RAYPACK® STUDIO

Enterprise Software Packaging

Release Notes RayPack Studio 6.1

RayPack Studio is part of RaySuite.

raynet

Release Notes RayPack Studio

Raynet GmbH Germany
See our website for locations.

www.raynet.de

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Introduction

RayPack Studio 6.1 is the next iteration of Raynet's framework for the creation and management of software packages. RayPack Studio 6.1 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?

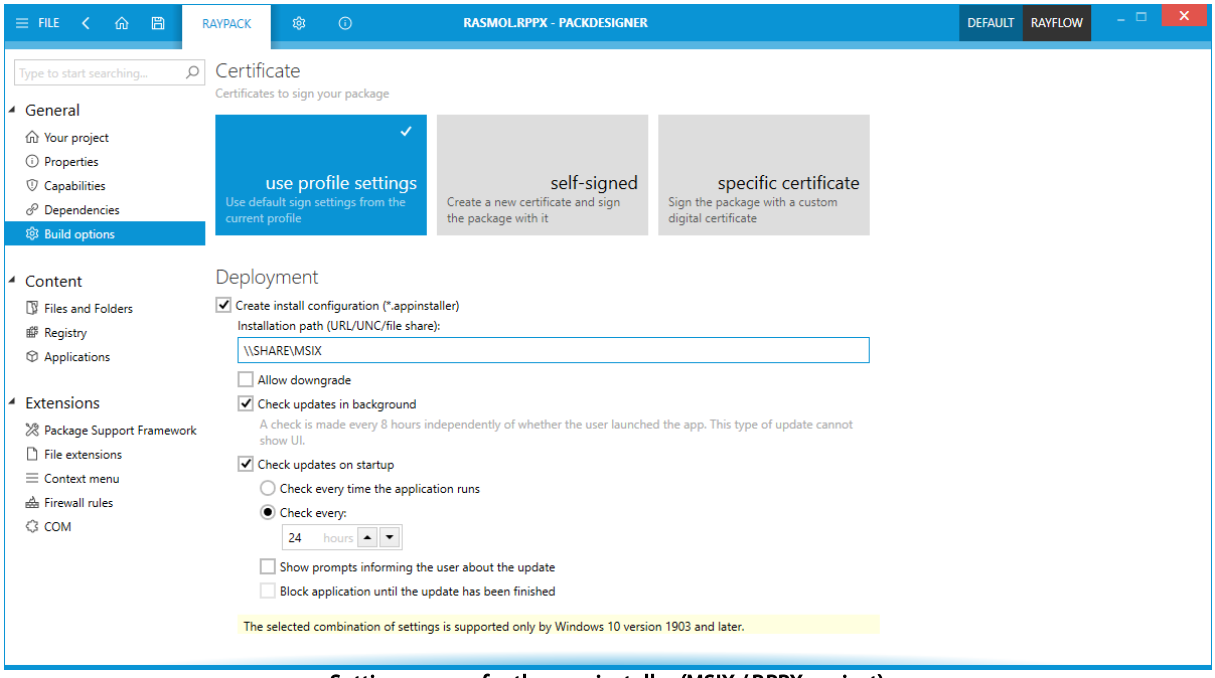
The following chapters contain an overview of the improvements, resolved issues, and the new features that are part of the new release of RayPack Studio 6.1.

RayPack

PackDesigner (MSIX)

New Options for the .appinstaller Are Now Supported `RPK-3118`

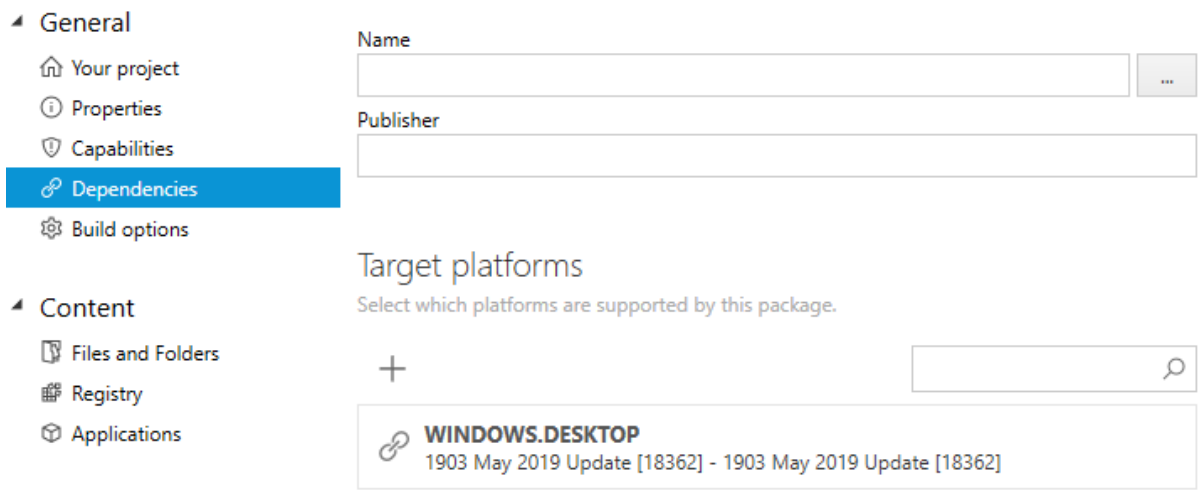
There are new options of the .appinstaller (available on Windows 10 2019 H1) are now supported. It is now possiblew to opt-in for background upgrades and forced upgrades on run-time. There are also downgrade scenarios and some extra flags that are now supported and have been added to Windows 10 1903 (19 H1).



Settings screen for the .appinstaller (MSIX / RPPX project)

Windows 10 1903 (May 2019 Update) `RPK-3132`

The Windows 10 1903 (May 2019 Update) has been added to the list of supported dependencies.



Windows 10 May 2019 Update is available as a predefined dependency.

A New Definition for Modification Packages Has Been Added `RPK-3116`

The new definition for modification packages (from Windows 10 May 2019 Update) is now supported. This change is only visible in the `appxmanifest.xml`, but it is a required switch which will be set for all modification packages.

Other Improvements

- `RPK-3167` The regular expression for manifest validation has been improved to allow some rare but still valid version formats.

Resolved Issues

- `RPK-3050` Empty `TypeLibs` could lead to an error during building of MSIX packages.
- `RPK-3067` When converting an RCP to the MSIX format, no warning was shown in case of a missing or incomplete signature configuration.
- `RPK-3068` When converting an RCP to the MSIX format, some basic information about the MSIX app might not have been fully captured.
- `RPK-3085` The length of the application name was not validated in the **Your Project** screen.
- `RPK-3087` It was possible to add new registry keys without a name.
- `RPK-3093` A *Duplicated registry value name (installed) was found in registry key* exception could be thrown during the MSIX creation.
- `RPK-3097` Sometimes a `NullReferenceException` was thrown during the building of MSIX packages.
- `RPK-3098` Packages which have been created by RayPack could not be imported to Intune / SCCM specific configurations.
- `RPK-3106` After moving files and folders and then saving the project sometimes an error was shown.

