RAYPACK® STUDIO

Enterprise Software Packaging

Release Notes RayPack Studio 6.2

RayPack Studio is part of RaySuite.

•rayNET

Release Notes RayPack Studio

Raynet GmbH Germany
See our website for locations.

www.raynet.de

Contents

Introduction

RayPack Studio 6.2 is the next iteration of Raynet's framework for the creation and management of software packages. RayPack Studio 6.2 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.

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!

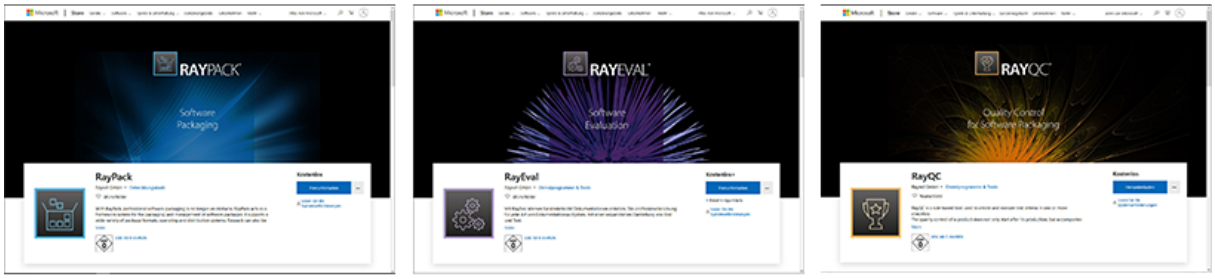
What's New?

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 6.2.

General

RayPack Studio Goes MSIX and Microsoft Store RSC-618

Version 6.2 is the first release of our products, for which we provide simultaneously classic Windows Installer (MSI) packages, together with modern MSIX format. You can choose the deployment format that matches your needs and personal preference, and benefit from our official support and commitment for both. RayPack Studio 6.2 is the only ISV product capable of producing MSIX packages, which itself is also available and officially supported in MSIX format.



Deployment and licensing of RayPack Studio can be even more simplified and optimized with the introduction of our core components RayPack, RayEval and RayQC as Microsoft Store products. You can use them in combination or standalone with a flexible subscription-based licensing, automatic upgrades and sharing between your computers.

All editions (classic Windows Installer, modern MSIX for side-loading and Microsoft Store installation) are fully supported by us and can be started with your existing license within active maintenance.

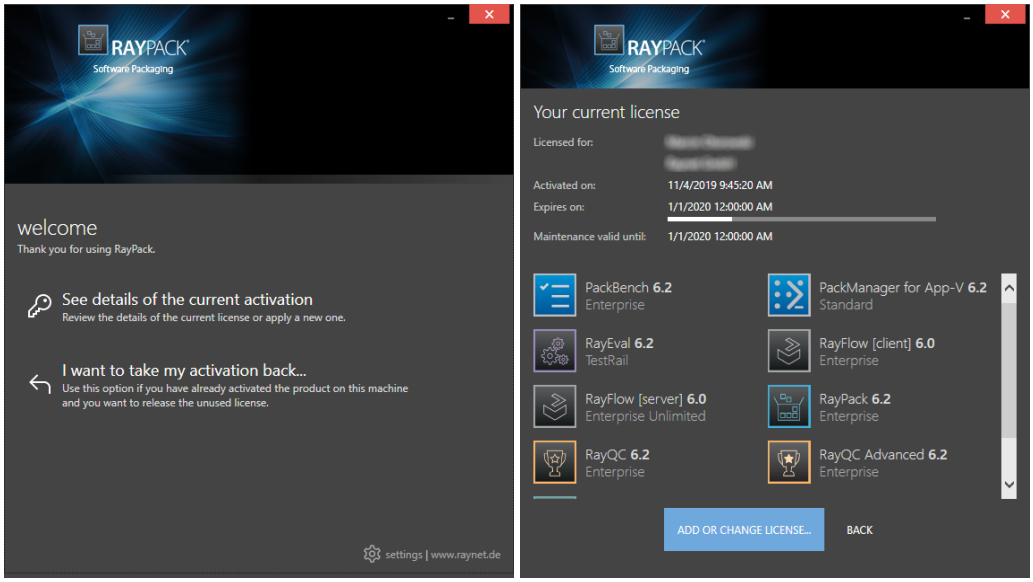
More information and Microsoft Store links:

- **RayPack in Microsoft Store**
- **RayEval in Microsoft Store**
- **RayQC in Microsoft Store**

New Activation Dialog RSC-616

For classic MSI or sideloaded MSIX installations, we offer now an updated Activation Tool, shown for product activation or re-activation:

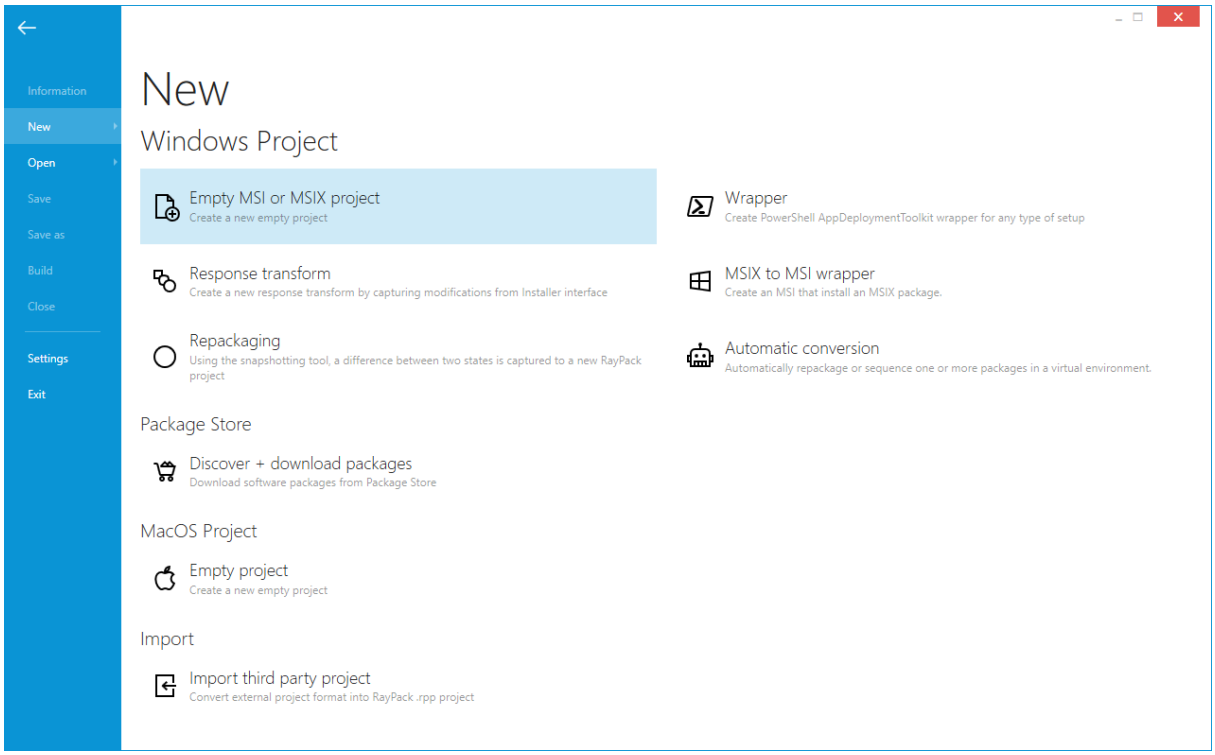
- It is now possible to perform an auto-upgrade current license to the new one, without a need to provide activation details
- Confirmation screen shows a detailed overview of products and editions available in the current license.
- In case of an already active license, once the tool is started the user can immediately see the activated content, without navigating through the menu.
- We adjusted the visuals with upgraded icons, slightly changed wording, different color accents etc.



RayPack

Refreshed file menu and New Icons `RPK-3408`

We changed icons and colors of the FILE menu content for a better, lighweight experience and more logical organization of screen elements.



Other Improvements

- `RTS-2332` We improved the MSI installer to be consistent with other RayPack Studio components.
- `RPK-3081` We renamed several text labels to reference MSIX instead of UWP or APPX.
- `RPK-3277` We improved the display of various Settings screen elements on smaller resolutions.

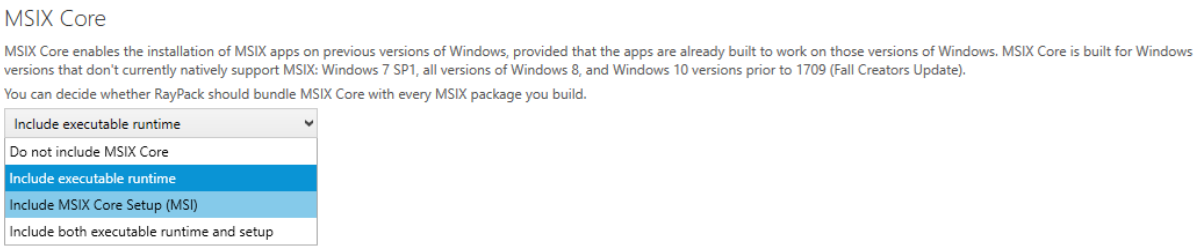
Resolved issues

- `RPK-3069` We fixed conversion from .ism project, where sometimes an error could be thrown.
- `RPK-3373` We fixed an incorrect statement in the User Guide about appended/prepended strings for the MSI Environment syntax.
- `RPK-3441` We fixed a problem with hyperlink to the "Signing and Tagging" screen, where some links pointing to it were opening wrong destination.
- `RPK-3490` We fixed a rare issue, where the profile configuration could be deleted during upgrades from older versions.

