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AdminStudio 2015 SP1
Evaluation Guide

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AdminStudio 2015 SP1 Evaluation Guide

AdminStudio Suite 2015 SP1 powers an enterprise's daily application readiness process for inventory, rationalization, packaging, and compatibility testing of physical, virtual, and mobile applications, ensuring faster service delivery and predictable deployment.

AdminStudio provides enterprise IT teams the most advanced solution to efficiently prepare reliable application packages for deployment with a complete suite of automated MSI packaging, customization, testing, and reporting capabilities. Its automation, integration with leading software distribution tools, and workflow capabilities help companies streamline day-to-day application packaging operations and reduce the time and cost of application virtualization, Windows migrations and mobile application deployment.

Trusted by more than 10,000 organizations, AdminStudio Suite eliminates the need for multiple standalone tools and provides an integrated solution that is adaptive and scalable to changing business priorities.

You can use this Evaluation Guide to quickly learn how to use AdminStudio to prepare Windows Installer, virtual applications, web applications, and mobile applications for deployment. This Evaluation Guide is organized into the following sections:

Table 1 • AdminStudio 2015 SP1 Evaluation Guide

Section	Description
Getting Started	Explains what is included in this Evaluation Guide and how to get started.
What's New	Provides an overview of the new features in AdminStudio 2015 and 2015 SP1. • What's New in AdminStudio 2015 SP1 • What's New in AdminStudio 2015
Setting Up AdminStudio Infrastructure	Explains how to perform the one-time set-up tasks that you need to complete prior to using AdminStudio including creating an Application Catalog, configuring a virtual machine, configuring e-mail settings, and specifying server connection settings.

Table 1 • AdminStudio 2015 SP1 Evaluation Guide

Section	Description
Migrating to Windows Installer	Explains how to convert a sample setup to a Windows Installer package, import it into the Application Catalog, test it for operating system compatibility, best practices, and conflicts, and then prepare it for distribution.
Migrating to Application Virtualization	Explains how to use the Automated Application Converter to convert Windows Installer packages to virtual packages, and then test and distribute the virtual packages.
Testing for Application Compatibility	Explains how to use Application Manager to test packages for compatibility with Microsoft Windows 7, Windows 8, Windows 10, Windows Server 2008 R2, and Windows Server 2012 platforms, as well as to test web applications for compatibility with Internet Explorer 9/10/11 and Microsoft Edge.

Getting Started

This section explains what is included in this Evaluation Guide and how to get started:

- About Evaluating AdminStudio

- Purpose of Evaluation Guide

- Organization of Evaluation Guide

- Evaluation Guide Data Files

About Evaluating AdminStudio

You can choose to evaluate AdminStudio for 21 days. By clicking **Continue to Evaluate AdminStudio** dialog box that opens when you launch AdminStudio, you can begin evaluating the AdminStudio Enterprise Edition client tools.

Information about evaluating the AdminStudio client tools includes the following topics:

- AdminStudio Client Tools Evaluation Restrictions

- Evaluating AdminStudio's Microsoft App-V Support

- Evaluating the Automated Application Converter "Multiple Application" Option

AdminStudio Client Tools Evaluation Restrictions

When you run AdminStudio in trial/evaluation mode, all of its features are fully available, with the following restrictions:

- **Can create only one Application Catalog**—You are permitted to create only one Application Catalog, and it must be named `AdminStudio Evaluation Catalog`.

- **Ten package import limit**—Only 10 total packages (of one or more deployment types) can be imported into the Application Catalog.

- **Package deletion not permitted**—After you import a package into the Application Catalog, you are not permitted to delete it.

- **AdminStudio Platform API support is disabled**—All platform support is disabled.

Evaluating AdminStudio's Microsoft App-V Support

While evaluating the AdminStudio Enterprise Edition client tools, you will be able to convert a Windows Installer package to an App-V application using the Automated Application Converter, Conversion Wizard, Repackager, and the InstallShield App-V Assistant. However, an App-V application built using an evaluation version of AdminStudio will display the following message every time it is launched:
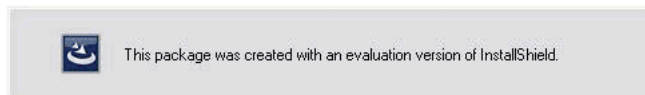
Figure 1: Evaluation Version Message

After purchasing the AdminStudio Virtualization Pack, you will be able to remove this message by rebuilding the App-V application.

Evaluating the Automated Application Converter "Multiple Application" Option

The Multiple Application option of Automated Application Converter is only available when you purchase the Virtualization Pack with AdminStudio Enterprise Edition.

Note • If you purchase the Virtualization Pack with AdminStudio Standard or Professional Editions, you will only be able to convert one package at a time, using one virtual machine.

When using an evaluation version of AdminStudio, you will be able to use Automated Application Converter to convert a directory full of Windows Installer packages into individual virtual packages, but the conversion will be limited to three packages per run, using only one virtual machine. Therefore, only the first three packages that Automated Application Converter encounters will be converted to virtual applications.

Purpose of Evaluation Guide

The purpose of this Evaluation Guide is to help system administrators and other reviewers learn how to quickly get started using AdminStudio to prepare Windows Installer and virtual applications for deployment. By performing the exercises in this Evaluation Guide using the provided data files, you will learn how to:

- Create an Application Catalog

- Repackage a sample package

- Import packages into the Application Catalog

- Test Windows Installer packages, App-V packages, and web applications

- Configure a virtual machine for use in automated repackaging

- Convert Windows Installer packages to virtual applications

- Distribute Windows Installer and App-V packages

- Perform operating system compatibility and browser compatibility testing

Organization of Evaluation Guide

This Evaluation Guide provides exercises that guide you through performing the following key procedures:

Table 2 • Evaluation Exercises

Procedure	Procedure
Setting Up AdminStudio Infrastructure	In these set of exercises, you will perform the one-time setup tasks that are necessary to get started using AdminStudio: • Creating an Application Catalog • Configuring a Virtual Machine • Setting E-Mail Notification Settings • Entering Server/Database Connection Settings
Migrating to Windows Installer	In this set of exercises, you will migrate a sample setup (such as an `.exe` file) to a deployable Windows Installer package (`.msi`): • Repackaging a Sample Package • Importing Packages into the Application Catalog • Testing a Repackaged Application and Resolving Issues • Distributing a Repackaged Application

Table 2 • Evaluation Exercises

Procedure	Procedure
Migrating to Application Virtualization	In this set of exercises, you will migrate a set of applications into virtual applications that are ready for deployment: • Identifying Packages to Virtualize • Converting to Virtual Formats • Testing and Distributing Converted Packages
Testing for Application Compatibility	In this set of exercises, you will test Windows Installer packages for application readiness on Microsoft Windows (7, 8, 10), and Windows Server (2008 R2 and 2012). You will also test web applications for compatibility with Internet Explorer 9/10/11 and Microsoft Edge. • Importing Packages, Web Applications, and Mobile Apps • Selecting Tests to Run and Setting Default Fix Option • Performing Testing and Viewing Results

These four main procedures are also featured on AdminStudio's Start Page.
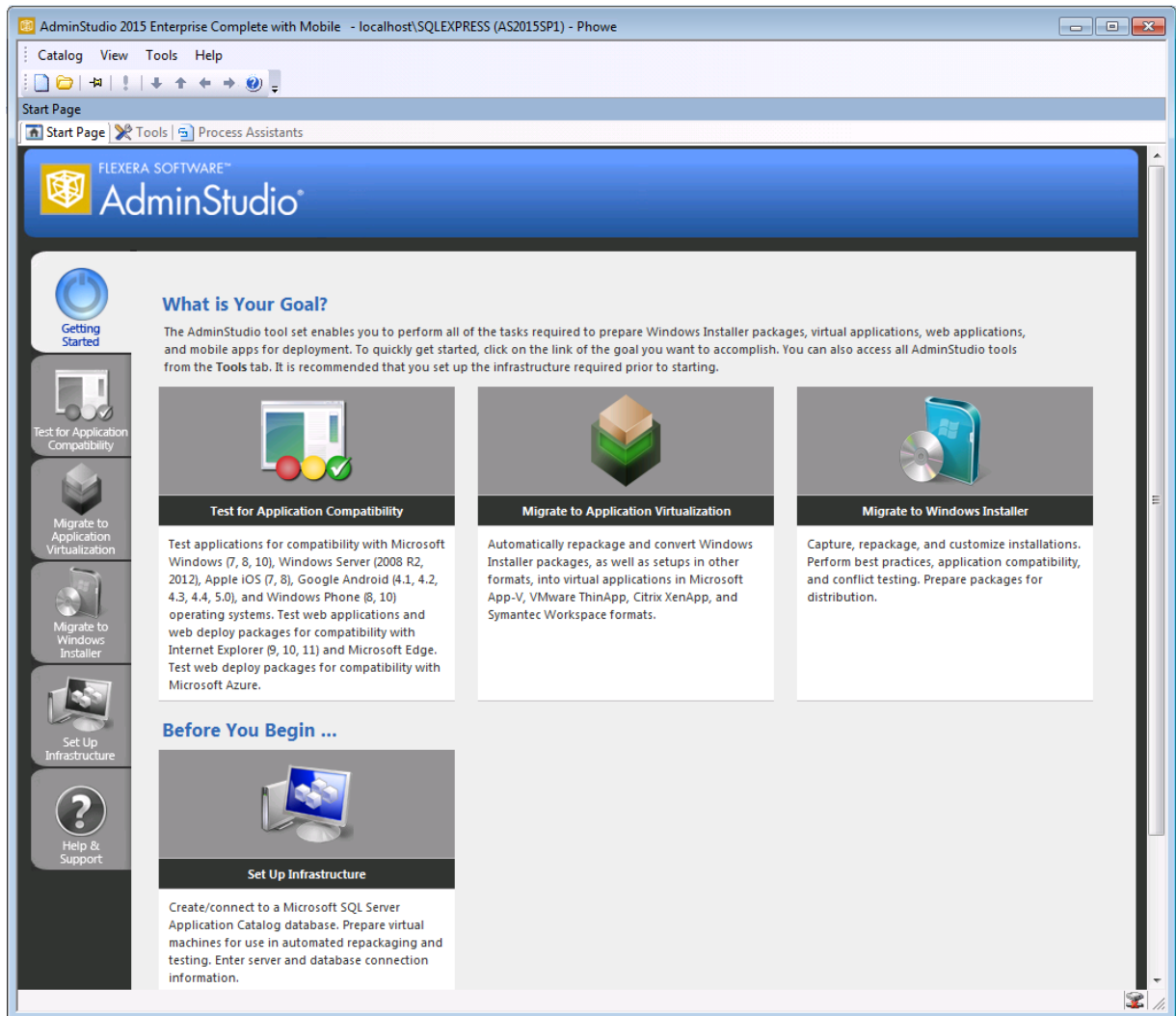

Figure 2: AdminStudio Start Page

Each subtab of the Start Page includes a flowchart that lists the steps in each procedure. For example, the following flowchart is displayed on the **Migrate to Windows Installer** tab:
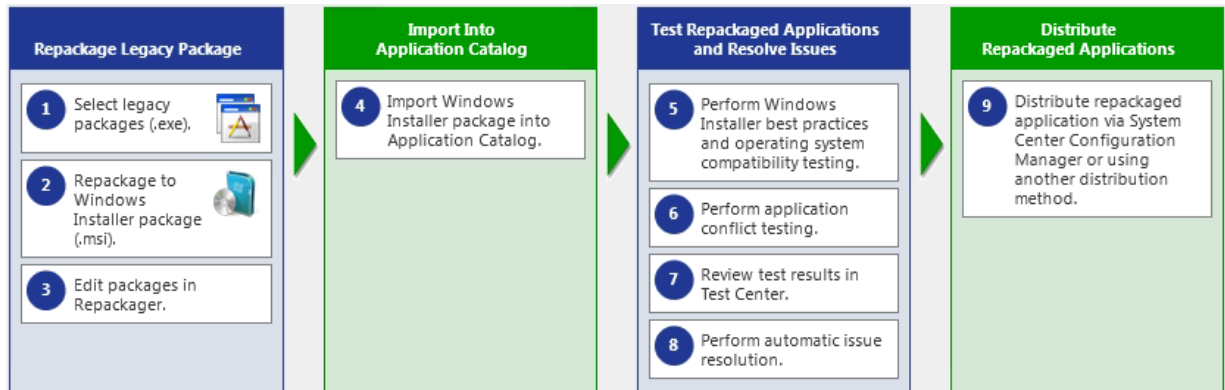
Figure 3: Migrate to Windows Installer Tab of AdminStudio Start Page

Evaluation Guide Data Files

To perform the exercises in the AdminStudio Evaluation Guide, you will be using the sample data that is provided in the `AS2015EvalGuideDataFiles.zip` file. These data files are organized into the following directories:

Figure 4: Directory Structure of AdminStudio Evaluation Guide Data Files

These data files demonstrate the recommended organizational structure that you should use when you want to import a directory of packages into the Application Catalog:

- **One root directory**—Organize the packages you want to import in one root directory (`AS2015EvalGuideDataFiles` in this example).

- **Each application in a subdirectory**—Each application should be stored in its own first level subdirectory (such as `SampleKit` or `SampleApplicationTarget`).

- **Each deployment type in a sub-subdirectory**—Each deployment type should be stored in its own sub-subdirectory (`AppV`, `MSI`, etc.) of the application directory.

Unzip this data file and place its contents in a location accessible to your installation of AdminStudio, such as:

`C:\AS2015EvalGuideDataFiles`

What's New in AdminStudio 2015 SP1

This section lists the new features that were included in AdminStudio 2015 SP1:

- Support for Web Deploy Package Import and Testing

- Mobile Test Wizard to Create Custom Tests By Combining Multiple Feature Tests

- New Microsoft Windows Application Compatibility Infrastructure Tests

- New Browser Compatibility Tests for Microsoft Edge

- Test Center Test Selection Dialog Box Performance Enhancement

Support for Web Deploy Package Import and Testing

AdminStudio now offers you the ability to test web applications for compatibility with a cloud infrastructure. In AdminStudio 2015 SP1, you can import web deploy packages (.zip) into the Application Catalog so that you can test them for compatibility with the Windows Server 2012 R2 operating system and the Microsoft Azure remote application publishing platform, as well as test them for best practices and browser compatibility.

