 package for a specific user. However, you must first create the dynamic user configuration (.xml) file or the dynamic deployment configuration file before you can use the files. Creation of the file is an advanced manual operation.

For more information about how to create a dynamic user configuration file see, [About App-V 5.0 Dynamic Configuration](#).

[How to Create a Custom Configuration File Using the App-V 5.0 Management Console](#)

About App-V 5.0 Dynamic Configuration

You can use the Dynamic Configuration to customize an App-V 5.0 package for a user. Use the following information to create or edit a Dynamic Configuration file.

Advanced: Dynamic Configuration

You can use Dynamic Configuration to customize an App-V 5.0 package for a user. Before you customize a package, you must create the Dynamic User Configuration.xml file or the Dynamic Deployment Configuration file. The file creation and modification procedure is an advanced manual operation. The files are created automatically by the Sequencer and you can use the following information to edit the files.

Dynamic Configuration file contents

When a Dynamic Configuration file is applied, the file modifies the settings associated with the App-V 5.0 package when it is deployed to a computer running the App-V 5.0 client. The Dynamic User Configuration file should include all necessary changes such as additions, deletions, and updates.

The following list displays the two types:

- **User Configuration File (UserConfig)** – Allows you to specify or modify custom settings for a package. These settings will be applied for a specific user when the package is deployed to a computer running the App-V 5.0 client.
- **Deployment Configuration File (DeploymentConfig)** – Allows you to specify or modify the default settings for a package. These settings will be applied for all users when a package is deployed to a computer running the App-V 5.0 client.

To customize the settings for a package for a specific set of users on a computer or to make changes that will be applied to local user locations such as HKCU, the UserConfig file should be used. To modify the default settings of a package for all users on a machine or to make changes that will be applied to global locations such as HKEY_LOCAL_MACHINE and the all users folder, the DeploymentConfig file should be used.

The UserConfig file provides configuration settings that can be applied to a single user without affecting any other users on a client:

- Extensions that will be integrated into the native system per user:- shortcuts, File-Type associations, URL Protocols, AppPaths, Software Clients and COM
- Virtual Subsystems:- Application Objects, Environment variables, Registry modifications, Services and Fonts
- Scripts (User context only)
- Managing Authority (for controlling co-existence of package with App-V 4.6)

The DeploymentConfig file provides configuration settings in two sections, one relative to the machine context and one relative to the user context providing the same capabilities listed in the UserConfig list above:

- All UserConfig settings above
- Extensions that can only be applied globally for all users
- Virtual Subsystems that can be configured for global machine locations e.g. registry
- Product Source URL
- Scripts (Machine context only)
- Controls to Terminate Child Processes

File structure

The structure of the App-V 5.0 Dynamic Configuration file is explained in the following section.

Dynamic User Configuration file

Header - the header of a dynamic user configuration file is as follows:

```
<?xml version="1.0" encoding="utf-8"?><UserConfiguration PackageId="1f8488bf-2257-46b4-b27f-09c9dbaae707" DisplayName="Reserved"
xmlns="http://schemas.microsoft.com/appv/2010/userconfiguration">
```

The **Packageld** is the same value as exists in the Manifest file.

Body - the body of the Dynamic User Configuration file can include all the app extension points that are defined in the Manifest file, as well as information to configure virtual applications. There are four subsections allowed in the body:

1. **Applications** - All app-extensions that are contained in the Manifest file within a package are assigned with an Application ID, which is also defined in the manifest file. This allows you to enable or disable all the extensions for a given application within a package. The **Application ID** must exist in the Manifest file or it will be ignored.

```
<UserConfiguration Packageld="1f8488bf-2257-46b4-b27f-09c9dbaae707"  
  DisplayName="Reserved"  
  xmlns="http://schemas.microsoft.com/appv/2010/userconfiguration">
```

```
<Applications>
```

```
<!-- No new application can be defined in policy. AppV Client will ignore any application ID  
that is not also in the Manifest file -->
```

```
<Application Id="{a56fa627-c35f-4a01-9e79-7d36aed8225a}" Enabled="false">
```

```
</Application>
```

```
</Applications>
```

```
...
```

```
</UserConfiguration>
```

2. **Subsystems** - AppExtensions and other subsystems are arranged as subnodes under the `<Subsystems>`:

```
<UserConfiguration Packageld="1f8488bf-2257-46b4-b27f-09c9dbaae707"  
  DisplayName="Reserved"  
  xmlns="http://schemas.microsoft.com/appv/2010/userconfiguration">
```

```
<Subsystems>
```

```
..
```

</Subsystems>

..

</UserConfiguration>

Each subsystem can be enabled/disabled using the “**Enabled**” attribute. Below are the various subsystems and usage samples.

Extensions:

Some subsystems (Extension Subsystems) control Extensions. Those subsystems are:- shortcuts, File-Type associations, URL Protocols, AppPaths, Software Clients and COM Extension Subsystems can be enabled and disabled independently of the content. Thus if Shortcuts are enabled, The client will use the shortcuts contained within the manifest by default. Each Extension Subsystem can contain an <Extensions> node. If this child element is present, the client will ignore the content in the Manifest file for that subsystem and only use the content in the configuration file.

Example using the shortcuts subsystem:

- a. If the user defined this in either the dynamic or deployment config file:

```
<Shortcuts Enabled="true">
```

```
<Extensions>
```

```
...
```

```
</Extensions>
```

```
</Shortcuts>
```

Content in the manifest will be ignored.

- b. If the user defined only the following:

```
<Shortcuts Enabled="true"/>
```

Then the content in the Manifest will be integrated during publishing.

c. If the user defines the following

```
<Shortcuts Enabled="true">
```

```
<Extensions/>
```

```
</Shortcuts>
```

Then all the shortcuts within the manifest will still be ignored. There will be no shortcuts integrated.

The supported Extension Subsystems are:

Shortcuts: This controls shortcuts that will be integrated into the local system. Below is a sample with 2 shortcuts:

```
<Subsystems>
```

```
<Shortcuts Enabled="true">
```

```
<Extensions>
```

```
<Extension Category="AppV.Shortcut">
```

```
<Shortcut>
```

```
<File>[Common Programs]\Microsoft Contoso\Microsoft ContosoApp Filler  
2010.Ink</File>
```

```
<Target>[PackageRoot]\Contoso\ContosoApp.EXE</Target>
```

```
<Icon>[Windows]\Installer\{90140000-0011-0000-0000-  
0000000FF1CE}\inficon.exe</Icon>
```

```
<Arguments />
```

```
<WorkingDirectory />
```

```
<AppUserModelId>ContosoApp.Filler.3</AppUserModelId>
```

<Description>Fill out dynamic forms to gather and reuse information throughout the organization using Microsoft ContosoApp.</Description>

<Hotkey>0</Hotkey>

<ShowCommand>1</ShowCommand>

<ApplicationId>[PackageRoot]\Contoso\ContosoApp.EXE</ApplicationId>

</Shortcut>

</Extension>

<Extension Category="AppV.Shortcut">

<Shortcut>

<File>[AppData]\Microsoft\Contoso\Recent\Templates.LNK</File>

<Target>[AppData]\Microsoft\Templates</Target>

<Icon />

<Arguments />

<WorkingDirectory />

<AppUserModelId />

<Description />

<Hotkey>0</Hotkey>

<ShowCommand>1</ShowCommand>

<!-- Note the ApplicationId is optional -->

</Shortcut>

</Extension>

</Extensions>

</Shortcuts>

File-Type Associations: Associates File-types with programs to open by default as well as setup the context menu. (MIME types can also be setup using this subsystem). Sample File-type Association is below:

<FileTypeAssociations Enabled="true">

<Extensions>

<Extension Category="AppV.FileTypeAssociation">

<FileTypeAssociation>

<FileExtension MimeAssociation="true">

<Name>.docm</Name>

<ProgId>contosowordpad.DocumentMacroEnabled.12</ProgId>

<PerceivedType>document</PerceivedType>

<ContentType>application/vnd.ms-
contosowordpad.document.macroEnabled.12</ContentType>

<OpenWithList>

<ApplicationName>wincontosowordpad.exe</ApplicationName>

</OpenWithList>

<OpenWithProgIds>

<ProgId>contosowordpad.8</ProgId>

</OpenWithProgIds>

<ShellNew>

<Command />

<DataBinary />

<DataText />

<FileName />

<NullFile>>true</NullFile>

<ItemName />

<IconPath />

<MenuText />

<Handler />

</ShellNew>

</FileExtension>

<ProgId>

<Name>contosowordpad.DocumentMacroEnabled.12</Name>

<DefaultIcon>{{Windows}}\Installer\{90140000-0011-0000-0000-0000000FF1CE}\contosowordpadicon.exe,15</DefaultIcon>

<Description>Blah Blah Blah</Description>

<FriendlyTypeName>{{FOLDERID_ProgramFilesX86}}\Microsoft Contoso 14\res.dll,9182</FriendlyTypeName>

<InfoTip>{{FOLDERID_ProgramFilesX86}}\Microsoft Contoso 14\res.dll,1424</InfoTip>

<EditFlags>0</EditFlags>

<ShellCommands>

<DefaultCommand>Open</DefaultCommand>

<ShellCommand>

<ApplicationId>{e56fa627-c35f-4a01-9e79-7d36aed8225a}</ApplicationId>

<Name>Edit</Name>

<FriendlyName>&Edit</FriendlyName>

<CommandLine>"[{PackageRoot}]\Contoso\WINcontosowordpad.EXE" /vu "%1"</CommandLine>

</ShellCommand>

</ShellCommand>

<ApplicationId>{e56fa627-c35f-4a01-9e79-7d36aed8225a}</ApplicationId>

<Name>Open</Name>

<FriendlyName>&Open</FriendlyName>

```
<CommandLine>"[PackageRoot]\Contoso\WIN\contosowordpad.EXE" /n
"%1"</CommandLine>
```

```
<DropTargetClassId />
```

```
<DdeExec>
```

```
<Application>mscontosowordpad</Application>
```

```
<Topic>ShellSystem</Topic>
```

```
<IfExec>[SHELLNOOP]</IfExec>
```

```
<DdeCommand>[SetForeground][ShellNewDatabase "%1"]</DdeCommand>
```

```
</DdeExec>
```

```
</ShellCommand>
```

```
</ShellCommands>
```

```
</ProgId>
```

```
</FileTypeAssociation>
```

```
</Extension>
```

```
</Extensions>
```

```
</FileTypeAssociations>
```

URL Protocols: This controls the URL Protocols that are integrated into the local registry of the client machine e.g. "mailto:".

```
<URLProtocols Enabled="true">
```

<Extensions>

<Extension Category="AppV.URLProtocol">

<URLProtocol>

<Name>mailto</Name>

<ApplicationURLProtocol>

<DefaultIcon>[{ProgramFilesX86}]\Microsoft Contoso\Contoso\contosomail.EXE,-9403</DefaultIcon>

<EditFlags>2</EditFlags>

<Description />

<AppUserModelId />

<FriendlyTypeName />

<InfoTip />

<SourceFilter />

<ShellFolder />

<WebNavigableCLSID />

<ExplorerFlags>2</ExplorerFlags>

<CLSID />

<ShellCommands>

<DefaultCommand>open</DefaultCommand>

<ShellCommand>

<ApplicationId>{{ProgramFilesX86}}\Microsoft
Contoso\Contoso\contosomail.EXE</ApplicationId>

<Name>open</Name>

<CommandLine>{{ProgramFilesX86}}\Microsoft Contoso\Contoso\contosomail.EXE" -c
OEP.Note /m "%1"</CommandLine>

<DropTargetClassId />

<FriendlyName />

<Extended>0</Extended>

<LegacyDisable>0</LegacyDisable>

<SuppressionPolicy>2</SuppressionPolicy>

<DdeExec>

<NoActivateHandler />

<Application>contosomail</Application>

<Topic>ShellSystem</Topic>

<IfExec>[SHELLNOOP]</IfExec>

<DdeCommand>[SetForeground][ShellNewDatabase "%1"]</DdeCommand>

</DdeExec>

</ShellCommand>

</ShellCommands>

</ApplicationURLProtocol>

</URLProtocol>

</Extension>

</Extension>

</URLProtocols>

Software Clients: Allows the app to register as an Email client, news reader, media player and makes the app visible in the Set Program Access and Computer Defaults UI. In most cases you should only need to enable and disable it. There is also a control to enable and disable the email client specifically if you want the other clients still enabled except for that client.