MSIX

Bundling of MSIX Core runtime RPK-3405

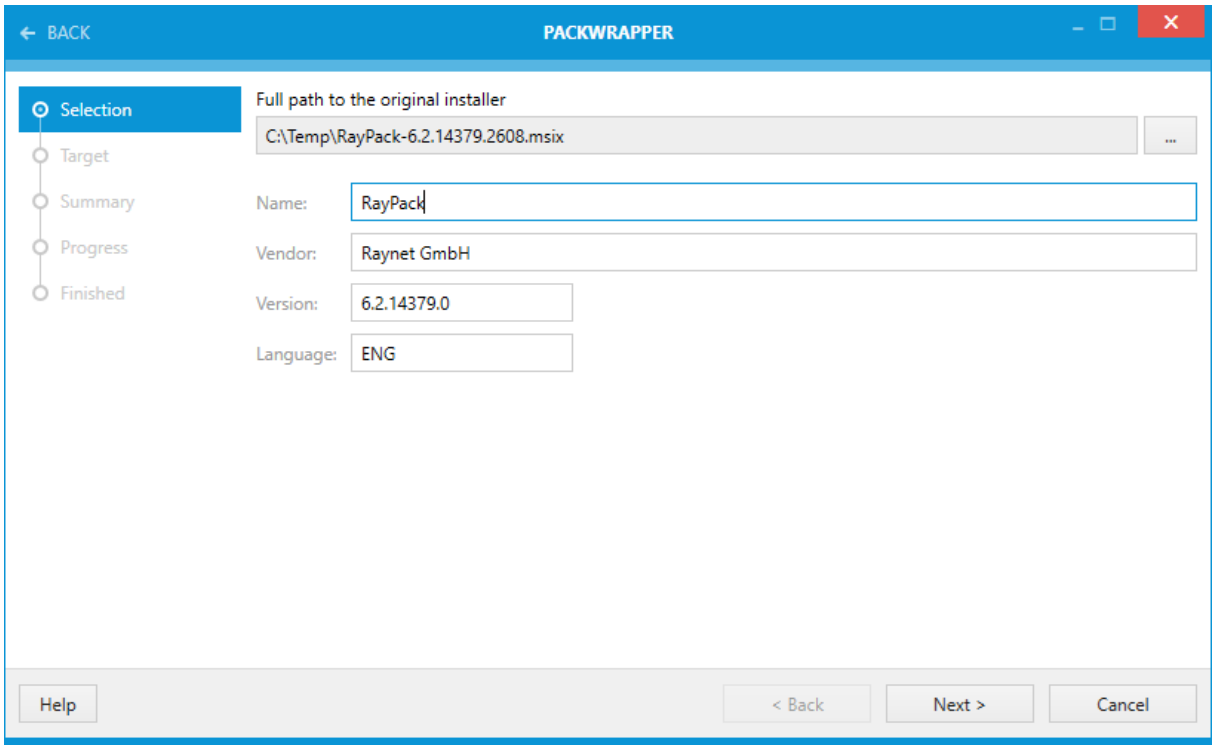
MSIX Core is a bridge which lets you install MSIX packages on older versions of Windows, including Windows 7 and Windows 8/8.1. RayPack provides now a customizable option, which - when enabled - ensures that all MSIX files built by RayPack are always created together with MSIX Core runtimes and installer. You can enable or disable this setting in RayPack global settings, or on a project basis (Build Options).



This option is disabled by default. In order to include MSIX Core files, go to Product or project settings and choose which files you want to bundle.

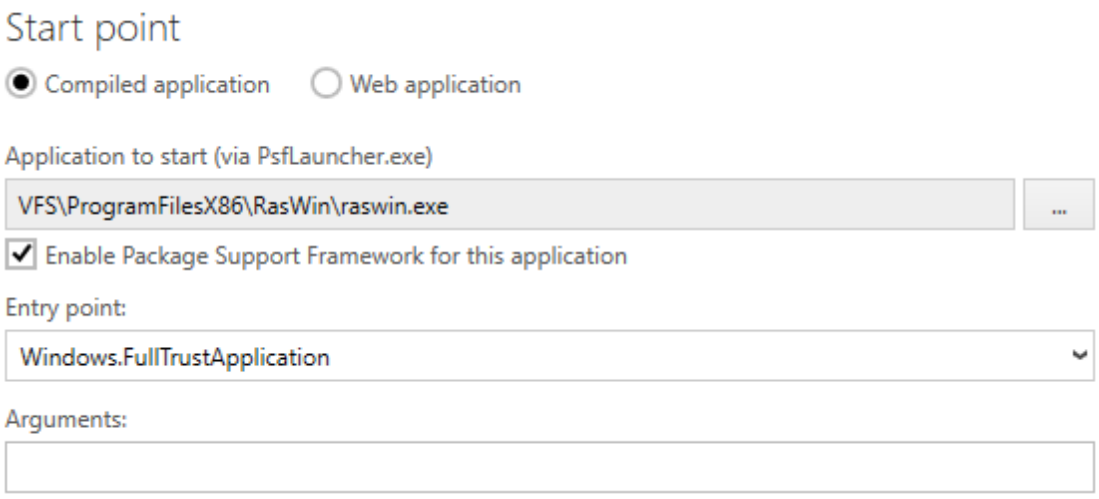
Wrapping MSIX files in PowerShell Wrapper RPK-3402

PackWrapper can now correctly wrap MSIX installations, and create correct uninstallation scripts for them. Bear in mind, that MSIX wrapping is an extra feature of PackWrapper, and does not belong to underlying PowerShell AppDeployment Toolkit.



Editing of command line arguments in the PackDesigner (MSIX) RPK-3305

Command line arguments are not a native functionality of the MSIX package, they are available as an extension through Package Support Framework (PSF). Previously, it was possible to define the arguments and use PSF to execute them only for projects converted from RCP, MSI or RPP format. In this version, it is possible to edit the arguments directly in the native MSIX editor.



Automatic selection of required elevation capability during conversion `RPK-3339`

In this version, RayPack can determine whether your repackaged project requires administrative permission to start (as defined in the manifest). If this is the case, then the elevation capability will be automatically set for you, so that the app can be started as Administrator and self-elevate itself.

Command-line building of MSIX files from RPPX project `RPK-3310`

We added a few new command to the command line tool rpcmd.exe. This enables developers and packagers to build their projects in a fully unattended, command-line-driven mode.

Other Improvements

- `RPK-3345` We added an extra check for uniquness of folder names when the user creates a new folder in the Files and Folders view.
- `RPK-3347` We improved the way assets are being managed by PackDesigner for MSIX projects. This includes improved performance, several under-the-hood optimizations, better clean-up and overall stability.
- `RPK-3515` We renamed the property `args` to `arguments` in generated `config.json` for PSF launcher, so that it is now compatible with most recent changes to the PSF toolkit.
- `RSC-634` We added Windows 10 1909 to the list of supported target frameworks.

Resolved Issues

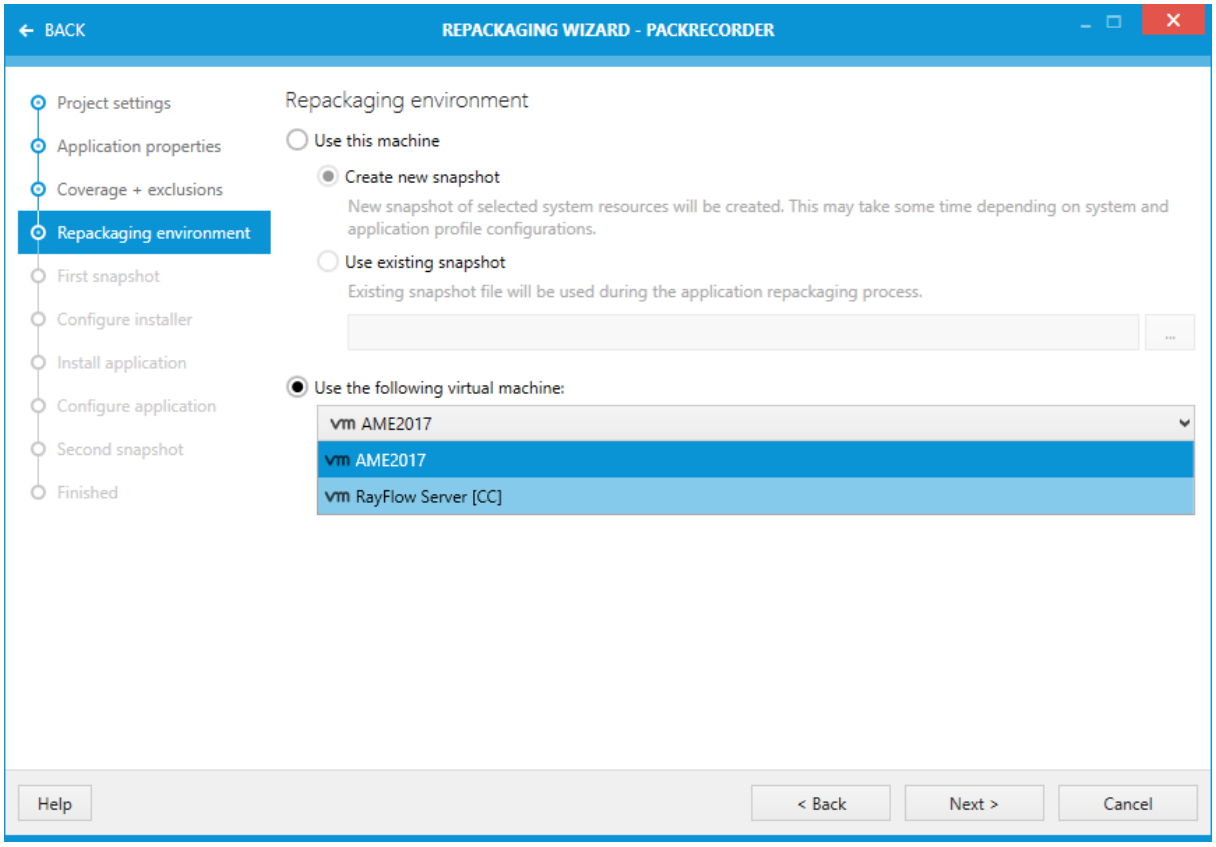
- `RPK-3288` We removed support for encrypted MSIX format.
- `RPK-3406` We fixed a problem with saving RPPX projects to a different folder, which would not copy the supporting files (assets).
- `RPK-3308` We fixed a problem with saving of RPPX projects, where in some cases after building the MSIX package it was not possible to save the project.
- `RPK-3289` We fixed a problem with a new MSIX project creation, where the 100% size logo was missing.
- `RPK-3417` We fixed a rare `Unhandled exception` thrown when opening an MSIX project.
- `RPK-3456` We fixed a problem with Registry Editor where it was possible to create two registry keys with the same name.
- `RPK-3458` We corrected an ambiguous validation message for invalid package name values.

