Release Notes
RayQC 4.0

RayQC

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Introduction

RayQC is a rule-based tool used to create and execute test criteria using one or more checklists. It offers various modules to check the quality of applications and software packages all along the Application Lifecycle Management process.

Executing quality checks is possible using manual and / or automated procedures, which may utilize an extendable plug-in interface to integrate individually scripted check routines, tailored exactly towards specific mission scenario needs

RayQC Advanced is an extension module of Raynet's quality control tool i.e. RayQC. This extension is meant to provide packagers with the ability to execute automatic collision and conformity tests on software packages, merge modules, legacy setups, and OS snapshots. Additionally, a package can also be verified for virtualization against standard visualization technologies.

With this solution a user can execute tests on a package or a set of packages, which can either be located on a disk or maintained in the built-in package catalog library. Backed by a SQL Server database, this library maintains imported packages and their historical test results.

The release of RayQC 4.0 introduces the RayFlow integration for RayQC Advanced. With the brand new RayFlow integration it is possible to directly import packages from a RayFlow project into RayQC Advanced.

New Features

RayFlow integration [RQC-453, RQC-522, RQC-526, RTS-1127, RTS-1540, RTS-1542, RTS-1543, RTS-1544, RTS-1575, RTS-1588, RTS-1593, RTS-1595, RTS-1600, RTS-1617, RTS-1618, RTS-1619, RTS-1643]

This release of RayQC introduces full RayFlow integration into the RayQC Checklist Tool and into the RayQC Advanced module. To enable this, there have been some changes to the user interface. For example, a RayFlow button has been added to the top bar of the RayQC Advanced window, which is visible on all screens and after clicking on it, can be used to enter RayFlow credentials. Once authenticated, users are able to see the currently selected project and can also use the button to log out again.