<SoftwareClients Enabled="true">

<ClientConfiguration EmailEnabled="false" />

</SoftwareClients>

AppPaths:- If an application for example contoso.exe is registered with an apppath name of "myapp", it allows you type "myapp" under the run menu and it will open contoso.exe.

<AppPaths Enabled="true">

<Extensions>

<Extension Category="AppV.AppPath">

<AppPath>

```
<ApplicationId>{{ProgramFilesX86}}\Microsoft  
Contoso\Contoso\contosomail.EXE</ApplicationId>
```

```
<Name>contosomail.exe</Name>
```

```
<ApplicationPath>{{ProgramFilesX86}}\Microsoft  
Contoso\Contoso\contosomail.EXE</ApplicationPath>
```

```
<PATHEnvironmentVariablePrefix />
```

```
<CanAcceptUrl>>false</CanAcceptUrl>
```

```
<SaveUrl />
```

```
</AppPath>
```

```
</Extension>
```

```
</Extensions>
```

```
</AppPaths>
```

COM: Allows an Application register Local COM servers. Mode can be Integration, Isolated or Off. When Isol.

```
<COM Mode="Isolated"/>
```

Other Settings:

In addition to Extensions, other subsystems can be enabled/disabled and edited:

Virtual Kernel Objects:

```
<Objects Enabled="false" />
```

Virtual Registry: Used if you want to set a registry in the Virtual Registry within HKCU

```
<Registry Enabled="true">
```

<Include>

<Key Path="\REGISTRY\USER\{{AppVCurrentUserSID}}\Software\ABC">

<Value Type="REG_SZ" Name="Bar" Data="NewValue" />

</Key>

<Key Path="\REGISTRY\USER\{{AppVCurrentUserSID}}\Software\EmptyKey" />

</Include>

<Delete>

</Registry>

Virtual File System

<FileSystem Enabled="true" />

Virtual Fonts

<Fonts Enabled="false" />

Virtual Environment Variables

<EnvironmentVariables Enabled="true">

<Include>

<Variable Name="UserPath" Value="%path%;%UserProfile%" />

<Variable Name="UserLib" Value="%UserProfile%\ABC" />

</Include>

<Delete>

<Variable Name="lib" />

</Delete>

</EnvironmentVariables>

Virtual services

<Services Enabled="false" />

3. **UserScripts** – Scripts can be used to setup or alter the virtual environment as well as execute scripts at time of deployment or removal, before an application executes, or they can be used to “clean up” the environment after the application terminates. Please reference a sample User configuration file that is output by the sequencer to see a sample script. The Scripts section below provides more information on the various triggers that can be used.
4. **ManagingAuthority** – Can be used when 2 versions of your package are co-existing on the same machine, one deployed to App-V 4.6 and the other deployed on App-V 5.0. To Allow App-V vNext to take over App-V 4.6 extension points for the named package enter the following in the UserConfig file (where PackageName is the Package GUID in App-V 4.6:
<ManagingAuthority TakeoverExtensionPointsFrom46="true" PackageName="032630c0-b8e2-417c-acef-76fc5297fe81" />

Dynamic Deployment Configuration file

Header - The header of a Deployment Configuration file is as follows:

```
<?xml version="1.0" encoding="utf-8"?><DeploymentConfiguration PackageId="1f8488bf-2257-46b4-b27f-09c9dbaae707" DisplayName="Reserved"
xmlns="http://schemas.microsoft.com/appv/2010/deploymentconfiguration">
```

The **PackageId** is the same value as exists in the manifest file.

Body - The body of the deployment configuration file includes two sections:

- User Configuration section –allows the same content as the User Configuration file described in the previous section. When the package is published to a user, any appextensions configuration settings in this section will override corresponding settings in the Manifest within the package unless a user configuration file is also provided. If a UserConfig file is also provided, it will be used instead of the User settings in the deployment configuration file. If the package is published globally, then only the contents of the deployment configuration file will be used in combination with the manifest.
- Machine Configuration section—contains information that can be configured only for an entire machine, not for a specific user on the machine. For example, HKEY_LOCAL_MACHINE registry keys in the VFS.

```
<DeploymentConfiguration Packageld="1f8488bf-2257-46b4-b27f-09c9dbaae707"  
DisplayName="Reserved"  
xmlns="http://schemas.microsoft.com/appv/2010/deploymentconfiguration">
```

```
<UserConfiguration>
```

```
..
```

```
</UserConfiguration>
```

```
<MachineConfiguration>
```

```
..
```

```
</MachineConfiguration>
```

```
..
```

```
</MachineConfiguration>
```

```
</DeploymentConfiguration>
```

User Configuration - use the previous **Dynamic User Configuration file** section for information on settings that are provided in the user configuration section of the Deployment Configuration file.

Machine Configuration - the Machine configuration section of the Deployment Configuration File is used to configure information that can be set only for an entire machine, not for a specific user on the computer. For example, HKEY_LOCAL_MACHINE registry keys in the Virtual Registry. There are four subsections allowed in under this element

1. **Subsystems** - AppExtensions and other subsystems are arranged as subnodes under <Subsystems>:

```
<MachineConfiguration>
```

```
<Subsystems>
```

..

</Subsystems>

..

</MachineConfiguration>

The following section displays the various subsystems and usage samples.

Extensions:

Some subsystems (Extension Subsystems) control Extensions which can only apply to all users. The subsystem is application capabilities. Because this can only apply to all users, the package must be published globally in order for this type of extension to be integrated into the local system. The same rules for controls and settings that apply to the Extensions in the User Configuration also apply to those in the MachineConfiguration section.

Application Capabilities: Used by default programs in windows operating system Interface. Allows an application to register itself as capable of opening certain file extensions, as a contender for the start menu internet browser slot, as capable of opening certain windows MIME types. This extension also makes the virtual application visible in the Set Default Programs UI.:

<ApplicationCapabilities Enabled="true">

<Extensions>

<Extension Category="AppV.ApplicationCapabilities">

<ApplicationCapabilities>

<ApplicationId>{{PackageRoot}}\LitView\LitViewBrowser.exe</ApplicationId>

<Reference>

<Name>LitView Browser</Name>

```
<Path>SOFTWARE\LitView\Browser\Capabilities</Path>

</Reference>

<CapabilityGroup>

<Capabilities>

<Name>@[{ProgramFilesX86}]\LitView\LitViewBrowser.exe,-12345</Name>

<Description>@[{ProgramFilesX86}]\LitView\LitViewBrowser.exe,-12346</Description>

<Hidden>0</Hidden>

<EMailSoftwareClient>Lit View E-Mail Client</EMailSoftwareClient>

<FileAssociationList>

<FileAssociation Extension=".htm" ProgID="LitViewHTML" />

<FileAssociation Extension=".html" ProgID="LitViewHTML" />

<FileAssociation Extension=".shtml" ProgID="LitViewHTML" />

</FileAssociationList>

<MIMEAssociationList>

<MIMEAssociation Type="audio/mp3" ProgID="LitViewHTML" />

<MIMEAssociation Type="audio/mpeg" ProgID="LitViewHTML" />

</MIMEAssociationList>

<URLAssociationList>
```

```
<URLAssociation Scheme="http" ProgID="LitViewHTML.URL.http" />
```

```
</URLAssociationList>
```

```
</Capabilities>
```

```
</CapabilityGroup>
```

```
</ApplicationCapabilities>
```

```
</Extension>
```

```
</Extensions>
```

```
</ApplicationCapabilities>
```

Other Settings:

In addition to Extensions, other subsystems can be edited:

Machine Wide Virtual Registry: Used when you want to set a registry key in the virtual registry within HKEY_Local_Machine

```
<Registry>
```

```
<Include>
```

```
<Key Path="\REGISTRY\Machine\Software\ABC">
```

```
<Value Type="REG_SZ" Name="Bar" Data="Baz" />
```

```
</Key>
```

```
<Key Path="\REGISTRY\Machine\Software\EmptyKey" />
```

```
</Include>
```

<Delete>

</Registry>

Machine Wide Virtual Kernel Objects

<Objects>

<NotIsolate>

<Object Name="testObject" />

</NotIsolate>

</Objects>

2. **ProductSourceURLOptOut**: Indicates whether the URL for the package can be modified globally through PackageSourceRoot (to support branch office scenarios). Default is false and the setting change takes effect on the next launch.

<MachineConfiguration>

..

<ProductSourceURLOptOut Enabled="true" />

..

</MachineConfiguration>

3. **MachineScripts** – Package can be configured to execute scripts at time of deployment, publishing or removal. Please reference a sample deployment configuration file that is generated by the sequencer to see a sample script. The Scripts section below provides more information on the various triggers that can be used
4. **TerminateChildProcess**:- An application executable can be specified, whose child processes will be terminated when the application exe process is terminated.

<MachineConfiguration>

..

<TerminateChildProcesses>

<Application Path="{[PackageRoot]}\Contoso\ContosoApp.EXE" />

<Application Path="{[PackageRoot]}\LitView\LitViewBrowser.exe" />

<Application Path="{[ProgramFilesX86]}\Microsoft Contoso\Contoso\contosomail.EXE" />

</TerminateChildProcesses>

..

</MachineConfiguration>

Scripts

The following table describes the various script events and the context under which they can be run.