- RPK-3460 We removed an unnecessary warning message about scaling the image.
- RPK-3470 We fixed a problem with the *Save* button, that was not reacting to changing a registry value.
- RPK-3483 We fixed conversion of TypeLib entries containing subkey named `AsynchronousInterface`.
- RPK-3508 We fixed a problem with conversion from RPP, RCP and MSI to MSIX format, where some values for TypeLibs were causing manifest validation errors upon installation.
- RPK-3526 We fixed an error with assets which was shown when building RPPX projects in certain configurations.

PackRecorder

Repackaging on a Virtual Machine RPK-2667

PackBot has always been a great choice to perform repackaging of one or more packages in a virtual environment, using automated routine. In this version, we took the best from it and implemented the changes to the PackRecorder module. You are now able to select where the repackaging should take place (on current machine or in a virtual machine) and the wizard steps will be slightly adjusted to guide you through the process. Rebooting, MSI capturing and other great features are still supported with this new repackaging mode.



Repackaging in Windows Sandbox RPK-3229

This version can be successfully run in a virtual environment of a Windows Sandbox session, which let you spawn a short-living session for a quick repackaging and get the repackaged content to your actual machine.

Other Improvements

- RSC-609 We improved the default exclusion list by adding several new entries relevant for Windows 10 Sandbox, MSIX/APPX, App-V and built-in services.
- RPK-3360 We changed the Exclusion List editor, which now shows SIMPLE view as a first default choice (previous default was ADVANCED).
- RPK-3396 We improved the display of the Registry keys - from this version on, a registry key is automatically excluded if all its sub-nodes are excluded.
- RPK-3320 We improved the style of multi-selection in Shortcuts, Registry and Services views.
- RPK-3452 We improved the default exclusion lists to properly handle cache files, especially ones created by Chromium browsers.

Resolved Issues

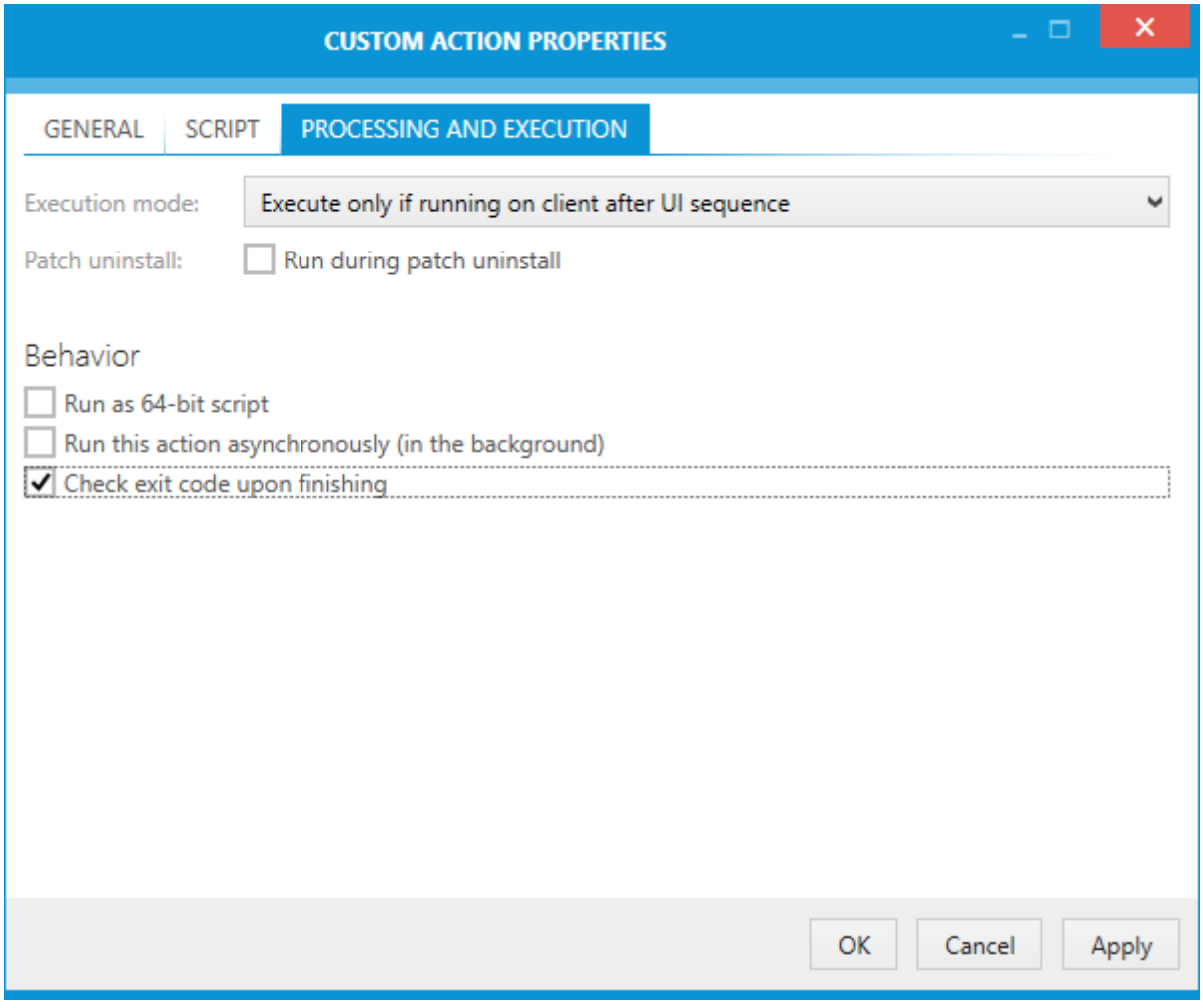
- RPK-3297 We fixed a problem with permissions set on excluded folders, where the permission entry was still transferred to the RPP/MSI file, despite of its actual directory entry being excluded.
- RPK-3318 We fixed the display of root views (General, Project content etc.) on smaller resolutions.
- RPK-3332 We fixed a problem with building RCP to MSI for certain applications, where program files could be assigned to a wrong folder.
- RPK-3369 We fixed conversion of Environment variable entries for variable `PSModulePath`.
- RPK-3374 We fixed the management of temporary resources, which was sometimes leaving temporary files after RCP->MSI conversion.
- RPK-3375 We improved capturing and conversion of environment variables to MSI and App-V. The new function should correctly recognize the write mode (replace, append or prepend) and write correct information for a target format.
- RPK-3390 We fixed a problem with the Capture wizard, where proceeding with no exclusion lists, drives nor registry keys was showing an error `The process returned non-zero exit code 0x01`.

- RPK-3412 We fixed a problem with repackaging of Autodesk Download Manager, which was returning a generic `Row creation failed` error.
- RVL-3431 We fixed a problem where in some cases shortcuts could be wrongly captured.
- RPK-3463 We fixed a problem with incorrectly included services, added to the delta view in case of reboot between snapshots.

PackDesigner

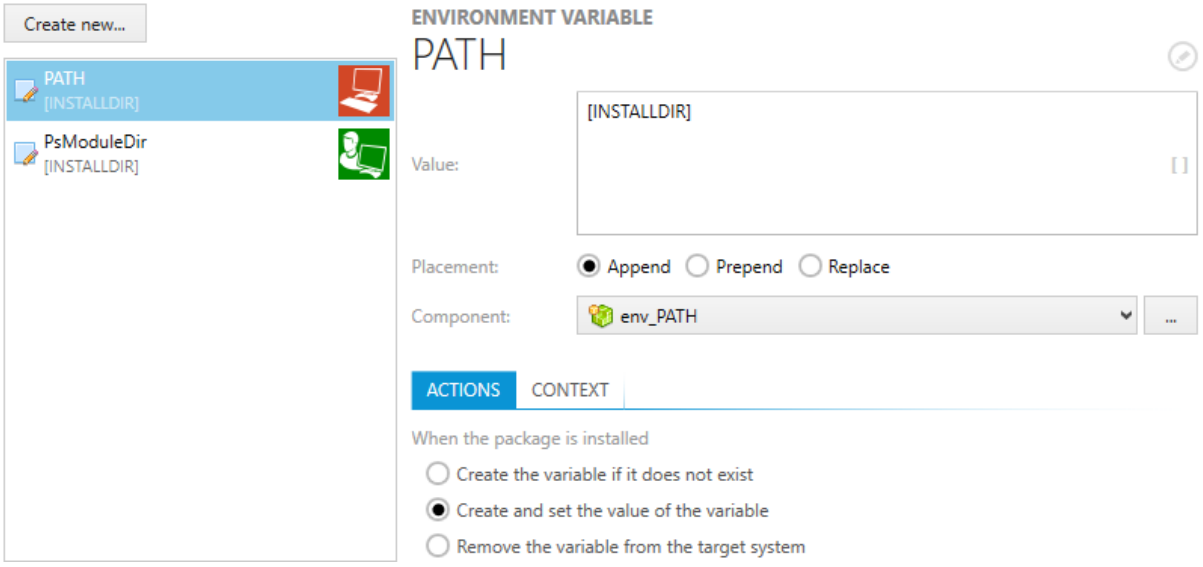
Ability to control return processing options for VBS custom actions RPK-3398

We improved our Custom Action editor by giving the user a full control over processing options (synchronous, asynchronous, synchronous with exit code check) for classic VBS custom actions. Previously, these could be only changed via respective adjustments of the `CustomAction` table.