Furthermore, the tab RayFlow configuration has been added to the RayQC Advanced settings. The RayFlow instance that is used by RayQC can be configured here.
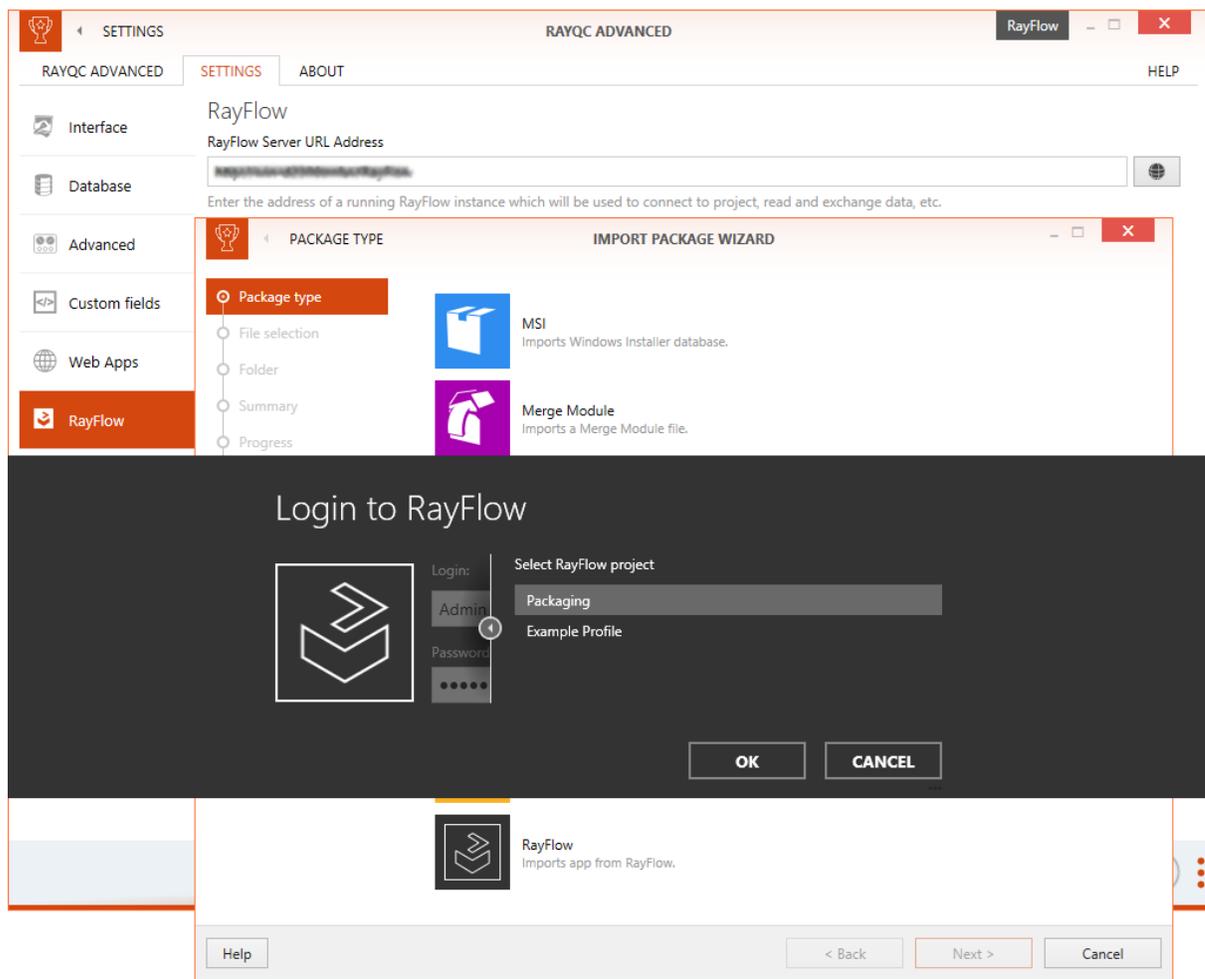
It is now possible to import RayFlow packages as MSI packages into the RayQC Advanced library. Furthermore, it is possible to link a package to RayFlow if it has already been imported into RayQC Advanced. Users need to be logged on into RayFlow in order to get access to this functionality (otherwise the option will be grayed out).

The details of linked RayFlow packages are now shown in the sidebar of the library view.

Extended test coverage [RTS-1371, RTS-1492, RTS-1495, RTS-1496, RTS-1497, RTS-1498, RTS-1499, RTS-1539]

The following new test plugins have been added within this release:

- App-V – Deprecated API Calls
- Virtualization – Hardcoded Paths
- Virtualization – Hosts File
- Virtualization – RELS Files
- Virtualization – Services
- Virtualization – Office Add-ins
- Collision - Executables Registration

Improvements & Enhancements

The following represents a list of improvements and enhancements that are part of this release of RayQC:

User Interface design in the Checklist viewer screen has been improved

[RQC-527]