- `RPK-3114` Changing the pattern for the redirection fixup was not updating the `dirty` flag (**OK** / **Apply** buttons).
- `RPK-3121` When building an MSIX for two consecutive times after importing files, the second time it could fail.
- `RPK-3122` PFX files in the RPPX project were not correctly opened and saved.
- `RPK-3125` The validation mask for the product name in the application was not allowing some characters which were technically valid for an MSIX.
- `RPK-3137` RayPack was trying to associate itself with `.msix` files during the installation.
- `RPK-3153` An *An item with the same key has already been added* exception occurred when saving an MSIX file.
- `RPK-3154` It was not possible to build an MSIX package if the COM interfaces were only partially defined.
- `RPK-3166` A `NullReferenceException` was thrown for partially initialized TypeLib objects in the RCP to MSIX conversion.
- `RPK-3167` For some values, a manifest validation error was shown during the RPP to MSIX build.
- `RPK-3175` The alignment of the UI elements for the signature part inside of the MSIX Build options was wrong in non-English versions.
- `RPK-3202` Building MSIX packages with self-signed certificate could fail on some machines.
- `RPK-3207` It was sometimes not possible to save MSIX package after adding a new context menu entry.
- `RPK-3208` Removing COM from an MSIX could result in an error.
- `RPK-3223` It was not possible to build an RPPX / MSIX to RayFlow.
- `RPK-3231` Long file names (>256 characters) could be resolved incorrectly when converting an RCP to MSIX.
- `RPK-3258` It was not possible to open an MSIX file if an RCP project was already loaded.
- `RPK-3260` An `InvalidKey` message could be shown in case the opening of MSIX files failed.
- `RPK-3271` Default names for RPX projects were respecting already occupied names.
- `RPK-3273` An error could be shown when saving a file having package logo in GIF or BMP format.
- `RPK-3281` Casing of labels in MSIX architecture dropdown was inconsistent.
- `RPK-3261` It was not possible to open an MSIX with TypeLibs in the same version.
- `RSC-570` Some values in the `.appinstaller` were written in an incorrect format.
- `RSC-592` Some values in `.appinstaller` files were incorrectly pointing to a directory instead of the file.
- `RSC-593` It was sometimes not possible to save MSIX package after adding a new firewall rule.

PackDesigner (MSI)

MacOS 10.14 Mojave RPK-3152

MacOS 10.14 Mojave has been added to the list of supported versions for MacOS projects.

Other Improvements

- RPK-3142 RayPack automatically adds `0` to the language code in the **Summary** information when changing the language to a specific language. This fixes some issues with installations on non-English language OS.

Resolved Issues

- RPK-3064 When adding a new database, the user filed was not filled in after closing the wizard.
- RPK-3075 Some switches (for example bootstrapper related switches) were ignored by the `ConvertTo-Msi` cmdlet.
- RPK-3083 Remove registry operations were not correctly shown in the UI after reopening a project containing the operations.
- RPK-3100 After renaming a component sometimes it was shown twice in the **Feature** tab (this was only in the UI).
- RPK-3107 When using the default RayFlow command line to open an MSI / RPP project, after showing the main window RayPack was staying on the **Dashboard** screen.
- RPK-3124 Special characters were not escaped when importing registry files.
- RPK-3129 The validation table for the Extension and the Verbs entities was marking keys as identifiers while they should just be text.
- RPK-3139 The shortcut wizard was not writing all required information into the correct table.
- RPK-3168 The conversion of icons and shortcut styles was sometimes incorrect in RCP to MSI / RPP conversion.
- RPK-3181 User preferences for the deletion of empty components and delete confirmations were not correctly saved in the User Profile.
- RPK-3182 After the RCP to MSI / RPP conversion, not all permissions were correctly converted to the native tables of RayPack.
- RPK-3183 Some of the items in the MacOS project editor were not translated in the German and Polish UI.
- RPK-3210 Some imported values from registry browser were not visible in the Visual Designer other than in the Advanced View.
- RPK-3212 Imported INI entries were incorrectly shown as duplicated entries.
- RPK-3220 The name of the permissions `.inf` file was empty after the conversion from RCP to RPP.
- RPK-3222 Permissions were sometimes incorrectly converted when building an RPP / MSI from an RCP.
- RPK-3240 The content alignment in the **Sequencing** tab was incorrect.

- RPK-3241 Occasionally, a `NullReferenceException` was thrown due to null values in the profile, for example when creating transforms.
- RPK-3242 In the **Advanced** view of the **Sequencing** tab the vertical scroll bar was missing.
- RPK-3249 After renaming the component was not updated in the Visual Designer Text Replacement screen.
- RPK-3284 Hotkey Selector control used for the second time required unnecessary refocusing of the control.
- RPK-3286 Some registry files were incorrectly imported.
- RPK-3287 In Prerequisites selector, pressing the *Go to download page* opened the dialog to locate the file anyway.

PackRecorder

Other Improvements

- RPK-3090 We added several new default exclusions for Windows 10 and updated the existing ones.
- RPK-3103 User handling has been improved in this build. Repackaging should now produce a cleaner output, especially when related to user features which are not being created unless required. In previous builds, the presence of a shortcut was automatically triggering the creation of a user subfeature in the created MSI.
- RPK-3177 The handling of services has been improved. In RayPack 6.1 services that only differ in the running state (stopped, running, etc.) are marked as excluded. Only new and deleted services are automatically included.

Resolved Issues

- RPK-3074 No RCP file was created when an existing snapshot has been used during the repackaging process.
- RPK-3077 When capturing some specific apps an exception about a missing `ShortcutWindowStyle` enum value could be thrown.
- RPK-3090 The capturing of services was capturing too much data on Windows 10.
- RPK-3108 The detection of background MSI installations running during repackaging was not capturing them in RCP file.
- RPK-3109 PackRecorder was not restoring the correct drive selection in the wizard.
- RPK-3112 Some components with specific names were not assigned to any feature after repackaging.
- RPK-3113 The SID resolver and display of user names in the RCP view was not always working.
- RPK-3123 A `NullReferenceException` was thrown silently when using custom profile paths.
- RPK-3133 The design of the "Original Setups" screen in PackRecorder in case of missing setup details has been improved.
- RPK-3138 When repackaging with already existing `.rcs` snapshots, sometimes the wrong files have been taken as input for the comparison.
- RPK-3171 The renaming of folders in PackRecorder was not renaming long paths. Only short paths were affected.