Showing environment variable context directly in the grid RPK-3364

Based on feedback from our users, we decided to highlight the variable context (per-user or per-machine) directly in the Environment Variable grid.



Other Improvements

- `RVL-569` We reorganized the Transform menu, the list of applied transforms is now on the right, and buttons to apply or save *.rpmst files are available on the bottom.
- `RPK-3344` We adjusted the sorting of properties in the Custom Action editor, so that the entries are now sorted alphabetically.
- `RPK-3229` We reworded several German translations in Permissions Properties dialog.
- `RPK-3304` We added automatic removal of `CreateFolder` entries when the parent folder is removed.
- `RPK-3324` We optimized the assignment of sequence numbers in the Sequencing view.
- `RPK-3518` We added automatic creation of `CreateFolder` entries when a new empty folder is created in the Files and Folders view.
- `RPK-3527` We improved the Extension wizard, so that it automatically creates a `Verb` for new extensions.

Resolved Issues

- `RPK-3270` We fixed the selection of Maximum allowed version for macOS projects, where it was possible to select a version lower than the minimum required one.
- `RPK-3296` We fixed handling of special characters `%2d` and `%7e` which caused failed builds from

RPP/MSI format.

- `RPK-3326` We fixed the Files and Folders view for macOS projects, where it was possible to create folders with duplicated names.
- `RPK-3327` We fixed a problem with the navigation bar, which made it possible to go back to a closed RPX (macOS) project.
- `RPK-3330` We fixed building of MSI files containing PowerShell Custom Actions, where RPPowerShell table was still present even after the user deleted all PowerShell custom actions.
- `RPK-3333` We fixed a problem with importing of .REG keys, where square brackets in key and value names were not escaped.
- `RPK-3336` We fixed a problem with importing and exporting of `.reg` files, where certain values (for example `[/[]`) could be incorrectly parsed.
- `RPK-3337` We fixed a problem with incorrect associations of registry entries imported from the Component view.
- `RPK-3348` We fixed refreshing of local file browser with F5 button, where pressing the button would collapse all drives.
- `RPK-3359` We fixed a problem with Directory selection for a `SetDirectory` Custom Action (type `39`), where the list also contained deleted entries.
- `RPK-3365` We fixed a problem with reverting to a base deleted Directory entry, where sometimes the folder was restored after saving the MSI.
- `RPK-3367` We fixed a minor issue with Files and Folders view, where removing single rows with row tracking disabled would not refresh the folder content in the Visual Designer view.
- `RPK-3372` We fixed a problem with generation of short file names for large packages.
- `RPK-3392` We fixed some rare issues with reverting to base changes for removed rows.
- `RPK-3400` We fixed a problem with creating of new projects in German, where some language strings in the RPP project were having invalid placeholders.
- `RPK-3404` We fixed a problem with incorrect x64 platform bit set for new components from the Registry import.
- `RPK-3411` We fixed a problem with inline renaming of files in the Files and Folders view, where the user was able to create duplicated entries without name validation.
- `RPK-3482` We fixed a problem with some specific MST files that could not be saved after opening.
- `RPK-3505` We fixed a problem with applying of MST files, were canceling the prompt for unsaved changes was not properly canceling the whole process.
- `RPK-3513` We fixed removal of INI files, where some nested resources were not properly

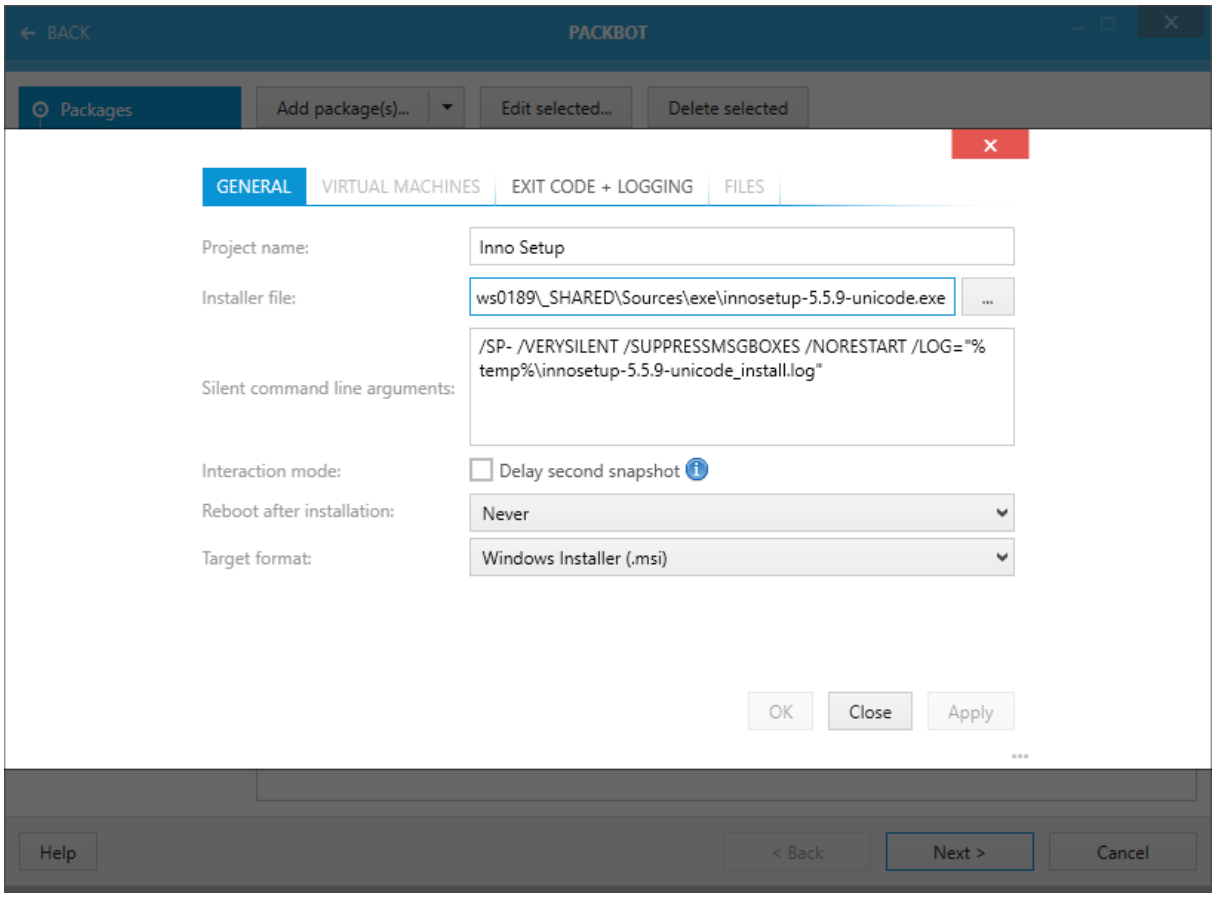
deleted when parent folder was deleted.

- RSC-630 We fixed a problem with RayFlow file browser, where it was possible to see removed files.

PackBot

Automatic Command-line recognition for popular setups and Frameworks RPK-3376

We added several new command line switch recognition patterns for popular setups and frameworks. When a setup file is selected for a repackaging, RayPack is able to determine the command line needed for it, required for a fully unattended setup with typical options set. The same logic is shared across several components, including PackBot, PackTailor and PackWrapper.



Other Improvements

- RSC-589 We improved the performance and reliability of VM connector module, especially for copying resources between host and guest machine.
- RPK-3329 We improved the automatic selection of virtual machines to repackage on.

Previously, changing the target format would refresh the list of the machines based on user-preferences. In this version, PackBot tries to preserve the user choice once the defaults are changed.

- RPK-3094 We added missing PackBot Troubleshooting in User Guide

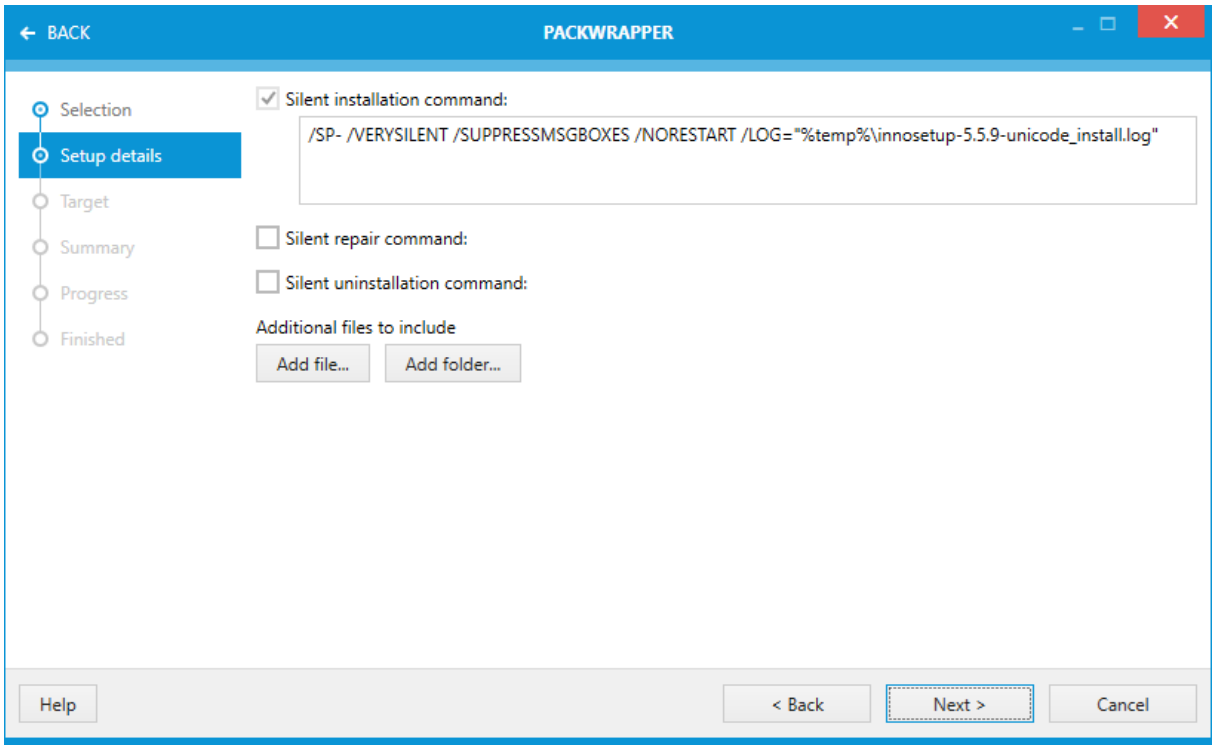
Resolved issues

- RSC-624 We fixed a problem with connecting to ESXi machines, where it was not possible to connect if user name had a white-space.