The user interface design of the checklist viewer is now using color coding to better show the state of the checklist. Now, if a checklist is passed, a green background is shown. If a checklist has failed, a red background is shown and if a checklist is in another state, no background is shown.
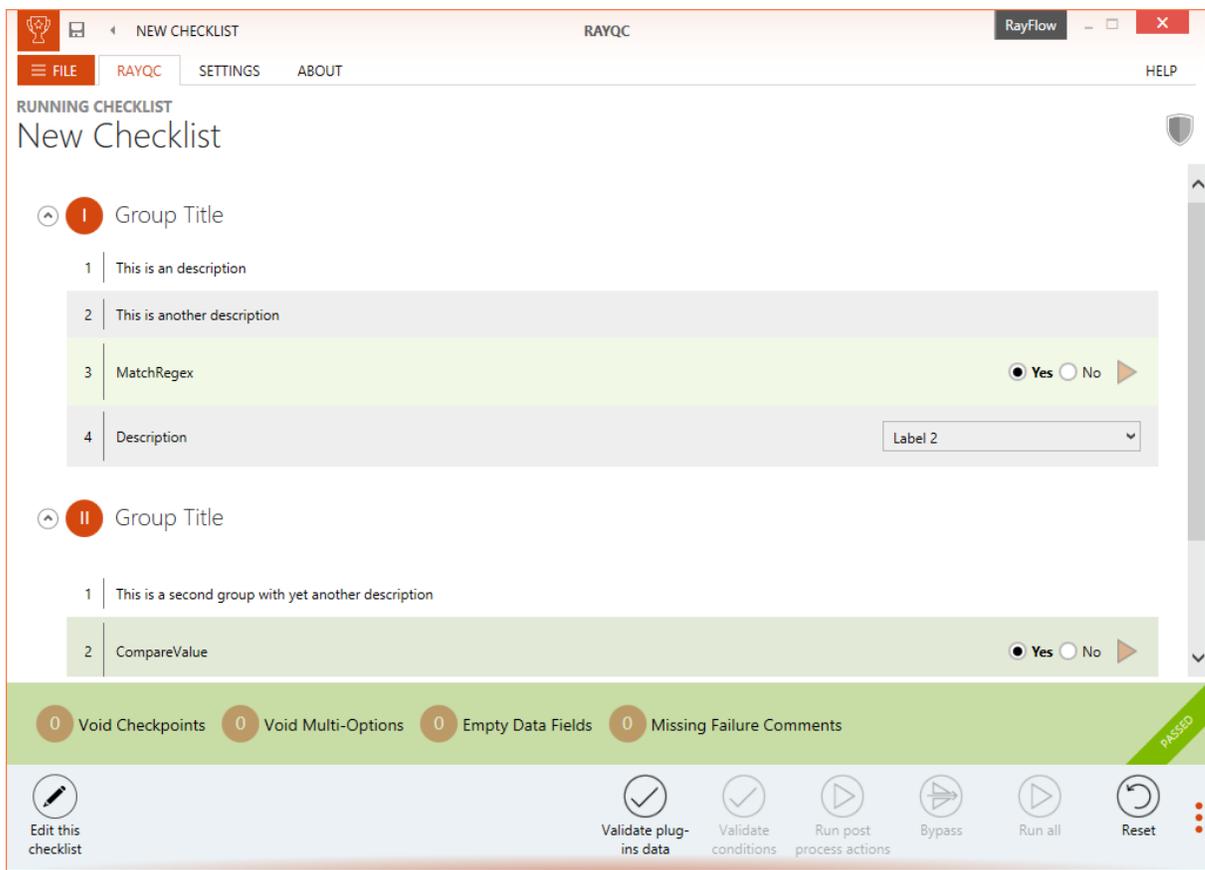
Furthermore, the buttons which have previously been shown at the bottom of the checklist have now been replaced.

New plugins to operate on INI files [RQC-528]

New plugins to operate on INI files have been added to the RayQC Checklist module. These plugins can be used to list the section names from a given INI file and to list the key names from a given section in a given INI file.

Command line support has been added to the RayQC Advanced UI application [RTS-1604].

`RayQCAd.exe` can now open the library screen with a selected package, the Reports screen with a selected report, the Test Wizard, and the Import Wizard via command line.

Issues and fixes page has been improved [RTS-1691]

The issues and fixes page in the test wizard now shows information about the selected and available issues and fixes.

Performance has been improved [RTS-1492, RTS-1541, RTS-1514, RTS-1590, RTS-1616, RTS-1631]

With this release of RayQC Advanced there have been a lot of improvements regarding reports loading, package extraction and general performance. Additionally, refreshing data in various UI elements has been optimized.

Ability to pass element value using RayQC command line [RQC-510]

RayQC has been improved with a functionality that allows to pass an element value through the command line.