Using AdminStudio to test your web deploy packages assists you in successfully transitioning those applications to a cloud infrastructure, resulting in reduced costs and accelerated data center modernization.

- Import of Web Deploy Packages into Application Catalog

- Testing of Web Deploy Packages

Import of Web Deploy Packages into Application Catalog

A new option has been added to the Package Type Selection panel of the Import Wizard to enable you to import web deploy packages: **Microsoft Web Deploy Package (.zip)**.
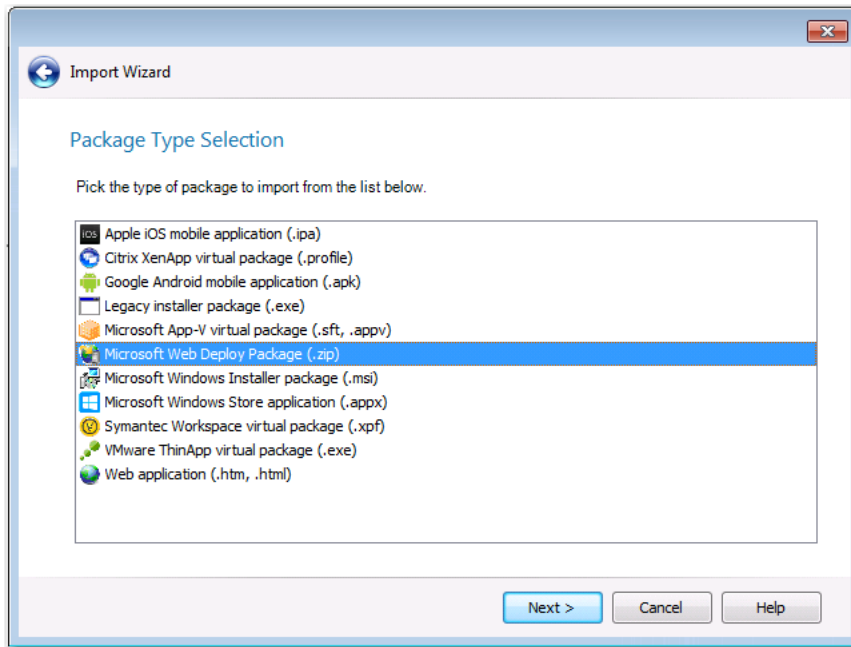
Figure 5: Microsoft Web Deploy Package Option on Package Type Selection Panel of Import Wizard

Application Manager displays information extracted from the imported web deploy package on the Catalog Deployment Type view.

Figure 6: Catalog Deployment Type View for Web Deploy Package

Note • The properties displayed on the Catalog Deployment Type view for each web deploy package will vary depending upon the way the package was built.

Testing of Web Deploy Packages

Web deploy packages that have been imported into the Application Catalog can be tested for:

- **Microsoft Azure**—Remote application publishing compatibility with the Microsoft Azure platform.

- **Windows Server 2012 R2**—Operating system compatibility with Windows Server 2012 R2.

- **Browser compatibility**—Browser compatibility with Internet Explorer 9, 10, 11, and Microsoft Edge.

- **Best practices**—Web deploy best practices.

These tests help you to accelerate and simplify efforts to migrate web apps to either the latest release of Windows Server or to Windows Azure for cloud hosting by identifying:

- Which web applications are ready for migration and which ones require development.

- Issues that may slow down data center modernization efforts.

AdminStudio 2015 SP1 includes the following new and existing tests to test web deploy packages.

Category	Test #	Description	Status
Web Deploy Best Practices	WD001	Deprecated Parameter Types	New
	WD002	Constraint of Parameter Scopes	New
Remote Application Publishing Compatibility / Azure Application Services Tests	MAS0001	Port Bindings	New
	MAS0002	Authentication	New
	MAS0003	Global Assembly Cache (GAC)	New
	MAS0004	IIS5 Compatibility Mode	New
	MAS0005	Application Pools	New
	MAS0006	COM and COM+ Components	New
	MAS0007	ISAPI Filters	New
	MAS0008	Migration of Other Components Like SSL, FTP	New
Operating System Compatibility / Windows Server 2012	A subset of the Windows Server 2012 tests apply to web deploy packages: 0501, 0508, 0510, 0515, 0516, 0517, 0519, 0520, 0521, 0522, 0523, 0529, 0530, 0533, 0535, 0537, 0538, 0540, 0541, 0542, and 0552.		Existing
Browser Compatibility / Internet Explorer 9	1101 through 1121		Existing

Category	Test #	Description	Status
Browser Compatibility / Internet Explorer 10	1201 through 1220		Existing
Browser Compatibility / Internet Explorer 11	1301 through 1325		Existing
Browser Compatibility / Microsoft Edge	1401 through 1428		New

Mobile Test Wizard to Create Custom Tests By Combining Multiple Feature Tests

AdminStudio's mobile risk assessment tests enable you to find out which features a specific mobile app uses, such as telephone, location services, camera, microphone, etc. In AdminStudio 2015 SP1, this testing has been enhanced with the addition of a new Mobile Test Wizard that enables you to create custom tests by combining risk assessment checks with AND or OR operators.

For example, you can now create a custom test to see if a mobile application uses a gyroscope OR accelerometer. Or you can create a test that determines whether a mobile application uses location services AND allows location tracking.

The Mobile Test Wizard is launched from the **General Options > Mobile Tests** tab of the Application Manager **Options** dialog box. To launch the Mobile Test Wizard, click **New**.
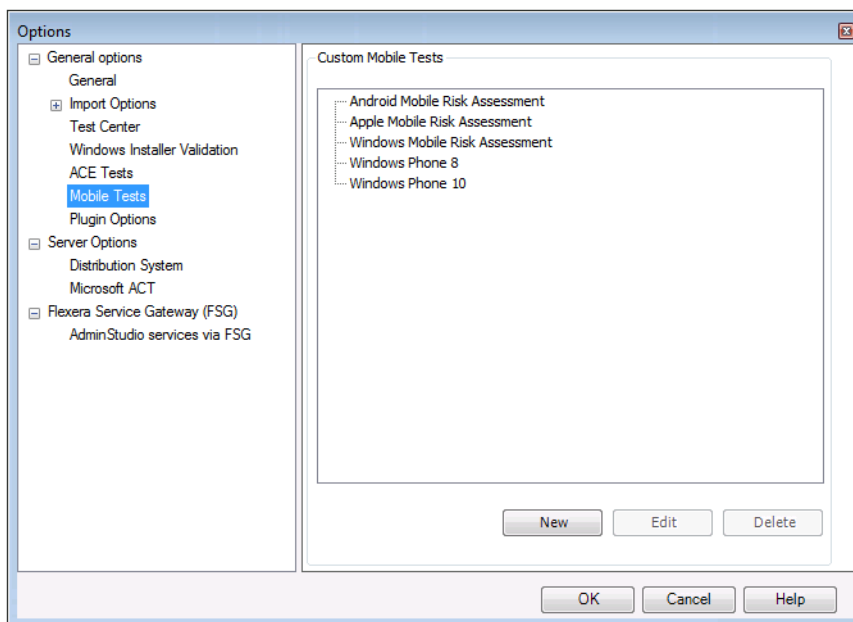

Figure 7: Mobile Tests Tab of Options Dialog Box

On the **Select the Tests** panel of the wizard, you first need to select a **Test Type** from the list (Android, Apple, etc.). The available tests in that category are listed in the box on the left.

Next, move the tests you want to include in the custom test using the arrow keys, and join the tests AND or OR operators by making selections from the **Operator** drop down list.
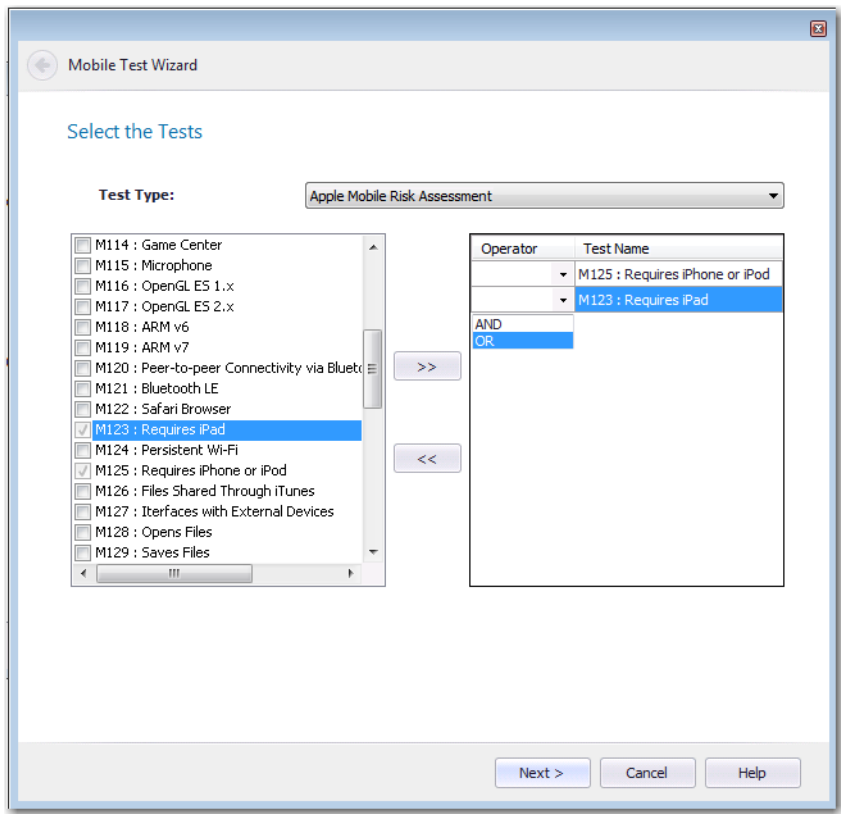

Figure 8: Selecting an Operator to Join Multiple Tests

For example, the following test would test a iOS mobile app to see if it requires iPad and WiFi.
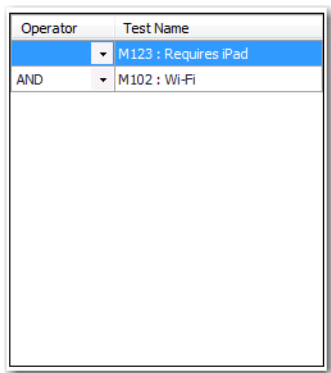

Figure 9: Custom Test

After you have selected the tests and joined them with the AND or OR operator, you click **Next** and **Provide the Test Details** panel opens, where you are prompted to give the test a name, description, and a link to more information.

Figure 10: Provide the Test Details Panel / Mobile Test Wizard

When the Mobile Test Wizard is completed, a number beginning with TG is assigned to this custom test and it now appears on the **Select Tests to Execute** dialog box at the bottom of the list of tests in that category.

Figure 11: New Test on Select Tests to Execute Dialog Box

When this issue is detected during the testing of a mobile app, the custom error message is listed on the Best Practices and Risk Assessment tab:

Figure 12: Custom Test Displayed on Best Practices and Risk Assessment Tab of Test Center

New Microsoft Windows Application Compatibility Infrastructure Tests

The Microsoft Windows Application Compatibility Infrastructure (Shim Infrastructure) is a technical solution provided by Microsoft to ensure compatibility of existing software with new releases of their operating systems.

As the Windows operating system evolves from version to version—changing to support new technology or incorporate bug fixes—changes may affect existing applications. It is often not possible to modify the application to address these operating system changes. To make sure that these applications will continue to work in the updated operating systems, Microsoft uses the Shim Infrastructure to provide fixes (such as a transform or custom action) for a particular application version that may encounter problems in the updated operating system.

When Microsoft identifies an installer/application/driver with an incompatibility with a specific operating system, Microsoft will either provide a "shim" to enable it to run (such as a transform or custom action) or blocks it from running.

AdminStudio 2015 SP1 includes new tests to scan installers, applications, and drivers for known runtime compatibility issues with various operating systems that have been documented in the Microsoft Windows Application Compatibility Infrastructure. The following table lists the test numbers of these new tests.

Table 3 • Microsoft Windows Application Compatibility Infrastructure Test Numbers

Operating System	Compatibility Issues with Installers	Compatibility Issues with Drivers	Compatibility Issues with Applications
Windows 7 (32-bit)	0058	0059	0060
Windows 7 (64-bit)	0258	0259	0260
Windows 8 (32-bit)	3058	3059	3060
Windows 8 (64-bit)	3158	3159	3160
Windows 10 (32-bit)	3258	3259	3260
Windows 10 (64-bit)	3358	3359	3360
Windows Server 2008 R2	0158	0159	0160
Windows Server 2012	0558	0559	0560

AdminStudio can now identify these compatibility issues during testing and alert you to potential issues. If the installer/application/driver will not run in a particular operating system, an error will be generated. If a 'shim' exists to enable it to run at, perhaps, reduced functionality, a warning will be generated.

If a warning or error is generated by one of these tests, it is recommended that you find out if a newer version of the installer/application/driver is available.

New Browser Compatibility Tests for Microsoft Edge

As part of the Windows 10 release, Microsoft released a new browser: Microsoft Edge. As you prepare to roll out Windows 10 at your enterprise, you need to know whether your web applications are compatible with this new browser.

AdminStudio 2015 SP1 includes new browser compatibility tests to specifically check web deploy packages and websites for compatibility issues with Microsoft Edge.
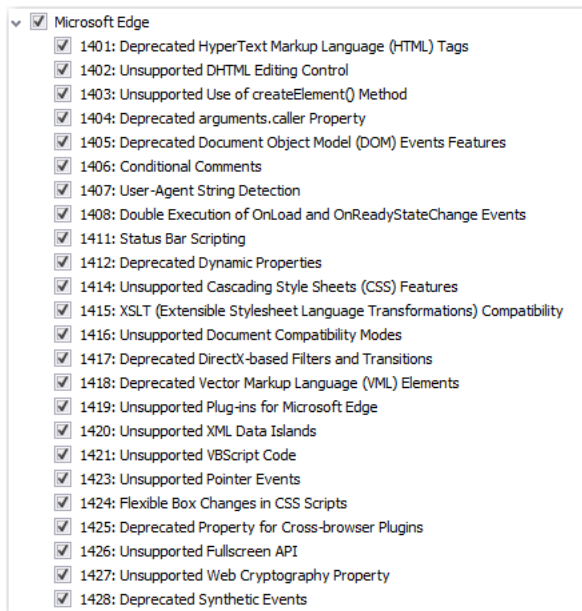

Figure 13: Microsoft Edge Tests on Select Tests to Execute Dialog Box

When testing these web deploy packages and websites, any issues that would potentially cause issues when accessed from Microsoft Edge will be identified, such as web apps that require ActiveX controls.