Script Execution Time	Can be specified in Deployment Configuration	Can be specified in User Configuration	Can run in the Virtual Environment of the package	Can be run in the context of a specific application	Runs in system/user context: (Deployment Configuration, User Configuration)
AddPackage	X				(SYSTEM, N/A)
PublishPackage	X	X			(SYSTEM, User)
UnpublishPackage	X	X			(SYSTEM, User)
RemovePackage	X				(SYSTEM, N/A)
StartProcess	X	X	X	X	(User, User)

Script Execution Time	Can be specified in Deployment Configuration	Can be specified in User Configuration	Can run in the Virtual Environment of the package	Can be run in the context of a specific application	Runs in system/user context: (Deployment Configuration, User Configuration)
ExitProcess	X	X		X	(User, User)
StartVirtualEnvironment	X	X	X		(User, User)
TerminateVirtualEnvironment	X	X			(User, User)

Create a Dynamic Configuration file using an App-V 5.0 Manifest file

You can create the Dynamic Configuration file using one of three methods: either manually, using the App-V 5.0 Management Console or sequencing a package, which will be generated with 2 sample files.

For more information about how to create the file using the App-V 5.0 Management Console see, [How to Create a Custom Configuration File Using the App-V 5.0 Management Console](#).

To create the file manually, the information above in previous sections can be combined into a single file. We recommend you use files generated by the sequencer.

How to Connect to the Management Console

Use the following procedure to connect to the App-V 5.0 Management Console.

To connect to the App-V 5.0 Management Console

1. Open Internet Explorer browser and type the address for the App-V 5.0. For example, **http://<Management server name>:<Management service port number>/Console.html**.
2. To view different sections of the console, click the desired section in the navigation pane.

How to Add or Upgrade Packages Using the Management Console

You can the following procedure to add or upgrade a package to the App-V 5.0 Management Console. To upgrade a package that already exists in the Management Console, use the following steps and import the upgraded package using the same package **Name**.

To add a package to the Management Console

1. Click the **Packages** tab in the navigation pane of the Management Console display.
The console displays the list of packages that have been added to the server along with status information about each package. When a package is selected, detailed information about the package is displayed in the **PACKAGES** pane.
Click the **Ungrouped** drop-down list box and specify how the packages are to be displayed in the console. You can also click the associated column header to sort the packages.
2. To specify the package you want to add, click **Add or Upgrade Packages**.
3. Type the full path to the package that you want to add. Use the UNC or HTTP path format, for example `\\servername\sharename\foldername\packagename.appv` or `http://server.1234/file.appv`, and then click **Add**.



Important

You must select a package with the **.appv** file name extension.

4. The page displays the status message **Adding <Packagename>**. Click **IMPORT STATUS** to check the status of a package that you have imported.
Click **OK** to add the package and close the **Add Package** page. If there was an error during the import, click **Detail** on the **Package Import** page for more information. The newly added package is now available in the **PACKAGES** pane.
5. Click **Close** to close the **Add or Upgrade Packages** page.

How to Configure Access to Packages using the Management Console

Before you deploy an App-V 5.0 virtualized package, you must configure the groups that will be allowed to access and run the applications.

Use the following procedure to configure access to virtualized packages.

To grant access to an App-V 5.0 package

1. To view the package to be configured, open the App-V 5.0 Management Console. To display the **AD ACCESS** page, right-click the package to be configured and select **Edit active directory access**. Alternatively, select the package and click **EDIT** in the **AD ACCESS** pane.
2. To provision a group, on the **FIND VALID ACTIVE DIRECTORY NAMES AND GRANT ACCESS** page, using the format `mydomain \ groupname`, type the name or part of the name of an Active Directory group object and click **Check**.



Note

Ensure you provide an associated domain name for the group that you are searching for.

3. To grant access to the package, select the desired group and click **Grant Access**. The newly added group is displayed in the **AD ENTITIES WITH ACCESS** pane.

4. To accept the default configuration settings and close the **AD ACCESS** page, click **Close**. To customize configurations for a specific group, click the **ASSIGNED CONFIGURATIONS** drop-down and select **Custom**. To configure the custom configurations, click **EDIT**. After you grant access, click **Close**.

▶ To remove access to an App-V 5.0 package

1. To view the package to be configured, open the App-V 5.0 Management Console. To display the **AD ACCESS** page, right-click the package to be configured and select **Edit active directory access**. Alternatively, select the package and click **EDIT** in the **AD ACCESS** pane.
2. Select the group you want to remove, and click **DELETE**.
3. To close the **AD ACCESS** page, click **Close**.

How to Publish a Package Using the Management Console

Before computers running the App-V 5.0 client can access and run a virtualized package, you must publish and configure the access to the package.

Use the following procedure to publish an App-V 5.0 package.

▶ To publish an App-V 5.0 package

1. Open the App-V 5.0 Management Console. Select the package to be published, right-click the package name, and select **Publish**.
2. Review the **Status** column to verify that the package has been published and is now available. If the package is available, the status will display **published**.
If the package was not successfully published, the status will display **unpublished**. An error will also be displayed with information about why the package is not available.

How to Delete a Package in the Management Console

Use the following procedure to delete an App-V 5.0 package.

▶ To delete a package in the Management Console

1. To view the package you want to delete, open the App-V 5.0 Management Console and select **Packages**. Select the package to be removed.
2. Right-click the package, and select **delete** to remove the package.

How to Add or Remove an Administrator Using the Management Console

Use the following procedures to add or remove an administrator on the App-V 5.0 server.

▶ To add an administrator using the Management Console

1. Open the App-V 5.0 Management Console and click **Administrators** in the navigation

pane. The navigation pane displays a list of Access Directory (AD) users and groups that currently have administrative access to the App-V 5.0 server.

2. To add a new administrator, click **Add Administrator**. Type the name of the administrator that you want to add in the **Active Directory Name** field. Ensure you provide the associated user account domain name. For example, **Domain \ UserName**.
3. Select the account that you want to add and click **Add**. The new account is displayed in the list of server administrators.

▶ **To remove an administrator using the Management Console**

1. Open the App-V 5.0 Management Console and click **Administrators** in the navigation pane. The navigation pane displays a list of AD users and groups that currently have administrative access to the App-V 5.0 server.
2. Right-click the account to be removed from the list of administrators and select **Remove**.

How to Register and Unregister a Publishing Server Using the Management Server

You can register and unregister publishing servers that will synchronize with the App-V 5.0 management server. You can also see the last attempt that the publishing server made to synchronize the information with the management server.

Use the following procedure to register or unregister a publishing server.

▶ **To register a publishing server using the Management Console**

1. Connect to the Management Console and select **Servers**. For more information about how to connect to the Management Console, see [How to Connect to the Management Console](#).
2. A list of publishing servers that already synchronize with the management server is displayed. Click Register New Server to register a new server.
3. Type a computer name of a domain joined computer on the **Server Name** line, to specify a name for the server. You should also include a domain name, for example, **MyDomain\TestServer**. Click **Check**.
4. Select the computer and click **Add** to add the computer to the list of servers. The new server will be displayed in the list.

▶ **To unregister a publishing server using the Management Console**

1. Connect to the Management Console and select **Servers**. For more information about how to connect to the Management Console, see [How to Connect to the Management Console](#).
2. A list of publishing servers that synchronize with the management server is displayed.
3. To unregister the server, right-click the computer name and select the computer name and select **unregister server**.

How to Create a Custom Configuration File Using the App-V 5.0 Management Console

Use the following procedure to create a Dynamic User Configuration file through the App-V 5.0 Management Console

▶ To create a Dynamic User Configuration file

1. Right-click the name of the package that you want to view and select **Edit active directory access** to view the configuration that is assigned to a given user group. Alternatively, select the package, and click **Edit**.
2. Using the list of **AD Entities with Access**, select the AD group that you want to customize. Select **Custom** from the drop-down list, if it is not already selected. A link named **Edit** will be displayed.
3. Click **Edit**. The Dynamic User Configuration that is assigned to the AD Group will be displayed.
4. Click **Advanced**, and then click **Export Configuration**. Type in a filename and click **Save**. Now you can edit the file to configure a package for a user.

How to Transfer Access and Configurations to Another Version of a Package Using the Management Console

Use the following procedure to transfer the access and default package configurations to another version of a package by using the management console.

▶ To transfer access and configurations to another version of a package

1. To view the package that you want to configure, open the App-V 5.0 Management Console. Select the package to which you will transfer the new configuration, right-click the package and select **transfer default configuration from** or **transfer access and configurations from**, depending on the configuration that you want to transfer.
2. To transfer the configuration, in the **Select Previous Version** dialog box, select the package that contains the settings that you want to transfer, and then click **OK**.
If you select **transfer default configuration from**, then only the underlying dynamic deployment configuration will be transferred.
If you select **transfer access and configurations from**, then all access permissions, as well as the configuration settings, will be copied.

How to Customize Virtual Applications Extensions for a Specific AD Group

Use the following procedure to customize the virtual application extensions for an Active Directory (AD) group.

▶ To customize virtual applications extensions for an AD group

1. To view the package that you want to configure, open the App-V 5.0 Management

- Console. To view the configuration that is assigned to a given user group, select the package, and right-click the package name and select **Edit active directory access**. Alternatively, select the package and click **EDIT** in the **AD ACCESS** pane.
- To customize an AD group, you can find the group from the list of **AD Entities with Access**. Then, using the drop-down box in the **Assigned Configuration** pane, select **Custom**, and then click **EDIT**.
 - To disable all extensions for a given application, clear **ENABLE**.
To add a new shortcut for the selected application, right-click the application in the **SHORTCUTS** pane, and select **Add new shortcut**. To remove a shortcut, right-click the application in the **SHORTCUTS** pane, and select **Remove Shortcut**. To edit an existing shortcut, right-click the application, and select **Edit Shortcut**.
 - To view any other application extensions, click **Advanced**, and click **Export Configuration**. Type in a filename and click **Save**. You can view all application extensions that are associated with the package using the configuration file.
 - To edit additional application extensions, modify the configuration file and click **Import and Overwrite this Configuration**. Select the modified file and click **Open**. In the dialog, click **Overwrite** to complete the process.

How to View and Configure Applications and Default Virtual Application Extensions

Use the following procedure to view and configure default package extensions.

▶ To view and configure default virtual application extensions

- To view the package that you want to configure, open the App-V 5.0 Management Console. Select the package that you want to configure, right-click the package name and select **edit default configuration**.
- To view the applications contained in the specified package, in the **Default Configuration** pane, click **Applications**. To view the shortcuts for that package, click **Shortcuts**. To view the file type associations for that package, click **File Types**.
- To enable the application extensions, select **ENABLE**.
To enable shortcuts, select **ENABLE SHORTCUTS**. To add a new shortcut for the selected application, right-click the application in the **SHORTCUTS** pane and select **Add new shortcut**. To remove a shortcut, right-click the application in the **SHORTCUTS** pane and select **Remove Shortcut**. To edit an existing shortcut, right-click the application and select **Edit Shortcut**.
- To view any other application extensions, click **Advanced** and click **Export Configuration**. Type in a filename and click **Save**. You can view all application extensions associated with the package using the configuration file.
- To edit other application extensions, modify the configuration file and click **Import and Overwrite this Configuration**. Select the modified file and click **Open**. In the dialog box, click **Overwrite** to complete the process.