Other improvements and enhancements:

- RQC-511 Added possibility to assign help files to groups.
- RQC-514 Adding of existing file resources has been improved with a prompt message.
- RQC-515 Multiple help files can be now deleted at once.
- RQC-519 Tooltip improvements for question mark icons displaying help files have been added.
- RTS-1293 Command line support for custom rules has been added.
- RTS-1394 The style of Drag & Drop elements has been improved.
- RTS-1458 In Import RayQC Checklist Wizard the name of the rule is filled automatically according to the name of the checklist.
- RTS-1469 In Package Properties dialog transform paths are now editable
- RTS-1525 Added a new context menu item to jump to a searched folder/package in the Library view
- RTS-1541 Ability to refresh right panel in the Library view
- RTS-1556 Information about transforms has been added into the summary page in the Import wizard.
- RTS-1565 MST information and paths are now also reported when testing from a file location
- RTS-1602 Streamlined list of available formats in the Import Package wizard
- RTS-1605 Reordered options in Snapshot step in the Test Wizard
- RTS-1607 Formatted strings are now getting resolved when importing MSI packages.
- RTS-1683 Added ability to control the order of MST files in the Migration wizard
- RTS-1693 When any package fails while importing multiple packages at once, it is possible to exclude it from testing
- RTS-1697 Added extra validation for length of a single directory/package name in the Packages tree in the Library
- RTS-1721 Added possibility to specify issue type (warning or error) returned by the RayQC custom rule
- RTS-1748 Added verification of upgrade code when testing Software Collision

Resolved Issues

The following issues from the previous version of RayQC have been resolved in this release:

- **RQC-520** `RayQC.exe` displays log information in the console output.
- **RQC-521** `RayQC.exe` waits for the Enter key after closing the application
- **RQC-533**, **RQC-539** Inconsistent German translation in certain places
- **RQC-542** Bad quality of the default RayQC logo in PDF reports.
- **RQC-551** GetOsName plugin returns incorrect information on Windows 10 environment
- **RTS-1180** Sometimes the list of system snapshots is empty in the Test wizard
- **RTS-1400** Running fix for rules Txx07/Txx17 fails for multiple Operating Systems
- **RTS-1449** Add checksum for package
- **RTS-1484** Incorrect error message when trying to import checklist with not licensed RayQC
- **RTS-1488** In some specific cases applications could not be removed due to overlapping reports
- **RTS-1534** Some packages could not be tested against rules Txx05, Txx06, Txx10
- **RTS-1536** Some web pages cause time out exception when using web crawler tests
- **RTS-1552** Packages are extracted twice
- **RTS-1553** Failed testing of rules TG102, TG106, TG111 for some packages
- **RTS-1555** Sometimes multiple MST files could not be imported in the Import wizard
- **RTS-1558** Some packages cannot be extracted or are extracted really slow
- **RTS-1560** It is possible to create a tag with spaces only
- **RTS-1561** Extraction continues to work even after canceling the wizard
- **RTS-1566** Not refreshed MST list when changing the base folder in the Migration wizard
- **RTS-1568** If opening an MSI editor is canceled, an error message is shown
- **RTS-1569** Tiles in the Test Wizard are cut off on small resolution
- **RTS-1570** Retest results cannot be saved due to invalid colon character
- **RTS-1571** Issues displayed for an App-V package cannot be expanded
- **RTS-1587** For certain snapshot and available memory combinations an exception "Out of Memory" is thrown for rule CA010
- **RTS-1592** Reports view does not refresh after deleting a report
- **RTS-1594** Missing details after restoring archived packages
- **RTS-1601** Inconsistent style of the Library details panel
- **RTS-1608** `RayUpdaterCmd.exe` is always installed under `[ProgramFilesFolder]\RayQCAd`

- RTS-1609 Cannot install RayQC on the shared location

- RTS-1612 Not saved name of generated report

- RTS-1613 Unable to rename a folder to the same name, only with different casing