- RPK-3172 In the **Files and Folder** view, including a previously excluded element was not immediately removing the strikethrough effect.
- RPK-3174 When using the **Save as** option for an RCP project a warning could have been shown when saving the file in the same location as the currently opened project.
- RPK-3177 If the service state has changed between snapshots, it could have been shown twice (once for the previous state as "**deleted**", once with the new state as "**added**").
- RPK-3178 Service details in PackRecorder were editable, while due to consistency reasons they should be read-only.
- RPK-3182 Some excluded permissions were anyway saved in `.inf` templates.
- RPK-3187 The default exclusion lists were automatically excluding `InProc32` entries from the registry.
- RPK-3194 Sometimes the file permissions in the `.rcp` file were duplicated.
- RPK-3197 When building RayFlow project from RCP File Menu, RayPack did not show project selector and as a result the project could not be exported.
- RPK-3210 The values imported from the Registry Browser were sometimes not visible in the Visual Designer.
- RPK-3212 The import of INI files was producing duplicates upon import.
- RPK-3218 The plugin directory was being created during installation even if the plugins feature was disabled.
- RPK-3220 In generated MSI files, the name of the .inf template for captured security permissions was empty.
- RPK-3255 The installer was started again after rebooting during the repackaging.
- RPK-3278 Wrong message was shown when re-saving an RCP project in case of missing source files.

PackBot

Hyper-V Can Now Work in Cluster Constellations RPK-2918

Hyper-V can now also work in cluster constellations. Previously it was only possible to target hosts. Also, the performance and the overall experience of working with Hyper-V machines using PackBot or PackTailor has been improved and is now snappier and more responsive.

Other Improvements

- RVL-504 The check for exiting files in the guest OS when working with VMware ESXi has been improved. The bundled Windows SDK has been updated to the latest version 10.1.18362.1.

Resolved Issues

- RPK-3109 Packbot was not respecting the default selection of drives and registry hives.
- RPK-3238 Packbot could not create MST files when repackaging to the MSI format with the MST setting enabled..
- RPK-3248 Bulk import of directory in PackBot would show wrong labels if the conversion target was MSIX.

- RPK-3252 If signing was disabled, an unnecessary warning could be prompted in case the certificate data was otherwise invalid.
- RPK-3259 In some scenarious, the user could trigger an error after clicking on the **Show log** button in the confirmation screen.
- RPK-3268 A warning could be shown in case of both ESXi and Workstation machines selected for the PackBot conversion.
- RSC-498 Hyper-V sessions were not correctly cleaned-up after using and / or closing the product.
- RSC-552 The installer for the Hyper-V proxy had an internal error which could make it impossible to install on the target system.
- RSC-556 Sometimes the virtual machine connector reported firewall related issues when trying to connect to PackBot or PackTailor on a VM.
- RSC-560 We improved cancellation and multi-threading aspect of Hyper-V connectivity module.
- RVL-471 Virtual machines were not refreshed after loading.
- RVL-474 Hyper-V sessions and other resources / handles were not properly cleaned after pressing the **Disconnect** button.
- RVL-483 The **Virtual Machine** button was indicating an active connection but it was not possible to disconnect or use another machine if a snapshot had been changed in the **Settings** previously.
- RVL-508 It was not possible to start the agent runtime on an ESXi Guest.

App-V

App-V 5.2 (1803) and 5.2 (1809) Support RPK-3173

Support for App-V 5.2 (1803) and (1809) has been added. This change is effective in the wrapper MSIs which has been created for App-V 5.2 installations.

App-V Converter Improvements RPK-3134

There have been several improvements to the App-V converter. This ensures that more apps can run smoothly after the conversion. Especially COM, environment variables and short names resolution are benefiting from these improvements.

Resolved Issues

- RPK-3089 The **APP-V** launcher copied after an RPP to App-V 5.x conversion was not working.
- RPK-3134 Paths containing quotation marks were incorrectly resolved to App-V tonkes for the App-V 5.x conversion.
- RPK-3168 In some environments and for specific apps the conversion of the Display Icon was creating an invalid path.
- RPK-3169 The target shortcut paths were not respecting the current setting of the PVAD folder.
- RPK-3173 The conversion of 64-bit COM entries was sometimes loosing the information about the platform

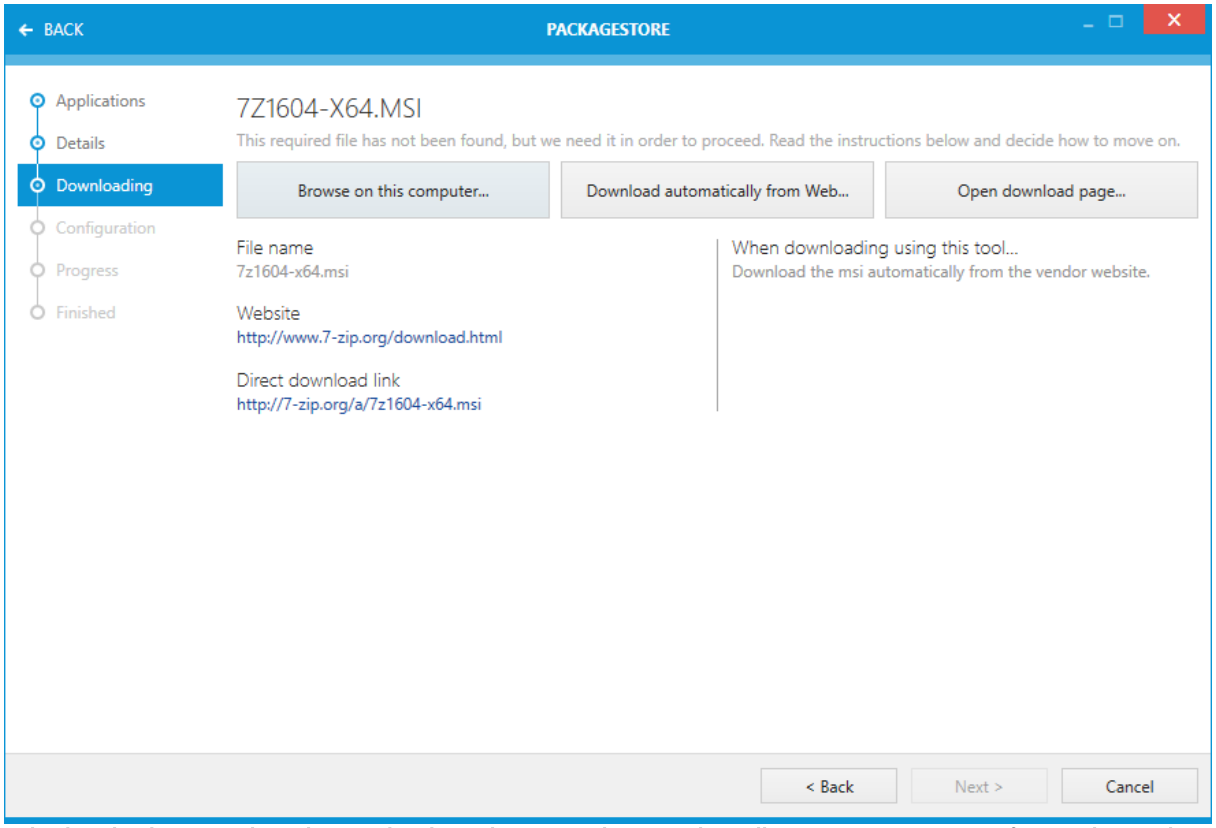
(x86 or x64).