Managing Connection Groups

After you have deployed Microsoft Application Virtualization (App-V) 5.0, you can create App-V 5.0 Connection Groups, which will generate connections between virtualized applications that allow the applications to communicate with each other while they run in the virtual environment.

Note

In previous versions of App-V 5.0, Connection Groups were referred to as Dynamic Suite Composition.

About the Connection Group Virtual Environment

Provides information about the Connection Group virtual environment.

[About the Connection Group Virtual Environment](#)

Create a Connection Group

You can use App-V 5.0 to create a new Connection Group.

[How to Create a Connection Group](#)

Delete a Connection group

Using App-V 5.0 you can delete an existing Connection Group.

[How to Delete a Connection Group](#)

Publish a Connection Group

After you have created an App-V 5.0 Connection Group, you must make it available to target computers.

[How to Publish a Connection Group](#)

About the Connection Group Virtual Environment

About Connection Group virtual environment

The virtual environment belongs to the **AppConnectionGroup**. It is not contained in the individual App-V 5.0 packages. Consequently, all the state that is accumulated belongs to the **AppConnectionGroup**. If an App-V 5.0 package is subsequently removed from the Connection Group, the state that existed during use as part of the connection group will not migrate with it.

During the initialization of the virtual environment, resources can collide. For example, if two packages that each define the same registry DWORD value are combined into a single

AppConnectionGroup, a rule must be applied to determine which of the values will exist inside the **AppConnectionGroup's** virtual environment.

The rule that is used is based on the order in which they appear inside the **AppConnectionGroup** XML document. For example:

1. The first App-V 5.0 package in the list has the highest precedence.
2. The second App-V 5.0 package in the list has the second highest precedence.

For the following section:

```
<appv:Packages>
<appv:Package
PackageId="A8731008-4523-4713-83A4-CD1363907160"
VersionId="E889951B-7F30-418B-A69C-B37283BC0DB9"
/>
<appv:Package
PackageId="1DC709C8-309F-4AB4-BD47-F75926D04276"
VersionId="01F1943B-C778-40AD-BFAD-AC34A695DF3C"
/>
<appv:Package
PackageId="04220DCA-EE77-42BE-A9F5-96FD8E8593F2"
VersionId="E15EFFE9-043D-4C01-BC52-AD2BD1E8BAFA"
/>
</appv:Packages>
```

Assume that same DWORD value ABC

(HKEY_LOCAL_MACHINE\software\contoso\finapp\region) is defined in the 1st and 3rd package, such as:

1. Package 1 (A8731008-4523-4713-83A4-CD1363907160):
HKEY_LOCAL_MACHINE\software\contoso\finapp\region=5
2. Package 3 (04220DCA-EE77-42BE-A9F5-96FD8E8593F2):
HKEY_LOCAL_MACHINE\software\contoso\finapp\region=10

Since Package 1 appears first, the AppConnectionGroup's virtual environment will have the single DWORD value of 5 (HKEY_LOCAL_MACHINE\software\contoso\finapp\region=5). This means that the virtual applications in Package 1, Package 2, and Package 3 will all see the value 5 when they query for HKEY_LOCAL_MACHINE\software\contoso\finapp\region.

Other virtual environment resources are resolved similarly, but the usual case is that the collisions occur in the registry.

How to Create a Connection Group

The Microsoft Application Virtualization (App-V) 5.0 Management Console allows you to create connections between applications. It allows the applications to communicate with each other while they run in the virtual environment.

Use the following procedure to create App-V 5.0 connection groups.

To create a connection group

1. Open the App-V 5.0 management console and select **Packages**.
2. Select **CONNECTION GROUPS** to display the Connection Groups library.
3. Select **ADD CONNECTION GROUP** to create a new connection group.
4. In the **New Connection Group** pane, type a description for the group.

Click **EDIT** in the **CONNECTED PACKAGES** pane to add a new application to the connection group. In the **PACKAGES Entire Library** pane, select the application to be added and click the arrow to add the application. To remove an application, select the application to be removed in the **PACKAGES IN** pane and click the arrow.

You can reprioritize the applications in your connection group by using the arrows in the **PACKAGES IN** pane.

Important

By default, AD access configurations that are associated with a specific application are not added to the connection group. To transfer the AD access configuration, select **ADD PACKAGE ACCESS TO GROUP ACCESS** which is located in the **PACKAGES IN** Pane.

5. After you have added all the applications and configured AD access, click **Apply**.

How to Delete a Connection Group

Use the following procedure to delete an existing App-V 5.0 connection group.

To delete a connection group

1. Open the App-V 5.0 management console and select **Packages**, and then select **CONNECTION GROUPS**.
2. Right-click the connection group to be removed, and select **delete**.

How to Publish a Connection Group

After you have created a connection group, you must publish the connection group to computers that run the App-V 5.0 client.

To publish a connection group

1. Open the App-V 5.0 management console and select **Packages**, and then select

CONNECTION GROUPS.

2. Right-click the connection group to be removed and select **publish**.

Deploying App-V 5.0 Packages by Using Electronic Software Distribution (ESD)

You can deploy App-V 5.0 packages using an Electronic Software Distribution (ESD) solution. When you use an ESD the following guidelines with regard to the App-V 5.0 management server should be considered:

- Using an ESD eliminates the requirement for the App-V 5.0 management server, management database, and publishing server. These functions will be handled using the implemented ESD solution.
- The App-V 5.0 reporting server and reporting database can be deployed side-by-side with the ESD. This allows you to collect data and generate reports. If the App-V 5.0 client is enabled to send report information and you are not using the App-V 5.0 reporting server, then the reporting data is stored in associated .xml files.

Deploying virtualized packages using an ESD

The following list displays three primary methods you can use to deploy App-V 5.0 packages using an ESD.

- You can use a third-party ESD solution to deploy a virtualized package.
- You can use the associated Windows Installer (.msi) file that is created when you initially sequence an application to install the application on a target computer.
- You can use PowerShell to deploy a virtualized application. For more information about PowerShell and App-V 5.0 see [Administering App-V using PowerShell](#).

[How to deploy App-V 5.0 Packages Using Electronic Software Distribution](#)

How to deploy App-V 5.0 Packages Using Electronic Software Distribution

If you plan to use an electronic software distribution (ESD) solution to deploy virtual applications, it is important to understand the factors that go into and are affected by that decision. This topic describes the benefits of using an ESD-based scenario and provides information about the publishing and package streaming methods that you will need to consider as you proceed with your deployment.

Important

Whichever ESD solution you use, you must be familiar with the requirements of your particular solution.

When using an ESD-based scenario, you have the following choices for publishing the application to the clients:

- **Stand-alone Windows Installer.** The Windows Installer (.msi) file contains the associated App-V 5.0 package file information use to configure a package. The Windows Installer file

also copies the required package files to the client because this scenario does not use a server.

- **PowerShell.** You can use PowerShell to deploy virtualized applications. For more information about using PowerShell and App-V 5.0 see [Administering App-V using PowerShell](#).
- **Deploying clients.** You can use an ESD to deploy App-V 5.0 clients. You should refer to the associated documentation available with the ESD you are using for more information.

▶ To deploy App-V 5.0 Packages Using Electronic Software Distribution

1. Install the App-V 5.0 sequencer on a computer in your environment. For more information about installing the sequencer see [How to Install the Sequencer](#).
2. Use the App-V 5.0 to create virtual application. For information about creating a virtual application see [Creating and Managing App-V 5.0 Virtualized Applications](#).
3. After you have created the virtual application deploy the package using your ESD solution.

Using the App-V 5.0 Client Management Console

This topic provides information about how you can configure and manage the App-V 5.0 client.

Modify App-V 5.0 client configuration

The App-V 5.0 client has associated settings that can be configured to determine how the client will run in your environment. You can manage these settings on the computer that runs the client or by using PowerShell or Group Policy. For more information about how to modify the client using PowerShell or Group Policy configuration see, [How to Modify Client Configuration Using PowerShell](#).

The App-V 5.0 client management console

You can obtain information about the App-V 5.0 client or perform specific tasks by using the App-V 5.0 client management console. Many of the tasks that you can perform in the client management console you can also perform by using PowerShell. The associated PowerShell cmdlets for each action are also displayed in the following table. For more information about how to use PowerShell, see [Administering App-V using PowerShell](#).

The client management console contains the following described main tabs.

Tab	Description
Overview	The Overview tab contains the following elements: <ul style="list-style-type: none">• Update – Use the Update tile to refresh a virtualized application or to receive a new virtualized package. The Last Refresh displays the current

Tab	Description
	<p>version of the virtualized package.</p> <ul style="list-style-type: none"> Download all virtual applications – Use the Download tile to download all of the packages provisioned to the current user. (Associated PowerShell cmdlet: Mount-AppvClientPackage) Work Offline – Use this tile to disallow all automatic and manual virtual application updates. (Associated PowerShell cmdlet: Set-AppvPublishServer – UserRefreshEnabled – GlobalRefreshEnabled)
Virtual Apps	<p>The VIRTUAL APPS tab displays all of the packages that have been published to the user. You can also click a specific package and see all of the applications that are part of that package. This displays information about packages that are currently in use and how much of each package has been downloaded to the computer. You can also start and stop package downloads. Additionally, you can repair the user state. A repair will delete all user data that is associated with a package.</p>
App Connection Groups	<p>The APP CONNECTION GROUPS tab displays all of the connection groups that are available to the current user. Click a specific connection group to see all of the packages that are part of the selected group. This displays information about connection groups that are already in use and how much of the connection group contents have been downloaded to the computer. Additionally, you can start and stop connection group downloads. You can use this section to initiate a repair. A repair will remove all of the user state that is associated a connection group. (Associated PowerShell cmdlets: Download -</p>

Tab	Description
	Mount-AppvClientConnectionGroup . Repair -AppvClientConnectionGroup.)

How to Access the Client Management Console

Use the App-V 5.0 client management console to manage packages on the computer running the App-V 5.0 client.

Note

To perform all of the actions available using the client management console, you must have administrative access on the computer running the App-V 5.0 client.

Use the following procedure to access the client management console.

To access the client management console

1. On the computer running the App-V 5.0 client, click **Start** and select **Microsoft Application Virtualization Client**.

Note

For computers running the App-V 5.0 Remote Desktop Services client version, to access client management console follow step 1 of this procedure on the server running the client.

2. When the App-V 5.0 client management console is displayed, click the tab you want to review and perform any required tasks. For more information about the client management console tasks see, [Using the App-V 5.0 Client Management Console](#).

How to Configure the Client to Receive Package and Connection Groups Updates From the Publishing Server

Deploying packages and connection groups using the App-V 5.0 publishing server is helpful because it offers single-point management and high scalability.

Use the following steps to configure the App-V 5.0 client to receive updates from the publishing server.