- RTS-1622 Incorrect cursor when hovering recent items in the Dashboard screen

- RTS-1623 In some rare cases rule TG118 is skipped

- RTS-1627 Crash when extracting specific package

- RTS-1671 Package name in the details panel in Library view is not validated against its length limit

- RTS-1680 Inconsistent German translation in certain places

- RTS-1706 Unnecessary rules present in Windows 10 rulesets

- RTS-1740 Confirmation message when removing an object from Library is wrong

- RTS-1747 Progress bar does not work properly for multi-import of Snapshots, Merge Modules, and App-V

System Requirements

Hardware Requirements

Minimal

- CPU Pentium IV / Core2 processor
- 2 GB RAM
- 1 GB free hard disk
- 1280x1024 screen resolution

Recommended

- CPU Intel Core i5 or i7
- 8GB RAM
- 40 GB free hard disk (software library usage)

Supported OS

- Windows 10 x64 (up to build 10240)
- Windows 10 (up to build 10240)
- Windows 8.1 x64
- Windows Server 2012 R2
- Windows 8
- Windows 8 x64
- Windows Server 2012
- Windows 7

- Windows 7 x64
- Windows Server 2008 SP1
- Windows Server 2008 R2
- Windows Vista SP1
- Windows Vista x64
- Windows XP Professional SP3
- Windows Server 2003 SP1 x64

Prerequisite Software

- .Net 4.0 Full (32bit or 64bit)
- Windows Management Framework (including Windows PowerShell 2.0, WinRM 2.0, and BITS 4.0)
  Please verify if the named or later versions are available on your device before using internal or external plugins in checklists.
  For further details and download resources, visit http://support.microsoft.com/en-us/kb/968929.
- Microsoft SQL Server Express 2008 or higher is required for RayQC Advanced. The server can either be locally hosted or on a remote machine.

> **Be aware:**
> In order to be able to use external plugins with RayQC, it has to be ensured that the PowerShell version supported by the device that hosts the application matches the PowerShell version of the actual plugin script. It is highly recommended to synchronize the PowerShell version among all devices that are assigned for QA execution to prevent compatibility issues in the first place.

Migration

Upgrading the RayQC Application

General upgrade preparations

RayQC 4.0 is delivered as an MSI software package. In order to install it safely:

1. Download the MSI package for RayQC 4.0 from the Raynet resource repositories.
   (If you have not already received credentials, please contact the Raynet support team via support@raynet.de to get them via email)

2. Copy all files that need to be kept for later reuse or look-up (such as resources of global external plugins, log, settings and config files, the `*.license` file, etc.) to a temporary transfer directory outside the RayQC application directory (where they usually reside).

3. Make a backup of your SQL Server database which is used by RayQC Advanced Module.

4. Execute the RayQC 4.0 MSI package and work yourself through the setup routine. The installation of RayQC 4.0 is described in the RayQC 4.0 Installation Guide.

> **Note:**
> If upgrading RayQC Advanced, ensure that a **running** SQL server is available before starting the migration/installation.

If an older version then RayQC 2.1 is installed on the target machine

If an older version then RayQC 2.1 is already installed on the target machine there are two different ways to migrate to the new RayQC 4.0.

- Install RayQC 4.0 and keep the installation of RayQC 1.5 or RayQC 2.0. They will remain untouched by the installation of RayQC 4.0.

General upgrade preparations

RayQC 2.1 is delivered as an MSI software package. In order to install it safely:

1. Download the MSI package for RayQC 2.1 from the Raynet resource repositories.
   (If you have not already received credentials, please contact the Raynet support team via support@raynet.de to get them via email)

2. Copy all files that need to be kept for later reuse or look-up (such as resources of global external plugins, log, settings and config files, the `*.license` file, etc.) to a temporary transfer directory outside the RayQC application directory (where they usually reside).

3. Remove the old RayQC installation manually.

4. Execute the RayQC 4.0 MSI package and work yourself through the setup routine. The installation of RayQC 4.0 is described in the RayQC 4.0 Installation Guide.