PackWrapper

Automatic Command-line recognition for popular setups and frameworks RPK-3118

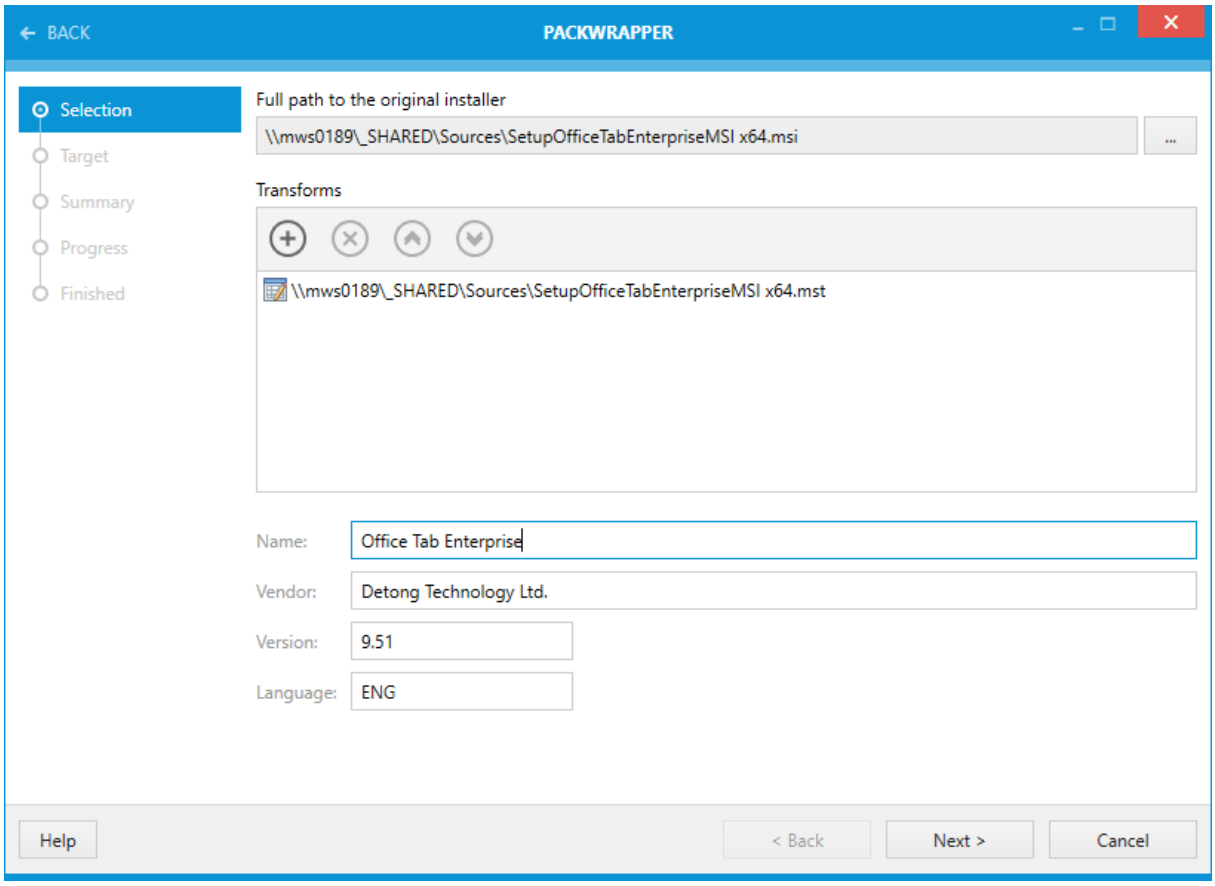
We added several new command line switch recognition patters for popular setups. When a setup is selected for a repackaging, RayPack is able to determine the command line needed for it, required for a fully unattended setup with typical options set. The same logic is shared across several components, including PackBot, PackTailor and PackWrapper.



Support for MST files RPK-3403

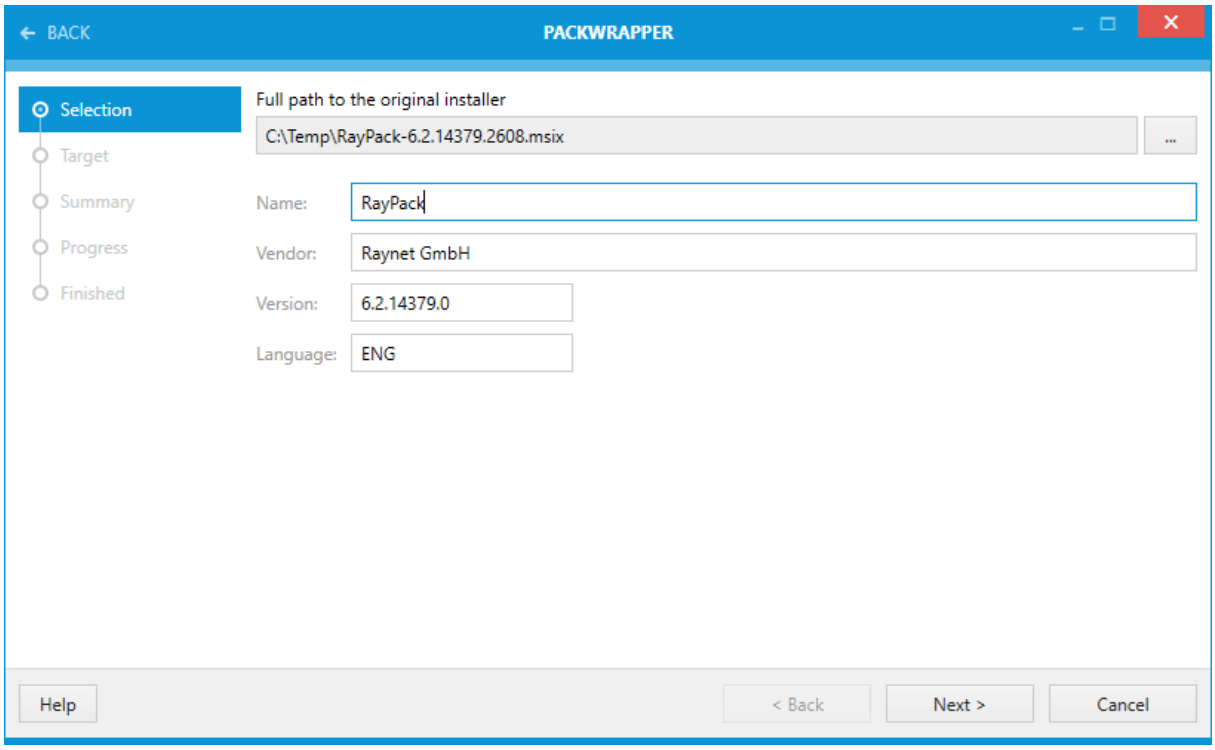
It is now much easier to wrap MSI installations with one or more MST transforms. Our wizard has

been extended, and a dedicated control is shown once an MSI is selected. The user can add one or more transforms and sort them accordingly, finally they will be all copied and properly installed by the wrapper install script (PS1).



Support for wrapping MSIX files RPK-3402

PackWrapper can now correctly wrap MSIX installations, and create correct uninstallation scripts for them. Bear in mind, that MSIX wrapping is an extra feature of PackWrapper, and does not belong to underlying PowerShell AppDeployment Toolkit.



Updated PowerShell AppDeployment Toolkit `RPK-3382`

We updated PowerShell AppDeployment Toolkit to version 3.8.0. Refer to https://psappdeploytoolkit.com for a detailed changelog of this release.

Virtualization Pack

- `RSC-609` We improved the default exclusion list by adding several new entries relevant for App-V and built-in services.
- `RPK-3375` We improved capturing and conversion of environment variables to MSI and App-V. The new function should correctly recognize the write mode (replace, append or prepend) and write correct information for a target format.
- `RPK-3419` We fixed a `NullReferenceException` which could be thrown during Thin-App conversion.
- `RPK-3379` We fixed a problem with conversion of environment entries containing `%SystemRoot%\system32` folder to App-V 5.x Environment variables.
- `RPK-3378` We fixed a problem with conversion of environment entries containing comma-separated list of paths, where only the last unit was converted to App-V 5.x entry.
- `RPK-3368` We fixed a problem with extra ghost environment variables created for system DLL paths during conversion to App-V 5.x.

- RPK-3358 We fixed a problem with conversion of Registry values to App-V 5.x entries, where certain types of values could be excluded from the conversion.
- RPK-3379 We fixed a problem with conversion of RCP projects to App-V 5.x format, where due to malformed paths the package could not be imported due to "*Validation of elements in AppV namespace failed*" error thrown by App-V Client.
- RPK-3519 We fixed a problem with conversion of environment variables from RCP, MSI and RPP to App-V 5.x, where some variables that were not representing a file/folder path were were not properly converted.

Package Store

- RPKG-401 We improved the overall performance and stability of the package generator and source downloader module.

Automation

- RSC-630 We fixed a problem with listing of files belonging to a task, which were ignoring the "deleted" flag.