- RPK-3179 When converting to App-V 5.x with the INSTALLDIR as PVAD activated, the encoded file and folder paths had a double backslash directly after the App-V token.
- RPK-3215 Registry values pointing to in-package files using short file names were incorrectly resolved to App-V tokens for App-V 5.x conversion.
- RPK-3216 The names of the App-V applications were duplicated in case that more than one shortcut was converted.
- RPK-3217 The working directory was not properly converted in RCP to App-V or RPP to App-V conversion.

PackageStore

Enhanced Integration and Creation of Packages from PackageStore.com RPK-3096

Version 6.1 adds several new features and improves the packaging workflows that rely on PackageStore. In this build, it is possible to browse for packages (including different versions, platforms and languages - subject to availability) and perform the full process of discovering, downloading and processing sources + complete creation of the package directly from the RayPack UI. All options and features supported by our current PackageStore packages are also available.



The download screen, where the user decides on how to get the original installation sources, necessary for a package to be created.

Automation

Resolved Issues

- RPK-3075 Some PowerShell switches were overriden by the default settings, even if configured otherwise by the user.

Other

Other Improvements

- RPK-3107 When starting RayFlow from the Commandline Interface with RayFlow data specified, RayPack remained on the **Dashboard** screen.
- RPK-3156 The screen space in the **Settings** view has been improved. If there is not enough space to show all options in the left menu, the items will now be shrinked to fit.
- RPK-3177 The handling of services has been improved. Services that only differ in their running state (stopped, running, etc.) are now marked as excluded. Only new and deleted services are automatically included.
- RPK-3186 Several labels in the **Settings** screen have been improved and some unnecessary colons have been removed.
- RPK-3225 The import of INI files in case of name conflicts has been improved.
- RPK-3243 The **Generate** button in the **Tiles** editor was enabled even if no scale or resolution was selected.
- RPK-3254 RayPack was not showing the current RayFlow project when launched from CMD with RayFlow specified.
- RSC-474 We replaced icons and the background in the MSI setup with the current product identity image.
- RSC-585 The logging standard for RayFlow callouts has been improved.
- RSC-586 Several missing German and Polish translations have been added.
- RSC-588 The 7-zip binaries have been upgraded to version 19.00.
- RSC-590 We improved error reporting in case of unsuccessful activations via the Activation Tool.
- RSC-594 We improved logging of the Repackaging module for an easier troubleshooting of inclusions and exclusions.
- RSC-597 The default exclusion lists have been updated in order to produce less noise in the repackaged output of the `.rcp` files.

Resolved Issues

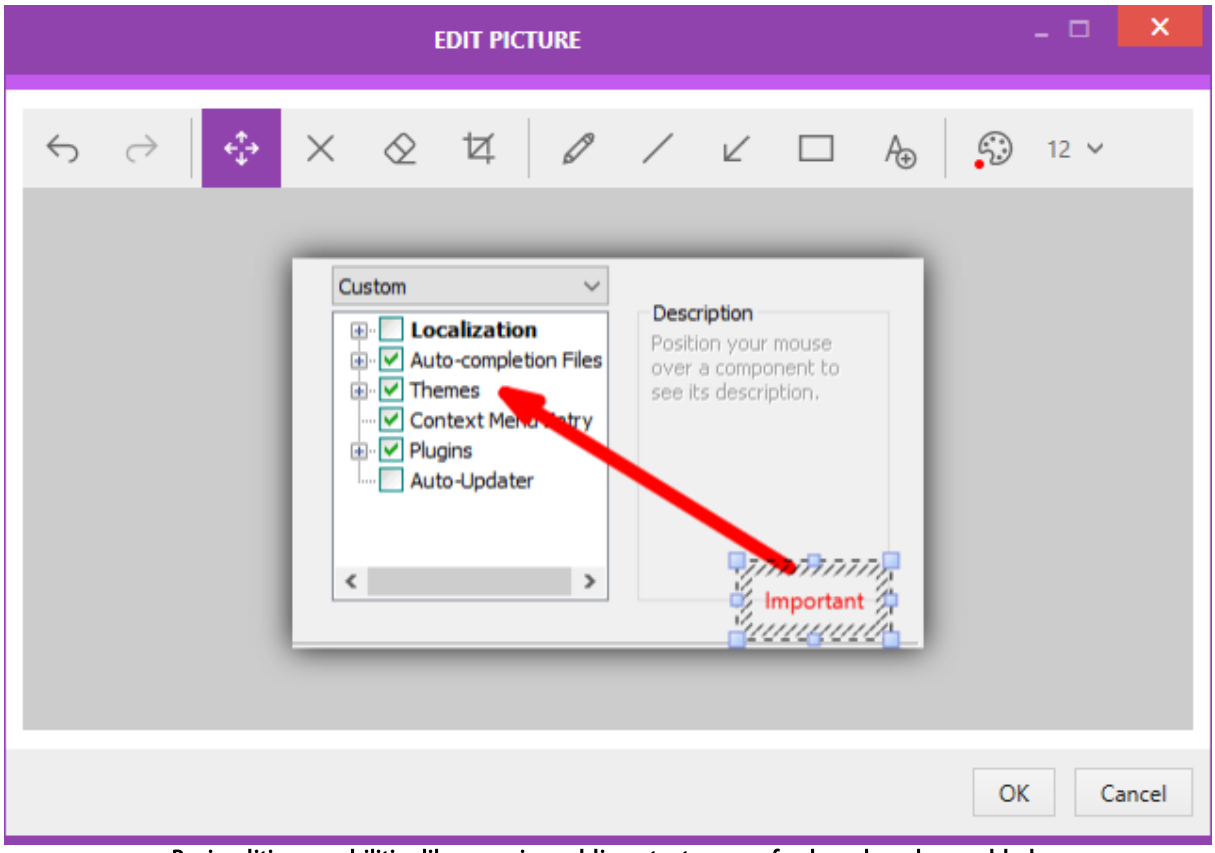
- RPK-3075 Some PowerShell switches were overriden by the default settings, even if configured otherwise by the user.
- RPK-3107 When starting RayPack from the CLI with RayFlow data specified, RayPack was staying on the **Dashboard**.

