RAYPACK® STUDIO

Enterprise Software Packaging

Release Notes RayPack Studio 5.2

RayPack Studio is part of RaySuite.

raynet

Release Notes RayPack Studio

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See our website for locations.

www.raynet.de

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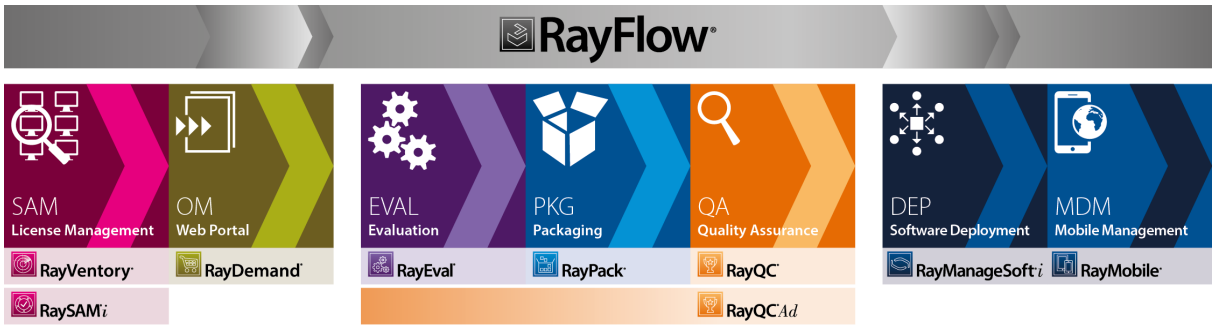
Introduction

RayPack Studio 5.2 is the next iteration of Raynet's framework for the creation and management of software packages. RayPack Studio 5.2 includes powerful tools with new features that automate and accelerate holistic packaging projects.

RayPack Studio covers all the steps: From compatibility checks of software applications and packages to the evaluation to the packaging and the subsequent quality control as well as to the clearly structured workflow management. The perfectly matched software products allow to efficiently pass through the individual phases of a packaging process. At the same time, they enormously accelerate the workflow: the integration of all products into RayFlow enables an extremely comfortable exchange of data and information.



Enterprise Application Lifecycle Management

This release contains new features, enhancements and bug fixes for all of these applications: RayPack (PackDesigner, PackRecorder, PackTailor, PackWrapper, PackBot), PackBench, RayQC, RayQC Advanced, RayEval and PackManager for App-V.

Visit www.raynet.de for further information regarding the product and current community incentives.

Raynet is looking forward to receiving your feedback from your RayPack Studio experience. Please contact your Raynet service partner or write an e-mail to sales@raynet.de to add your ideas or requirements to the RayPack Studio development road map!

What's New?

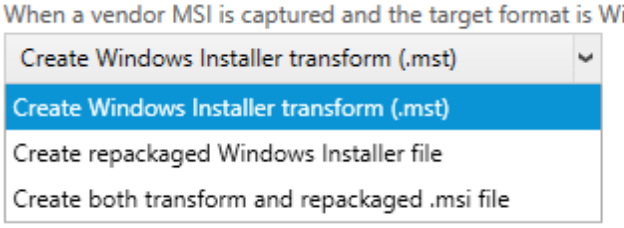
The following chapters contain an overview of the improvements, resolved issues, and the new features that are part of the new release of RayPack Studio 5.2.

RayPack

PackBot

Detection of the Windows Installer installation and log files and the ability to repackage directly to an MST file RPK-2651;RPK-2693

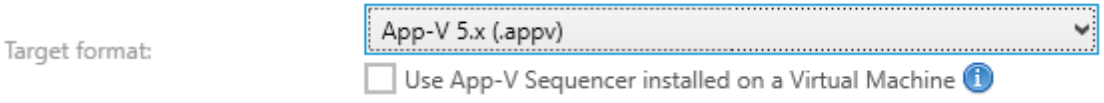
This release brings several improvements regarding the handling of installations which execute native Windows Installer sessions in the background. For example, when an executable `setup.exe` is merely a wrapper that silently runs an MSI installation, PackBot is able to capture the file and copy it back to the project folder. Depending on the settings, a transform file(MST) which can be applied to the original vendor installation can be created. When encountering an MSI file during repackaging, PackBot can be additionally configured to create a repackaged MSI anyway. This allows, for example, for repackaging of MSI wrappers where the internal logic is not relevant.



The default behavior is to create both MST and repackaged MSI. To change this setting, go to **Settings** > **Repackaging** > **PackBot** and select one of three options of your choice.

It is possible to convert to App-V 4.6 and App-V 5.x without the Sequencer being installed on a virtual machine RPK-2644;RPK-2654;RPK-2656

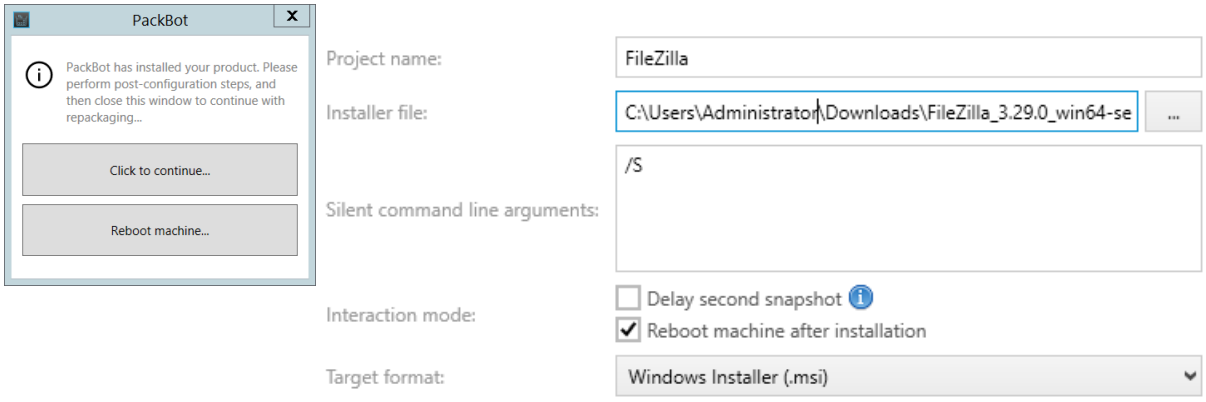
We have added new options for App-V 4.6 and App-V 5.x. This release provides a choice whether the repackaging should be performed using Microsoft Sequencer installed on a virtual machine (native conversion), or converted by locally using our Sequencer-less conversion. The latter enables user to perform a bulk conversion of their packages to App-V format without having any App-V libraries at all.



Additionally, next to the standalone (installed) Sequencer, the built-in Sequencer on Windows 10 Build 1709 is now supported.

Automatic / on-demand reboot in both interactive and non-interactive mode RPK-2645;RPK-2657

We have improved how reboots are handled by PackBot. Users can manually set attributes on a package basis that will force a reboot after installation or use an implicit approach - once the installation reboots the machine from itself, PackBot will pick up after the virtual machine has finished its reboot. Together with an option to delay second snapshot, it is now possible to reboot on demand by simply pressing a button inside of a prompt. By doing so, it is possible to achieve complex scenarios, for example rebooting after installation and then after the configuration have all changes applied, capturing services, drivers and file operations etc.. Automatic reboots are an opt-in option and have to be activated when needed, the default is to not reboot.



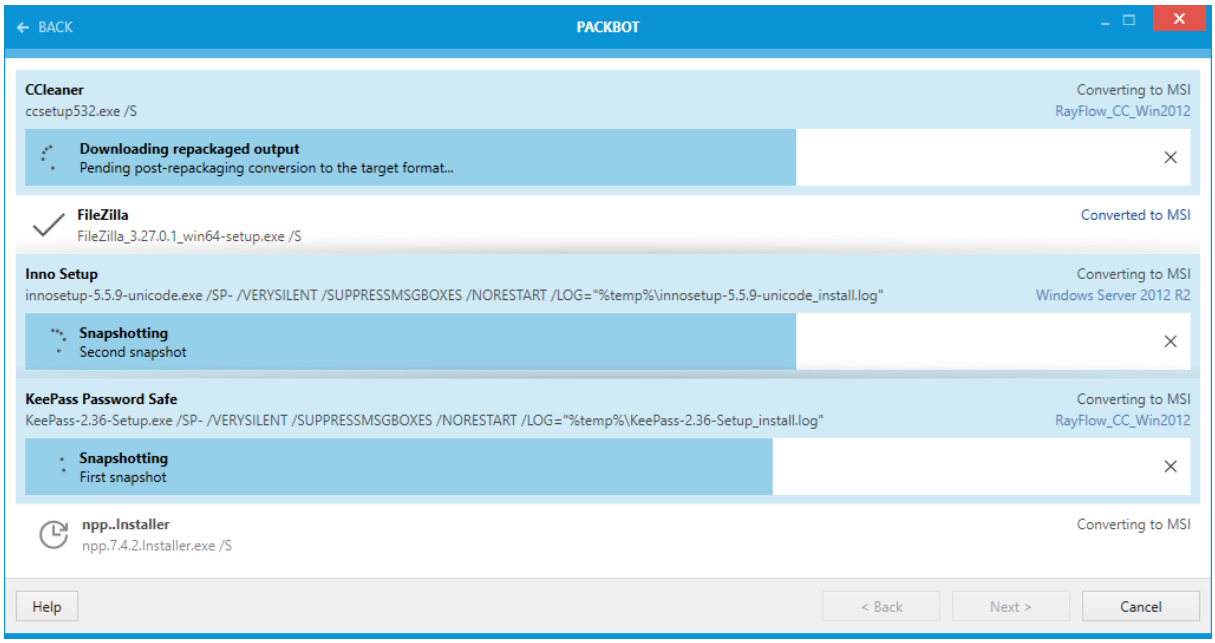
If the second snapshot is delayed (which automatically means the conversion is not anymore fully unattended due to a prompt that the user has to accept) the user can always reboot the machine on demand, even if the flag for reboot was not set.