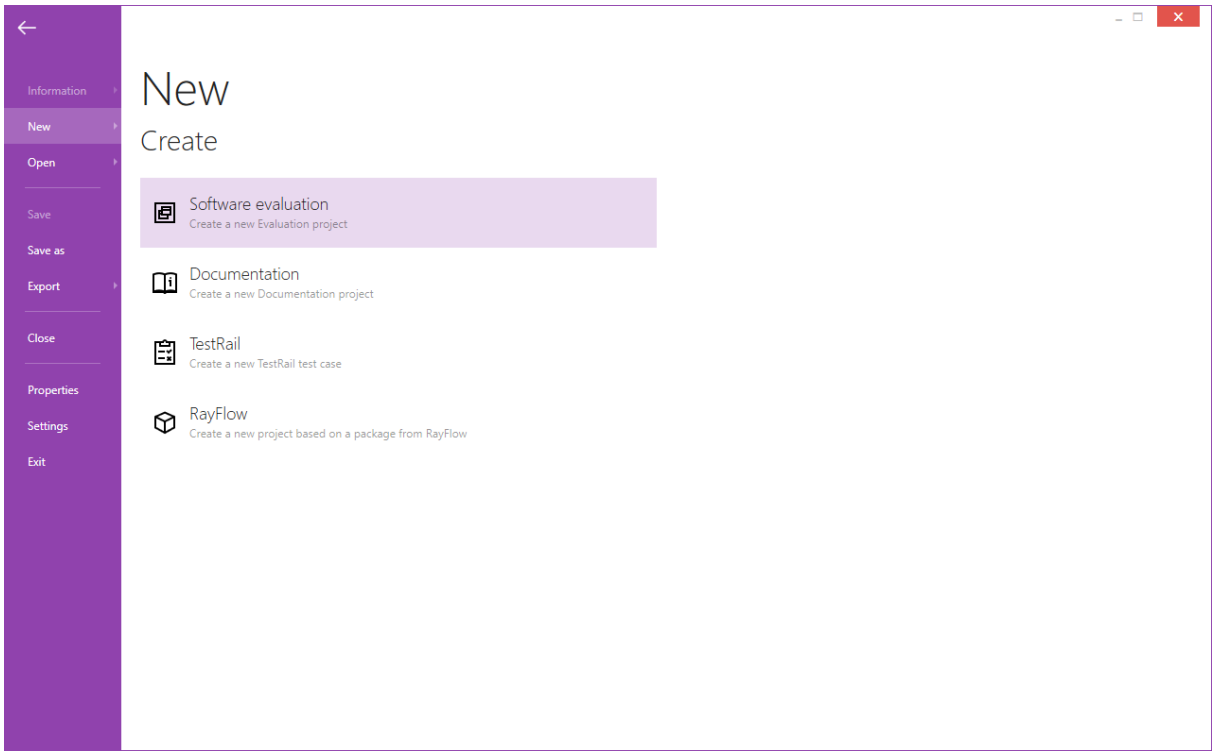
PackTailor

- RSC-589 We improved the performance and reliability of VM connector module, especially for copying resources between host and guest machine.
- RSC-624 We fixed a problem with connecting to ESXi machines, where it was not possible to connect if user name had a white-space.
- RSC-630 We fixed a problem with RayFlow file browser, where it was possible to see removed files.

RayEval

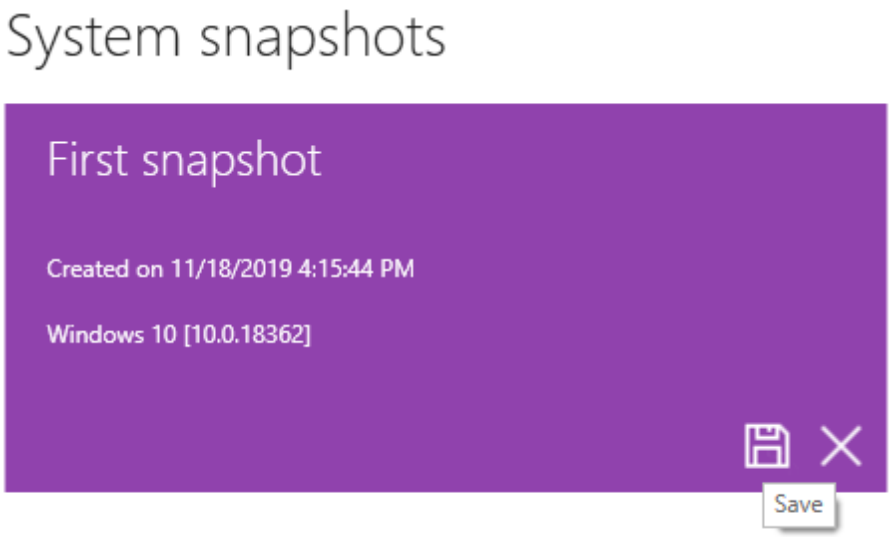
Refreshed file menu and new icons RVL-569

We changed icons and colors of the FILE menu content for a better, lighweight experience and more logical organization of screen elements.



Saving snapshots in *.rcs format RVL-523

After making a snapshot, there is a button which can be used to save it in a format accepted by RayPack (`*.rcs`).



Other Improvements

- RSC-589 We improved the way files are transferred to a virtual machine for a faster, reliable

experience requiring less network traffic and leftovers.

- RVL-566 We added a command-line option to the -new switch, allowing to define types of new projects (documentation, evaluation, TestRail or default).
- RVL-514 We improved the management of documentation templates by adding a "document type" and making sure the documentation templates cannot be used for wrong project types (evaluation/documentation).
- RVL-529 We improved the User experience for opening a project with auto-saved copy.
- RVL-572 We improved overall user experience of the template selector (for example less strict validation, ability to jump to and view full paths etc.).
- RVL-175 We improved the MSI installer to be consistent with other RayPack Studio components.
- RVL-537 We improved the Undo button in the image editor.
- RVL-540 We adjusted some language strings in German and Polish language.
- RVL-561 We added user name to be displayed in the Summary View of the TestRail Export Wizard.

Resolved Issues

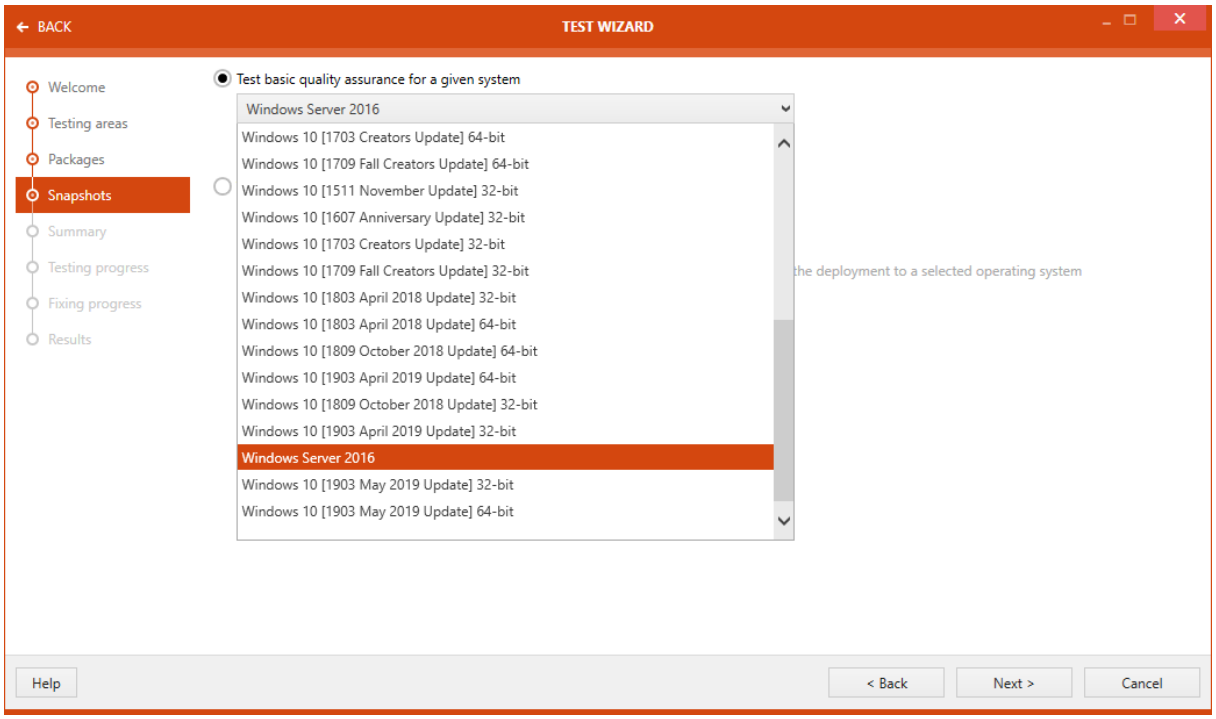
- RVL-519 We fixed a problem with changing langage of an instance opened from shell extension, where an error message could be shown on start-up after restarting.
- RVL-529 We fixed a generic error during snapshot comparison.
- RVL-533 We fixed a problem with RayFlow connector, where the user was asked for the RayFlow phase and package selection even though it had been passed through the CLI.
- RVL-534 We fixed a problem with eraser tool not erasing all elements.
- RVL-536 We fixed a few problems with automatic update of Table of Contents in word files.
- RVL-541 We fixed a problem with incorrectly attached CSV file when exporting Word document with a snapshot file.
- RVL-543 We fixed a problem with SAVE button being disabled if only picture editor changes were done to the current project.
- RVL-544 We fixed a problem with Test Suite drop-down being not selected by default in the Export TestRail Wizard.
- RVL-546 We fixed some controls to be partially hidden in TestRail Export wizard on lower resolution.
- RVL-551 We fixed a problem with special characters causing crash during image export.