Adjusting the newly installed RayQC instance

1. Launch RayQC.

2. Define config files and settings according to the old system state.

3. Test the new settings and configurations by creating and evaluating checklists, communicating with RayFlow, reviewing log files, etc.

4. If there are issues regarding broken or missing functionality, please feel free to contact the Raynet support team via support@raynet.de.

RayUpdater

During the migration, if database changes are necessary, these will be done automatically. While executing the setup routine, RayUpdater, the tool used for a safe migration of the data, will be launched automatically and perform all necessary steps without the necessity of any user input.

Upgrading RayQC Files

The file formats RQCT and RQCP Raynet introduced in RayQC 1.5 and have been massively reworked to match the needs of the modernized application logic. Therefore, it is not possible to simply re-use templates and projects that have been generated with RayQC 1.5 in the current version 4.0.

The RQCT files used in RayQC 4.0 are no longer XML structures, but ZIP containers that contain the XML checklist file (`checklist.xml`) as well as all other resources required to run the checklist on RayQC: plugins, help files, images, etc. are stored within dedicated directories wrapped in the ZIP container.

Additional files that represent the current project status of a checklist evaluation (`state.xml`), post-processing settings and signature information, are added when a template is saved as project file RQCP.

Knowing about these changes makes it quite obvious that there must be some manual steps in any kind of checklist transition from version 1.5 to 4.0. Once this is done, the following standard procedure is a valid option for their transition to 4.0:

To transfer a RayQC 1.5 RQCT to the current 4.0 format, users have to run the following procedure:
1. Copy the original RQCT file to a temporary working directory.

2. Change the file
   a. name to `checklist`
   b. extension from `.rqct` to `.xml`

3. Create a new ZIP that contains the `checklist.xml` file. Name the ZIP container according to the old checklist file name, and set the file extension to RQCT.

4. The result of steps 1-4 has to be a zip container with the file extension `*.rqct`, that contains a `checklist.xml` file with the original checklist structure.
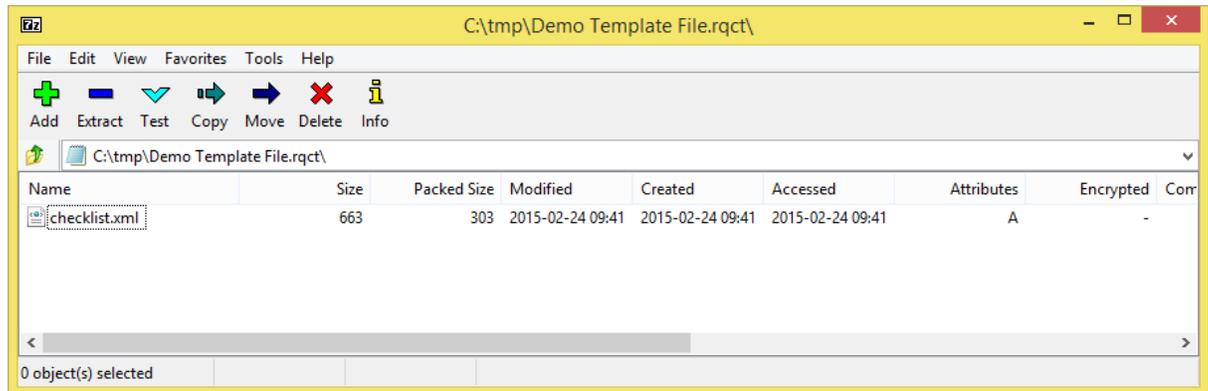
5. Open this file in RayQC 4.0.

6. It is most likely, that the validation procedure run during checklist loading states issues with the XML source structure. In this case, a dialog is displayed, revealing details about invalid areas with a click on the more button.

   Open the `checklist.xml` file from within the RQCT container, and correct all mentioned issues to establish an XML file that is valid according to the `ChecklistSchema.xsd` demanded by RayQC 4.0.