 **Note**

For the following procedures the management server was installed on a computer named **MyMgmtSrv**, and the publishing server was installed on a computer named **MyPubSrv**.

▶ **To configure the App-V 5.0 client to receive updates from the publishing server**

1. Deploy the App-V 5.0 management and publishing servers, and add the required packages and connection groups. For more information about adding packages and connection groups, see [How to Add or Upgrade Packages Using the Management Console](#) and [How to Create a Connection Group](#).
2. To open the management console click the following link, open a browser and type the following: `http://MyMgmtSrv/AppvManagement/Console.html` in a web browser, and import, publish, and entitle all the packages and connection groups which will be necessary for a particular set of users.
3. On the computer running the App-V 5.0 client, open an elevated PowerShell command prompt, run the following command:

Add-AppvPublishingServer -Name ABC -URL http:// MyPubSrv/AppvPublishing

This command will configure the specified publishing server. You should see output similar to the following:

```
Id                : 1
SetByGroupPolicy  : False
Name              : ABC
URL               : http:// MyPubSrv/AppvPublishing
GlobalRefreshEnabled : False
GlobalRefreshOnLogon : False
GlobalRefreshInterval : 0
GlobalRefreshIntervalUnit : Day
UserRefreshEnabled : True
UserRefreshOnLogon : True
UserRefreshInterval : 0
UserRefreshIntervalUnit : Day
```

The returned Id – in this case 1

4. On the computer running the App-V 5.0 client, open a PowerShell command prompt, and type the following command:

Sync-AppvPublishingServer -ServerId 1

The command will query the publishing server for the packages and connection groups that need to be added or removed for this particular client based on the entitlements for the packages and connection groups as configured on the management server.

Migrating from a Previous Version

In order to run and manage packages created using a previous version of App-V you must setup the App-V 5.0 infrastructure and then convert the packages created using a prior version App-V so that they are compatible with App-V 5.0.

Converting package created using a prior version of App-V

Use the package converter utility to upgrade virtual application packages created using previous versions of App-V. The package converter uses PowerShell to convert packages and can help automate the process if you have many packages that require conversion.

[How to Convert a Package Created in a Previous Version of App-V](#)

Additional Migration tasks

You can also perform additional migration tasks such as reconfiguring end points as well as opening a package created using a prior version on a computer running the App-V 5.0 client.

[How to Migrate Extension Points From an App-V 4.6 SP2 Package to a Converted App-V 5.0 Package for All Users on a Specific Computer](#)

[How to Migrate Extension Points From an App-V 4.6 SP2 Package to App-V 5.0 for a Specific User](#)

[How to Revert Extension Points from an App-V 5.0 Package to an App-V 4.6 SP2 Package For All Users on a Specific Computer](#)

[How to Revert Extension Points From an App-V 5.0 Package to an App-V 4.6 SP2 Package for a Specific User](#)

[How to Use an App-V 4.6 SP1 Application From an App-V 5.0 Application](#)

How to Convert a Package Created in a Previous Version of App-V

You can use the package converter utility to upgrade virtual application packages that have been created with previous versions of App-V.

Note

If you are running a computer with a 64-bit architecture, you must use the x86 version of PowerShell.

The package converter can only directly convert packages that were created by using the App-V 4.5 sequencer or a subsequent version. Packages that were created using a version prior to App-V 4.5 must be upgraded to the App-V 4.5 or App-V 4.6 format before conversion.

The following information provides direction for converting existing virtual application packages.

Important

You must configure the package converter to always save the package ingredients file to a secure location and directory. A secure location is accessible only by an administrator.

Additionally, when you deploy the package, you should save the package to a location that is secure, or make sure that no other user is allowed to be logged in during the conversion process.

▶ Getting started

1. Install the App-V Sequencer on a computer in your environment. For information about how to install the Sequencer, see [How to Install the Sequencer](#).
- 2.

The following cmdlets are available:

- **Test-AppvLegacyPackage** – This cmdlet is designed to check packages. It will return information about any failures with the package such as missing **.sft** files, an invalid source, **.osd** file errors, or invalid package version. This cmdlet will not parse the **.sft** file or do any in depth validation. For information about options and basic functionality for this cmdlet, using the PowerShell cmdline, type `Test-AppvLegacyPackage -?`.
- **ConvertFrom-AppvLegacyPackage** – To convert an existing package, type `ConvertFrom-AppvLegacyPackage c:\contentStore c:\convertedPackages`. In this command, `c:\contentStore` represents the location of the existing package and `c:\convertedPackages` is the output directory to which the resulting App-V 5.0 virtual application package file will be saved. By default, if you do not specify a new name, the old package name will be used for the App-V 5.0 filename.



Note

Before you specify the output directory, you must create the output directory.

Advanced Conversion Tips

- **Piping** - PowerShell supports piping. Piping allows you to call `dir c:\contentStore\myPackage | Test-AppvLegacyPackage`. In this example, the directory object that represents `myPackage` will be given as input to the `Test-AppvLegacyPackage` command and bound to the `-Source` parameter. Piping like this is especially useful when you want to batch commands together; for example, `dir .\ | Test-AppvLegacyPackage | ConvertFrom-AppvLegacyAppvPackage -Target .\ConvertedPackages`. This piped command would test the packages and then pass those objects on to actually be converted. You can also apply a filter on packages without errors or only specify a directory which contains an **.sprj** file or pipe them to another cmdlet that adds the filtered package to the server or publishes them to the App-V 5.0 client.
- **Batching** - The PowerShell command enables batching. More specifically, the cmdlets support taking a `string[]` object for the `-Source` parameter which represents a list of directory paths. This allows you to enter `$packages = dir c:\contentStore` and then call `ConvertFrom-AppvLegacyAppvPackage-Source $packages -Target c:\ConvertedPackages` or to use piping and call `dir c:\ContentStore | ConvertFrom-AppvLegacyAppvPackage -Target C:\ConvertedPackages`.
- **Other functionality** - PowerShell has other built-in functionality for features such as

aliases, piping, lazy-binding, .NET object, and many others. All of these are usable in PowerShell and can help you create advanced scenarios for the Package Converter.

How to Migrate Extension Points From an App-V 4.6 SP2 Package to a Converted App-V 5.0 Package for All Users on a Specific Computer

Use the following procedure to migrate extension points from an App-V 4.6 SP2 package to a App-V 5.0 package using the deployment configuration file.

Note

The following procedure does not require an App-V 5.0 management server.

▶ To migrate extension points from a package from an App-V 4.6 SP2 package to a converted App-V 5.0 package using the deployment configuration file

1. Locate the directory that contains the deployment configuration file for the package you want to migrate. To set the policy, make the following update to the **userConfiguration** section:

```
ManagingAuthority TakeoverExtensionPointsFrom46="true"  
PackageName=<Package ID>
```

The following is an example of content from a deployment configuration file:

```
<?xml version="1.0" ?>  
<DeploymentConfiguration  
  xmlns="http://schemas.microsoft.com/appv/2010/deploymentconfiguration"  
  PackageId=<Package ID> DisplayName=<Display Name>  
  <MachineConfiguration/>  
  <UserConfiguration>  
    <ManagingAuthority TakeoverExtensionPointsFrom46="true"  
  PackageName=<Package ID>  
  </UserConfiguration>  
</DeploymentConfiguration>
```

2. To add the App-V 5.0 package, in an elevated PowerShell command prompt type:

```
PS>$pkg= Add-AppvClientPackage -Path <Path to package location> -  
DynamicDeploymentConfiguration <Path to the deployment configuration file>
```

```
PS>Publish-AppvClientPackage $pkg
```

3. To test the migration, open the virtual application using associated FTAs or shortcuts. The application opens with App-V 5.0. Both, the App-V 4.6 SP2 package and the converted App-V 5.0 package are published to the user, but the FTAs and shortcuts for the applications have been assumed by the App-V 5.0 package.

How to Migrate Extension Points From an App-V 4.6 SP2 Package to App-V 5.0 for a Specific User

Use the following procedure to migrate packages created with App-V using the user configuration file.

▶ To convert a package

1. Locate the user configuration file for the package you want to convert. To set the policy, perform the following updates in the **userConfiguration** section: **ManagingAuthority TakeoverExtensionPointsFrom46="true" PackageName=<Package ID>**.

The following is an example of a user configuration file:

```
<?xml version="1.0" ?>
```

```
<UserConfiguration PackageId=<Package ID> DisplayName=<Name of the Package>
```

```
  xmlns="http://schemas.microsoft.com/appv/2010/userconfiguration">
```

```
<ManagingAuthority TakeoverExtensionPointsFrom46="true"
```

```
PackageName=<Package ID>
```

```
</UserConfiguration>
```

2. To add the App-V 5.0 package type the following in an elevated PowerShell command prompt:

```
PS>$pkg= Add-AppvClientPackage -Path <Path to package location>
```

```
PS>Publish-AppvClientPackage $pkg -DynamicUserConfiguration <Path to the user configuration file>
```

3. Open the application using FTAs or shortcuts now. The application should open using App-V 5.0.

The App-V SP2 package and the converted App-V 5.0 package are published to the user, but the FTAs and shortcuts for the applications have been assumed by the App-V 5.0 package.

How to Revert Extension Points from an App-V 5.0 Package to an App-V 4.6 SP2 Package For All Users on a Specific Computer

Use the following procedure to revert extension points from an App-V 5.0 package to the App-V 4.6 SP2 file format using the deployment configuration file.

▶ To revert a package

1. Ensure that App-V 4.6 SP2 package is published to the users but the FTAs and shortcuts have been assumed by App-V 5.0 package using the following migration method, [How to Migrate Extension Points From an App-V 4.6 SP2 Package to a Converted App-V 5.0 Package for All Users on a Specific Computer](#).

In the **userConfiguration** section of the deployment configuration file for the converted package, to set the policy, make the following update to the **userConfiguration** section: **ManagingAuthority TakeoverExtensionPointsFrom46="false"**

PackageName=<Package ID>

2. From an elevated command prompt, type:

```
PS>Set-AppvClientPackage $pkg -DynamicDeploymentConfiguration <path to deployment configuration file>
```

```
PS>Publish-AppVClientPackage $pkg -DynamicUserConfigurationType useDeploymentConfiguration
```

3. Perform a publishing refresh, or wait for the next scheduled publishing refresh for the App-V 4.6 SP2 package.

Open the application using FTAs or shortcuts. The Application should now open using App-V 4.6 SP2.



Note

If you do not need the App-V 5.0 package anymore, you can unpublish the App-V 5.0 package and the extension points will automatically revert to App-V 4.6.

How to Revert Extension Points From an App-V 5.0 Package to an App-V 4.6 SP2 Package for a Specific User

Use the following procedure to revert an App-V 5.0 package to the App-V file format using the user configuration file.

▶ To revert a package

1. Ensure that App-V 4.6 SP2 package is published to the users but the FTAs and shortcuts have been assumed by App-V 5.0 package using the following migration method, [How to Migrate Extension Points From an App-V 4.6 SP2 Package to App-V 5.0 for a Specific User](#).