- RVL-553 We fixed a problem with `ArgumentException` being thrown when exporting a project with snapshot information.
- RVL-555 We fixed a problem with date parsing, where reading a date from a project could fail with AM/PM format.
- RVL-559 We fixed a problem with back button, which let user go back to a closed project.
- RVL-562 We fixed an error happening when exporting to RayFlow with status “Inactive”.
- RVL-563 We fixed a problem with loading indicator disappearing too early even before the snapshotting on Hyper-V is finished.
- RVL-564 We added missing validation to the Estimate time Textbox in TestRail module.
- RVL-565 We fixed a rare problem `0x00000BBC` thrown when executing setups on a guest virtual machine.
- RVL-574 We fixed an issue where in certain cases package properties passed from the command line were incorrectly interpreted.
- RVL-575 We fixed an issue with editing of big images. where due to a focus issue it was not possible to edit them.
- RSC-595 We fixed some issues with the layout of the Virtual Machines tab on lower resolutions.
- RSC-624 We fixed a problem with connecting to ESXi machines, where it was not possible to connect if user name had a white-space.
- RSC-629 We added a few missing translations in German UI.
- RSC-630 We fixed a problem with RayFlow file browser, where it was possible to see removed files.
- RPK-3396 We fixed several smaller issues in the Registry tab.
- RVL-3431 We fixed a problem where in some cases shortcuts could be wrongly captured.
- RPK-3463 We fixed a problem with incorrectly included services, added to the delta view in case of reboot between snapshots.

RayQC Advanced

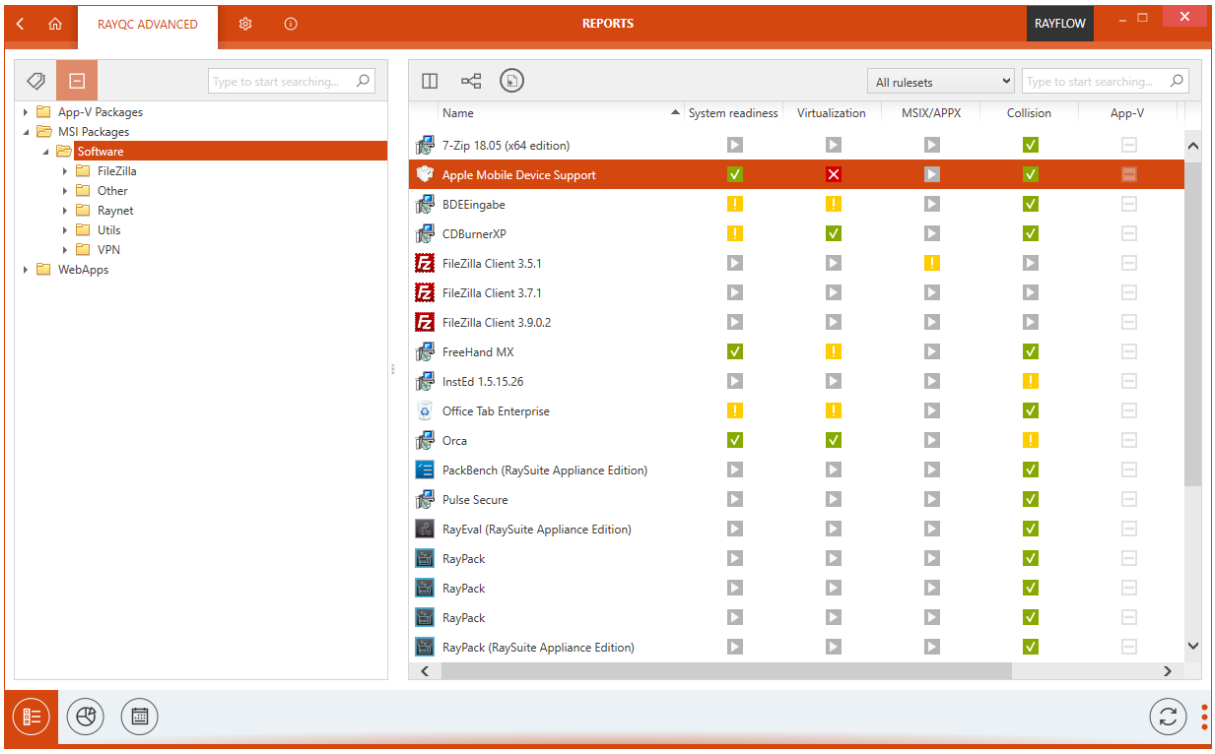
New system compatibility rule set for Windows Server 2016 RTS-1134

In this version, we added a brand new ruleset to test compatibility against Windows Server 2016.



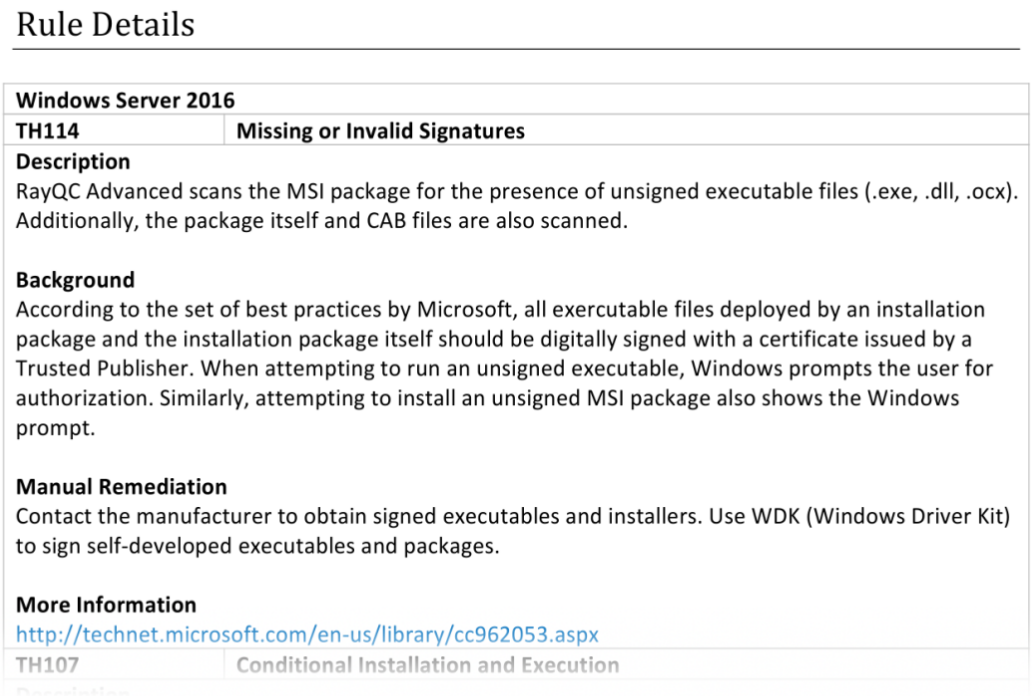
Improved UI and reporting for MSIX tests RTS-2333,RTS-2326

With version 6.2 we introduced several improvements and changes which make it easier to work with MSIX. Adjusted Tes wizard layout makes MSIX tests easier to find, and the newly introduced column MSIX/APPX offers an overview of MSIX tests performed on certain packages and folders.



Improved reports with more information for analysis and troubleshooting RTS-2316, RTS-2324

Our exportable reports have been improved by adding several important context-specific information. For all rules that reported a warning or an error, a manual remediation is provided. Additionally, all tested rules have now their description, background, links and more information available at the end of each report file. Troubleshooting and manual adjustments have never been easier!



Rule Details

Windows Server 2016	
TH114	**Missing or Invalid Signatures**

Description
RayQC Advanced scans the MSI package for the presence of unsigned executable files (.exe, .dll, .ocx). Additionally, the package itself and CAB files are also scanned.

Background
According to the set of best practices by Microsoft, all exercutable files deployed by an installation package and the installation package itself should be digitally signed with a certificate issued by a Trusted Publisher. When attempting to run an unsigned executable, Windows prompts the user for authorization. Similarly, attempting to install an unsigned MSI package also shows the Windows prompt.

Manual Remediation
Contact the manufacturer to obtain signed executables and installers. Use WDK (Windows Driver Kit) to sign self-developed executables and packages.

More Information
http://technet.microsoft.com/en-us/library/cc962053.aspx

TH107	Conditional Installation and Execution

Other Improvements

- RTS-2329 We updated several icons to match the style of other Raynet products and improved the look and feel of grid headers.
- RTS-2325 We added the source package path to exported reports.
- RTS-2332 We improved the MSI installer to be consistent with other RayPack Studio components.
- RSC-589 We improved the way files are transferred to a virtual machine for a faster, reliable experience requiring less network traffic and leftovers.