- RPK-3128 A random crash occured when RayPack was opened with a specific combination of folder settings.
- RPK-3162 A CustomAction to check the state of PackPoint was not executed during installation in some cases.
- RPK-3180 In some scenarios a `(null)` folder was being created in the main RayPack folder.
- RPK-3197 In some places, the user was not prompted for the selection of a RayFlow project after signing in.
- RPK-3203 Sometimes the content of the Task / Package selection from RayFlow could be blank due to a race condition of two RayFlow callouts.
- RPK-3218 Plugin directory was created while installing RayPack even if Plugins Feature was disabled.
- RPK-3232 Errors from the `signtool.exe` were not correctly captured in some cases (for example when the internet connection was missing).
- RPK-3236 In the default exclusion lists a rule for local packages was present twice.
- RPK-3254 RayPack was not showing the current RayFlow project when launched from CMD with RayFlow data specified.
- RPK-3267 The link in the About section was redirecting to a wrong page.
- RPK-3279 Extension filter in Open Dialog had duplicated and malformed values.
- RSC-559 RayPack Studio licenses issued for network-agnostic environments were incorrectly checking the MAC address.

RayEval

Ability to Edit and Crop Pictures RVL-129

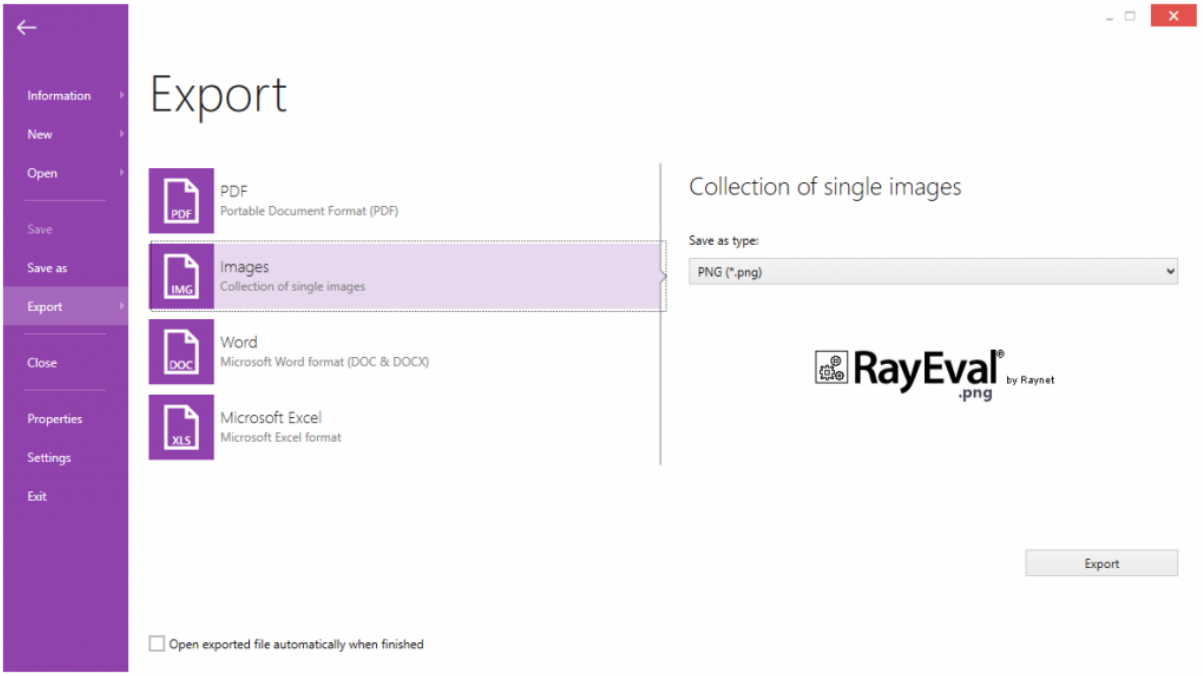
It is possible to edit captured pictures. The new functionality offers some basic tools to crop and annotate with lines, arrows, custom shapes, text and more.



Basic editing capabilities like cropping, adding a text, arrow of a shape have been added.

Several Improvements to Non-packaging Workflows RVL-466

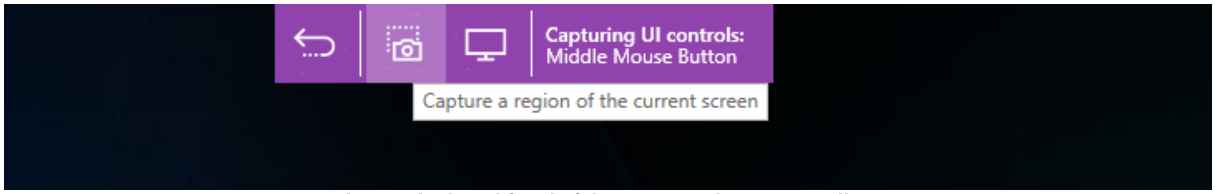
Several improvements have been added to the non-packaging workflows. For example a new **RayEval Snipping Tool** shortcut can be found in the start menu and several usability features which enable users to use RayEval for quick documentation projects including the ability to export a collection of images (from a dedicated export plugin) have been added.



The new export plugin which enables the user to export the project as a series of pictures

Improved Design of the Minimized View RVL-503

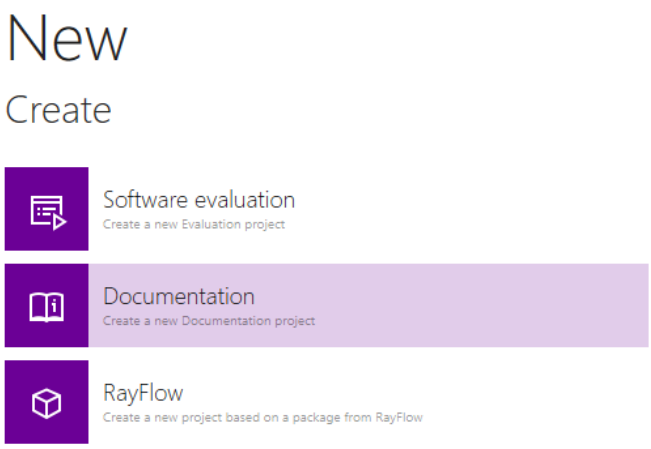
The toolbar shown when RayEval is minimalized has now received an updated Windows 10 look-n-feel.