Test Center Test Selection Dialog Box Performance Enhancement

In AdminStudio 2015 SP1, the Select Tests to Execute dialog box in Test Center now loads much faster, even when connected to a remote database.

What's New in AdminStudio 2015

This section lists the new features that were included in AdminStudio 2015:

- Enhanced Mobile Application Support

- Operating System Compatibility Tests for Windows 10

- Enhanced Microsoft App-V Support

- Integration of Microsoft Steps Recorder into Repackager, Tuner, and Automated Application Converter

- Summary Charts Displayed on Applications Group View

- Repackager Enhancements

- Improved Data Extraction from .EXEs

- AdminStudio Enterprise Server Permission Updates

- 64-Bit Support for QualityMonitor

- Integration With FlexNet Manager Suite Cloud

- InstallShield 2015

Enhanced Mobile Application Support

AdminStudio 2015 includes full support for Windows Store mobile apps, supports testing for additional mobile devices, and includes additional operating system compatibility and risk assessment tests for mobile apps.

- Support for Import, Testing, and Distribution of Windows Store Mobile Apps

- New Mobile Devices Supported

- New Mobile Risk Assessment Tests

Support for Import, Testing, and Distribution of Windows Store Mobile Apps

AdminStudio 2015 includes full support for Windows Store mobile apps (both local files and public store links), which gives you the ability to you to prepare and manage these apps in conformance with your standard application readiness processes.

Import

In AdminStudio 2015, you can import Microsoft Windows Store mobile apps into the Application Catalog, including both local files and public store links:

- **Local file**—Windows Store mobile app (`.appx` file).

- **Link to a file in a public store**—Link to a mobile app in the Microsoft Windows Store.

Testing & Reports

After the mobile apps have been imported, you can perform best practices and risk assessment testing (on both local files and public store links), as well as Windows Phone 8 operating system compatibility tests (on local files only).

Test results can be viewed in both Test Center and in Report Center, which includes reports on feature use, feature compatibility by device, feature compatibility by OS, device compatibility, and operating system compatibility.

Distribution

You can use the Distribution Wizard to deploy Windows Store mobile apps (both local files and public store links) to System Center 2012 Configuration Manager, and view deployment status.

New Mobile Devices Supported

AdminStudio 2015 includes support for additional mobile app devices in its device compatibility reports.

- Apple iOS Devices
- Google Android Devices
- Windows Phone Devices

Apple iOS Devices

AdminStudio 2015 includes additional Apple devices in its device compatibility reports. The following devices are now supported:

- iPad WiFi
- iPad 2 3G and iPad 2 WiFi
- iPad Third Gen and iPad Third Gen 4G
- IPad Fourth Gen and iPad Fourth Gen 4G
- iPad Fifth Gen and iPad Fifth Gen 4G
- iPad Sixth Gen and iPad Sixth Gen LTE
- iPad Mini
- iPad Mini 3 and iPad Mini 3LTE
- iPad Mini 4G
- iPad Mini Retina and iPad Mini Retina 4G
- iPhone 4S
- iPhone 5, iPhone 5c, and iPhone 5s
- iPhone 6 and iPhone 6 Plus

Google Android Devices

AdminStudio 2015 includes additional Android devices in its device compatibility reports. The following devices are now supported:

- Samsung Galaxy Grand 2
- Google/LG Nexus 5
- Google/Motorola Mobility Nexus 6
- Google/HTC Nexus 9
- Samsung Galaxy Note 2
- Samsung Galaxy Note 3
- Samsung Galaxy NotePro

- Samsung Galaxy S4

- Samsung Galaxy S5

- Samsung Galaxy Tab 3

Windows Phone Devices

AdminStudio 2015 includes Windows Phone devices in its device compatibility reports. The following devices are supported:

- Microsoft Lumia 535

- Microsoft Lumia 930

- Microsoft SurfacePro 3

New Mobile Risk Assessment Tests

AdminStudio 2015 includes new mobile app risk assessment tests for Apple iOS and Google Android.

Apple iOS

AdminStudio 2015's new Apple iOS tests (M140 through M152) include tests to determine whether the app uses HealthKit, Metal, Local Authentication (Touch ID), Home Kit, CloudKit, Barometer, PassKit (Apple Pay), and several AppExtensions (Custom Keyboard, Document Picker, File Provider, Photo Editing, Share, and Today).

Google Android

AdminStudio 2015's new Google Android risk assessment tests (M247 through M259) include tests to determine whether the app uses device admin, heart rate sensor, relative humidity sensor, Internet access, bookmarks, external storage, account manager, kill background processes, profile, manage documents, IRTransmitter, body sensors, or voice mail.

Operating System Compatibility Tests for Windows 10

AdminStudio 2015 includes new Windows 10 operating system compatibility tests for Windows Installer packages and App-V packages.

Windows 10 OS Compatibility Tests for Windows Installer Packages

AdminStudio 2015 includes over 50 new Windows 10 operating system compatibility tests for Windows Installer packages. You can obtain test results for compatibility with both 32-bit and for 64-bit operating systems.

Windows 10 OS Compatibility Tests for App-V Packages

AdminStudio 2015 includes over 25 new Windows 10 operating system compatibility tests that can be run on App-V packages (both `.appv` and `.sft` files).

Enhanced Microsoft App-V Support

AdminStudio 2015 includes several new features that enhance its Microsoft App-V support:

- Microsoft App-V Server Distribution Support

- Support for Creating App-V Server Virtual Environments (Connection Groups)

- Virtual Package Editor Support for Viewing and Editing App-V 5.0 Package Asset Intelligence Fields

Microsoft App-V Server Distribution Support

In AdminStudio 2015, you can now distribute App-V 4.x and 5.0 packages to Microsoft App-V Server. You are also now able to view and edit package deployment data on the new **App-V Deployment Data** view.

- Distributing App-V Packages to App-V Server

- Viewing App-V Deployment Data

Distributing App-V Packages to App-V Server

On the **Distribution System** tab of the Application Manager **Options** dialog box, **App-V Server Distribution Plugin** is a new option on the **Deployment Type** list.
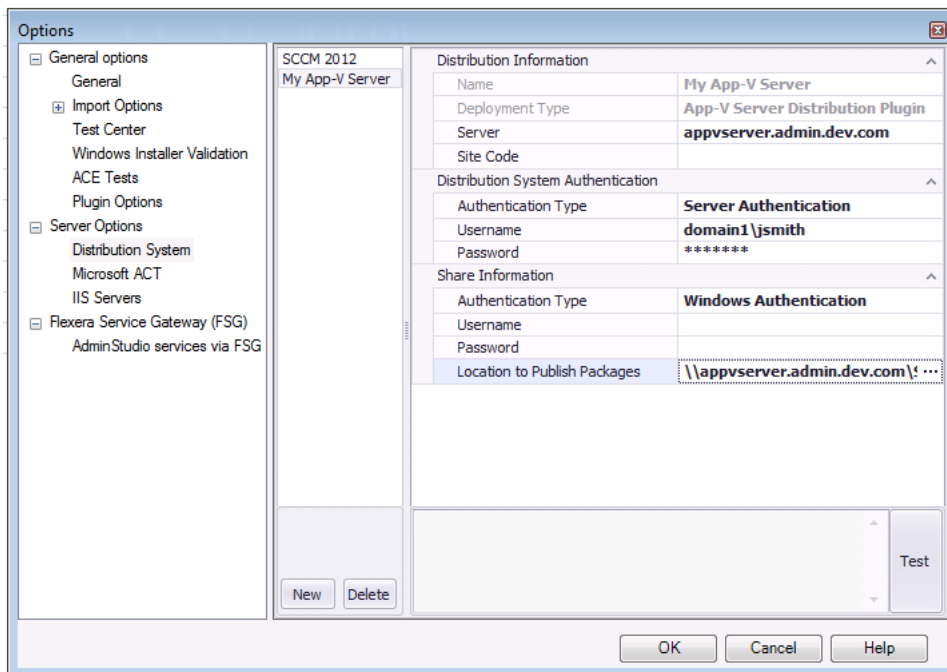
Figure 14: App-V Server on the Distribution System Tab of Options Dialog Box

After a connection is made, your App-V server will be available for selection on the **Target Server Details** panel of the Distribution Wizard.
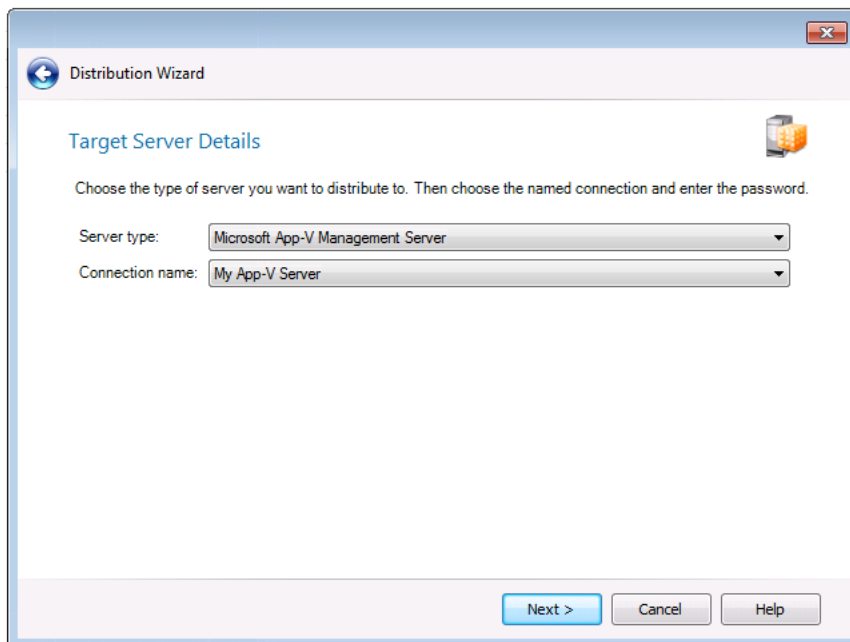

Figure 15: App-V Server Selected on the Target Server Details Panel of Distribution Wizard

After these App-V packages are published to App-V server, they will be available on the Application Virtualization **Packages** view.
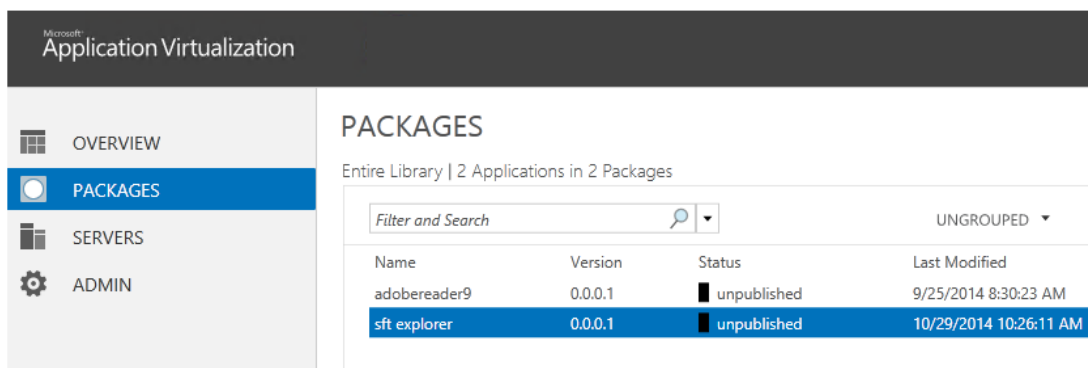

Figure 16: App-V Server

Viewing App-V Deployment Data

For App-V packages that have been published to an App-V server, you can view and edit App-V package deployment data on Application Manager's new **App-V Deployment Data** tab of the **Catalog Deployment Type** view.
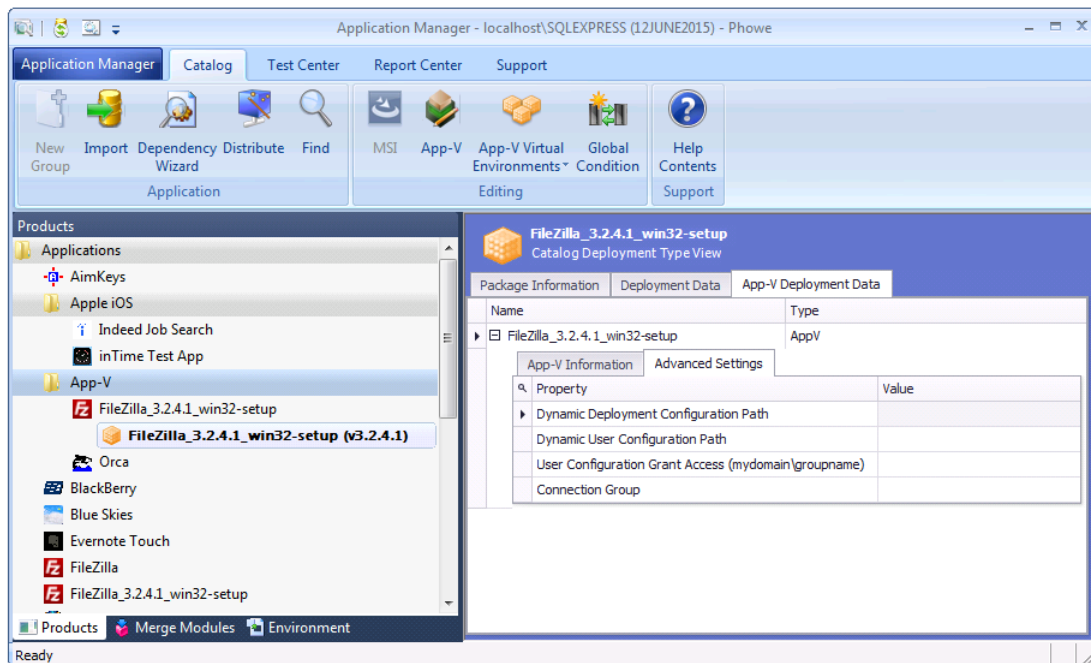
Figure 17: App-V Deployment Data Tab of Catalog Deployment Type View

Support for Creating App-V Server Virtual Environments (Connection Groups)

In AdminStudio 2015, you can create App-V virtual environments for App-V 5.0 packages for both Microsoft App-V Servers and Microsoft System Center 2012 Configuration Manager Servers.