In the **userConfiguration** section of the deployment configuration file for the converted package, to set the policy, make the following update to the **userConfiguration** section:

```
ManagingAuthority TakeoverExtensionPointsFrom46="false"
```

```
PackageName=<Package ID>
```

2. From an elevated command prompt, type:

```
PS>Publish-AppVClientPackage $pkg -DynamicUserConfigurationPath <path to user configuration file>
```

3. Perform a publishing refresh, or wait for the next scheduled publishing refresh for the App-V 4.6 SP2. Open the application using FTAs or shortcuts. The Application should now open using App-V 4.6 SP2.



Note

If you do not need the App-V 5.0 package anymore, you can unpublish the App-V 5.0 package and the extension points will automatically revert to App-V 4.6.

How to Use an App-V 4.6 SP1 Application From an App-V 5.0 Application

Use the following procedure to run an App-V 4.6 SP2 application with App-V 5.0 applications on a standalone client.

▶ To run applications on a standalone client

1. Select two applications in your environment that can be opened from one another. For example, Microsoft Outlook and Adobe Acrobat Reader. You can access an email attachment created using Adobe Acrobat.
2. Convert the packages, or create a new package for either of the applications using the App-V 5.0 format. For more information about converting packages see, [How to Migrate Extension Points From an App-V 4.6 SP2 Package to a Converted App-V 5.0 Package for All Users on a Specific Computer](#) or [How to Migrate Extension Points From an App-V 4.6 SP2 Package to App-V 5.0 for a Specific User](#).
3. Add and provision the package using the App-V 5.0 management console. For more information adding and provisioning packages see, [How to Add or Upgrade Packages Using the Management Console](#) and [How to Configure Access to Packages using the Management Console](#).
4. The converted application now runs using App-V 5.0 and you can open one application from the other. For example, if you converted a Microsoft Office package to an App-V 5.0 package and Adobe Acrobat is still running as an App-V 4.6 SP2 package, you can open an Adobe Acrobat Reader attachment using Microsoft Outlook.

Maintaining App-V 5.0

After you have completed all the necessary planning, and then deployment of App-V 5.0, you can use the following information to maintain the App-V 5.0 infrastructure.

Move the App-V 5.0 Server

The App-V 5.0 server connects to the App-V 5.0 database. Therefore you can install the management component to any computer on the network and then connect it to the App-V 5.0 database.

[How to Move the App-V Server to Another Computer](#)

Determine if an App-V 5.0 Application is Running Virtualized

Independent software vendors (ISV) who want to determine if an application is running virtualized with App-V 5.0 or above, should open a named object called **AppVVirtual-<PID>** in the default namespace. For example, Windows API **GetCurrentProcessId()** can be used to obtain the current process's ID, for example 4052, and then if a named Event object called **AppVVirtual-4052** can be successfully opened using **OpenEvent()** in the default namespace for read access, then the application is virtual. If the **OpenEvent()** call fails, the application is not virtual.

Additionally, ISV's who want to explicitly virtualize or not virtualize calls on specific API's with App-V 5.0 and above, can use the **VirtualizeCurrentThread()** and **CurrentThreadIsVirtualized()** functions implemented in the AppEntSubsystems32.dll module. These provide a way of hinting at a downstream component that the call should or should not be virtualized.

How to Move the App-V Server to Another Computer

Use the following information to create a new management server console in your environment.

To create a new management server console

The following list displays the steps necessary to create a new management server console:

1. Install the management server on a computer in your environment. For more information about installing the management server see [Deploying the App-V 5.0 Server](#).
2. After you have completed the installation, use the following link to connect it to the App-V 5.0 database - [How to install the Management Server on a Standalone Computer and Connect it to the Database](#).

Security App-V 5.0

The topics in this guide will help you plan for security and privacy considerations for App-V 5.0.

Security considerations for App-V 5.0

Before you deploy and use App-V 5.0 in your computing environment, you should consider potential security-related issues. The information in the Security Considerations topic provides a brief overview of user accounts and groups, log files, and other security-related considerations for App-V 5.0.

[App-V 5.0 Security Considerations](#)

Privacy for App-V 5.0

This topic covers many of the data collection and use practices of App-V 5.0.

[Microsoft Application Virtualization 5.0 Privacy Statement](#)

App-V 5.0 Security Considerations

This topic contains a brief overview of the accounts and groups, log files, and other security-related considerations for App-V 5.0.

General security considerations

Understand the security risks. The most serious risk to App-V 5.0 is that its functionality could be hijacked by an unauthorized user who could then reconfigure key data on App-V 5.0 clients.

The loss of App-V 5.0 functionality for a short period of time due to a denial-of-service attack would not generally have a catastrophic impact.

Physically secure your computers. Security is incomplete without physical security. Anyone with physical access to an App-V 5.0 server could potentially attack the entire client base. Any potential physical attacks must be considered high risk and mitigated appropriately. App-V 5.0 servers should be stored in a physically secure server room with controlled access. Secure these computers when administrators are not physically present by having the operating system lock the computer, or by using a secured screen saver.

Apply the most recent security updates to all computers. To stay informed about the latest updates for operating systems, Microsoft SQL Server, and App-V 5.0, subscribe to the Security Notification service (<http://go.microsoft.com/fwlink/p/?LinkId=28819>).

Use strong passwords or pass phrases. Always use strong passwords with 15 or more characters for all App-V 5.0 and App-V 5.0 administrator accounts. Never use blank passwords. For more information about password concepts, see the “Account Passwords and Policies” white paper on TechNet (<http://go.microsoft.com/fwlink/p/?LinkId=30009>).

Accounts and groups in App-V 5.0

A best practice for user account management is to create domain global groups and add user accounts to them. Then, add the domain global accounts to the necessary App-V 5.0 local groups on the App-V 5.0 servers.

App-V 5.0 server security

No groups are created automatically during App-V 5.0 Setup. You should create the following Active Directory Domain Services global groups to manage App-V 5.0 server operations.

Group name	Details
App-V Management Admin group	<p>Used to manage the App-V 5.0 management server. This group is created during the App-V 5.0 Management Server installation.</p> <p> Important There is no method to create the group using the management console after you have completed the installation.</p>
Database read/write for Management Service account	Provides read/write access to the management database. This account should be created during the App-V 5.0 management database installation.
App-V Management Service install admin account	Provides public access to schema-version table in management database. This account should be created during the App-V 5.0 management database installation.

 **Note**

Group name	Details
This is only required if management database is being installed separately from the service.	
<p>App-V Reporting Service install admin account</p>  Note This is only required if reporting database is being installed separately from the service.	Public access to schema-version table in reporting database. This account should be created during the App-V 5.0 management database installation.

Consider the following additional information:

- Access to the package shares - If a share exists on the same computer as the management Server, then the **Network** service requires read access to the share.
- Registering publishing servers with Management Server - A publishing server must be registered with the Management server. For example, it must be added to the database, so that the Publishing server machine accounts are able to call into the Management service API.

App-V 5.0 package security

The following will help you plan how to ensure that virtualized packages are secure.

- If an application installer applies an access control list (ACL) to a file or directory, then that ACL is not persisted in the package. When the package is deployed, if the file or directory is modified by a user it will either inherit the ACL in the **%userprofile%** or inherit the ACL of the target computer's directory. The former case occurs if the file or directory does not exist in a virtual file system location; the latter case occurs if the file or directory exists in a virtual file system location, for example **%windir%**.

App-V 5.0 log files

During App-V 5.0 Setup, setup log files are created in the **%temp%** folder of the installing user.

Microsoft Application Virtualization 5.0 Privacy Statement

[Microsoft Application Virtualization 5.0 Privacy Statement](#)

Administering App-V using PowerShell

Microsoft Application Virtualization (App-V) 5.0 provides Windows PowerShell cmdlets which can help administrators perform various App-V 5.0 tasks. The following sections provide more information about using PowerShell with App-V 5.0.

How to administer App-V 5.0 by using PowerShell

Use the following PowerShell procedures to perform various App-V 5.0 tasks.

Name	Description
How to Use the PowerShell Cmdlets	Describes how to use the PowerShell cmdlets.
How to Use Connection Groups on a Standalone Computer Using PowerShell	Describes how to manage connection groups using PowerShell.
How to Modify Client Configuration Using PowerShell	Describes how to modify the client using PowerShell.
How to Apply the User Configuration File Using PowerShell	Describes how to apply a user configuration file using PowerShell.
How to Apply the Deployment Configuration File Using PowerShell	Describes how to apply a deployment configuration file using PowerShell.
How to Sequence a Package Using PowerShell	Describes how to create a new package using PowerShell.
How to Create a Package Accelerator Using PowerShell	Describes how to create a package accelerator using PowerShell. You can use package accelerators automatically sequence large, complex applications
How to Enable Reporting on the App-V 5.0 Client using PowerShell	Describes how to enable the computer running the App-V 5.0 to send reporting information.
How To Install the App-V Databases and Convert the Associated Security Identifiers (SID) Using PowerShell	Describes how to take an array of account names and to convert each of them to the corresponding SID in standard and hexadecimal formats.

PowerShell Error Handling

Use the following table for information about App-V 5.0 PowerShell error handling.

Event	Action
Using the RollbackOnError attribute with embedded scripts.	<p>When you use the RollbackOnError attribute with embedded scripts the attribute is ignored for the following events:</p> <ul style="list-style-type: none"> • Removing a package. • Unpublishing a package. • Terminating a virtual environment.

Event	Action
	<ul style="list-style-type: none"> Terminating a process.
Package name contains \$.	<p>If a package name contains the character (\$), you must use a single-quote (') for example,</p> <p>Add-AppvClientPackage 'Contoso\$App.appv'</p>

How to Use the PowerShell Cmdlets

The following information provides App-V 5.0 cmdlet examples and information about installing the App-V 5.0 PowerShell cmdlets.

App-V 5.0 cmdlet examples:

Note

To display the help for all of the PowerShell cmdlets available with App-V 5.0 type **Get-Help**, for example **Get-Help publish-appvclientpackage**.

Command	Explanation
import-module appvclient	Installs the App-V 5.0 client cmdlets.
get-command -module appvclient	Displays the available cmdlets.
Get-AppvVirtualProcess	Returns a list of the virtual processes running on a specific computer.
Add-AppvPublishingServer -Name samplepub -URL https://contosopubserver/	Adds a publishing server to the App-V 5.0 client
Sync-AppvPublishingServer -Name samplepub	Synchronizes the publishing server named samplepub on the client
Add-AppvClientPackage \\server\share\sample.appv	Adds a package to the App-V 5.0 client
Publish-AppvClientPackage -packageid <guid 1> -versionid <guid 2>	Publishes a package to the current user
Add-AppvClientPackage \\server\share\sample.appv Publish-AppvClientPackage -Global	Globally adds and publishes a package.
Get-AppvVirtualProcess select -ExpandProperty AppvPackageData	Shows which processes are running virtual and the associated virtual environment.