New reboot options are available for all formats and conversion excluding App-V 4.6/5.x with Sequencer. If you want to reboot a package that is going to be converted to the App-V format, do not use the Microsoft Sequencer but rather the built-in RayPack conversion.

Improved queue processing RPK-1408

In previous releases, a single package was defined as from powering on the machine to the end of post-conversion (to get converted MSI, RCP, RPP, and other files). During post-conversion which is always running locally, the machine was left active and could not be reused by subsequent task. We have optimized this behavior - version 5.2 will return the machine to the pool as soon as it is not needed anymore and post-processing is done concurrently. Additionally, I/O consuming post-processing operations are now sequenced one after another, so that while virtual machines run in parallel, the post conversion which runs on the very end is synchronous for a better I/O performance. Overall, this may save (depending on complexity of the packages) from a few seconds up to several minutes for every task running in bulk conversion. There are no performance penalties or wins when running only a single task or running exclusively App-V conversions with the help of the Microsoft Sequencer.

In certain scenarios this change may lead to a situation in which the number of concurrently processed task is, for short time, higher than the number of maximum parallel jobs which are defined in the wizard. This is fine, the meaning of this setting has been precised in 5.2 release to actually define how many virtual machines can run in parallel, and not how many jobs are actually processed concurrently.



The PackBot command line accepts a new switch for the configuration of the target format RPK-2670

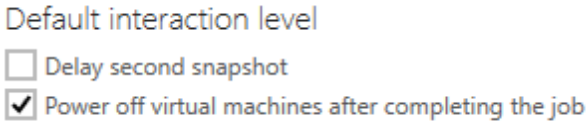
Based on many requests, we have added a new command line switch to the PackBot command line. This switch allows for the definition of the target type of the conversion (for example App-V, MSI, RCP etc.).

A manually changed virtual machines pool is not overridden anymore when the target format changes RPK-2689

This usability improvement ensures, that once the selected machine or the pool of selected machines is changed by the user, any subsequent changes of the target format will not override the user preference. Previously, any change of the target format led to a reset of the pool of machines to the defaults as defined per profile.

The ability to automatically turn off virtual machine after completing PackBot task RPK-2683

A new setting has been added to the **Settings** screen. A checkbox can be used to control whether virtual machines are to be powered off after the conversion is finished. By default, this setting is enabled.



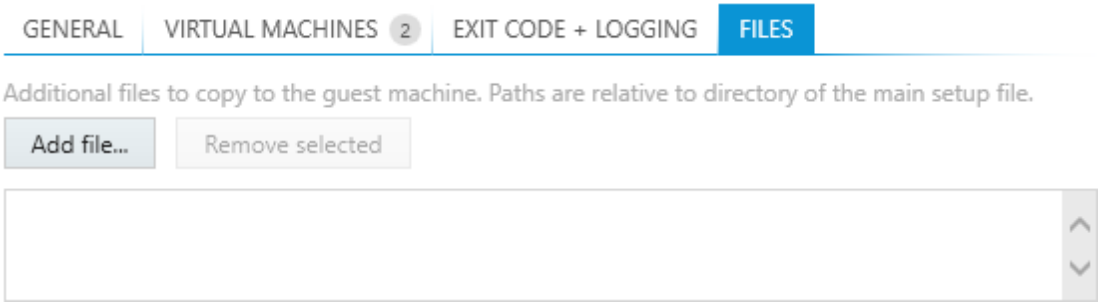
Note:

This setting does not revert the snapshot back to the original snapshot. PackBot only restores the snapshot to the one that has been specified in the **Settings** just in time before the required virtual

machine has been started.

The supporting files selector now has a file browse dialog RPK-2658

We have added a browse button to the supporting files browser. This way, it is much easier to define complex legacy installations requiring several additional files to be copied to the virtual machine.



This feature is used for complex and customized legacy installations. For most of the setups, no additional files are needed. If the input file is in the `.msi` format, then the supporting files are automatically read from `File/Media` table of the `.msi` and no extra user input is required.

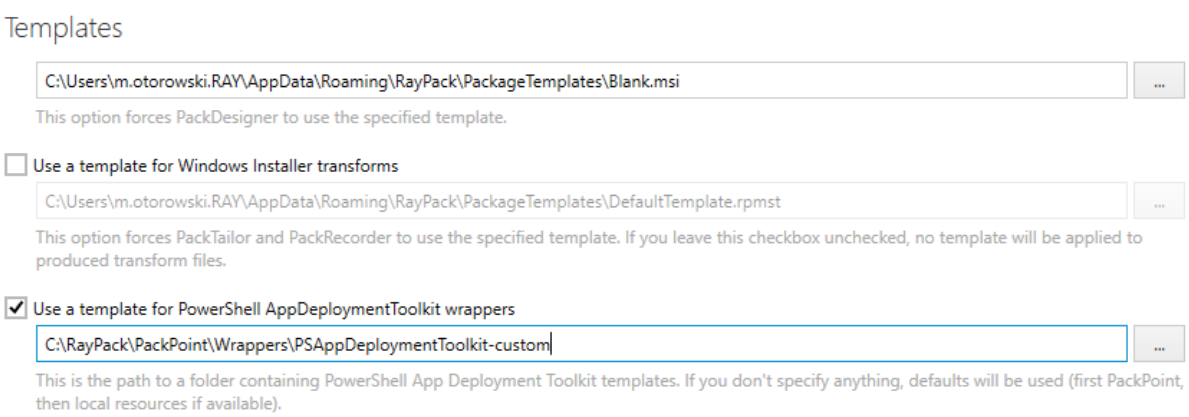
Resolved issues

- RPK-2452 PackBot cannot locate the `AppvSequencer` module on Windows 10 Build 1709
- RPK-2675 Sporadic **The given key was not found** or **An item with the same key has already been added** exceptions are thrown when converting to MSI
- RPK-2696 The help binding (**F1**) and button are missing
- RPK-2682 There is a misleading progress notification when powering on virtual machines
- RPK-2646 An access denied exception occurs when comparing snapshots

PackWrapper

Configurable and extendible custom wrapper templates / files RPK-2678

5.2 is more flexible than the previous releases, and it allows for complete customization of the toolkit wrapper.



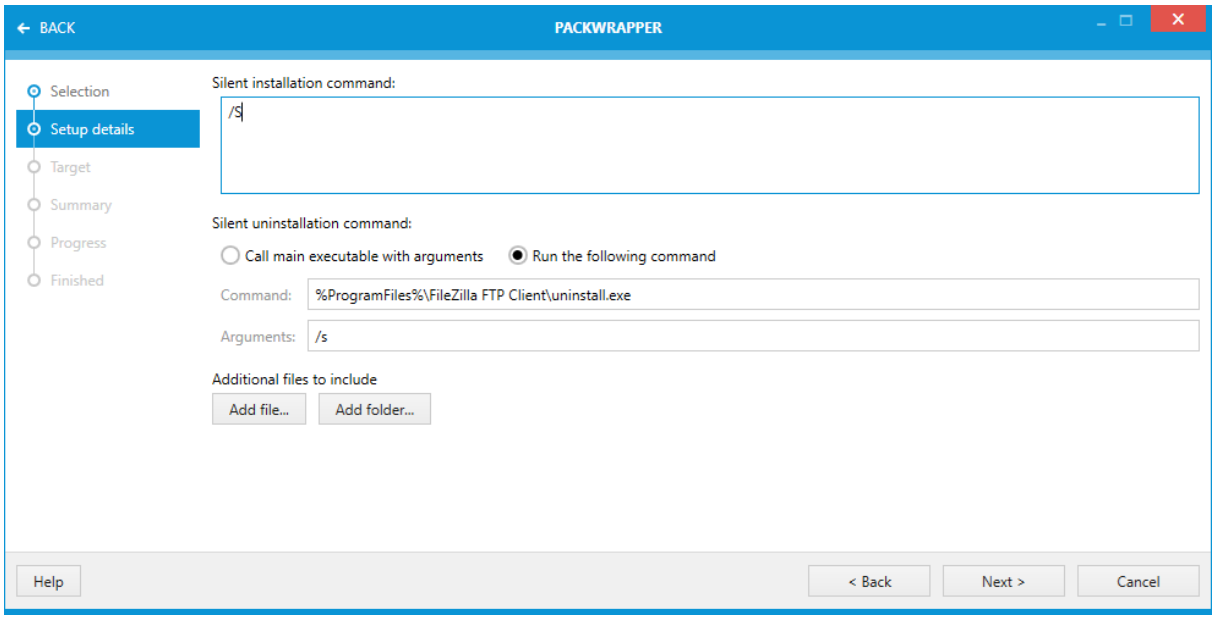
Templates can be used to configure toolkit options, to include more files, to change the default template, banner images, and more.