App-V virtual environments enable deployed virtual applications to share the same file system and registry on client computers. This means that unlike standard virtual applications, these applications can share data with each other. You can order these applications so that when multiple applications attempt to modify the same file system or registry value on a client computer, the application with the highest order takes precedence.

App-V Server virtual environments are called connection groups. You can create an App-V Server connection group by selecting **App-V Virtual Environments > App-V Server Environment** from the Application Manager ribbon.

You are prompted to enter a group name, and to select App-V applications in the Application Catalog to add to the group. The order of packages in the connection group is important. This determines the order in which the package contents are merged. So, if there was a conflict (example: same registry value), the content of the first package would be used.

Virtual Package Editor Support for Viewing and Editing App-V 5.0 Package Asset Intelligence Fields

When creating App-V 5.0 packages, AdminStudio populates the Asset Intelligence information tags. In AdminStudio 2015, you can now view and edit these tags in Virtual Package Editor's new **Asset Intelligence** view.

The **Asset Intelligence** view enables you to view and edit information identifying an App-V 5.0 application. These properties are usually obtained from the Add/Remove Programs Uninstall registry key.

Other new features in AdminStudio 2015 regarding asset intelligence include:

- AdminStudio 2015 now creates the Add/Remove Programs entries inside of virtual packages when creating them directly from MSI packages without repackaging. This can help software inventory systems identify these packages.

- Application Manager now populates asset intelligence information during conversion from App-V 4.x to App-V 5.x packages.

The following settings can now be viewed and edited in the Virtual Package Editor **Asset Intelligence View** for an App-V 5.0 package

Table 4 • App-V Package Settings in the Asset Intelligence View

Setting	Description
Software Code	Name of the Add/Remove Programs Uninstall registry key for this package. For Windows Installer packages that were converted to App-V packages, this is the `ProductCode`.
Product Name	`DisplayName` value under the Add/Remove Programs Uninstall registry key.
Product Version	`DisplayVersion` value under the Add/Remove Programs Uninstall registry key.
Publisher	Publisher value under the Add/Remove Programs Uninstall registry key.
Product ID	`ProductID` value under the Add/Remove Programs Uninstall registry key. Often, this is a serial number or product SKU.
Language	Language value under the Add/Remove Programs Uninstall registry key. This should be a numeric language identifier.
Channel Code	`ChannelCode` value under the Add/Remove Programs Uninstall registry key.
Install Date	`InstallDate` value under the Add/Remove Programs Uninstall registry key. It is the last time this product received service.

Table 4 • App-V Package Settings in the Asset Intelligence View (cont.)

Setting	Description
Registered User	`RegisteredUser` value under the Add/Remove Programs Uninstall registry key.
Installed Location	`InstalledLocation` value under the Add/Remove Programs Uninstall registry key.
CMm DSLID	Definite Software ID (DSLID) if one exists.
Version Major	`VersionMajor` value under the Add/Remove Programs Uninstall registry key. It is a numeric representation of a part of the product version.
Version Minor	`VersionMinor` value under the Add/Remove Programs Uninstall registry key. It is a numeric representation of a part of the product version.
Service Pack	This may correspond to the service pack level of the product.
Upgrade Code	This may be the `UpgradeCode` of the Windows Installer package used to originally install this application.
OS Component	Numeric value that indicates whether the application is part of the operating system: **0**—Application is not part of the operating system. **1**—Application is part of the operating system.

Integration of Microsoft Steps Recorder into Repackager, Tuner, and Automated Application Converter

In AdminStudio 2015, the Microsoft Steps Recorder documentation tool has been integrated into the Repackaging Wizard, Tuner, and Automated Application Converter.

You can use the Microsoft Steps Recorder tool to automatically record the step-by-step actions that you take during repackaging, virtualization, or response transform creation. This information, which is saved in a web archive (.mht) file, includes a text description of where you clicked on each screen, along with a screen capture for each click.

- Microsoft Steps Recorder Integration with Repackaging Wizard

- Microsoft Steps Recorder Integration with Automated Application Converter

- Microsoft Steps Recorder Integration with Tuner

Microsoft Steps Recorder Integration with Repackaging Wizard

When performing repackaging, you can enable the Microsoft Steps Recorder tool by selecting the **Run Microsoft Steps Recorder to document installation steps so they can be reviewed later** option on the **Set Target Project Information and Capture Settings** panel of the Repackaging Wizard.
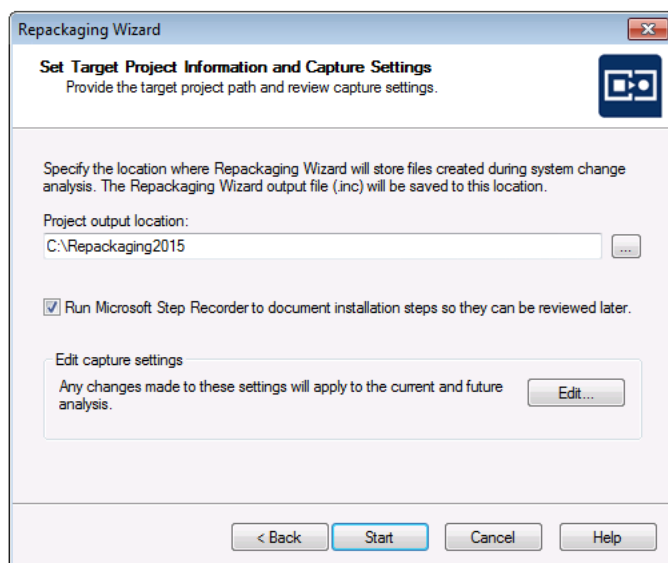

Figure 18: Microsoft Steps Recorder Option in the Repackaging Wizard

If this option is selected, when you click **Start** to begin repackaging, the **Steps Recorder** dialog box opens and recording automatically begins.
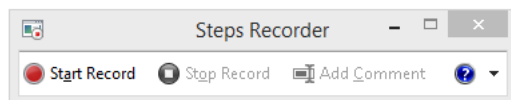
Figure 19: Microsoft Steps Recorder / Microsoft Steps Recorder Dialog Box

This dialog box gives you the ability to pause or stop the recording, or add a comment to the recorded documentation.

When you have completed the repackaging process, the Repackaged Output folder will contain an `.mht` file, which is a web archive file. To open this file in a web browser, double-click on it. It contains screen captures from the repackaging session each time the mouse was clicked.
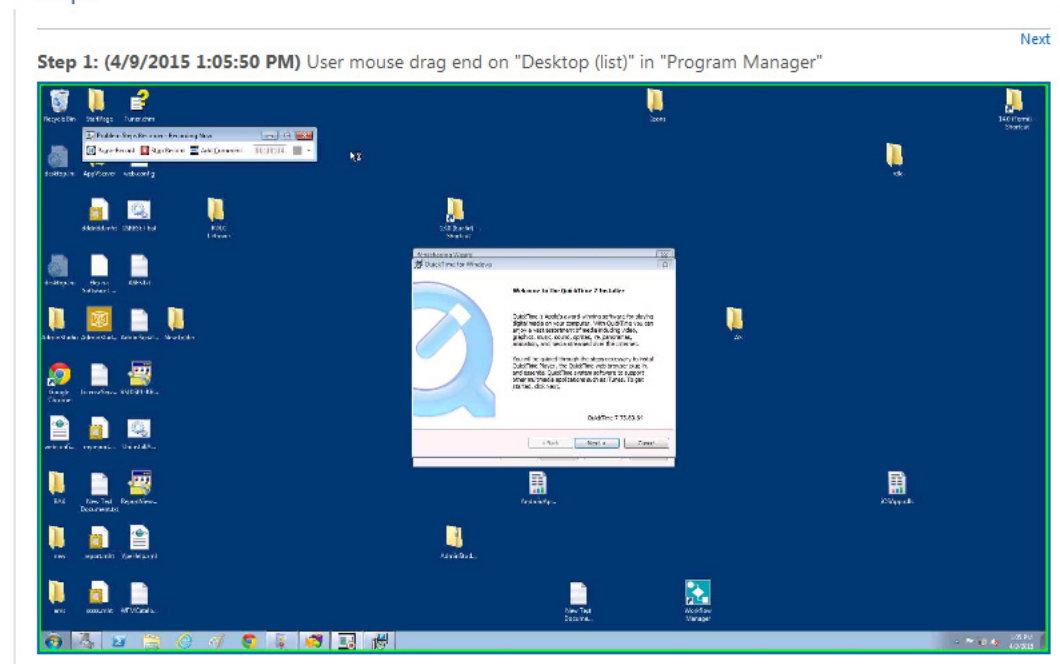
Figure 20: Web Archive File

When you build a Windows Installer package using this Repackager project, the recorded web archive file will be copied to the Windows Installer package output folder. Then, when you import this Windows Installer package into the Application Catalog, the recorded web archive file (or files) will also be imported, and a link to it will be available on the **Extended Attributes** view, in the **Installation Instructions** field.
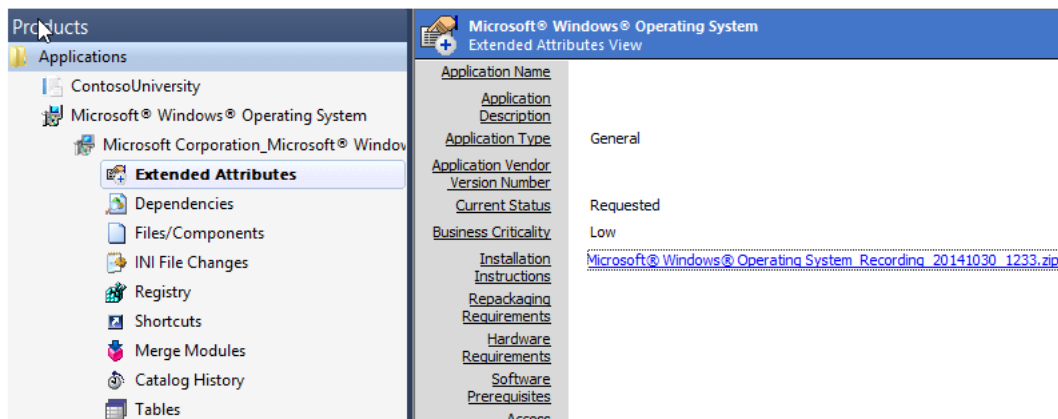
Microsoft Steps Recorder Integration with Automated Application Converter

You can use the Microsoft Steps Recorder tool with Automated Application Converter to automatically record the step-by-step actions that you take on the virtual machine during repackaging in a web archive (`.mht`) file.

In Automated Application Converter, you can enable the Microsoft Steps Recorder to document steps during repackaging either globally or per project:

- **Globally**—Set the **Documentation Tool** option to **Enabled** on the **Project Options** dialog box.

- **Individual package**—Select a package in the **Packages** tab and set the **Documentation Tool** property in the **Properties** window to **Enabled**.

Microsoft Steps Recorder Integration with Tuner

You can use the Microsoft Steps Recorder tool with Tuner to automatically record the step-by-step actions that occur during response transform creation.

To enable this option, select the **Run Microsoft Steps Recorder to document response transform creation steps to that they can be reviewed later** option on the **Create a New Transform** view of Tuner.

Summary Charts Displayed on Applications Group View

In previous releases, when the root Application node or a group node was selected in the Application Manager tree, a list of applications in that group were listed. In AdminStudio 2015, the Group view consists of pie charts that summarize information about packages in the group.
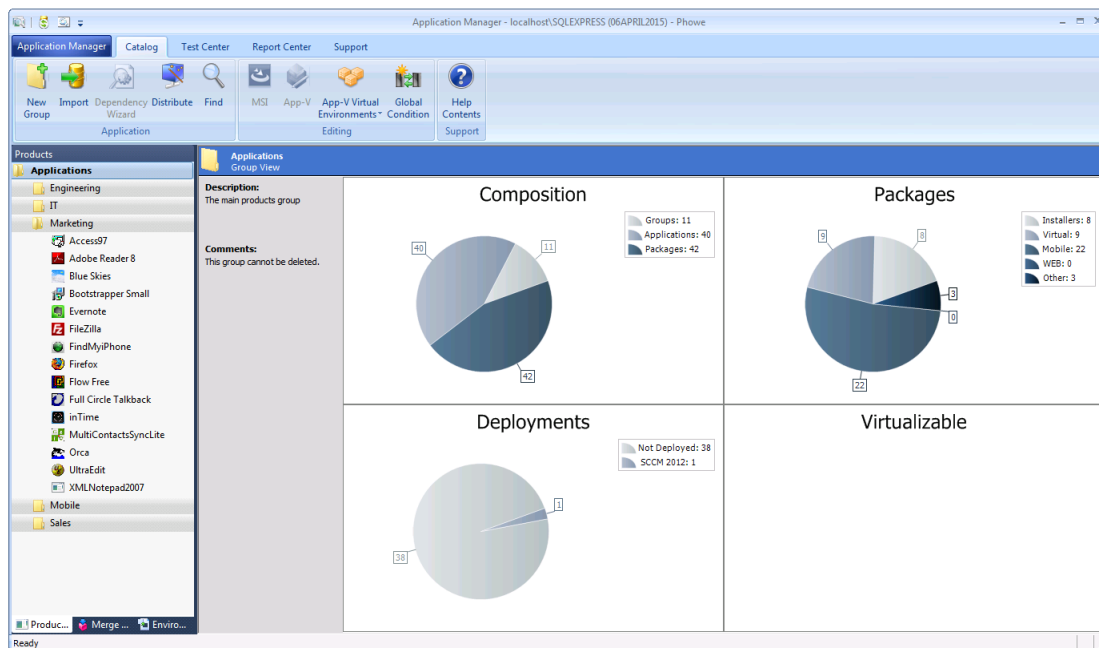

Figure 21: Application Group View

The Group View provides the following summary information about the selected group:

- **Composition**—Displays the number of subgroups, applications, and packages in the selected group.