▶ To use the PowerShell cmdlets

1. Read and understand the previous information.
2. Determine the tasks you want to perform using PowerShell. For more information about common App-V 5.0 PowerShell tasks, see [Administering App-V using PowerShell](#).

How to Use Connection Groups on a Standalone Computer Using PowerShell

An App-V 5.0 connection group allows you to run all the virtual applications as a defined set of App-V 5.0 packages in a single virtual environment. For example, you could virtualize an application and its plug-ins using separate packages, but run them together in a single connection group.

A connection group is defined on the computer running the App-V 5.0 client using an XML document. The following section is an example of the document:

```
<?xml version="1.0" encoding="UTF-16"?>
<appv:AppConnectionGroup
  xmlns="http://schemas.microsoft.com/appv/2010/virtualapplicationconnectiongroup"
  xmlns:appv="http://schemas.microsoft.com/appv/2010/virtualapplicationconnectiongroup"
  AppConnectionGroupId="61BE9B14-D2B4-41CE-A6E3-A1B658DE7000"
  VersionId="E6B6AA57-F2A7-49C9-ADF8-F2B5B3C8A42F"
  Priority="0"
  DisplayName="Sample Connection Group">
  <appv:Packages>
    <appv:Package
      PackageId="A8731008-4523-4713-83A4-CD1363907160"
      VersionId="E889951B-7F30-418B-A69C-B37283BC0DB9"
    />
    <appv:Package
      PackageId="1DC709C8-309F-4AB4-BD47-F75926D04276"
      VersionId="01F1943B-C778-40AD-BFAD-AC34A695DF3C"
    />
    <appv:Package
      PackageId="04220DCA-EE77-42BE-A9F5-96FD8E8593F2"
      VersionId="E15EFFE9-043D-4C01-BC52-AD2BD1E8BAFA"
    />
  </appv:Packages>
```

The previous section is a sample connection group file. This file is used to specify the packages that are in the connection group. The fields that you must update are:

- **AppConnectionGroupId** - This is the unique GUID identifier for this connection group. The connection group state is associated with this identifier. You will only specify this identifier when you create the connection group. You can create a new GUID using PowerShell by typing: **[Guid]::NewGuid()**
- **VersionId** - This is the version GUID identifier for this version of the connection group. When you update a connection group, for example by adding a new package or when a package is updated, a new version GUID will be created.
- **DisplayName** - This is the display name of the connection group.
- **Priority** - This is the optional priority field for the connection group. Refer to the associated documentation for a description of this field.

Each package in the connection group is in the list of packages. Use the package identifier and version identifier for the package. If you update a package, the package version will also need to be updated. Consequently this connection group file will need to be updated to a new version.

```
<appv:Packages>
  <appv:Package      PackageId="A8731008-4523-4713-83A4-CD1363907160"
    VersionId="E889951B-7F30-418B-A69C-B37283BC0DB9"      />
  <appv:Package
    PackageId="1DC709C8-309F-4AB4-BD47-F75926D04276"
    VersionId="01F1943B-C778-40AD-BFAD-AC34A695DF3C"
  />
  <appv:Package
    PackageId="04220DCA-EE77-42BE-A9F5-96FD8E8593F2"
    VersionId="E15EFFE9-043D-4C01-BC52-AD2BD1E8BAFA"
  />
</appv:Packages>
</appv:AppConnectionGroup>
```

- **Name the Connection Group** - Specify the name of the connection group for the **DisplayName** value of the XML document.
- **Identify and set the Version for the Connection Group** - Each Connection Group is uniquely identified by a GUID. The connection group identifier is represented by the **AppConnectionGroupId** value. The version of the connection group uniquely identifies the specific connection group. The version is updated any time the connection group document requires an update. For example, if a package contained in the connection group is updated, the connection group version number will be updated as well. The **VersionId** value defines the version.
- **Populate the List of Member Packages** - The packages you want to include in the connection group are displayed in the **Packages** list. Each package in the list is identified by its unique package identifier value and the version identifier of the package you want to use in the

connection group. For each package, specify the **PackageId** and **VersionId** values for the package.

The following connection group example consists of two packages and is called “Financial Applications”:

```
<?xml version="1.0" encoding="UTF-16"?>
<appv:AppConnectionGroup
  xmlns="http://schemas.microsoft.com/appv/2010/virtualapplicationconnectiongroup"
  xmlns:appv="http://schemas.microsoft.com/appv/2010/virtualapplicationconnectiongroup"
  AppConnectionGroupId="3EC6BB31-650D-41ef-995A-9883DBDB374F"
  VersionId="15C3D968-97F4-45cc-9E10-0C675B107A72"
  Priority="0"
  DisplayName="Financial Applications">
  <appv:Packages>
    <appv:Package
      PackageId="742f02ad-a197-44a4-87c0-135df50a722f"
      VersionId="b7d5948a-067b-4694-821d-aa55230efd9e"
    />
    <appv:Package
      PackageId="6041267d-edfe-4d80-b916-0360b21cbcfc"
      VersionId="14fa137f-5825-4cac-899f-067bb3dd1528"
    />
  </appv:Packages>
</appv:AppConnectionGroup>
```

Use the following procedure to deploy a connection group using PowerShell.

▶ To add and publish the App-V 5.0 packages in the Connection Group

1. To add and publish the App-V 5.0 packages to the computer running the App-V 5.0 client type the following command:

```
Add-AppvClientPackage -path c:\tmpstore\quartfin.appv | Publish-AppvClientPackage.
```

2. Repeat **step 1** of this procedure for each application contained in the connection group.

▶ To add and enable the connection group on the App-V 5.0 Client

1. To add the connection group: type the following command:

```
Add-AppvClientConnectionGroup -path c:\tmpstore\financ.xml.
```

2. To enable the connection group type the following command:

```
Enable-AppvClientConnectionGroup -name "Financial Applications".
```

When any virtual applications contained in the member App-V 5.0 packages are run on

the target computer, they will run inside the connection group's virtual environment and be available to all the virtual applications in the other packages that you have put inside the Connection Group.

How to Modify Client Configuration Using PowerShell

Use the following procedure to configure the App-V 5.0 client configuration.

▶ To modify App-V 5.0 client configuration using PowerShell

1. To configure the client settings using PowerShell, use the **Set-AppvClientConfiguration** cmdlet. For more information about installing PowerShell, and a list of cmdlets see, [How to Use the PowerShell Cmdlets](#) and [App-V 5.0 Cmdlets](#).
2. To modify the client configuration, open a PowerShell Command prompt and run the following cmdlet **Set-AppvClientConfiguration** with any required parameters. For example:

```
$config = Get-AppvClientConfiguration  
Set-AppvClientConfiguration $config  
Set-AppvClientConfiguration -Name1 MyConfig -Name2 "xyz"
```

How to Apply the User Configuration File Using PowerShell

The dynamic user configuration file is applied when a package is published to a specific user and determines how the package will run.

Use the following procedure to specify a user-specific configuration file. The following procedure is based on the example:

c:\Packages\Contoso\MyApp.appv

▶ To apply a user Configuration file

1. To add the package to the computer using the PowerShell console type the following command:
Add-AppVClientPackage c:\Packages\Contoso\MyApp.appv.
2. Use the following command to publish the package to the user and specify the updated the dynamic user configuration file:

```
Publish-AppVClientPackage $pkg -DynamicUserConfigurationPath  
c:\Packages\Contoso\config.xml
```

How to Apply the Deployment Configuration File Using PowerShell

The dynamic deployment configuration file is applied when a package is added or set to a computer running the App-V 5.0 client before the package has been published. The file configures the default settings for package for all users on the computer running the App-V 5.0 client. This section describes the steps used to use a deployment configuration file. The

procedure is based on the following example and assumes the following package and configuration files exist on a computer:

c:\Packages\Contoso\MyApp.appv

c:\Packages\Contoso\DynamicConfigurations\deploymentconfig.xml

▶ To Apply the Deployment Configuration File Using PowerShell

1. To specify a new default set of configurations for all users who will run the package on a specific computer, using a PowerShell console type the following:

**Add-AppVClientPackage -Path c:\Packages\Contoso\MyApp.appv -
DynamicDeploymentConfiguration**

c:\Packages\Contoso\DynamicConfigurations\deploymentconfig.xml



Note

This command captures the resulting object into \$pkg. If the package is already present on the computer, the **Set-AppVclientPackage** cmdlet can be used to apply the deployment configuration document:

**Set-AppVClientPackage -Name Myapp -Path
c:\Packages\Contoso\MyApp.appv -DynamicDeploymentConfiguration
c:\Packages\Contoso\DynamicConfigurations\deploymentconfig.xml**

How to Sequence a Package Using PowerShell

Use the following procedure to create a new App-V 5.0 package using PowerShell.



Note

Before you use this procedure you must copy the associated installer files to the computer running the sequencer and you have read and understand the sequencer section of [Planning for the App-V 5.0 Sequencer and Client Deployment](#).

▶ To create a new virtual application using PowerShell

1. Install the App-V 5.0 sequencer. For more information about installing the sequencer see [How to Install the Sequencer](#).
2. To open a PowerShell console click **Start** and type **PowerShell**. Right-click **Windows PowerShell** and select **Run as Administrator**.
3. Using the PowerShell console, type the following: **import-module appvsequencer**.
4. To create a package, use the **New-AppvSequencerPackage** cmdlet. The following parameters are required to create a package:
 - **Name** - specifies the name of the package.
 - **PrimaryVirtualApplicationDirectory** - specifies the path to the directory that will be used to install the application. This path must exist.
 - **Installer** - specifies the path to the associated application installer.
 - **Path** - specifies the output directory for the package.

For example:

New-AppvSequencerPackage –Name <name of Package> - PrimaryVirtualApplicationDirectory <path to the package root> -Installer <path to the installer executable> -OutputPath <directory of the output path>

Wait for the sequencer to create the package. Creating a package using PowerShell can take time. If the package was not created successfully an error will be returned.

The following list displays additional optional parameters that can be used with **New-AppvSequencerPackage** cmdlet:

- **AcceleratorFilePath** – specifies the path to the accelerator .cab file to generate a package.
- **InstalledFilesPath** - specifies the path to where the local installed files of the application are saved.
- **InstallMediaPath** - specifies the path to where the installation media is
- **TemplateFilePath** - specifies the path to a template file if you want to customize the sequencing process.
- **FullLoad** - specifies that the package must be fully downloaded to the computer running the App-V 5.0 before it can be opened.

How to Create a Package Accelerator Using PowerShell

App-V 5.0 package accelerators automatically sequence large, complex applications.

Additionally, when you apply an App-V 5.0 package accelerator, you are not always required to manually install an application to create the virtualized package.