Added a command line switch for the unattended creation of wrappers RPK-2695

For an unattended generation of PowerShell-based wrappers, an extension to RayPack CLI has been implemented. The new command `wrap` with its mandatory and several optional parameters can be used to create wrappers in a fully automated way.

It is possible to define an uninstall command line for non-MSI setups RPK-2664

Additional options have been added for non-MSI setups. Users can create uninstallation commands which either start the main setup with parameters, or call a completely custom command (for example an `uninstall.exe` residing in the **Program Files** folder).



The Powershell App Deployment toolkit has been upgraded to 3.6.9 RSC-443

The PowerShell AppDeploymentToolkit has been upgraded to the latest version 3.6.9.

Note:

Since it is possible to configure custom toolkit templates, any subsequent upgrades done easily by the user. Therefore, the latest fixes and feature improvements for the toolkit can be upgraded independently of the release plan of RayPack Studio.

In the wizard it is now possible to add multiple files or folders at once `RPK-2650`

Since some setups may require several files (even hundreds of files is not uncommon) we have added an option which supports the selection of multiple files and folders when importing supporting files.

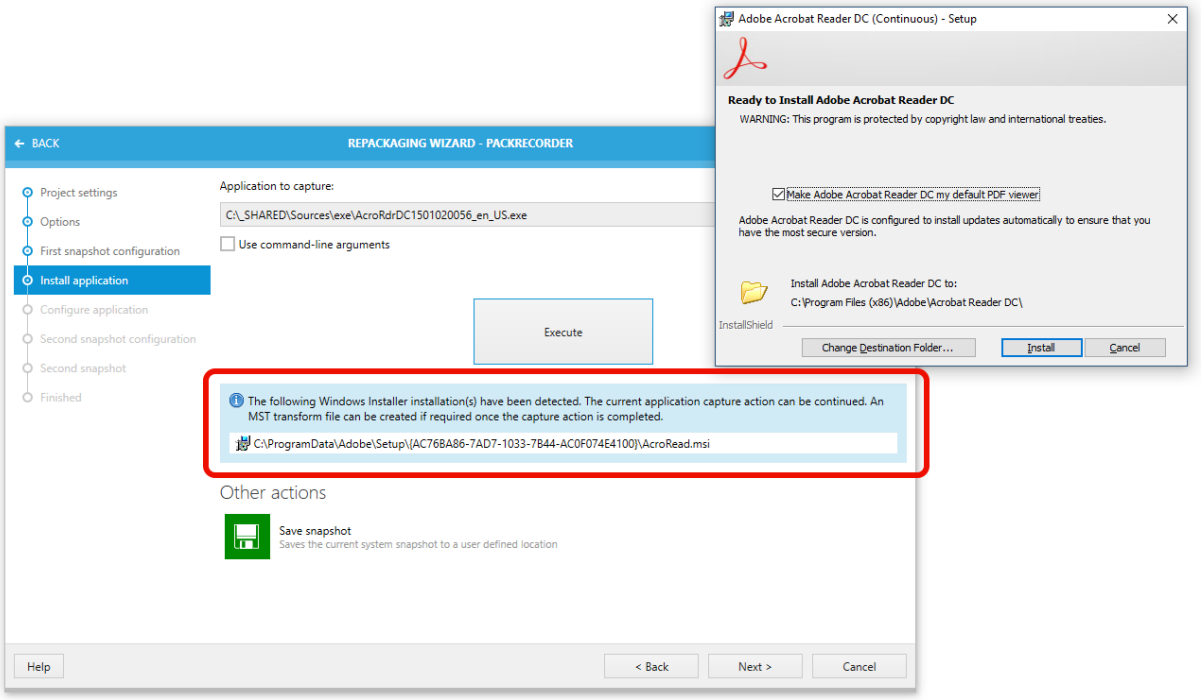
Resolved issues

- `RPK-2696` The help binding (F1) and a help button is missing in the wizard
- `RPK-2647` The header image in the PSAppDeploymentToolkit progress dialog is too small
- `RPK-2649` An incorrect uninstallation routine for MSI packages exists in the PackWrapper
- `RPK-2709` Incorrect command line parameters for MSI uninstallation (unnecessary `/x <GUID>` switch)

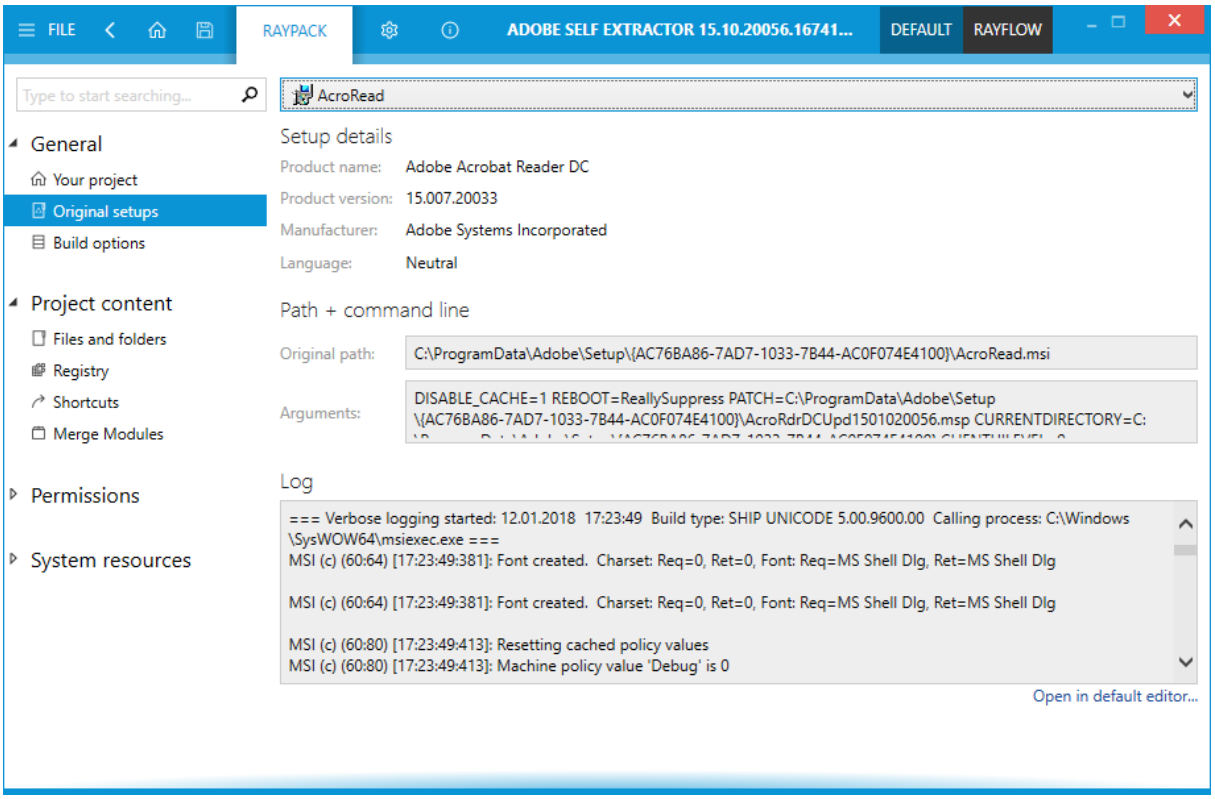
PackRecorder

Detection of Windows Installer installation and log files, ability to repackage directly to an MST file `RPK-2651`

This release brings several improvements regarding the handling of installations which execute native Windows Installer sessions in the background. For example, when an executable `setup.exe` is merely a wrapper that silently runs an MSI installation, PackRecorder is able to capture the file and copy it to the project folder. A new view has been added which shows (if available) information about the original installation sources:



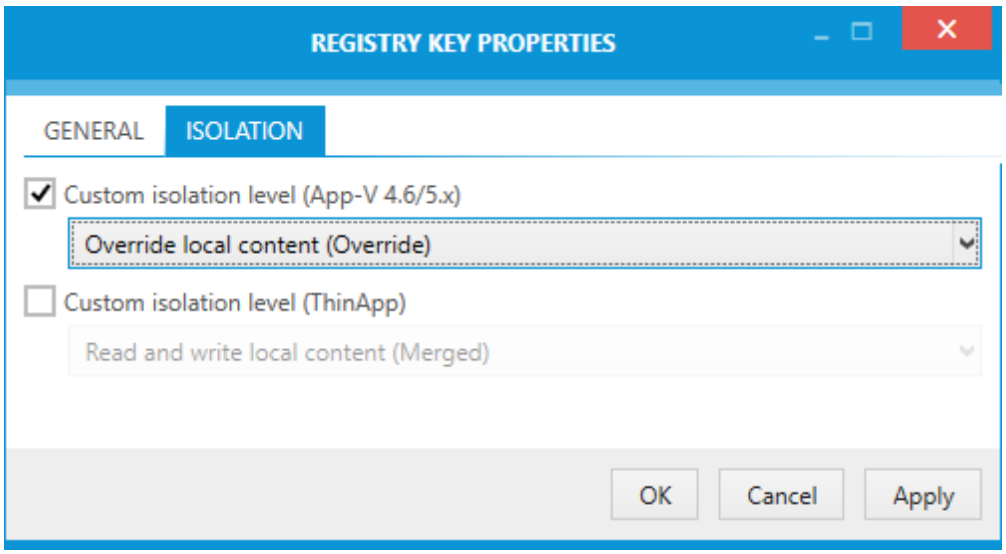
If an MSI has been captured during installation, the vendor path is automatically harvested and the user is able to build the project to an MST format. The new view also provides a convenient way of showing the arguments and log files of the Windows Installer session, helping to determine and automate MSI installations.



Finally, if an MSI installation is captured, the **Summary** information in the **Build** screen is automatically filled with the data from the original MSI setup.

New dialogs and properties to manually control Merging and Isolation levels RPK-2635

With this release users have more control on isolation (App-V 4.6/5.x) and merging levels (ThinApp). Folder and registry keys can be configured separately and relevant options can be found in their respective properties dialog. If no value is provided by the user, then RayPack tries to use reasonable default values (based on location and content of folder/registry key).

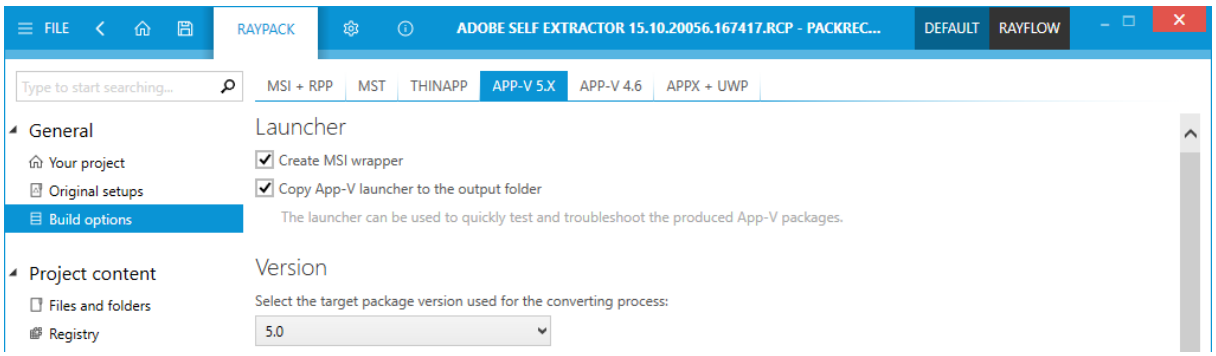


Improved performance and memory consumption during RCP->MSI and RCP->RPP conversion RPK-2694

The memory footprint and the conversion speed have been improved. The result varies based on the complexity of the setups, but as a rule of thumb, the bigger the setup is the higher the performance gain that has been achieved. For example, packages which previously took 6 minutes to generate using RayPack 5.1 now take under 4 minutes, which is around 35% faster.

Build options and PackRecorder settings have been enhanced RPK-2648;RPK-2654

We have redesigned the **Build options** screen to look more like respective screen in PackDesigner. The consolidated settings do not contain the languages selector anymore. This setting should be configured on a profile basis in the default template or changed in PackDesigner.



Additionally, in this release it is finally possible to have build settings for virtual packages on a project basis, similarly to PackDesigner. They can be changed in the **General** > **Build options** screen, and by default are taken from the default profile.

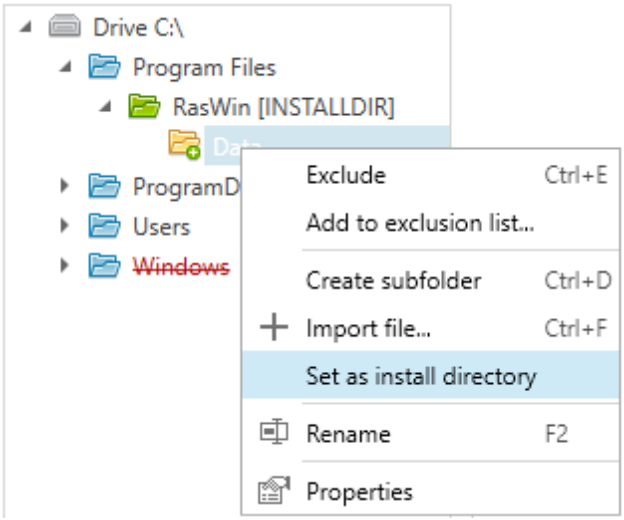
Note:

This is a breaking change. From version 5.2, the conversion settings for App-V and Thin-App are configurable in the **Build options** screen and no longer in the global settings. The configuration which is now global is a template used for any new project created from now on or created by a previous version of RayPack.

Additionally, the **PackRecorder Settings** tab and respective **Capture Wizard** options have been reorganized and streamlined for an easier access to most common settings.

An INSTALLDIR indicator which is directly in Files and Folders view `RPK-2655`

The folder which is the current INSTALLDIR is now highlighted using a green folder icon similar to PackDesigner.



Additionally, the INSTALLDIR can be changed directly from this location by using the context menu of the folder.

The initial page in PackRecorder Capture Wizard has been improved `RPK-2665`

We have switched the order of some inputs on the first page of the **PackRecorder** wizard. This way, certain values can be set automatically based on previous inputs (for example the default project name can be read automatically from the input type).

Extended and optimized exclusions lists for files, folders and registries `RPK-2680;RPK-2681`

We have consolidated and optimized existing regular expressions for the default set of filters which are now executing slightly faster to execute. Additionally, new rules and exclusions have been added to produce cleaner output files.

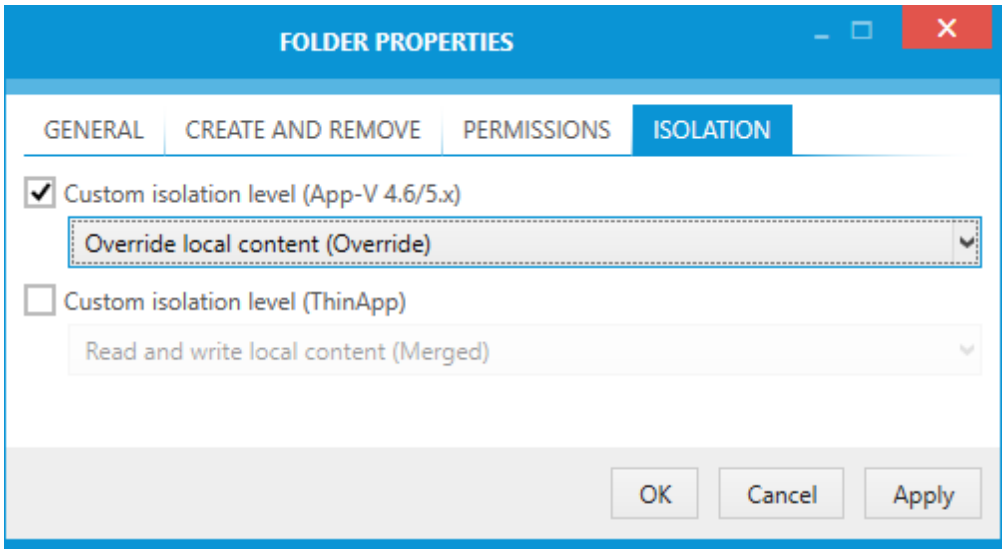
Resolved issues

- RPK-1149 `System32` and `Commonfiles` are not automatically marked with attribute 24, and are therefore deleted during uninstallation
- RPK-2633 The INI file is not converted to an `IniFile` table but to a normal file
- RPK-1079 Shortcuts are missing quotes after repackaging
- RPK-2164 When snapshotting in expert mode, changes to the standard configuration are not kept after rebooting
- RPK-2661 A wrong label for a column in the file browser exists
- RPK-2652 In the **PackRecorder** view it is possible to rename a file to an empty string
- RPK-2653 The grid splitter has a white background even though the background should be transparent
- RPK-2663 It is not possible to sort by size in the **Files** view
- RPK-2662 The context menu in the **Folder** view has unnecessary items and separators
- RPK-2487 RayPack does not start automatically after rebooting during repackaging if the command line exceeds a length of 255 characters
- RPK-2660 Obsolete properties are left in hte MST file after the conversion from RCP
- RPK-2659 It is not possible to build an MST file out of the Adobe Reader RCP
- RPK-2638 Non-critical error messages are dumped in log files during recapturing
- RPK-2721 Incorrect application of Merge Modules to projects built from RCP (a full build is made by the RPP conversion, no entries are added by the MSI conversion)
- RPK-2720 In building of RCP -> RPP there is no proper error chaining in case an intermediary step fails