- **Packages**—Displays the number of packages in each of the following categories: installers (Windows Installer packages and legacy installers), virtual packages, mobile apps, web applications, and other.

- **Deployments**—Displays the number of packages that are deployed.

- **Virtualizable**—Displays the number of virtual packages.

Repackager Enhancements

In AdminStudio 2015, there have been several enhancements to Repackager:

- Improved Project Build Time

- Add File or Folder to Global Exclusion List from the Repackager Interface

- Ability to Select a Custom Exclusion List During Repackaging Process

- Capture Only the Changes to the PATH Environment Variable Instead of the Entire Contents

- Creation of Advertised Shortcuts for Non-Executable Targets

- Improvements in Software Tagging Support

- Automatic Deletion of Existing Files in Build Output Folder Without Prompting

Improved Project Build Time

Repackager build time performance has been improved for packages containing multiple shortcuts.

Add File or Folder to Global Exclusion List from the Repackager Interface

When editing a project in the Repackager interface, you can now choose to not only exclude a file or directory from that project, you can also add an excluded file or directory to the global exclusions list. There are now two additional options on the context menu in the Files and Folders view: **Add to Exclusions** and **Remove from Exclusions**.
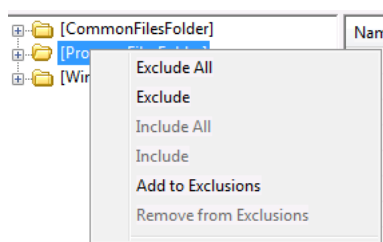
Figure 22: Exclusion Context Menu on Files and Folders View

The following table explains how to modify the global exclusions list from the Repackager interface.

Table 5 • Modifying the Global Exclusions List from the Files and Folders View

To ...	Select ...	Click on context menu ...
Add a captured file to the global exclusions list	File you want to add to the global exclusions list	**Add to Exclusions**
Add captured files within a directory to the global exclusions list	Directory containing the files you want to add to the global exclusion list	**Add to Exclusions** You will be prompted to indicate whether you want to also exclude files in subdirectories of the selected directory.
Remove a captured file that had previously been added to the global exclusions list	File you want to remove	**Remove from Exclusions**
Remove captured files within a directory that had previously been added to the global exclusions list	Directory containing the files you want to remove from the global exclusion list	**Remove from Exclusions**

Ability to Select a Custom Exclusion List During Repackaging Process

In AdminStudio 2015, you can select a custom exclusion list during the repackaging process. To do this, click **Edit** in the **Edit captures setting** area of the **Set Target Project Information and Capture Settings** panel of the Repackaging Wizard to open the **Analysis Options** dialog box.
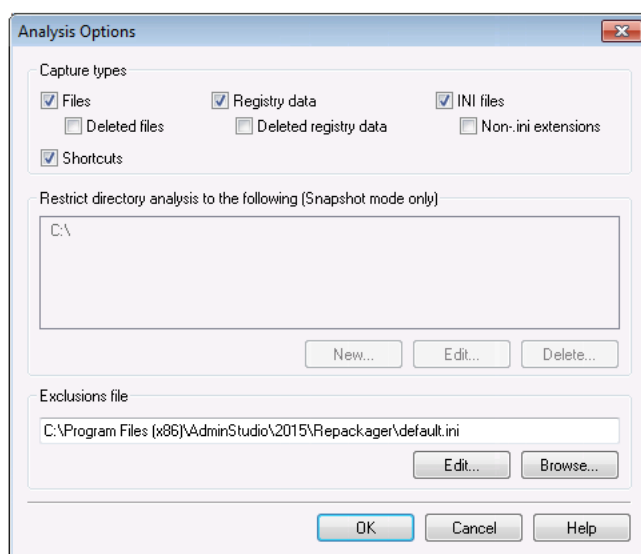
Figure 23: Exclusions File Field on the Analysis Options Dialog Box

On the **Analysis Options** dialog box, a new **Exclusions file** field is available where you can select a different exclusions file.

Capture Only the Changes to the PATH Environment Variable Instead of the Entire Contents

In AdminStudio 2015, there is better handling for the PATH environment variable. Repackager now captures the change in the PATH environment variable instead of capturing the entire contents of it post repackaging. In this way, Repackager is only capturing what is added by the setup being repackaged.

Creation of Advertised Shortcuts for Non-Executable Targets

In AdminStudio 2015, Repackager now creates advertised shortcuts for non-executable targets. This better facilitates Windows Installer advertisement, and facilitates auto-repair/resiliency.

Improvements in Software Tagging Support

In AdminStudio 2015, there have been improvements in software tagging support. Repackager now uses an updated schema (the same one used by InstallShield). This makes it possible to manually sign a tag file if desired. Also, the Repackager and Application Manager Software ID Tag views have been updated to be more consistent with InstallShield in terms of naming and ordering tag attributes.

Automatic Deletion of Existing Files in Build Output Folder Without Prompting

In AdminStudio 2015, a safety check was added to Repackager regarding the automatic deletion of files in the build output folder. If the build output folder has the default name of `MSI_Package`, Repackager will automatically delete the files without prompting. If the build output folder has a name other than `MSI_Package`, the user is prompted to confirm deletion of output folder contents.

Improved Data Extraction from .EXEs

AdminStudio 2015 can now extract more information from .EXE files when they are imported into the Application Catalog. AdminStudio now extracts the company name, product name, and version from .exe files created by popular wrapping technologies including:

- InstallShield InstallScript executables
- InstallShield MSI-wrapped executables
- InstallShield Suite-wrapped executables
- WiseScript executables

AdminStudio Enterprise Server Permission Updates

There have been several updates to the AdminStudio Enterprise Server permissions.

Application Catalog Upgrade Permission

In AdminStudio 2015, you can now control whether a user can upgrade an Application Catalog. If the user is not assigned to a Role that has the **Administration > Roles > Add** permission, that user will not be permitted to upgrade an Application Catalog. This new feature enables you to prevent users from upgrading their Application Catalogs unless that have this specific permission. In previous releases, any user could upgrade an Application Catalog.

Select Tests to Execute Permission

A new permission has been added under Application Manager/ConflictSolver named Test Selection Wizard. Only users with that permission will be able to modify the tests selected on the **Select Tests to Execute** dialog box.

64-Bit Support for QualityMonitor

Quality Monitor now runs on 64-bit operating systems and can test 64-bit applications.

Integration With FlexNet Manager Suite Cloud

AdminStudio can now integrate with FlexNet Manager Suite Cloud.

To integrate, open the **Flexera Service Gateway (FSG)** tab of the Application Manager **Options** dialog box, and enter the **Gateway Host Name** of FlexNet Manager Suite Cloud and the **Connection Token**.

InstallShield 2015

AdminStudio Standard and Professional Editions include InstallShield 2015 Professional, while AdminStudio Enterprise Edition includes InstallShield Premier. For a full list of the new features in InstallShield 2015, see the InstallShield 2015 Release Notes.

In addition to all of the new features included in InstallShield 2015, it also includes several additional features that are specific to the AdminStudio Edition.

- InstallShield Support for WiseScript Custom Actions

- Enhancements to InstallShield App-V Assistant

InstallShield Support for WiseScript Custom Actions

The AdminStudio Edition of InstallShield now has support for a new type of custom action: a WiseScript custom action. A WiseScript custom action runs a WiseScript executable file. It includes a wrapper MSI DLL that gets and sets Windows Installer properties and evaluates Windows Installer conditions.

Enhancements to InstallShield App-V Assistant

In InstallShield 2015, there have been several enhancements to the App-V Assistant:

- Support for Creating Microsoft App-V 5.0 SP3 Packages

- Ability to Map Files into the Virtual File System Instead of a Primary Application Directory

- Ability to Create App-V 5.x Packages that Have Full Write Permissions to the Virtual File System

- Ability to Configure Advanced COM Isolation Settings for App-V 5.x

Support for Creating Microsoft App-V 5.0 SP3 Packages

The Microsoft App-V Assistant in InstallShield includes support for creating virtual applications that can run on Microsoft App-V 5.0 SP3 clients.

Ability to Map Files into the Virtual File System Instead of a Primary Application Directory

The Microsoft App-V Assistant now enables you to configure your App-V package to map files into the virtual file system (VFS). This support is available for App-V 4.x and 5.x packages.

To specify whether you want to map the files to the VFS or use a primary application directory, use the Files page in the Microsoft App-V Assistant. The More Options area on this page has a new File Mapping link. When you click this new link, a new File Mapping dialog box opens, enabling you to select the appropriate option.

The File Mapping link and dialog box replace the Primary Application Directory link and dialog box, which previously enabled you to specify primary application directory.

Ability to Create App-V 5.x Packages that Have Full Write Permissions to the Virtual File System

The Microsoft App-V Assistant now enables you to specify whether you want an App-V 5.x package that you are creating to have full write permissions to the virtual file system (VFS). To specify whether you want to use this support, use the new Allow full write permission to the VFS check box. This check box is on the File Mapping dialog box, which is available from the Files page in the Microsoft App-V Assistant when you click the File Mapping link in the More Options area.

Ability to Configure Advanced COM Isolation Settings for App-V 5.x

The Microsoft App-V Assistant now enables you to configure advanced settings for COM isolation. This support is available for App-V 5.x packages.

To configure the new settings, use the Package Information page in the Microsoft App-V Assistant. The More Options area on this page has a new Isolation Settings link. When you click this new link, a new Isolation Settings dialog box opens. This dialog box enables you to specify whether you want to isolate the COM objects from the local system, or allow them to interact with the local system. This dialog box also lets you indicate whether you want to isolate named objects from the local system, or allow them to interact with the local system.

The ISVirtualPackage table in the Direct Editor view supports advanced custom parameters:

- **AppVv5ComInprocess**—This option corresponds with the `InProcessEnabled` attribute of the `appv:IntegratedCOMAttributes` element.

- **AppVv5ComOutofprocess**—This option corresponds with the `OutOfProcessEnabled` attribute of the `appv:IntegratedCOMAttributes` element

A value of 1 indicates true; a value of the number 0 (or an empty value) indicates false. By default, these settings are not configured in the `ISVirtualPackage` table, so the resulting App-V package does not have these settings enabled.

Setting Up AdminStudio Infrastructure

The flowchart on the **Set Up Infrastructure** tab of the AdminStudio Start page lists the steps you need to perform before you can get started using AdminStudio.
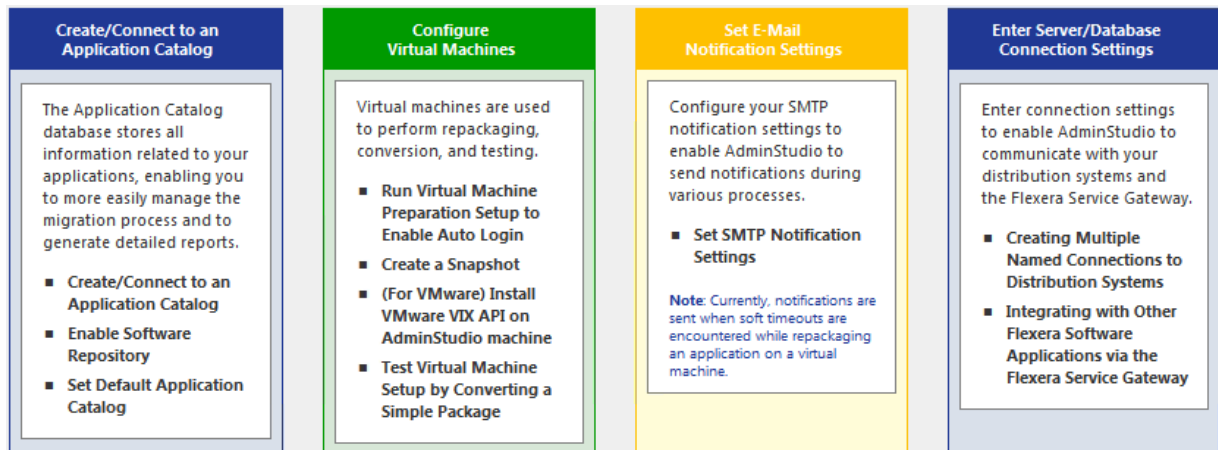
Figure 24: Set Up Infrastructure Tab of AdminStudio Start Page

These are specific one-time set-up tasks that you need to perform prior to using AdminStudio. To set up AdminStudio infrastructure, perform the following exercises:

- Creating an Application Catalog

- Configuring a Virtual Machine

- Setting E-Mail Notification Settings

- Entering Server/Database Connection Settings

Creating an Application Catalog

With AdminStudio, you manage your applications and their deployment types in an Application Catalog database, which stores all package information, including test results. This enables you to perform enterprise level data checking. You can share your Application Catalog between multiple AdminStudio users.

AdminStudio and many of its tools (such as Application Manager) require you to be connected to an Application Catalog, while others give you the option of working with packages on a local or network directory or from Microsoft System Center Configuration Manager Server.

In this exercise, you will create a new AdminStudio Application Catalog and set it as the default.

Table 6 • Create/Connect to an Application Catalog

#	Step	Instructions	Result
1.	**Create an Application Catalog**	Open AdminStudio and create a new SQL Server Application Catalog database named `AdminStudio Evaluation Catalog`, as described in Creating New Application Catalogs Using the AdminStudio Interface. *Note* • *On the **Select Software Repository Location** panel of the **Application Catalog Wizard**, do NOT select the **Enable Software Repository** option.*	AdminStudio is open and connected to a new Application Catalog named `AdminStudio Evaluation Catalog`.

Configuring a Virtual Machine

Virtual machines are used by Automated Application Converter during automated repackaging (performed during conversion to virtual applications) and when testing applications.

You need to prepare each virtual machine that you are going to use with the Automated Application Converter to perform automated repackaging or testing by doing the following:

- **Run Virtual Machine Preparation setup**—On each virtual machine you are going to use with the Automated Application Converter, run the Virtual Machine Preparation setup, an application that will enable automatic login. You need to run this application one time on all of the virtual machines that you are going to use with the Automated Application Converter.