The new look and feeel of the minimized capture toolbar

New Documentation Mode RVL-467

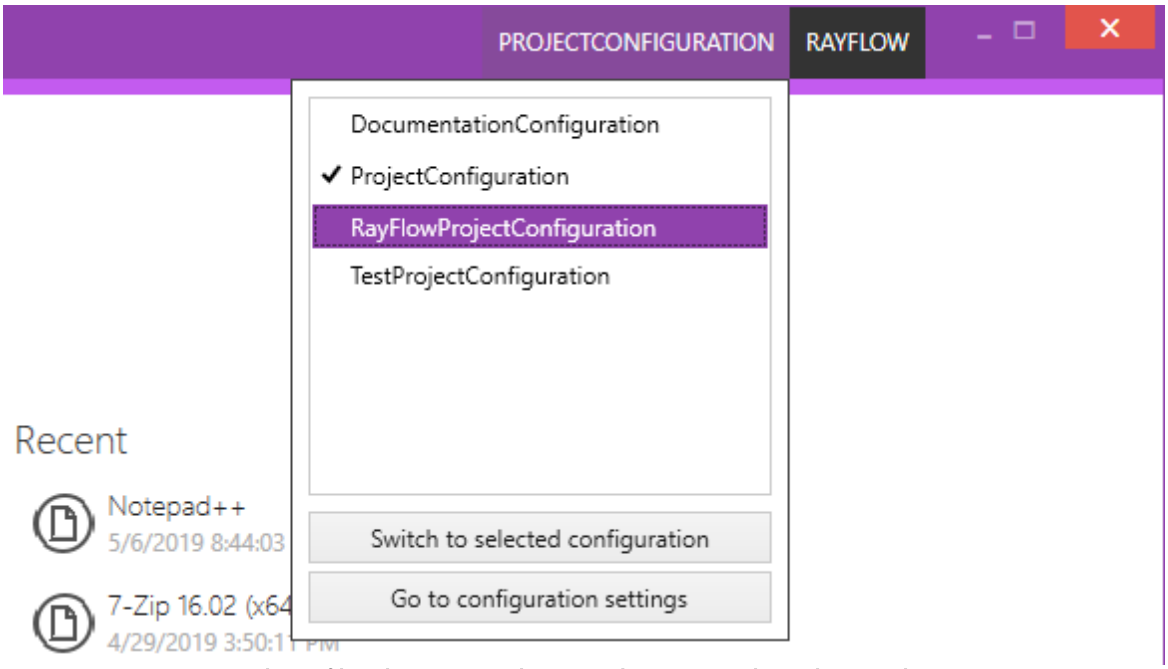
A new mode for RayEval which is called **A documentation** has been added. Unlike the **Software Evaluation** mode, some features are not part of this mode and it has different templates which aim at daily technical documentation.



New documentation mode in the New menu.

Improved Profile Management RVL-468

The profile management has been improved, both functionally and visually.



The Profile Selector is now sharing its design principles with RayPack

Other Improvements

- RVL-465 The performance and the reliability of VM connections in case of the presence of the runtime on a guest machine has been improved.
- RVL-486 It is now possible to cancel the snapshot operation
- RVL-493 The way image files are exported has been improved. It is now possible to export single or multiple files at once (from the context menu) or export the whole document to a set of PNG files.

- RVL-499 When opening a not-existing project, RayEval shows a warning instead of an error. The user is also able to select whether to remove the non-existing recent item link.
- RSC-474 The installer pictures (background and logos) have been updated to match the current product identity.
- RSC-560 We improved cancellation and multi-threading aspect of Hyper-V connectivity module.
- RSC-585 Logging for standard RayFlow callouts has been improved.
- RSC-590 We improved error reporting in case of unsuccessful activations via the Activation Tool.
- RSC-594 We improved logging of the Snapshotting module for an easier troubleshooting of inclusions and exclusions.