PackDesigner

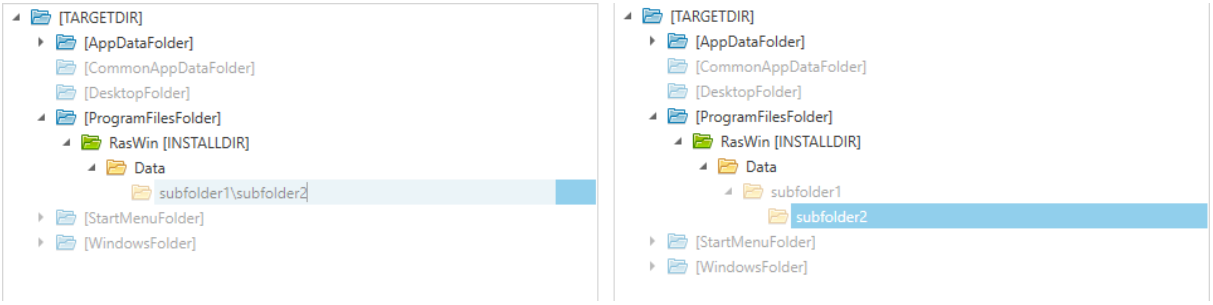
New dialogs and properties to manually control merging and isolation levels RPK-2635

With this release, users have more control on isolation (App-V 4.6/5.x) and merging levels (ThinApp). Folder and registry keys can be configured separately, and relevant options can be found in their respective properties dialog. If no value is provided by the user, then RayPack tries to use reasonable default values (based on location and content of the folder/registry key).



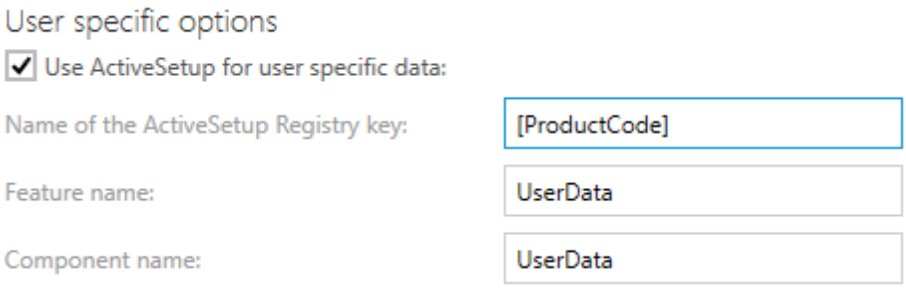
The ability to create nested structures in the Registry and the Files and Folders browser RPK-2626

It is now possible to create nested folder structures by typing a sting containing backslashes "\". This works for both, the **Registry** view and the **Files and Folders** view.



Naming for ActiveSetup keys is now configurable RPK-2629

This release has a configurable naming for Registry keys created whenever ActiveSetup is required.



The default is the same as in previous releases of RayPack, but it is possible to change it to other names, for example `MyCompany\[PackageCode]`.

Improvements to the New Driver Wizard RPK-2620;RPK-2623

Since the unattended installation of unsigned drivers is not supported, we have added a small warning to the wizard to inform the user about possible limitations of **Allow the installation of unsigned/incomplete drivers**. Additionally, the sidebar layout has been improved to closely resemble the settings available in the wizard.

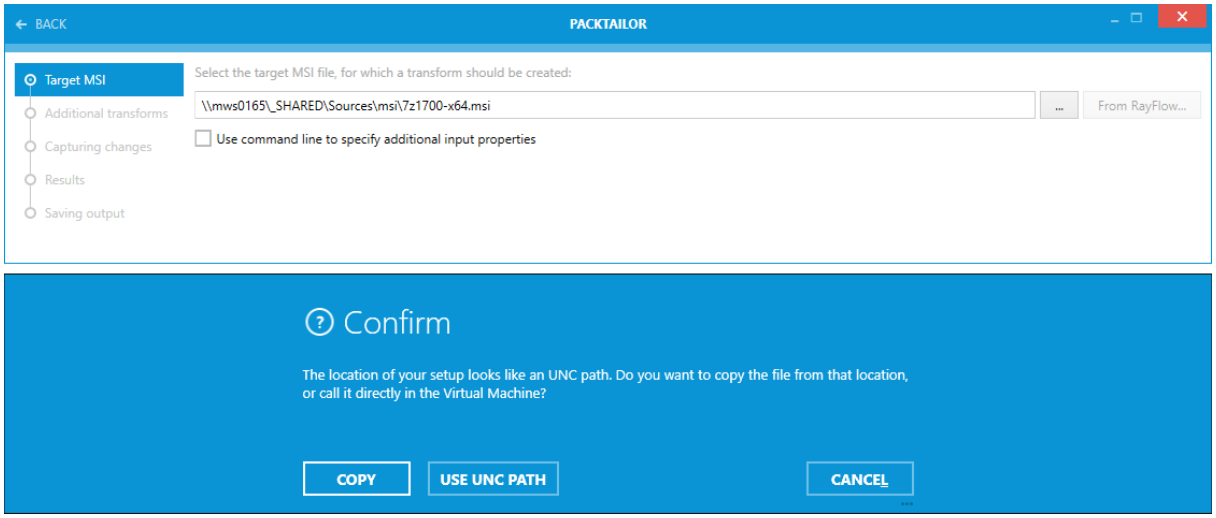
Resolved issues

- RPK-1149 `System32` and `Commonfiles` are not automatically marked with the attribute 24 and therefore deleted during uninstallation
- RPK-2621 An incorrect label for driver condition which mentions "above condition" exists
- RPK-2618 The content of a drop-down in the **Service** settings is clipped
- RPK-2619 In the Registry Browser an incorrect label for a registry export can be found
- RPK-2405 The source view of a file does not see files from a cross-domain shared locations
- RPK-2631 When adding more than one font file a single component is used
- RPK-2632 TTF and OTF fonts are not converted to separate components
- RPK-2636 Importing a registry to a project with an invalid platform throws an error and crashes to desktop
- RPK-2630 The rows are not removed from the `Registry` table when removing keys from PackDesigner
- RPK-2679 MSI files built from RPP have an unnecessary `RPStreamFiles` table
- RPK-2634 The exception **Could not add Primary Key** is thrown when building an MSI with substorage
- RPK-2642 The labels in the advertised shortcuts configuration are not human friendly
- RPK-2307 Cannot apply changes when modifying the text or the value of a ComboBox item
- RPK-2232 A component is not removed after removing its content
- RPK-2641 The INI editor contains unnecessary vertical lines
- RPK-2617 The **Driver** wizard does not set the options according to the selection of the user
- RPK-2718 When moving a KeyPath and viewing the component content a duplicated file may be shown in the **Component** view
- RPK-2729 Incorrect command line parameters for MSI prerequisites in PowerShell wrappers
- RPK-2730 Placeholder shown in the folder properties dialog when renaming to an already taken name
- RPK-2731 Cannot build RPP/MSI project if any source path contains string `%20`
- RPK-2736 When importing binary resources from a project subfolder, their relative paths are pointing to a wrong location
- RPK-2739 When renaming a component in the Component view, pressing OK without changing anything may still generate a new unique name

PackTailor

If an UNC path is provided, RayPack asks whether the product should be started from that path instead of copying its setup to VM RPK-2503

If a path to the tailored MSI starts with double backslash, then RayPack asks the user whether to copy the file to the virtual machine or to start it directly from the shared location. Starting it directly is generally way faster than copying the resources to the virtual machine and can be used if both machines have access to the shared location.



If the user chooses to continue, the process should take much less time than in version 5.1 when working with VMware Workstation or ESX images. Files are copied up to 50 times faster comparing to the previous release.