- **Create a snapshot**—After you have run the Virtual Machine Preparation setup on a virtual machine, you need to shut it down and create a snapshot named `AutoRepack_Base`. This enables the Automated Application Converter to revert the virtual image to a clean state after each repackaging run.

- **Install VMware VIX API (VMware only)**—In order for the Automated Application Converter to perform automated repackaging, it needs to communicate with the virtualization technology that you are using. If you are using VMware virtualization technology (VMware ESX or ESXi Server or a local VMware Workstation 6.5 or later), you need to have the VMware VIX API installed on the same machine as the Automated Application Converter.

In this exercise, you will configure a virtual machine for use with Automated Application Converter.

Table 7 • Configure Virtual Machines
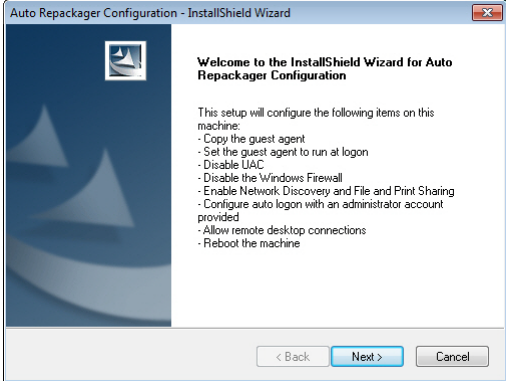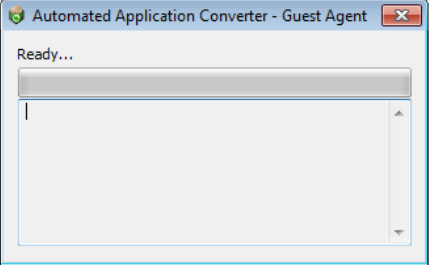
#	Step	Instructions	Result
1.	**Run Virtual Machine Preparation setup to enable auto login**	On a Microsoft Hyper-V Server image, VMware ESX/ESXi Server image, or VMware Workstation (6.5+) image, run the virtual machine preparation setup. *Note • For instructions, see Preparing Your Virtual Machines for Use With the Automated Application Converter.*	When you restart the virtual machine image, you are automatically logged in and `GuestAgent.exe` is launched.
2.	**Create a snapshot for repackaging**	On the prepared virtual image, create a clean snapshot named `AutoRepack_Base`. *Note • For instructions, see **Taking a Snapshot** in Preparing Your Virtual Machines for Use With the Automated Application Converter.*	A clean snapshot named `AutoRepack_Base` exists on the virtual machine.

Table 7 • Configure Virtual Machines

#	Step	Instructions	Result
3.	**Install VMware VIX**	If you are using a VMware ESX/ESXi Server or VMware Workstation image, you need to install the VMware VIX API on the AdminStudio machine. To install the VMware VIX API on the AdminStudio machine, do one of the following: - Install VMware Workstation on the AdminStudio machine. - Download and install the VMware VIX API on the AdminStudio machine. You can download the VMware VIX API from the following location: http://www.vmware.com/support/developer/vix-api *Note • For instructions, see VMware VIX API Requirement.*	The VMware VIX API is installed successfully.
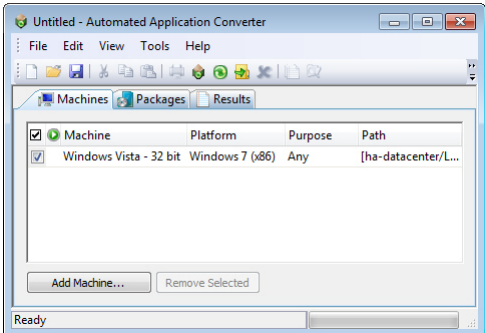
Table 7 • Configure Virtual Machines

#	Step	Instructions	Result

4.	**Add a virtual machine to Automated Application Converter**	Open Automated Application Converter by clicking **Add Virtual Machines** on the **Set Up Infrastructure** tab of the AdminStudio Start page. The **Application Conversion Project Wizard** opens.
		
		Cancel the wizard. Then open the **Machines** tab and follow the instructions in Adding Virtual Machines Using the Virtual Machine Import Wizard to add the prepared virtual machine to the **Machines** tab.
		
		Note • When prompted, save the Automated Application Converter project file to the following directory:
		
		`C:\Users\YOURNAME\Documents\`
		`MyProject.aacx`
		
		All of the connection information for the virtual machine that you have set up is stored in the project file, so remember the name and location of your Automated Application Converter project file.
			A virtual machine is listed on the **Machines** tab of Automated Application Converter.
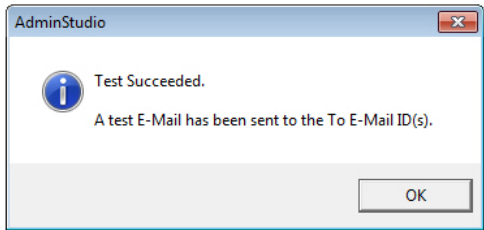
Setting E-Mail Notification Settings

To enable AdminStudio to send you e-mail notifications during various processes, you need to configure your SMTP notification settings.

Currently, e-mail notifications are sent when soft time-outs are encountered while using Automated Application Converter to repackage an application on a virtual machine.

In this exercise, you will enter the SMTP settings for e-mail notifications. This enables AdminStudio to send notifications when a soft time out is encountered during repackaging on a virtual machine by Automated Application Converter.

Table 8 • Set E-Mail Notification Settings

#	Step	Instructions	Result
1.	**Set SMTP Notification Settings**	On the **Notification Settings** tab of the AdminStudio **Options** dialog box, enter your SMTP settings for e-mail notifications. **Note •** *For instructions, see* Setting E-Mail Notification Settings.	When you click **Test** on the **Notifications Settings** tab, a successful message opens.
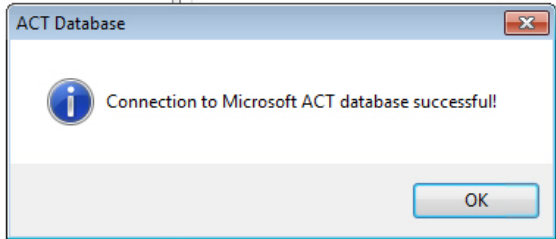
Entering Server/Database Connection Settings

In AdminStudio 2015 SP1, you can define multiple named connections to System Center Configuration Manager, Citrix XenApp, Symantec Altiris Client Management Suite, and AirWatch distribution systems. This enables you to both have multiple connections easily available during import and distribution, and to refer to those connection settings by name in Platform API commands.

You need to specify at least one named connection to a distribution system in order for Application Manager to import packages, distribute applications, or report on application deployment status.

To enable AdminStudio to display data from your Microsoft ACT (Application Compatibility Toolkit) database in Test Center views and reports, you need to enter connection information for your Microsoft ACT database.

Table 9 • Enter Server Connection Settings

#	Step	Instructions	Result
1.	**Enter System Center Configuration Manager connection settings**	Open the Application Manager **Options** dialog box, and on the **Distribution System** tab, create a named connection to System Center 2012 Configuration Manager. *Note • For instructions, see Creating a New Distribution System Connection Setting*	When you click **Test** on the **Distribution System** tab, the following message is displayed: `Connection to ServerName Succeeded`
2.	**Entering Microsoft ACT database connection settings**	Open the Application Manager **Options** dialog box, and on the **Microsoft ACT** tab, enter Microsoft ACT database connection information. *Note • For instructions, see Entering Microsoft ACT Database Connection Settings* *Note • This is an optional step that you can perform if your organization has a Microsoft ACT database and you want to display that data in Application Manager.*	When you click **Test** on the **Microsoft ACT** tab, a successful message opens: Connection to Microsoft ACT database successful!

Migrating to Windows Installer

The flowchart on the **Migrate to Windows Installer** tab of the AdminStudio Start page lists the steps you need to perform to migrate a sample setup (such as an `.exe` file) to a deployable Windows Installer package.
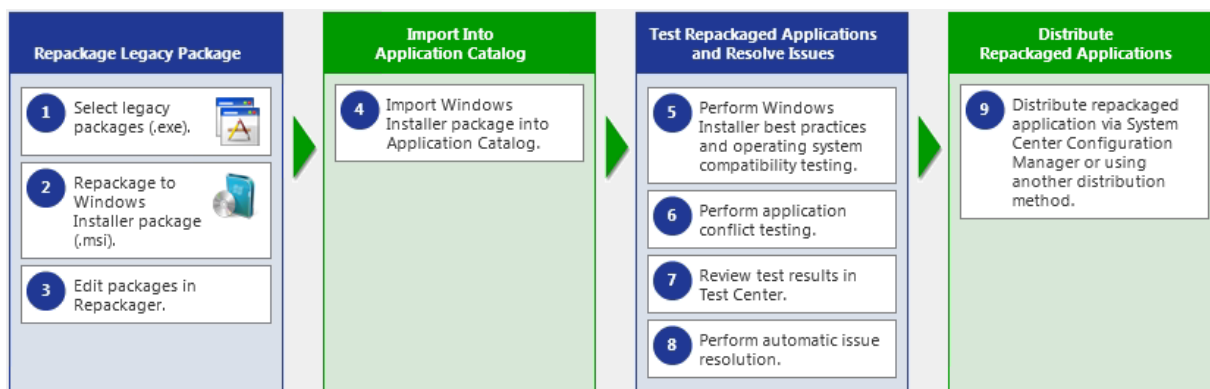
Figure 25: Migrate to Windows Installer Tab of AdminStudio Start Page

In this section, you will convert a sample setup named `SampleApplicationSetup.exe` to a Windows Installer Package, import it into the Application Catalog, test it for best practices, operating system compatibility, and application conflicts, and then prepare it for distribution using Distribution Wizard.

Important • It is preferable to repackage 32-bit applications on 32-bit operating systems. In this exercise, we will be repackaging a 32-bit application.

To migrate a sample application to a Windows Installer package, perform the following steps:

- Repackaging a Sample Package

- Importing Packages into the Application Catalog

- Testing a Repackaged Application and Resolving Issues

Repackaging a Sample Package

In this procedure, you will repackage a sample setup, perform some minor edits in Repackager, and then build a Windows Installer package.

Table 10 • Repackage a Sample Package
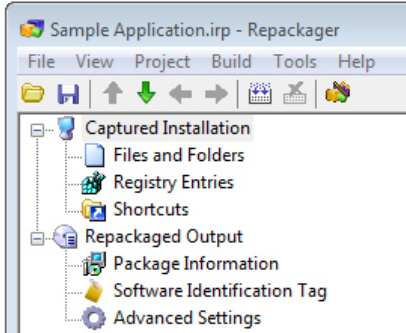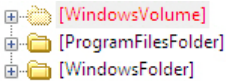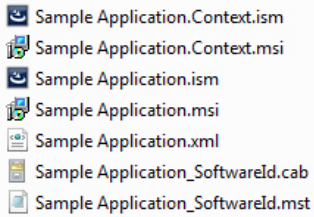
#	Step	Instructions	Result
1. 2.	**Select and repackage a sample package (.exe) to a Windows Installer Package (.msi)**	Use Repackaging Wizard (**Installation Monitoring** method) to repackage the following sample setup: `C:\AS2015EvalGuideDataFiles\ SampleApplicationSetup\ SampleApplicationSetup.exe` ⚠️ **Important** • *It is recommended that you repackage this sample package on a clean machine.* Save the captured data in the following directory: `C:\Packages` 📝 **Note** • *For instructions, see Repackaging Using the Installation Monitoring Method. When the SmartScan Wizard opens, click Cancel.*	The captured data was converted into a Repackager project file (`SampleApplication.irp`) and opened in the Repackager interface.
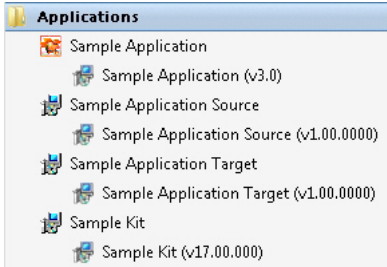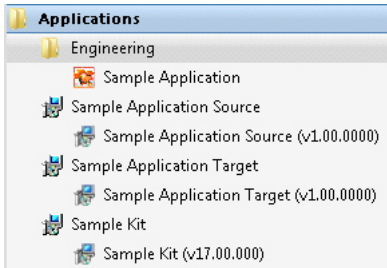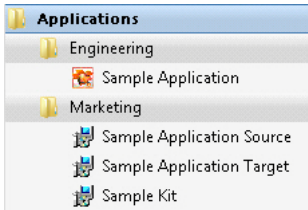
Table 10 • Repackage a Sample Package

#	Step	Instructions	Result
3.	**Edit package in Repackager and build Windows Installer package**	To exclude files that are not part of the package, open the **Files and Folders** view, right-click on the **[WindowsVolume]** folder and select **Exclude All** from the context menu. Click **Save**. **Note •** *For instructions, see Excluding All Files in a Directory.*	The **[WindowsVolume]** folder is displayed in red to indicate that it is excluded: [WindowsVolume] [ProgramFilesFolder] [WindowsFolder]

		Open the **Repackaged Output** view and click **Build** to build a Windows Installer package.
		
		Note • *For instructions, see Building a Windows Installer Package.*
			The Repackager project file has been converted to a Windows Installer package, located in the following directory:
			
			`C:\Packages\MSI_Package\`
			`    SampleApplication.msi`

		Copy all of the files in the `C:\Packages\MSI_Package` directory (including the `SampleApplication.msi` file) to the following directory on the machine where AdminStudio is installed:
		
		`C:\AS2015EvalGuideDataFiles\`
		`    SampleApplicationSetup\`
			New Windows Installer package (and other associated files) are now in the same main directory as the other evaluation data files.
			