▶ To create a package accelerator

1. Install the App-V 5.0 sequencer. For more information about installing the sequencer see [How to Install the Sequencer](#).
2. To open a PowerShell console click **Start** and type **PowerShell**. Right-click **Windows PowerShell** and select **Run as Administrator**. Use the **New-AppvPackageAccelerator** cmdlet.
3. To create a package accelerator, make sure that you have the .appv package to create an accelerator from, the installation media or installation files, and optionally a read me file for consumers of the accelerator to use. The following parameters are required to use the package accelerator cmdlet:
 - **InstalledFilesPath** - specifies the application installation path.
 - **Installer** – specifies the path to the application installer media
 - **InputPackagePath** – specifies the path to the .appv package
 - **Path** – specifies the output directory for the package.

The following example displays how you can create a package accelerator with an .appv package and the installation media:

New-AppvPackageAccelerator -InputPackagePath <path to the .appv file> -Installer

<path to the installer executable> -Path <directory of the output path>

Additional optional parameters that can be used with the **New-AppvPackageAccelerator** cmdlet are displayed in the following list:

- **AcceleratorDescriptionFile** - specifies the path to user created package accelerator instructions. The package accelerator instructions are **.txt** or **.rtf** description files that will be packaged with the package created using the package accelerator.

How to Enable Reporting on the App-V 5.0 Client using PowerShell

Use the following procedure to configure the App-V 5.0 for reporting.

▶ To configure the computer running the App-V 5.0 client for reporting

1. Install the App-V 5.0 client. For more information about installing the client see [How to Deploy the Client](#).
2. After you have installed the client is installed, use the **Set-AppvClientConfiguration** PowerShell to configure appropriate Reporting Configuration settings:

Setting	Description
ReportingEnabled	Enables the client to return information to a reporting server. This setting is required for the client to collect the reporting data on the client.
ReportingServerURL	Specifies the location on the reporting server where client information is saved. For example, <code>http://<reportingservername>:<reportingportnumber></code> .  Note This is the port number that was assigned during the Reporting Server setup
Reporting Start Time	This is set to schedule the client to automatically send the data to the server. This setting will indicate the hour at which the reporting data will start to send. It is in the 24 hour format and will take a number between 0-23.
ReportingRandomDelay	Specifies the maximum delay (in minutes) for data to be sent to the reporting server. When the scheduled task is started, the client generates a random delay between 0 and ReportingRandomDelay and will wait the specified duration before sending data. This can
ReportingInterval	Specifies the retry interval that the client will use to

	resend data to the reporting server.
ReportingDataCacheLimit	Specifies the maximum size in megabytes (MB) of the XML cache for storing reporting information. The size applies to the cache in memory. When the limit is reached, the log file will roll over.
ReportingDataBlockSize	Specifies the maximum size in megabytes (MB) of the XML cache for storing reporting information. The size applies to the cache in memory. When the limit is reached, the log file will roll over.

- After this has been configured, the client will automatically collect data and will send the data back to the reporting server.

Additionally, administrators can manually send the data back in an on-demand manner using the **Send-AppvClientReport** PowerShell cmdlet.

How To Install the App-V Databases and Convert the Associated Security Identifiers (SID) Using PowerShell

Use the following PowerShell procedure to convert any number of Active Directory Domain Services (AD DS) user or machine accounts into formatted Security Identifiers (SIDs) both in the standard format and in the hexadecimal format used by Microsoft SQL Server when running SQL scripts.

Before attempting this procedure, you should read and understand the information and examples displayed in the following list:

- **.INPUTS** – The account or accounts used to convert to SID format. This can be a single account name or an array of account names.
- **.OUTPUTS** - A list of account names with the corresponding SID in standard and hexadecimal formats.
- **Examples** -

```
.\ConvertToSID.ps1 DOMAIN\user_account1 DOMAIN\machine_account1$
DOMAIN\user_account2 | Format-List.
```

```
$accountsArray = @("DOMAIN\user_account1", "DOMAIN\machine_account1$",
"DOMAIN_user_account2")
```

```
.\ConvertToSID.ps1 $accountsArray | Write-Output -FilePath .\SIDs.txt -Width 200
```

```
#>
```

▶ **To convert any number of Active Directory Domain Services (AD DS) user or machine accounts into formatted Security Identifiers (SIDs)**

1. Copy the following script into a text editor and save it as a PowerShell script file, for example **ConvertToSIDs.ps1**.
2. To open a PowerShell console click **Start** and type **PowerShell**. Right-click **Windows PowerShell** and select **Run as Administrator**.

```
<#
```

```
.SYNOPSIS
```

This PowerShell script will take an array of account names and try to convert each of them to the corresponding SID in standard and hexadecimal formats.

```
.DESCRIPTION
```

This is a PowerShell script that converts any number of Active Directory (AD) user or machine accounts into formatted Security Identifiers (SIDs) both in the standard format and in the hexadecimal format used by SQL server when running SQL scripts.

```
.INPUTS
```

The account(s) to convert to SID format. This can be a single account name or an array of account names. Please see examples below.

```
.OUTPUTS
```

A list of account names with the corresponding SID in standard and hexadecimal formats

```
.EXAMPLE
```

```
.\ConvertToSID.ps1 DOMAIN\user_account1 DOMAIN\machine_account1$  
DOMAIN\user_account2 | Format-List
```

```
.EXAMPLE
```

```
$accountsArray = @("DOMAIN\user_account1", "DOMAIN\machine_account1$",  
"DOMAIN_user_account2")
```

```
.\ConvertToSID.ps1 $accountsArray | Write-Output -FilePath .\SIDs.txt -Width 200
```

```
#>
```

```
function ConvertSIDToHexFormat  
{
```

```

param([System.Security.Principal.SecurityIdentifier]$sidToConvert)

$sb = New-Object System.Text.StringBuilder

[int] $binLength = $sidToConvert.BinaryLength

[Byte[]] $byteArray = New-Object Byte[] $binLength

$sidToConvert.GetBinaryForm($byteArray, 0)

foreach($byte in $byteArray)

{

$sb.Append($byte.ToString("X2")) |Out-Null

}

return $sb.ToString()

}

[string[]]$myArgs = $args

if(($myArgs.Length -lt 1) -or ($myArgs[0].CompareTo("/?") -eq 0))

{

[string]::Format("{0}==== Description ====={0}{0}" +

{

" Converts any number of user or machine account names to string and hexadecimal
SIDs.{0}" +

" Pass the account(s) as space separated command line parameters. (For

```

```

example 'ConvertToSID.exe DOMAIN\Account1 DOMAIN\Account2 ...'{0}" +
    " The output is written to the console in the format 'Account name SID as
string SID as hexadecimal'{0}" +
    " And can be written out to a file using standard PowerShell redirection{0}" +
    " Please specify user accounts in the format 'DOMAIN\username'{0}" +
    " Please specify machine accounts in the format 'DOMAIN\machinename$'{0}"
+
    " For more help content, please run 'Get-Help ConvertToSID.ps1'{0}" +
    "{0}==== Arguments ====={0}" +
    "{0} /? Show this help message", [Environment]::NewLine)

{

else
{ #If an array was passed in, try to split it
if($myArgs.Length -eq 1)
{
    $myArgs = $myArgs.Split(' ')
}
#Parse the arguments for account names
foreach($accountName in $myArgs)
{
    [string[]] $splitString = $accountName.Split('\') # We're looking for the format
"DOMAIN\Account" so anything that does not match, we reject
    if($splitString.Length -ne 2)
    {
        $message = [string]::Format("{0} is not a valid account name. Expected format
'Domain\username' for user accounts or 'DOMAIN\machinename$' for machine
accounts.", $accountName)
        Write-Error -Message $message
        continue
    }

#Convert any account names to SIDs
try
{
    [System.Security.Principal.NTAccount] $account = New-Object

```

```

System.Security.Principal.NTAccount($splitString[0], $splitString[1])
    [System.Security.Principal.SecurityIdentifier] $SID =
[System.Security.Principal.SecurityIdentifier]($account.Translate([System.Security.Princi
pal.SecurityIdentifier]))
    }
    catch [System.Security.Principal.IdentityNotMappedException]
    {
        $message = [string]::Format("Failed to translate account object '{0}' to a SID.
Please verify that this is a valid user or machine account.", $account.ToString())

        Write-Error -Message $message
        continue
    }
#Convert regular SID to binary format used by SQL
$hexSIDString = ConvertSIDToHexFormat $SID
    $SIDs = New-Object PSObject
    $SIDs | Add-Member NoteProperty Account $accountName
    $SIDs | Add-Member NoteProperty SID $SID.ToString()
    $SIDs | Add-Member NoteProperty Hexadecimal $hexSIDString
    Write-Output $SIDs
}
}

```

3. Run the script you saved in step one of this procedure passing the accounts to convert as arguments.

For example,

```

.\ConvertToSID.ps1 DOMAIN\user_account1 DOMAIN\machine_account1$
DOMAIN\user_account2 | Format-List" or "$accountsArray =
@"DOMAIN\user_account1", "DOMAIN\machine_account1$",
"DOMAIN_user_account2")
.\ConvertToSID.ps1 $accountsArray | Write-Output -FilePath .\SIDs.txt -Width 200"

```

Troubleshooting App-V 5.0

Troubleshooting content is not included in the Administrator's Guide for this product. Instead, you can find troubleshooting information for this product on the [TechNet Wiki](#).

How to Find Troubleshooting Content

You can use the following information to find troubleshooting or additional technical content for this product.

Search the MDOP Documentation

The first step to find help content in the Administrator's Guide is to search the MDOP documentation on TechNet.

After you search the MDOP documentation, your next step would be to search the troubleshooting information for the product in the TechNet Wiki.

▶ To search the MDOP product documentation

1. Use a web browser to navigate to the [MDOP Information Experience](#) TechNet home page.
2. Enter applicable search terms in the **Search TechNet with Bing** search box at the top of the MDOP Information Experience home page.
3. Review the search results for assistance.

▶ To search the TechNet Wiki

1. Use a web browser to navigate to the [TechNet Wiki](#) home page.
2. Enter applicable search terms in the **Search TechNet Wiki** search box on the TechNet Wiki home page.
3. Review the search results for assistance.

How to Create a Troubleshooting Article

If you have a troubleshooting tip or a best practice to share that is not already included in the MDOP OnlineHelp or TechNet Wiki, you can create your own TechNet Wiki articles.

▶ To create a TechNet Wiki troubleshooting or best practices article

1. Use a web browser to navigate to the [TechNet Wiki](#) home page.
2. Log in with your Windows Live ID.
3. Review the **Getting Started** section to learn the basics of the TechNet Wiki and its articles.
4. Select **Post an article >>** at the bottom of the **Getting Started** section.
5. On the Wiki article **Add Page** page, select **Insert Template** from the toolbar, select the

troubleshooting article template (**Troubleshooting.html**), and then click **Insert**.

6. Be sure to give the article a descriptive title and then overwrite the template information as needed to create your troubleshooting or best practice article.
7. After you review your article, be sure to include a tag that is named **Troubleshooting** and another for the product name. This helps others to find your content.
8. Click **Save** to publish the article to the TechNet Wiki.