PackBench

Resolved issues

- BEN-306 Validation of OK/Apply/Cancel dialogs does not show the message when pressing *Apply*, but does it for *OK* button
- BEN-307 Progress history is not redrawn correctly between sessions
- BEN-308 It is possible to import custom data fields to the workflow
- BEN-309 Workflow with custom variables cannot be created
- RTS-2252 Poor handling in concurrent scenarios when taking over RayFlow tasks

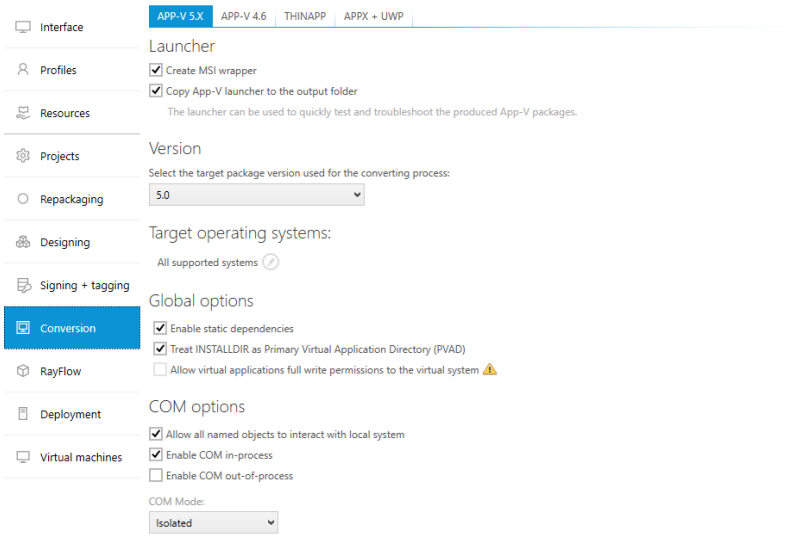
Virtualization Pack

The Build options screen for App-V 4.6 and 5.x has been redesigned RPK-2628

We have cleaned up the build settings for App-V 5.x. Several options which were rarely used and which could cause issues with non-Microsoft products have been removed. For example, in RayPack 5.2 it is no longer possible to disable file, registry, shortcut, and other subsystems. They are always enabled.

A new option has been added to configure the meaning of the INSTALLDIR folder. If the checkbox **Treat**

INSTALLDIR as Primary Virtual Application Directory (PVAD) is checked, the folder will be converted to a root folder and any content outside of it will be written into the VFS. Unchecking the option will put everything into the VFS.



Note:

This is a breaking change. In version 5.1 all packages were using VFS only. In RayPack 5.2, the default is to put the content of the INSTALLDIR in the root folder and anything outside of the INSTALLDIR into the VFS. Certain older applications may not accept this at runtime and in this case the option needs to be changed back to the legacy behavior.

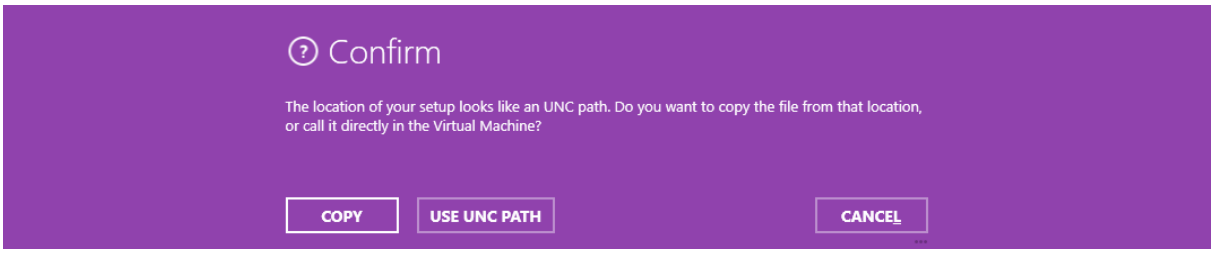
Resolved issues

- `RPK-2696` Static dependencies are not sorted correctly if the dependencies themselves have dependencies
- `RPK-2639` The folder structure is wrong after using RPP to App-V conversion with a `CommonProgramFiles` token
- `RPK-2637` App-V conversion fails when converting an inaccessible path to a short 8.3 form

RayEval

If an UNC path is provided, RayEval asks whether the product should be started from that path instead of copying its setup to the virtual machine `RVL-403`

Similarly to PackTailor, if the path to the captured setup starts with double backslash, then RayEval asks the user whether to copy the file to the virtual machine or to start it directly from the shared location. Starting a file directly is generally way faster than copying the resources to the virtual machine and can be used if both machines have access to the shared location.



User settings have been moved from the Registry to the Application Data folder `RVL-395`

This is a breaking change. RayEval 5.2 does not save to Registry anymore - all user settings are now present in the user application data in `%appdata%\RayEval`. Please read the Migration and Breaking Changes section for more information about backward and forward compatibility of this change.

A new command line switch to automatically start a specific VM when creating a new project has been added `RVL-396`

It is possible to define the name of a virtual machine which should be started once a new project is created using the command line interface.

Added a new command line switch to specify the full path to the project configuration file `RVL-405`

The main executable accepts an extra command line switch which can be used to specify which configuration file is to be used. This makes it easier to have many configurations on the same machines without unnecessary workarounds and separate binaries for each.

Updated default configuration, added sample configuration for RayFlow projects `RVL-412`

We have added a new sample configuration that can be used to build complex projects centered around RayFlow integration. You can find it in subfolder `/config` in the product installation folder.

Resolved issues

- `RVL-398` There are typos in the default Word template
- `RVL-397` The table of contents is not being populated during the export action
- `RVL-401` Settings for templates are saved to configuration file even if there were no changes
- `RVL-393` RayEval is unable to parse some arguments from the command line when executed from RayFlow client
- `RVL-402` The name of the main screen is **HOME** instead of **DASHBOARD**
- `RVL-394` There are typos in the *User Guide*
- `RVL-408` The button for cleaning recent list is is too narrow for Polish and German texts

- `RVL-410` **Run setup** button is not available using project based on a package from RayFlow
- `RVL-411` Incorrect parsing of command line if an UNC path (starting with `\\`) is passed unquoted

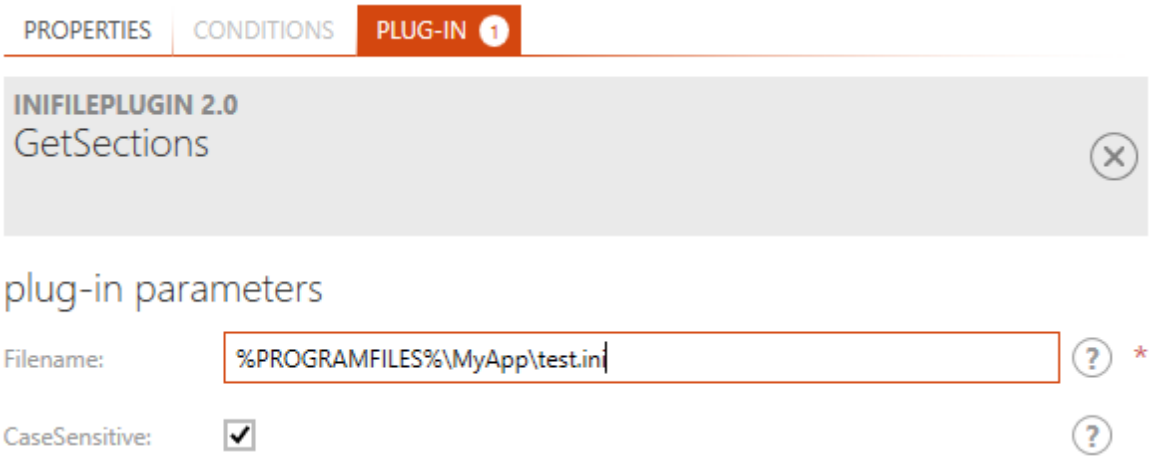
RayQC

Support for the element identifier has been added to post processing RayFlow fields `RQC-870`

Post processing RayFlow fields now have an extended support for standard tokens. Therefore, it is possible to automatically place values from the current checklist as a part of the automatic post-processing RayFlow routine.

Support for environment variables in selected plugins `RQC-866`

Two methods `GetSections` and `SectionExistsPlugins` belonging to the plugin `IniFile` are supporting environment variable tokens in version 5.2.



New sample checklists for RayFlow projects `RQC-877`

We have added two new sample checklists that can be used to build complex projects centered around RayFlow integration. You can find them in subfolder `/samples` in the product installation folder.