			Sample Application.Context.ism
			Sample Application.Context.msi
			Sample Application.ism
			Sample Application.msi
			Sample Application.xml
			Sample Application_SoftwareId.cab
			Sample Application_SoftwareId.mst

Importing Packages into the Application Catalog

In this procedure, you will import Windows Installer packages into the Application Catalog, including the one you created in Repackaging a Sample Package:

Table 11 • Import Into Application Catalog

#	Step	Instructions	Result
4.	**Import Windows Installer package into Application Catalog**	Open Application Manager and use the Import Wizard to import all of the packages in the `AS2015EvalGuideDataFiles` directory. ● On the **Source** panel, select **Folder of multiple applications**. ● On the **Package Type Selection** panel, select the **Microsoft Windows Installer package (.msi)** option ● On the **Destination Group** panel, do not select the **Create subgroups based on source folder structure** option. *Note • For instructions on how to import a directory of packages into the Application Catalog, see Importing a Folder of Multiple Packages.*	The packages are now listed in the Application Manager tree, each under its own Application node:
		Create a new group in the Application Manager tree named `Engineering` and move the **Sample Application** into that new group. *Note • For instructions, see Adding Groups and Organizing Applications in Application Manager.*	The Application Manager tree should now be organized as follows:
		Create another new group in the Application Manager tree named `Marketing`, and move the other three applications into that group.	The Application Manager tree should now be organized as follows:

Testing a Repackaged Application and Resolving Issues

In this procedure, you will test the Windows Installer packages you imported into the Application Catalog, and then distribute a package to a network location.

Table 12 • Test and Distribute Repackaged Applications

#	Step	Instructions	Results
5.	**Perform Windows Installer best practices and OS compatibility testing**	To perform Windows Installer best practices and operating system compatibility testing on all of the packages in the Application Catalog, first select the **Test Center** tab in the Application Manager ribbon. Then, select the **Applications** group in the Application Manager tree, and click **Execute Tests**.	

Note • For more information, see Performing Compatibility and Best Practices Testing.

When testing is finished, view the test results by selecting a Windows Installer package in the tree to open the **Summary** tab of the **Test Center Deployment Type View**, as shown below:

In Test Center views, groups, applications, and packages are assigned a test status in each test group using status icons. For packages, the status icon identifies that package's test status (as described in About Status Icons). For groups and applications, Test Center considers all of the packages in that group or application, and displays the status icon for the package that has the status at the highest hierarchical level, as described in the **Hierarchical Level of Status Icons** section of the About Status Icons help topic.
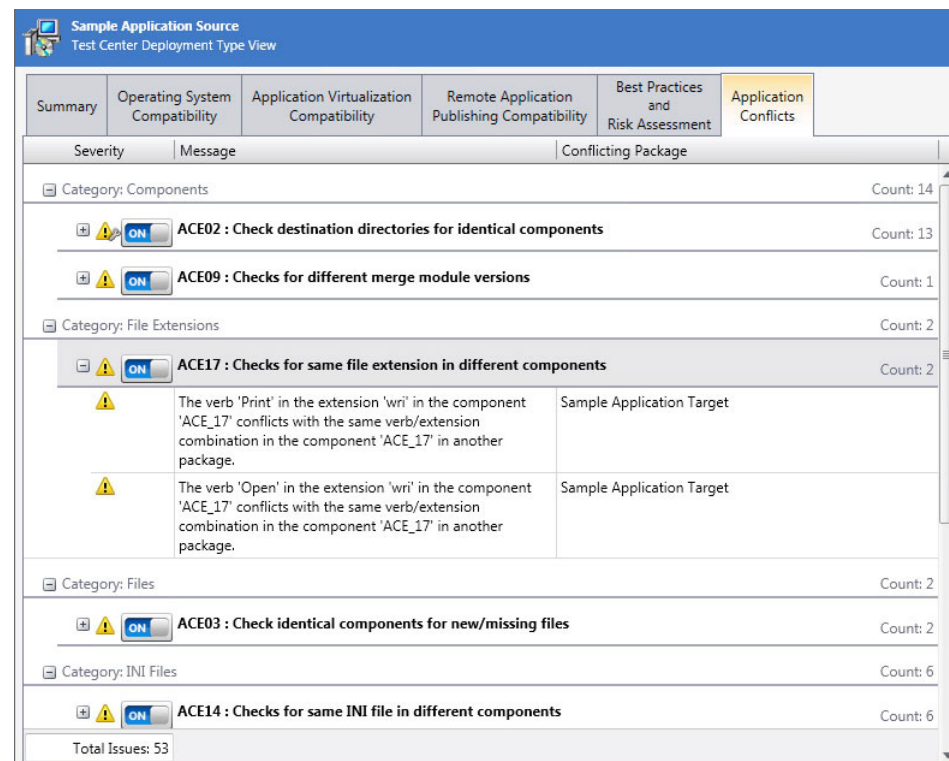
Note • For more information, see Viewing Summary Test Results.

Table 12 • Test and Distribute Repackaged Applications

#	Step	Instructions	Results
6.	**Perform application conflict testing**	Use the Conflict Wizard to detect conflicts between the following two packages:	

* **Source**: Sample Application Source
* **Target**: Sample Application Target

Note • For instructions, see Testing for Conflicts Between Packages.

| **7.** | **Review test results in Test Center** | When application conflict testing is finished, view the test results by selecting the Sample Application Source MSI package in the tree, and then selecting the **Application Conflicts** tab of the **Test Center Deployment Type View**. Errors and warnings are listed. Click the plus sign next to a test name to view individual error/warning messages for that package: |

Next, click the suppress (ON/OFF) button next to ACE09 to suppress that test from test totals and from automatic resolution. The button toggles to the OFF position and the error icon turns to gray.

Note • For more information, see the following topics:

* *Viewing Detailed Package Test Results*
* *Viewing Application Conflicts Test Results*
* *Filtering Test Results by Suppressing Errors/Warnings*

Table 12 • Test and Distribute Repackaged Applications

#	Step	Instructions	Results
8.	**Perform automatic issue resolution**	Issues for which automatic fixes are available are identified by the Error With Fix or Warning With Fix icon: To automatically resolve all issues for which automatic fixes are available, select the **Applications** group node in the tree and click **Resolve Issues** in the **Test Center** tab of the ribbon. *Note • For more information, see Performing Automatic Issue Resolution.*	Issue resolution begins, progress messages appear in the Output window, and Application Manager performs the following tasks: ● **Reruns tests**—Application Manager reruns all of the selected tests to ensure that the issues that it is going to resolve still exist in the current version of the package and its associated transforms. ● **Creates transform files**—To resolve issues, Application Manager generates fix transform files. ● **Reimports packages**—Application Manager then automatically reimports each package and its fix transform files into the Application Catalog. When issue resolution and reimporting is complete, look at the **Test Center Group View**, **Application View**, or **Deployment Type View** of the package, application, or group that you tested. You will see that the Error With Fix and Warning With Fix icons have been replaced with the status icon with the next highest level (as described in the **Hierarchical Level of Status Icons** section of the About Status Icons help topic) in that test category.

Distributing a Repackaged Application

In this procedure, you will distribute a Windows Installer package to a network location.

Table 13 • Distribute a Repackaged Application

#	Step	Instructions	Results
9.	**Distribute repackaged application**	Use the Legacy Distribution Wizard to distribute the **Sample Application** Windows Installer package to a **Network** location. You open the Legacy Distribution Wizard by opening the **Catalog** tab of the ribbon, selecting the Windows Installer package node and then selecting **Distribute Package** from the context menu. For instructions on how to distribute a package to a network location, see Distributing Packages to Network Locations. *Note • To distribute an **application** to a System Center 2012 Configuration Manager, Citrix XenApp, Symantec Altiris, or AirWatch, select the application node in the tree and then click the **Distribute** button in the ribbon. You must have already set up a named connection to that distribution system on the **Options** dialog box.* *Note • You can publish applications containing App-V 4.x packages and Citrix XenApp profiles to Citrix XenApp server, and can publish applications containing Windows Installer, Symantec Workspace, VMware ThinApp, or legacy installers to Symantec Altiris server.* *If an application contains a package of an unsupported deployment type, that package will be ignored.*	`SampleApplication.msi` is copied to the specified network location, making it available to your enterprise.

Migrating to Application Virtualization

The flowchart on the **Migrate to Application Virtualization** tab of the AdminStudio Start page lists the steps you need to perform to migrate your application portfolio into virtual applications that are ready for deployment within the enterprise.
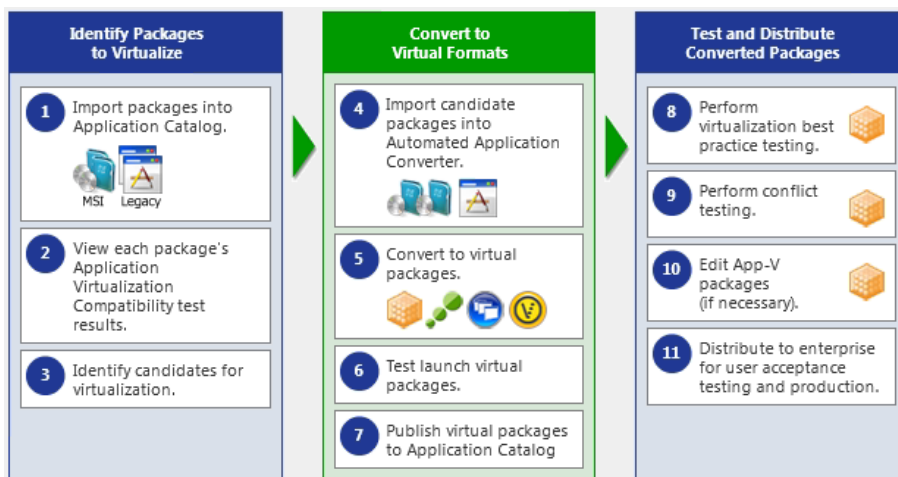
Figure 26: Migrate to Application Virtualization Tab of AdminStudio Start Page

In this section, you will use the Automated Application Converter to convert Windows Installer packages to virtual packages, and then test and distribute the virtual packages.

To migrate your application portfolio into virtual applications, perform the following steps:

- Identifying Packages to Virtualize

- Converting to Virtual Formats

- Testing and Distributing Converted Packages

Identifying Packages to Virtualize

In this procedure, you will import packages into the Application Catalog and identify the packages you want to virtualize.

Table 14 • Identify Packages to Virtualize
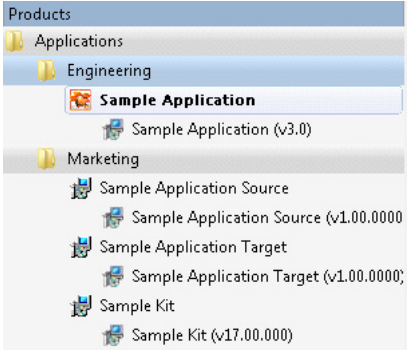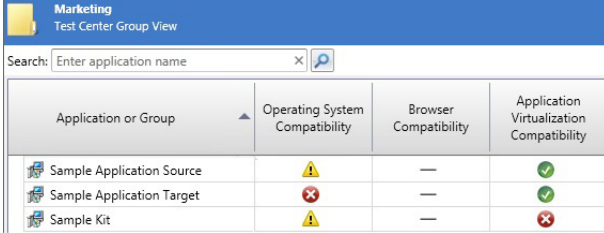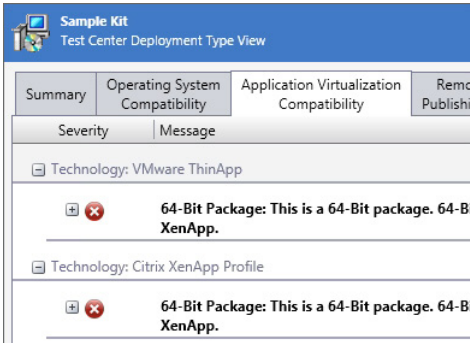
#	Step	Instructions	Results
1.	**Import packages into Application Catalog.**	Open Application Manager and locate the packages that you imported in Importing Packages into the Application Catalog.	The four Windows Installer packages are listed in the Application Manager tree:
2.	**View package's Application Virtualization Compatibility test results.**	To view application virtualization compatibility test results, open the **Test Center** tab, and then select the **Marketing** group in the tree to open the **Test Center Group View**.	The packages' application virtualization compatibility test results are listed in the **Application Virtualization Compatibility** column of the **Test Center Group View**.

Table 14 • Identify Packages to Virtualize

#	Step	Instructions	Results
3.	**Identify candidates for virtualization.**	You will notice that in the **Application Virtualization Compatibility** column of the **Test Center Group View**, two of the packages have a Ready status (Sample Application Source and Sample Application Target), while the other has an Error status (Sample Kit). Therefore, for the package with the Error status, open the **Application Virtualization Compatibility** tab of the **Test Center Deployment Type** view to view the error messages.	You will notice that the errors were generated because the packages are 64-bit packages, and 64-bit packages are not supported by ThinApp or XenApp. However, since 64-bit packages are supported by Microsoft App-V, this package is ready for conversion to App-V format.

Converting to Virtual Formats

In this procedure, you will use Automated Application Converter to convert Windows Installer packages to App-V packages.

Table 15 • Convert to Virtual Formats
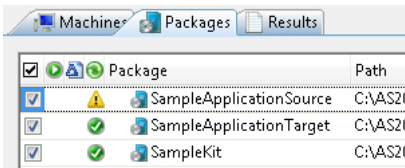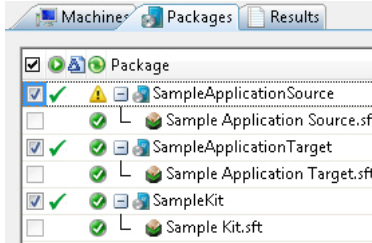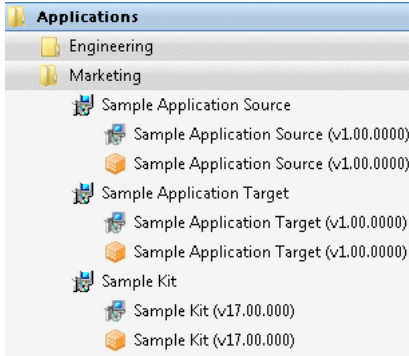
#	Step	Instructions	Results
4.	**Import candidate packages into Automated Application Converter.**	Open Automated Application Converter, open the existing project you created in Configuring a Virtual Machine, and use the **Package Import Wizard** to add the packages that you identified in Identifying Packages to Virtualize. *Note • For instructions, see Selecting Packages from an AdminStudio Application Catalog.*	Packages are listed on the **Packages** tab.