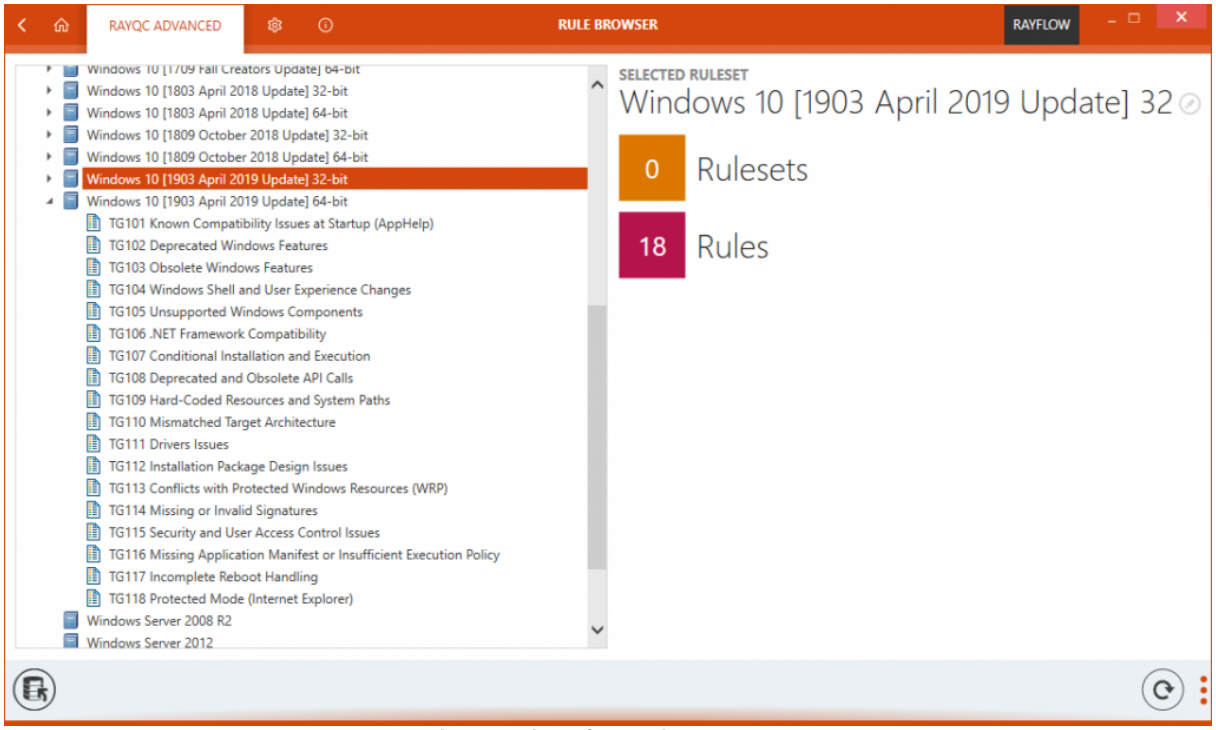
Resolved Issues

- RSC-498 Hyper-V was not closing the WinRM session correctly.
- RSC-552 The removal of Hyper-V tools was not making a proper clean-up.
- RSC-559 RayPack Studio licenses issued for network-agnostic environments were incorrectly checking the MAC address.
- RSC-597 The default exclusion list has been updated in order to produce less noise in the repackaged output created by the Snapshot module.
- RSC-599 The link to the Support Panel in the **About** screen was wrong.
- RVL-450 Moving a lot of thumbnails at once could cause UI lags.
- RVL-453 The PDF plugin export was not using the default texts as n/a placeholders.
- RVL-460 The home screen dashboard was aligned incorrectly.
- RVL-461 It was not possible to use templates for the RayEval documentation (DOCX) if that template already had a style called `RayEvalStyle`.
- RVL-463 The runtime files of RayEval were copied to the root `C:\` drive instead of a temp location when capturing on a virtual machine.
- RVL-475 The icons in the snapshot documentation were cut in the middle.
- RVL-477 The labels for entries not shown in the exported documentation were always referring to **files** instead of specific entity types like **shortcuts**, etc.
- RVL-483 The Virtual Machine button was indicating an active connection but it was not possible to disconnect or use another machine if a snapshot had been changed in the **Settings** previously.
- RVL-485 The **Snapshot Comparsion** was not present in the **Table of Content**.
- RVL-487 The setting for the maximum count of exported entries was not applied properly.
- RVL-488 The summary information of the snapshot comparison was too low to fit the content.
- RVL-498 RayEval was crashing after `CRTL+X` / `C` / `V` was pressed in the **Project properties** tab.
- RVL-500 When the RayFlow configuration was triggered from the RayFlow popup, the user was redirected to

the wrong tab.

- RVL-513 After making a snapshot comparison, an exception could be thrown if some of the captured files were locked or missing.
- RVL-515 Some Polish strings were incorrectly translated.
- RVP-184 The **Home** button could temporarily be grayed out when using a dashboard tile to navigate until the next mouse click.

RayQC Advanced



The new ruleset for Windows 10 1903

Extended List of Supported Windows 10 Versions RTS-2290

Windows 10 builds 1803, 1809, and 1903 have been added to the list of supported Windows versions.

Other Improvements

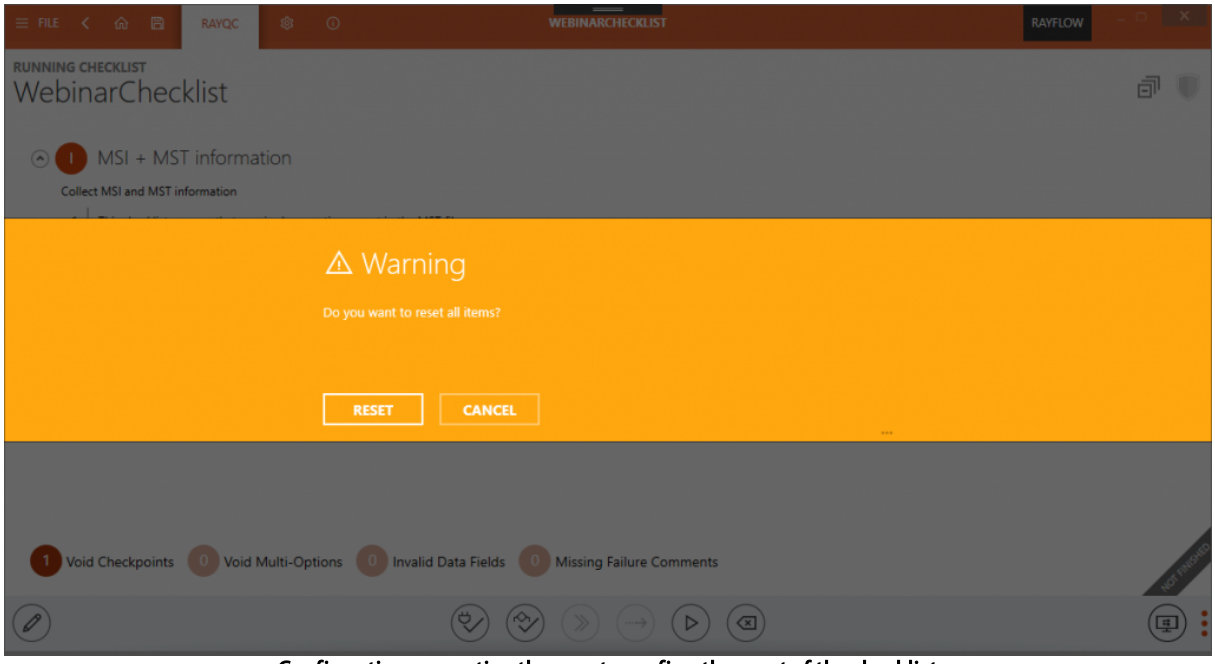
- RSC-474 The installer pictures (background and logos) have been updated to match the current product identity.
- RSC-590 We improved error reporting in case of unsuccessful activations via the Activation Tool.

Resolved Issues

- RPK-3203 Sometimes the content of the Task / Package selection from RayFlow could be blank due to a race conditions of two RayFlow callouts.

- RSC-559 RayPack Studio licenses issued for network-agnostic environments were incorrectly checking the MAC address.
- RSC-599 The link to the Support Panel in the **About** screen was wrong.
- RTS-2309 An issue resulting in charts not being loaded in some situations has been fixed.
- RVP-184 The **Home** button could temporarily be grayed out when using a dashboard tile to navigate until the next mouse click.

RayQC



Confirmation prompting the user to confirm the reset of the checklist

Hyper-V Can Now Work in Cluster Constellation RSC-552

Hyper-V is now able to work in a cluster constellation. Previously, only hosts could be targeted. Also the performance has been improved and the overall experience of working with Hyper-V machines via PackBot and PackTailor has become snappier and more responsive.

New Confirmation Box For Checklist Reset RQC-919

A new confirmation box which is displayed when users are clicking on the **Reset** button has been added.

Report Layout Improvements RQC-912

There have been some smaller improvements to the report layout. Some colors and pictures have been adjusted and some spelling issues have been removed.