Resolved issues

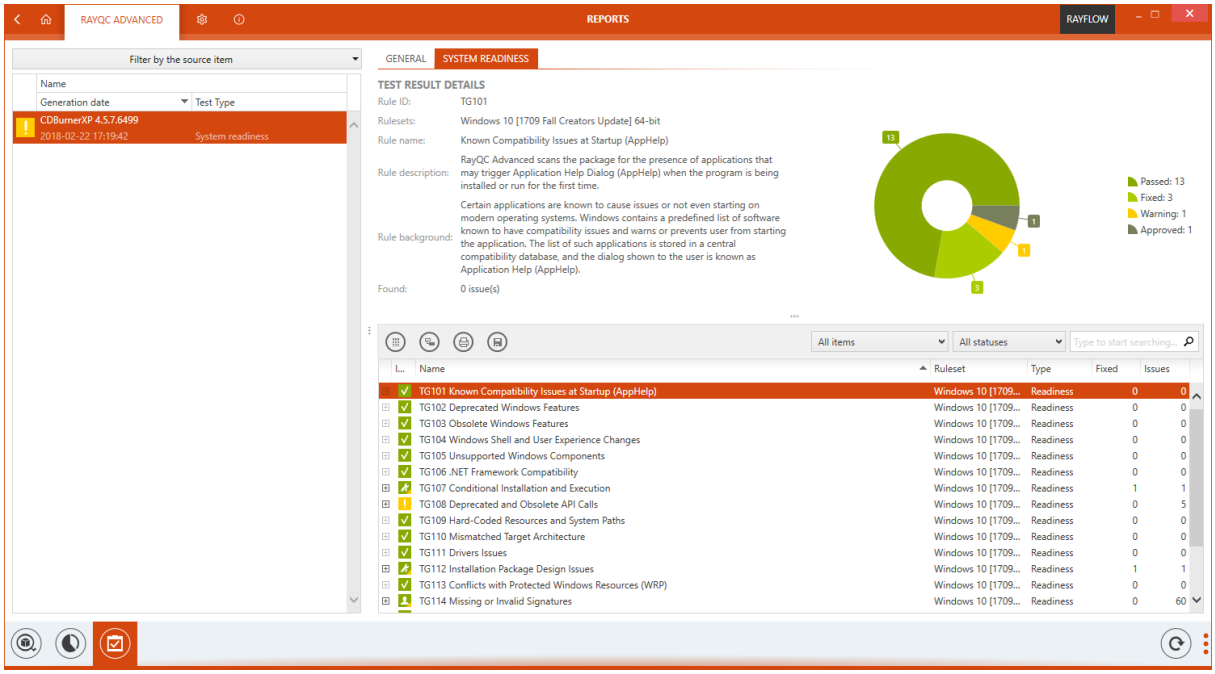
- `RQC-867` RayQC crashes when trying to unlink a `FileOpenDialog` plugin from a `GetTextFileContent` plugin

- RQC-865 The `GetTextFileContent` does not work when its text file path uses a `FileOpenDialog` plugin
- RQC-859 The silent execution of checklists (-q) does not execute plugins of the conditional group
- RQC-874 The validation of checklist produces unexpected errors
- RQC-872 RayQC crashes when unlinking datafields
- RQC-862 The `AddComment` RayFlow plugin does not receive the `PackageID` from the RayFlowClient
- RQC-882 Plugin `GetOsName` returns incorrect results on Windows 10 Guest machine when using VM functionality
- RQC-878 Running all plugins from group does not bring in data from a VM, but running a single plugin from within the group does
- RQC-879 Some RayFlow and UI plugins may not work if RayQC is connected to a VM

RayQC Advanced

Support for Windows 10 Build 1709 (Fall Creators Update) RTS-2250

A new ruleset for Windows 10 Build 1709 (Fall Creators Update) has been added.



Resolved issues

- RTS-2243 There is an unknown exception when testing a snapshot using the command line
- RTS-2253 Importing RayQC checklist finishes with error

- RTS-2254 Duplicated description in pop-up editor of the Tag selector
- RTS-2252 Poor handling in concurrent scenarios when taking over RayFlow tasks

PackManager for App-V

Resolved issue

- RMT-129 Properties are not editable directly from their grids

Other

The configuration of the default RayPack Studio settings has been simplified and consolidated across all products RSC-441

We have made several changes to all products and components which are aimed towards easier and flexible usage from shared locations or prepacked archives. The default for each component can now be configured inside a machine-based location (in `ProgramFiles` or in case of RayPack in PackPoint) and are used as defaults for new users. For more information about how to configure each product, refer to Product User Guide of the specific component.

All progress pages in the wizards now have a collapsed sidebar and take the whole horizontal width RSC-447

In all wizards, once a progress page is active, the sidebar gets collapsed and the content takes the whole horizontal space.

RayFlow-related tasks are now performing better RSC-444

We have an improved reliability and speed of several RayFlow-oriented actions. This affects RayPack, RayEval, RayQC, RayQC Advanced, and PackBench.

Resolved issues

- RPK-2696 After the uninstallation some files are left in RayPack folder
- RSC-449 All virtual machines entries are getting hidden when the user cancels the edition o his VM settings (RayPack, RayEval, RayQC, RayQC Advanced)
- RPK-2627 A product which is started from a floating license server starts, even though the version licensed is obsolete (all products and components)
- RSC-459 Missing title of the main RayPack Studio installer window
- RSC-457 Folder with extracted MSI files is not rebranded
- RSC-455 Activation by using license file does not indicate correct license state of all suite components (display issue)

- RSC-464 Missing Windows Server 2016 when exporting application using Deployment Wizard
- RPK-2575 Answer file does not import all settings (RMS/SCCM Deployment Wizard)
- RSC-456 Several improvements and fixes in Deployment Wizard (RayPack, RayQC Advanced):
  - Fixed an empty list of packages in Folder page
  - Added copying of sources if a RayFlow package have a linked installer file (not attachment)
  - Library folder path is selected automatically if context is provided
  - Changed order of wizard pages, selecting the sources location affects the installation command
  - Repair and uninstall commands are not mandatory anymore
  - Commands are updated based on the settings selected in the Deployment Wizard
  - Compress option is now disabled if "Install from Distribution Server" is selected
  - Fixed missing package type in Basic page
  - Fixed wrong AppLocation node in NDP file

Migration and Breaking Changes

RayPack

Upgrading RayPack

General Upgrade Preparations

RayPack 5.2 is delivered as part of the RayPack Studio Installer. In order to install it safely execute the following steps:

1. Download the RayPack Studio Installer 5.2 from the Raynet resource repository.
   (If you have not already received the credentials, please contact the Raynet support team via the Raynet support portal to receive them using the ticket system).
2. Copy all files that need to be kept for later reuse or look-up (such as resources of global external plugins, log, settings, and config files, the `*.rsl` file, etc.) to a temporary transfer directory outside of the RayPack Studio application directory (where they usually reside).
3. Execute the RayPack Studio Installer and work through the setup routine. The installation of RayPack 5.2 using the RayPack Studio Installer is described in the *RayPack Studio Installer User Guide*.

Migration from RayPack 5.1

PackPoint and user-files upgrade

- It is recommended to perform a PackPoint upgrade during the installation (MSI). The upgrade is done automatically when starting RayPack Studio Installer. If no update could be performed, it can be done manually by using the command line tools (see Product User Guide for details on `rpcmd.exe`).
- Certain PackPoint resources (profiles, templates) are not automatically updated for users who worked with previous version of RayPack. Increase the PackPoint version to force an update for them or have them started using the `rpcmd.exe` with command line switches to perform the upgrade manually (see Product User Guide for more information).

Breaking Changes

- In version 5.1, the conversion to App-V 5.x used the undocumented setting `PreferRootOverVfs` which was available in the configuration file `RayPack.exe.config`. This setting is not used anymore. Instead you can configure the conversion of the INSTALLDIR to PVAD by using the normal App-V settings which have been enhanced in version 5.2.
- Several existing regular expressions have been revised and optimized in the release 5.2. For users that have created their own customizing, it is recommended to compare older and new files to determine any conflicts

between the old and the new rulesets.

Migration from Older Versions

Refer to *Release Notes* of previous version of RayPack Studio to determine which breaking changes are affecting your upgrade.

Troubleshooting

If you experience abnormal symptoms (like the program not starting, missing features, etc.) after the upgrade, we highly recommend to perform a clean installation of RayPack / PackBench 5.2. In order to do that, please perform the following steps:

1) Locate your product order number. If you cannot find it, contact our support.

2) Make a backup of your license file (by default installed to `<ProgramData>\Raynet\Licenses\*.rsl`).

3) Uninstall the previous version of RayPack.

4) Delete the content of the installation folder (by default `C:\Program Files (x86)\RayPackStudio\RayPack`).

5) Install RayPack 5.2.

6) Start the main application (`raypack.exe`) to reactivate RayPack.

If the issues are not resolved after performing the steps described above, the following steps will revert the profile to the original state:

7) Close RayPack / PackBench.

8) Backup and then remove the content of the following folder:

- `%AppData%\RayPack`
- Optionally, you can also revert the <%PACKPOINT%> to the default state by removing the <%PACKPOINT%> folder (standard installation path is `C:\RayPack\<%PACKPOINT%>`).

9) Start RayPack again.

If the procedures given above did not resolve the issue, please contact our support.

PackBench

Upgrading PackBench

General Upgrade Preparations

PackBench 5.2 is delivered as part of the RayPack Studio Installer. In order to install it safely:

1. Download the RayPack Studio Installer 5.2 from the Raynet resource repository.
   (If you have not already received the credentials, please contact the Raynet support team via the Raynet support portal to receive them using the ticket system).
2. Copy all files that need to be kept for later reuse or look-up (such as resources of global external plugins, log, settings, and config files, the `*.rsl` file, etc.) to a temporary transfer directory outside of the RayPack Studio application directory (where they usually reside).
3. Make a backup of the SQL Server database which is used by PackBench.
4. Execute the RayPack Studio Installer and work through the setup routine. The installation of PackBench 5.2 using the RayPack Studio Installer is described in the *RayPack Studio Installer User Guide*.

Note:

Ensure that a **running** SQL server is available before starting the migration / installation.

Migration from PackBench 5.1

There are no breaking changes.