Resolved Issues

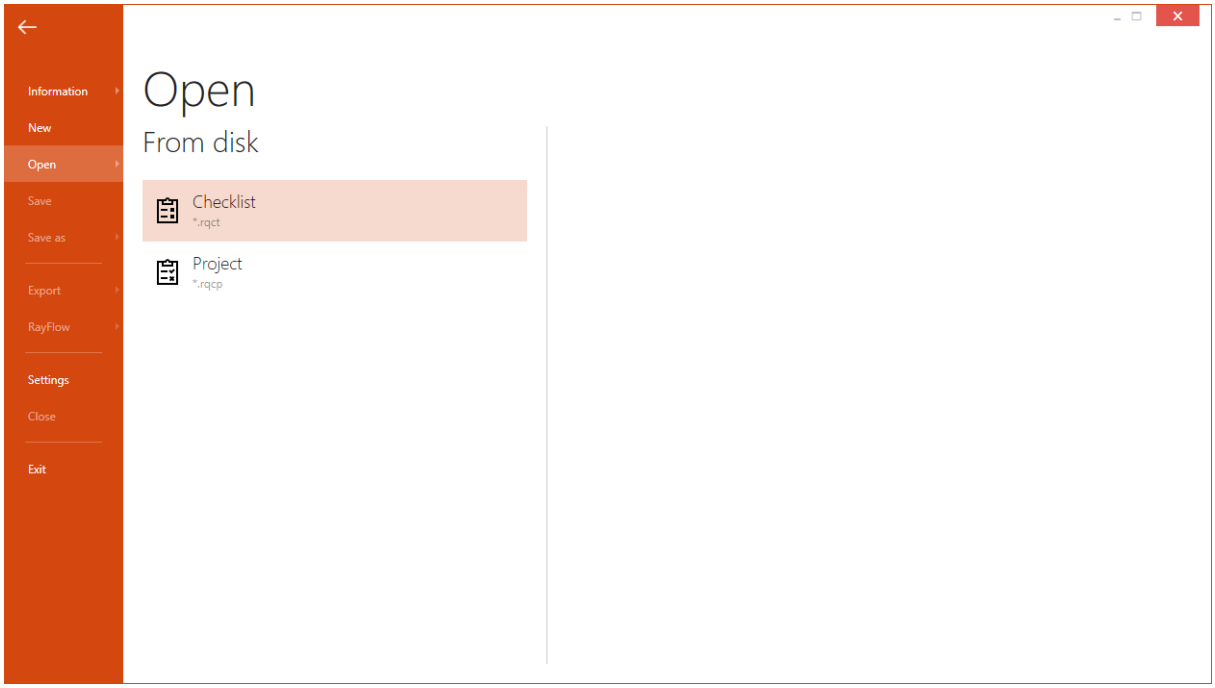
- RTS-2281 We fixed a non-critical warning message shown in the console during automated tests with CLI.
- RTS-2306 We fixed broken buttons “Check all” and “Uncheck all” in advanced selection of rules in the Test Wizard.
- RTS-2319 We fixed some minor inconsistencies in the in-app CLI help.
- RTS-2282 We fixed a problem with wrong transform counter in the Migration Wizard.

- RTS-2284 We added some missing German translations.
- RTS-2317 We fixed a problem with incorrect ruleset selection in the Migration Wizard.
- RTS-2318 We fixed a problem with command-line test execution, where it was not possible to reference packages by DB syntax.
- RTS-2323 We fixed a problem with extraction of package files imported to the Library.
- RTS-2328 We fixed an error message shown in the Test wizard while trying to view report in PDF format.
- RTS-2328 We fixed an issue with missing charts and details in the Web Application compatibility report.
- RTS-3323 We fixed truncated text in some places of RayQC Advanced Settings screen.
- RCS-618 We fixed wrong alignments of product logos in the Dashboard screen.

RayQC

Refreshed file menu and new icons RQC-945

We changed icons and colors of the FILE menu content for a better, lightweight experience and more logical organization of screen elements.



Other Improvements

- RSC-589 We improved the way files are transferred to a virtual machine for a faster, reliable experience requiring less network traffic and leftovers.

Resolved Issues

- RQC-907 We fixed a problem with opening of invalid file formats, where RayQC would still proceed to the editor screen.
- RQC-923 We fixed italic and bold formatting options not working for other than lower-cased tags.
- RQC-940 We fixed sample checklists that were missing the RayFlow plugin to run them properly.
- RQC-932 We fixed a problem with the MSI installer, where running the product for the first time for another user would trigger an automatic repair.
- RQC-946 We fixed a problem with connection to a virtual machine, which was not correctly respecting the setting about usage of shared folders.
- RSC-624 We fixed a problem with connecting to ESXi machines, where it was not possible to connect if user name had a white-space.
- RSC-595 We fixed some issues with the layout of the Virtual Machines tab on lower resolutions.

PackBench

- RTS-2332 We improved the MSI installer to be consistent with other RayPack Studio components.

PackManager for App-V

- RTS-2332 We improved the MSI installer to be consistent with other RayPack Studio components.

Migration and Breaking Changes

RayPack

Upgrading RayPack

General Upgrade Preparations

RayPack 6.2 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 6.2 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 use or look-up (such as resources of global external plugins, logs, settings, 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 6.2 using the RayPack Studio Installer is described in the *RayPack Studio Installer User Guide*.

Migration from RayPack 6.1

PackPoint and User Files Upgrade

- It is recommended to perform a PackPoint upgrade during the installation (MSI). The upgrade is done automatically when starting the 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 the `rpcmd.exe`).
- Certain PackPoint resources (profiles, templates) are not automatically updated for users who worked with previous versions of RayPack. Increase the PackPoint version to force an update 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

- `RPK-3518` Starting from version 6.2, new folders created in PackDesigner (MSI) *Files and Folders*

view are automatically set to be created on install even if they are empty. In previous versions, this behavior was an opt-in setting available in the *Edit Folder* dialog and was disabled by default. Making this switch the default one in RayPack 6.2 means that there may be more meta-entries created by simple folder operations, especially when manually setting large folder structures. The user can remove these entries manually from the *Advanced View* > *TABLES* > `CreateFolder`, or by using the respective checkbox in the *Edit Folder* dialog. The classic behavior can be also restored by manually changing the following properties to `False` in RayPack profile: `AddCreateFolderEntryForNewFolders`, `ChangeKeyPathToFileWhenImportingToComponentWithDirectoryKeyPath` and `RemoveCreateFolderEntriesWhenImportingFileToComponentWithDirectoryKeyPath`.

Migration from Older Versions

Refer to the *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 6.2. 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 6.2.

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.

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 do not resolve the issue, please contact our support.

PackBench

Upgrading PackBench

General Upgrade Preparations

PackBench 6.2 is delivered as part of the RayPack Studio Installer. In order to install it safely:

1. Download the RayPack Studio Installer 6.2 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, logs, settings, 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 6.2 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 6.1

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 a clean installation of PackBench 6.2. 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 6.2.

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 folder:

- `%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 6.2 is delivered as part of the RayPack Studio Installer. In order to install it safely:

1. Download the RayPack Studio Installer 6.2 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, logs, settings, 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 6.2 using the RayPack Studio Installer is described in the *RayPack Studio Installer User Guide*.

RayQC Advanced

Upgrading RayQC Advanced

General Upgrade Preparations

RayQC Advanced 6.2 is delivered as part of the RayPack Studio Installer. In order to install it safely:

1. Download the RayPack Studio Installer 6.2 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, logs, settings, 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 6.2 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.

Breaking Changes and Backward Compatibility

- The product is fully backward compatible with its previous releases.
- When using a portable installation, a separate upgrade of the database / recaching of pluings has to be performed in order for MSIX rulesets to show up in the **Rules Browser**.

RayEval

Upgrading RayEval

General Upgrade Preparations

RayEval 6.2 is delivered as an MSI software package. In order to install it safely:

1. Download the MSI package for RayEval 6.2 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 6.2 MSI package and work yourself through the setup routine. The installation of RayEval 6.2 is described in the *RayEval 6.2 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.
- Projects saved in previous versions are forward compatible. Projects saved in version 6.2 may loose some functions when opened in older versions of the product (for example snapshot and delta reports).

System Requirements

Hardware Requirements

Minimal

- CPU: Intel Core i5
- Screen resolution: 1024 x 768 pixels
- RAM: 4GB
- Disk space: 10GB

Recommended

- CPU: Intel Core i7
- Screen resolution: 1280 x 1024 pixels
- RAM: 16GB or higher
- Disk space: 100GB or more

Note:
The installation of the RayPack Studio framework itself requires about 600MB 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 SP2
- Windows 7 SP1
- Windows 8
- Windows 8.1
- Windows 10
- Windows Server 2008 R2
- Windows Server 2008 SP1
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019

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

General

- .NET 4.5 Client & Full for Windows Vista up to Windows 8 systems (both 32-bit and 64-bit). Windows 10 already contains the required framework.

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.

Generation of MSIX Files

If using Windows 8.1 or Windows Server 2012 R2 or an older version of Windows or Windows Server, an update for the CRT in Windows is needed in order to be able to generate MSIX files.

More information on the CRT update can be found here: https://support.microsoft.com/en-us/help/2999226/update-for-universal-c-runtime-in-windows.

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 2012 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 2012 or higher. Express editions are also supported.

Virtual Machines

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

In order to sequence 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.

Note: There is a difference between "Sequencing" and "Converting" as denoted in the PackBot configuration. The latter one uses a native converter and does not require Sequencer at all.

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 Studio 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 / ESXi5.5 - 6.0

RayPack Studio supports the following products:

- VMware vSphere 5.5-6.0
- 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 / ESXi machines, one of the following must be installed in an appropriate version:

- VMware Workstation
- 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	Workstation 8 or earlier	Workstation-8.0.0-and-vSphere-5.0.0
1.12	Workstation 9 or earlier	Workstation-9.0.0-and-vSphere-5.1.0
1.13	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

ESXi 6.5 and newer

To make use of ESXi 6.5+ servers, the following prerequisites must be met:

- PowerShell 3.0
- PowerShell Execution Policy set to Unrestricted or RemoteSigned
- PowerCLI installer (https://www.powershellgallery.com/packages/VMware.PowerCLI/11.2.0.12483598)
- VMware Tools installed on the VM
- **Guest operations** and **System** permissions granted to the user executing the product.

Combination of supported versions is presented in the following table:

	VMware PowerCLI									
	11.0.0	10.2.0	10.1.1	10.1.0	10.0.0	6.5.4	6.5.3	6.5.2	6.5.1	6.5.0
VMware vSphere Hypervisor (ESXi)										
6.7 U1	✓	—	—	—	—	—	—	—	—	—
6.7.0	✓	✓	✓	✓	—	—	—	—	—	—
6.5 U2	✓	✓	✓	✓	—	—	—	—	—	—
6.5 U1	✓	✓	✓	✓	✓	✓	✓	✓	—	—
6.5.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.0 U3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.0.0 U2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.0.0 U1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.0.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.5 U3	—	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.5 U2	—	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.5 U1	—	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.5	—	✓	✓	✓	✓	✓	✓	✓	✓	✓

More information about PowerCLI:

- https://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.powercli.cmdletref.doc%2FGet-VMGuest.html
- https://pubs.vmware.com/vsphere-51/topic/com.vmware.powercli.cmdletref.doc/Invoke-VMScript.html
- https://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.wssdk.pg.doc_50%2FPG_ChD_Privileges_Reference.22.3.html

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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