Table 15 • Convert to Virtual Formats

#	Step	Instructions	Results
5.	**Convert to virtual packages.**	First. open the **Project Options** dialog box and make sure that the **Package Creation** property is set to **App-V 4.6 with AdminStudio**. Then, use the Application Conversion Wizard to convert the packages to App-V 4.x applications. *Note • For instructions, see Performing a Conversion Using the Application Conversion Wizard.* *Important • Make sure that you have already performed the steps in Configuring a Virtual Machine before beginning this step.*	When conversion is complete, each virtual package is listed in a tree structure under its original package on the **Packages** tab.
6.	**Test launch virtual packages.**	Test the virtual packages by launching them on a virtual machine. *Note • For instructions, see Performing Automated Testing of App-V Packages.*	Virtual packages launch successfully.
7.	**Publish virtual packages to Application Catalog.**	Import the new virtual packages into the Application Catalog. *Note • For instructions, see Importing a Single Package File.*	The virtual packages are listed in the Application Manager tree under their associated Application. *Note • You may need to click Ctrl + R to refresh the Application Catalog tree.*

Testing and Distributing Converted Packages

In this procedure, you will validate the converted packages, perform conflict analysis against other packages, resolve any issues found, and distribute the packages.
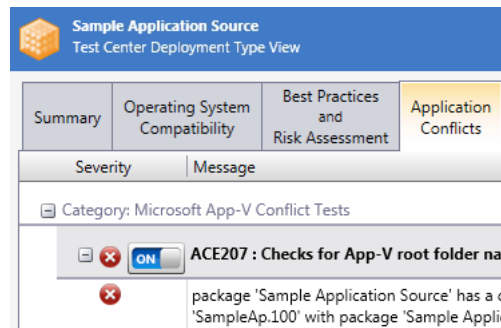
Table 16 • Test and Distribute Converted Packages

#	Step	Instructions	Results
8.	**Perform virtualization best practices testing.**	By default, App-V best practices testing is performed during import (as described in Import Options). To perform this testing manually, first select the **Test Center** tab in the Application Manager ribbon. Then, select one of the App-V packages in the Application Manager tree, and click **Execute Tests**. Messages appear in the Output Window. *Note • For more information, see Performing Compatibility, Best Practices, and Risk Assessment Testing.*	When testing is complete, results are displayed on the **Summary** tab of the **Test Center Deployment Type View**.
9.	**Perform conflict testing.**	In Application Manager, perform conflict testing of the **Sample Application Source** App-V package against the **Sample Application Target** App-V package. *Note • For instructions, see Testing for Conflicts Between Packages.*	Conflict analysis results are listed in the **Output** window and in the **Conflicts** view. An ACE207 error is detected: `Package 'Sample Application Source' has a conflicting root Directory 'SampleAp.100' with package 'Sample Application Target'.` Also, the error is listed on the **Application Conflicts** tab of the **Test Center Deployment Type View** for that package:

Table 16 • Test and Distribute Converted Packages

#	Step	Instructions	Results
10.	**Edit App-V packages (if necessary).**	To resolve the error that was found during testing on **Sample Application Source** App-V package, select it on the **Catalog** tab of the Application Manager tree and select **Edit with Virtual Package Editor**. In the Virtual Package Editor's **General Information** view, change the **Root Folder Name** property to `SampleAp.200` and click **Save**. *Note • For instructions, see Using the Virtual Package Editor.* Return to Application Manager and reimport the edited package.	The edited App-V package is imported into the Application Catalog. *Note • When you rerun the conflict testing that you ran in the previous step, no error will be generated.*
11.	**Distribute to enterprise for user acceptance testing and production.**	Distribute this tested App-V package to a **Network** location. *Note • For instructions on how to distribute a package, see Distributing Packages to Network Locations.* *Tip • Distribution Wizard also supports deploying applications to the System Center 2007 Configuration Manager, System Center 2012 Configuration Manager, and Citrix XenApp Server distribution systems. For more information, see Distributing Applications.*	The selected App-V package is copied to the specified network location, making it available to your enterprise.

Testing for Application Compatibility

The flowchart on the **Test for Application Compatibility** tab of the AdminStudio Start page outlines how to use Application Manager to test packages for compatibility with Windows 7, Windows 8, Windows 10, Windows Server 2008 R2, and Windows Server 2012 platforms, as well as to test web applications for compatibility with Internet Explorer (9, 10, 11) and Microsoft Edge.
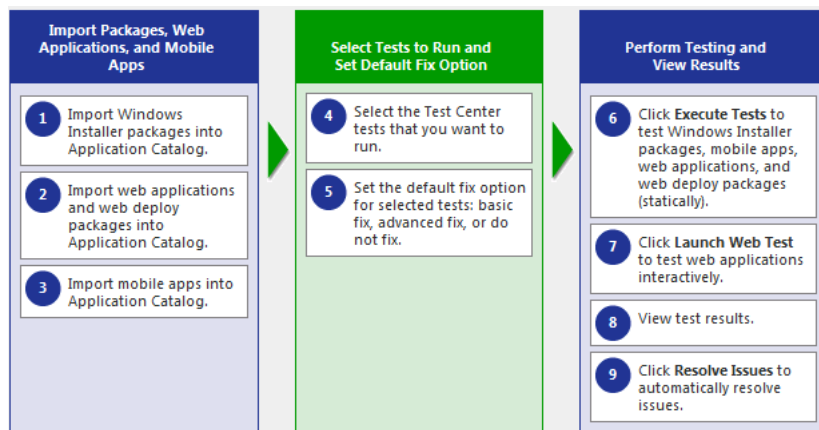

Figure 27: Test for Application Compatibility Tab of AdminStudio Start Page

In this section, you will test some packages for operating system compatibility fix issues that were found. You will also test web applications, both statically and dynamically.

To perform application compatibility testing, perform the following steps:

- Importing Packages, Web Applications, and Mobile Apps

- Selecting Tests to Run and Setting Default Fix Option

- Performing Testing and Viewing Results

Importing Packages, Web Applications, and Mobile Apps

In this procedure, you will load the packages to test and select the reports to run.

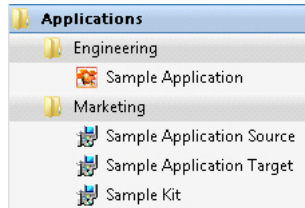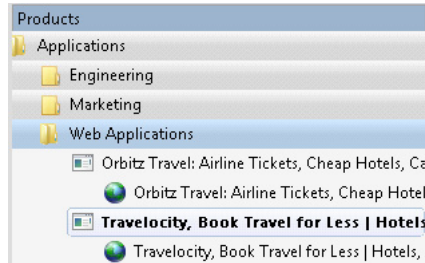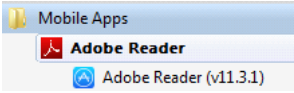**Table 17 •** Importing Packages and Web Applications

#	Step	Instructions	Result
1.	**Import Windows Installer packages into Application Catalog.**	For this exercise, we will test Windows Installer packages that were imported into the Application Catalog earlier in this guide in Importing Packages into the Application Catalog. **Note •** *For instructions on how to import a directory of packages into the Application Catalog, see Importing a Folder of Multiple Packages.*	The Application Manager tree should now be organized as follows:
2.	**Import web applications into Application Catalog.**	First, open the **Import Options > General** tab of the Application Manager **Options** dialog box, and clear the selection of the **Automatically Execute Tests After Import** option. Next, create a new group in the Application Manager tree named **Web Applications**. Then import the following web applications into the **Web Applications** folder, as described in Importing a Deployed Web Applications. ● **Orbitz** at: http://www.orbitz.com ● **Travelocity** at: http://www.travelocity.com Because these web applications do not require a login to access, leave the **User name** and **Password** fields on the **Web Site Details** panel blank.	The web applications are listed in the Application Manager tree:

Table 17 • Importing Packages and Web Applications

#	Step	Instructions	Result
3.	**Import a mobile app into the Application Catalog**	Create a new group in the Application Manager tree named **Mobile Apps**. Then, import an Apple iOS mobile app from the Apple App Store, as described in Importing Public Store Mobile Apps.	The iOS public store mobile app is listed in the Application Manager tree. ![Mobile Apps tree showing Adobe Reader and Adobe Reader (v11.3.1)]

Selecting Tests to Run and Setting Default Fix Option

In this procedure, you will select the Operating System Compatibility and Browser Compatibility tests to run and set default fix options.

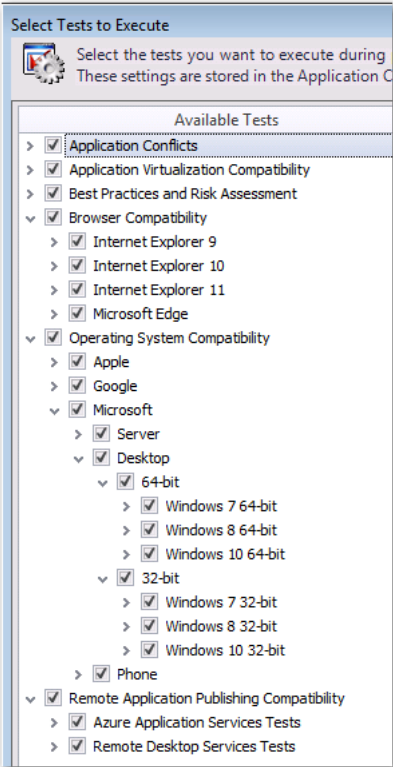**Table 18 •** Selecting Tests to Run and Setting Default Fix Option

#	Step	Instructions	Result
4.	**Select the operating system and browser compatibility tests that you want to run.**	Select the **Operating System Compatibility** and **Browser Compatibility** tests that you want to run, as described in Selecting Tests to Execute. 💡 *Tip •* *To speed up testing, it is recommended that you select just the operating systems and browser versions that are being used in your organization.*	The **Operating System Compatibility** and **Browser Compatibility** tests that you want to run are selected on the **Select Tests to Execute** dialog box.

Table 18 • Selecting Tests to Run and Setting Default Fix Option

#	Step	Instructions	Result
5.	**Set the default fix option for selected tests: basic fix, advanced fix, or do not fix.**	Some of the tests in the **Operating System Compatibility** and **Browser Compatibility** test group let you specify whether to perform a basic or advanced fix when you automatically resolve issues, as described in Setting Automatic Fix Preferences for Operating System Compatibility and Browser Compatibility Tests. On the **Select Tests to Execute** dialog box, review the **Default Fix** section of several of your selected tests. For this exercise, it is not necessary to make any changes to the **Default Fix** settings.	A **Default Fix** selection is made for all **Operating System Compatibility** and **Browser Compatibility** tests. **Default Fix:** This choice will be used when resolving the issues that are identified by this test. ◯ Do not resolve this issue automatically. ◉ Apply the basic auto fix. ◯ Apply the advanced auto fix.

Performing Testing and Viewing Results

In this procedure, you will test packages and web applications for operating system and browser compatibility, view test results, and automatically fix issues.

Table 19 • Performing Testing and Viewing Results

#	Step	Instructions	Result

6.	**Click Execute Tests to test Windows Installer packages, mobile apps, and web applications (statically).**	First select the **Test Center** tab in the Application Manager ribbon
		
		Then, select the **Applications** group in the Application Manager tree, and click **Execute Tests**.
		
		Note • For more information, see Performing Compatibility, Best Practices, and Risk Assessment Testing.
			Messages are listed in the Output Window. When testing is complete, the following message is displayed:
			
			`Testing finished at: Tuesday, July 09, 2015 – 13:47:04`
			
			`Tested 6 packages of 6.`

Table 19 • Performing Testing and Viewing Results

#	Step	Instructions	Result

7.	**Click Launch Web Test to test web applications interactively.**	To interactively, dynamically test a web application, select a web application node in the tree and click **Launch Web Test**.
		
		Note • For more information, see Performing Dynamic Testing of Web Applications.
		
		Application Manager launches the web application in your browser. Then, as you perform tasks and navigate around the web application, Application Manager records any warnings or errors that are encountered while using that version of the browser.
		
		When you have finished testing, close the browser window.
		
		Tip • You should always use dynamic testing when a web application requires a login to access.
		
		Tip • As each page loads, Application Manager begins testing. Links on each page do not become active until testing is complete on that page, so you may have to wait several seconds before proceeding.
			Messages are listed in the Output Window. When testing is complete, the following message is displayed:
			
			`Testing finished at: Tuesday, July 09, 2015 – 13:58:08`
			
			`Completed testing package(s).`

Table 19 • Performing Testing and Viewing Results

#	Step	Instructions	Result
8.	**View test results.**	When testing is finished, view the test results by selecting a Windows Installer package or web application in the tree to open the **Summary** tab of the **Test Center Deployment Type View**.	

Test result totals are listed in the **Operating System Compatibility** test group:

Detailed test results are listed on the **Operating System Compatibility** tab:

Click the Suppress (ON/OFF) button to suppress any issues that are not important to your organization.

Note • For more information, see Viewing Operating System Compatibility Test Results and Viewing Browser Compatibility Test Results.

Table 19 • Performing Testing and Viewing Results

#	Step	Instructions	Result
9.	**Click Resolve Issues to automatically resolve issues.**	Issues for which automatic fixes are available are identified by the Error With Fix or Warning With Fix icon: To automatically resolve all issues for which automatic fixes are available, select the **Applications** group node in the tree and click **Resolve Issues** in the **Test Center** tab of the ribbon. *Note • For more information, see Performing Automatic Issue Resolution.*	Issue resolution begins, progress messages appear in the Output window, and Application Manager performs the following tasks: • **Reruns tests**—Application Manager reruns all of the selected tests to ensure that the issues that it is going to resolve still exist in the current version of the package and its associated transforms. • **Creates transform files**—To resolve issues, Application Manager generates fix transform files. • **Reimports packages**—Application Manager then automatically reimports each package and its fix transform files into the Application Catalog. When issue resolution and reimporting is complete, look at the **Test Center Group View**, **Application View**, or **Deployment Type View** of the package, application, or group that you tested. You will see that the Error With Fix and Warning With Fix icons have been replaced with the status icon with the next highest level (as described in the **Hierarchical Level of Status Icons** section of the About Status Icons help topic) in that test category.