Migration from older versions

Refer to *Release Notes* of previous version of RayPack Studio to determine which breaking changes are affecting your upgrade.

Troubleshooting

If you experience abnormal symptoms (like program not starting, missing features, etc.) after the upgrade, we highly recommend to perform the clean installation of PackBench 5.2. In order to do that, please perform the following steps:

1) Locate your product order number. If you cannot find it, contact our support.

2) Make a backup of your license file (by default installed to `<ProgramData>\Raynet\Licenses\*.rsl`).

3) Uninstall the previous version of PackBench.

4) Delete the content of the installation folder (by default `C:\Program Files (x86)\RayPackStudio`

\RayPack\PackBench).

5) Install PackBench 5.2.

6) Start the main application (packbench.exe) to reactivate PackBench again.

If the issues are not resolved after performing the steps described above, the following steps will revert the profile to the original state:

7) Close PackBench.

8) Backup and then remove the content of the following folders:

- %AppData%\RayBench and %ProgramData%\RayBench
- You may try to install a new database with sample data to see if the problem persists.

9) Start PackBench again.

If the procedures given above did not resolve the issue, please contact our support.

RayQC

Upgrading RayQC

General Upgrade Preparations

RayQC 5.2 is delivered as part of the RayPack Studio Installer. In order to install it safely:

1. Download the RayPack Studio Installer 5.2 from the Raynet resource repository.
   (If you have not already received the credentials, please contact the Raynet support team via the Raynet support portal to receive them using the ticket system).
2. Copy all files that need to be kept for later reuse or look-up (such as resources of global external plugins, log, settings, and config files, the *.rsl file, etc.) to a temporary transfer directory outside of the RayPack Studio application directory (where they usually reside).
3. Execute the RayPack Studio Installer and work through the setup routine. The installation of RayQC 5.2 using the RayPack Studio Installer is described in the *RayPack Studio Installer User Guide*.

RayQC Advanced

Upgrading RayQC Advanced

General upgrade preparations

RayQC Advanced 5.2 is delivered as part of the RayPack Studio Installer. In order to install it safely:

1. Download the RayPack Studio Installer 5.2 from the Raynet resource repository.
   (If you have not already received the credentials, please contact the Raynet support team via the Raynet support portal to receive them using the ticket system).

2. Copy all files that need to be kept for later reuse or look-up (such as resources of global external plugins, log, settings, and config files, the `*.rsl` file, etc.) to a temporary transfer directory outside of the RayPack Studio application directory (where they usually reside).
3. Make a backup of the SQL Server database which is used by RayQC Advanced.
4. Execute the RayPack Studio Installer and work through the setup routine. The installation of RayQC Advanced 5.2 using the RayPack Studio Installer is described in the *RayPack Studio Installer User Guide*.

Note:

Ensure that a **running** SQL server is available before starting the migration / installation.

RayEval

Upgrading RayEval

General Upgrade Preparations

RayEval 5.2 is delivered as an MSI software package. In order to install it safely:

1. Download the MSI package for RayEval 5.2 from the Raynet resource repositories.
   (If you have not already received credentials, please contact the Raynet support team via our Support Panel).
2. Copy all files that need to be kept for later reuse or look-up to a temporary transfer directory outside of the RayEval application directory (where they usually reside). This is important for all files that have been customized like the project configuration file (`Projectconfiguration.xml`), the export plugins configuration file (`PluginTemplates.xml`), and the folder which contains all the template documents (`<INSTALLDIR>\Plugins\Templates\`).
3. Execute the RayEval 5.2 MSI package and work yourself through the setup routine. The installation of RayEval 5.2 is described in the *RayEval 5.2 User Guide*.
4. After the installation has been finished, copy the files that have been backed-up to their previous locations.

Breaking Changes and Backward Compatibility

- The product is fully backward compatible with its previous releases.
- In this release we moved some settings from the Registry (which is not used anymore by RayEval) to the application profile (`%appdata%\RayEval`). When RayEval 5.2 is started, it migrates the old settings from the Registry to the new location. However, any subsequent changes in the configuration are only saved in the new location. This means, that after downgrading RayEval 5.2 to a previous version some user settings may be lost.

System Requirements

Hardware Requirements

This section lists the minimal hardware requirements for devices running RayPack Studio.

Minimal

- Screen resolution: 1024 x 768 pixels
- Color settings: 16 bit
- RAM: 2GB
- Disk space: 10GB

Recommended

- Screen resolution: 1280 x 1024 pixels
- Color settings: 32 bit
- RAM: 4GB or higher
- Disk space: 100GB or more

Note:
The installation of the RayPack Studio framework itself requires about 400MB of disk space. The amount of additional space needed depends on the volume of your packaging material and the location of the data store.

Supported OS

The following operating systems are supported for the installation and running of RayPack Studio at the time of release.

- Windows Vista
- Windows 7
- Windows 8
- Windows 8.1
- Windows 10
- Windows Server 2008 SP1-SP2
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016

Note:
Packages generated with RayPack Studio have their own, individual set of target OS. The list above is not designed to display which target OS are reachable by RayPack Studio packages.

Prerequisite Software

- .NET 4.5 Client & Full for Windows Vista up to Windows 8 systems (both 32-bit and 64-bit)

General Requirements

In order to use RayFlow functionality directly from RayPack Studio components, a running RayFlow server has to be accessible.

In order to use *RayManageSoft* integration, *Management Console* has to be installed on the machine on which RayPack is running.

RayPack

Virtualization

- In order to create SWV packages, the Symantec Workspace Virtualization Agent 7.5 has to be installed on the packaging machine.
- In order to create Thin-App packages, the VMware ThinApp has to be installed on the packaging machine.

Compatibility and Quality Control

In order to use Quality features (checklists, compatibility, virtualization, and conflict testing) RayQC and / or RayQC Advanced have to be installed on the local machine.

PackBench

Depending on the configuration of RayPack Studio, additional tools and/or components of RaySuite may be required. To get more information about the command line usage of these tools refer to the respective *User Guides* of these products.

For PackBench: SQL Server, version 2008 or higher. Express editions are also supported.

RayQC

In order to install and use the product, PowerShell 3.0 or newer must be installed.

RayQC Advanced

In order to install and use the product, SQL Server version 2008 or higher. Express editions are also supported.

Virtual Machines

Sequencing to App-V 4.6 / App-V 5.x using PackBot

In order to convert legacy setups to Microsoft App-V 4.6 / 5.x format using a virtual machine, the virtual machine must have Microsoft App-V Sequencer installed. Additional requirements for specific Operating System version/ platform may by required by Microsoft Sequencer tools.

Converting to Thin-App using PackBot

In order to convert legacy setups to Thin-App, Thin-App converter must be installed either on host or on the virtual machine.

Hyper-V integration

- Both host and guest machine must have PowerShell 3.0 or newer installed.
- Windows Remote Management
- RayPack Studio Tools for Hyper-V need to be installed on the guest machine.

The tools can be installed from a Windows Installer package that is present in the RayPack subfolder `Tools \HyperVTools\Packaging Suite Tools for Hyper-V.msi`.

The installation of the tools is required, so that the user can see interactive prompts and windows on Hyper-V machines. It is recommended to install the tools as a part of the base snapshot.

VMware Workstation / ESX integration

RayPack Studio supports the following products:

- VMware vSphere 5.5 and newer
- VMware Workstation 10 and newer
- VMware Workstation 7, 8, 9 and for VMware vSphere 4.x, 5 and 5.1 are experimentally supported.

To use any of VMware Workstation / ESX machines, one of the following must be installed in an appropriate version:

- VMware Workstation
  - VMware Workstation 14 is supported only once VIX API is installed (see below)
- VMware VIX API (https://my.vmware.com/web/vmware/details?productId=26&downloadGroup=VIX-API-162)
- vSphere

The required VIX API version depends on the systems that it needs to connect to. The below table presents the supported versions of VMware products depending on the installed VIX API version.

VIX API Version	VMware Platform Products	Library Location
1.11	vSphere 5, Workstation 8 or earlier	Workstation-8.0.0-and-vSphere-5.0.0
1.12	vSphere 5.1, Workstation 9 or earlier	Workstation-9.0.0-and-vSphere-5.1.0
1.13	vSphere 5.5, Workstation 10 or earlier	Workstation-10.0.0-and-vSphere-5.5.0
1.14	Workstation 11 or earlier	Workstation-11.0.0
1.15.0	Workstation 14 or earlier	Workstation-12.0.0 Workstation-14.0.0

Additional Information

Visit *www.raynet.de* for further information regarding the product and current community incentives. It is also recommended to take a look at additional resources available at the Knowledge Base for Raynet products: *https://raynetgmbh.zendesk.com/hc/en-us*.

Raynet is looking forward to receiving your feedback from your RayPack Studio experience. Please contact your Raynet service partner or write an e-mail to *sales@raynet.de* to add your ideas or requirements to the RayPack Studio development roadmap!

Our Raynet support team gladly assists you on any question or issue you encounter regarding RayPack Studio. Feel free to sign in and open incidents via our Raynet Support Panel.

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