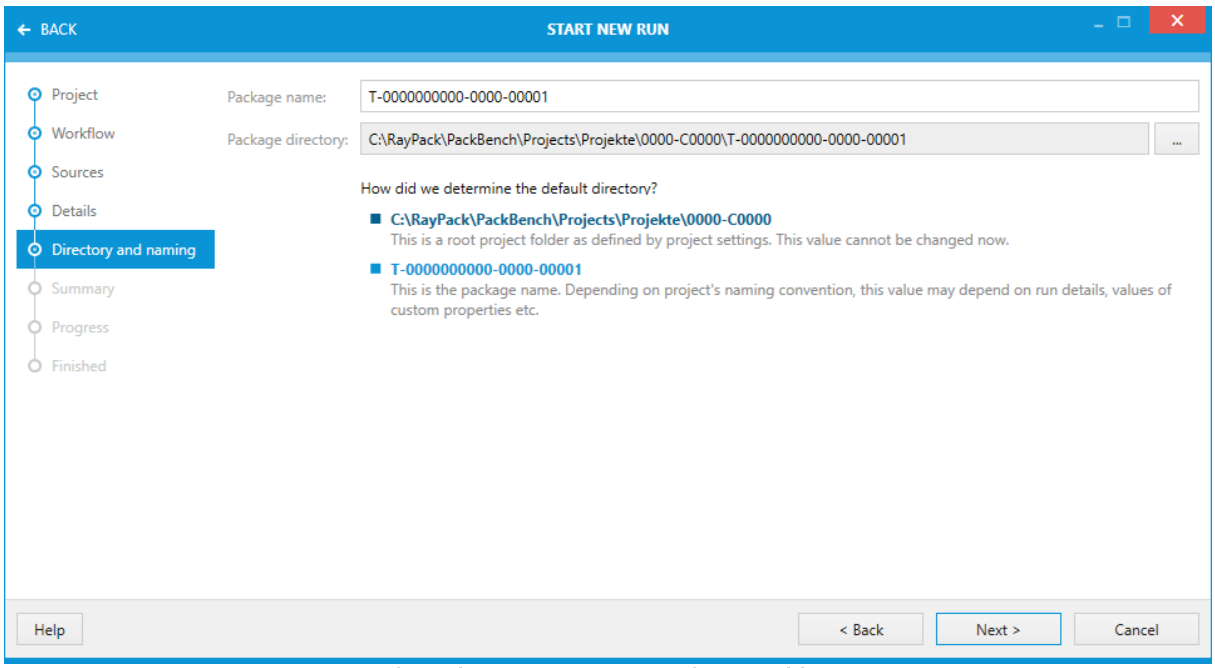
Other Improvements

- RSC-474 The installer pictures (background and logos) have been updated to match the current product identity.
- RSC-560 We improved cancellation and multi-threading aspect of Hyper-V connectivity module.
- RSC-585 The logging standard for RayFlow callouts has been improved.
- RSC-590 We improved error reporting in case of unsuccessful activations via the Activation Tool.

Resolved Issues

- RPK-3203 Sometimes the content of the Task / Package selection from RayFlow could be blank due to a race conditions of two RayFlow callouts.
- RQC-913 It was not possible to start the checklist in a silent mode together with a floating license mode.
- RQC-914 When starting the `RayQC.exe`, the program unnecessarily waited for the **ENTER** button to be pressed to return to the console.
- RQC-922 A `System.ArgumentNullException` was silently thrown if the recent file definition was missing.
- RQC-931 The sample checklist has been updated.
- RQC-933 `GetOsName` plugin was returning wrong results when executed on a VM.
- RSC-498 Hyper-V was not closing the WinRM session correctly.
- RSC-498 The sessions were not correcly cleaned-up after using and / or closing the product.
- RSC-498 Hyper-V was not closing the WinRM session correctly.
- RSC-552 The installer for the Hyper-V proxy had an internal error which could prevent the installation on the target system.
- RSC-552 The removal of Hyper-V tools was not making a proper clean-up.
- RSC-559 RayPack Studio licenses which were issued for network agnostic environments were incorrectly checking the MAC address.
- RSC-561 The handling of locks in RayFlow was invalid in some scenarios.
- RSC-599 The link to the Support Panel in the **About** screen was wrong.
- RVL-471 Virtual machines were not refreshed after reloading.
- RVL-474 Hyper-V sessions and other resources / handles were not properly cleaned up after clicking on the **Disconnect** button.
- RVL-483 The virtual machine button was indicating an active connection but it was not possible to disconnect or use another machine if a snapshot had been previously changed in the **Settings**.
- RVP-184 The **Home** button could temporarily be grayed out when using a dashboard tile to navigate until the next mouse click.

PackBench



The Package Directory now resolves variables

Other Improvements

- BEN-326 A background for the bottom bar in the **Run** view has been added.
- BEN-328 The default package folder can now resolve variables.
- RSC-474 The installer background and icons have been changed to match the product identity.
- RSC-585 The logging standard for RayFlow callouts has been improved.
- RSC-590 We improved error reporting in case of unsuccessful activations via the Activation Tool.

Resolved Issues

- BEN-322 The User Guide had a wrong description of Installer controls in the service configuration section.
- BEN-324 On some machines and in some scenarios only a white screen was shown instead of the Run screen content.
- BEN-325 Sometimes a `NullReferenceException` was thrown when downloading files from RayFlow from an FTP depot.
- BEN-327 Changing the root projects directory was not applied until after a restart of the application.
- BEN-329 The index order tab in the custom variables editor was invalid.
- BEN-330 Sometimes the installation of PackBench executed using the RayPack Studio Installer finished with

errors.

- `RPK-3203` Sometimes the content of the Task / Package selection from RayFlow could be blank due to a race conditions of two RayFlow callouts.
- `RSC-559` RayPack Studio licenses issued for network agnostic environments were incorrectly checking the MAC address.
- `RSC-599` The link to the Support Panel in the **About** screen was wrong.

PackManager for App-V

Other Improvements

- `RMT-137` The images and background for the MSI installation have been updated.

Resolved Issues

- `RMT-136` We fixed an issue where an error could be shown upon exiting the MSI Installation Wizard.
- `RSC-599` The link to the Support Panel in the **About** screen was wrong.

Migration and Breaking Changes

RayPack

Upgrading RayPack

General Upgrade Preparations

RayPack 6.1 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 6.1 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 6.1 using the RayPack Studio Installer is described in the *RayPack Studio Installer User Guide*.

Migration from RayPack 6.0

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

- Several existing regular expressions have been revised and optimized in the 6.1 release. For users that have created their own customizing, it is recommended to compare the old and the new files to determine any conflicts between the old and the new rulesets.
- Repackaging of services has now a slightly different logic. Previously, all services were captured and included. Starting from 6.1, only new and deleted services are initially included. If a service only changes its state (for example *Stopped -> Running*) then PackRecorder excludes it by default. You can include the service manually

by editing the RCP project.

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 6.1. 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 6.1.

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

1. Download the RayPack Studio Installer 6.1 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 6.1 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 6.0

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 6.1. 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 6.1.

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

1. Download the RayPack Studio Installer 6.1 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 6.1 using the RayPack Studio Installer is described in the *RayPack Studio Installer User Guide*.

RayQC Advanced

Upgrading RayQC Advanced

General Upgrade Preparations

RayQC Advanced 6.1 is delivered as part of the RayPack Studio Installer. In order to install it safely:

1. Download the RayPack Studio Installer 6.1 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 6.1 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 6.1 is delivered as an MSI software package. In order to install it safely:

1. Download the MSI package for RayEval 6.1 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 6.1 MSI package and work yourself through the setup routine. The installation of RayEval 6.1 is described in the *RayEval 6.1 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 6.1 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.

Raynet GmbH
Technologiepark 20
33100 Paderborn, Germany
T +49 5251 54009-0
F +49 5251 54009-29
info@raynet.de
support@raynet.de

www.raynet.de