7. Save the changes to the `checklist.xml` file, and re-try to open the RQCT container with RayQC.

8. Repeat steps 6 & 7 until the checklist is successfully validated and opened by the application.

   Once this level is achieved, all upcoming changes may be executed directly within the checklist editor. Please refer to the User Guide section about editing checklist templates for further instructions.

Be aware:
Checklists with extended plugin and condition usage may be quite difficult to upgrade manually, since both parts of the system logic have undergone revolutionary changes during the development of RayQC 4.0. Therefore, these checklists are recommended to be re-created from scratch.
Also be aware:
There is no direct upgrade path for RayQC projects from product versions prior to 1.5.

Please contact your RayQC service consultant, or the Raynet support team to get information about possible forms of assistance for any required upgrading measures.

New licensing in RayQC 4.0

If migrating from an older version to RayQC 4.0 a new license file is needed. RayQC versions previous to 4.0 used a license file of the `.license` format. These files are no longer supported. The current version of RayQC is using license files of the `.rsl` format. For more information on the current licensing of RayQC please refer to the Product Activation chapter.

Wrong term used in the log.config file [RTS-1557]

With the release of RayQC 4.0 a wrong term that previously was used in the `log.config` file has been replaced. From the 4.0 release onwards the term `RayQCAdvanced` will be used in the `log.config` file.

Product Activation

The product can be activated using one of the following methods:

- Directly within the installation (see the *Installation Guide*)
  - By supplying the order number
  - By supplying an already generated license file (`.rsl` format)
- When the product is started for the first time.

If RayQC detects that no valid license is present on start-up, the license activation wizard will be shown after starting the main executable. The tool can be also started manually, by executing `Raynet.LicenseActivation.exe` from the main installation folder.
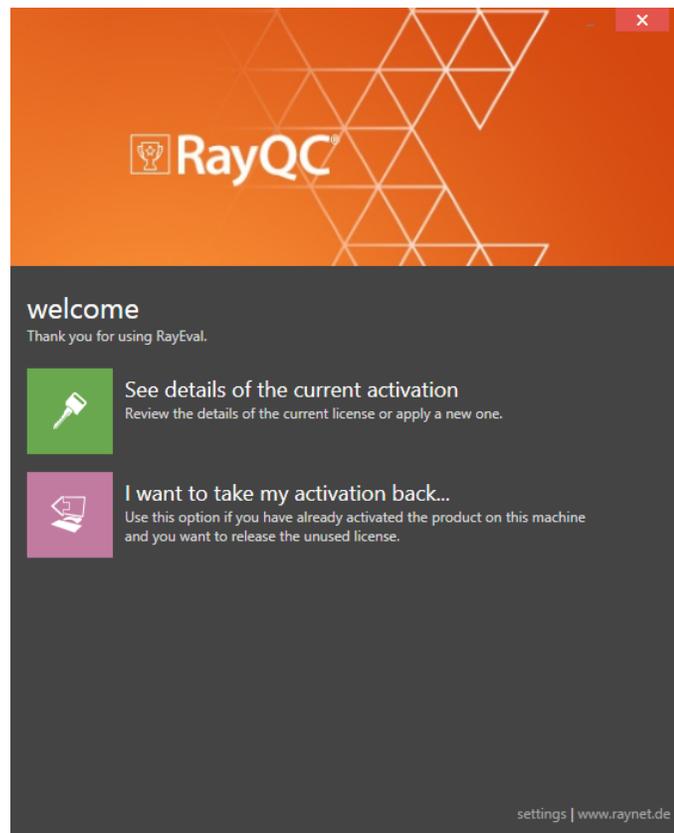
License Wizard

This section describes the usage of the licensing wizard.

On the initial start of RayQC, the licensing wizard is shown. If the need to transfer an existing license arises, the license wizard can be started manually. There are a variety of ways in which a license can be activated and below they are described in detail.
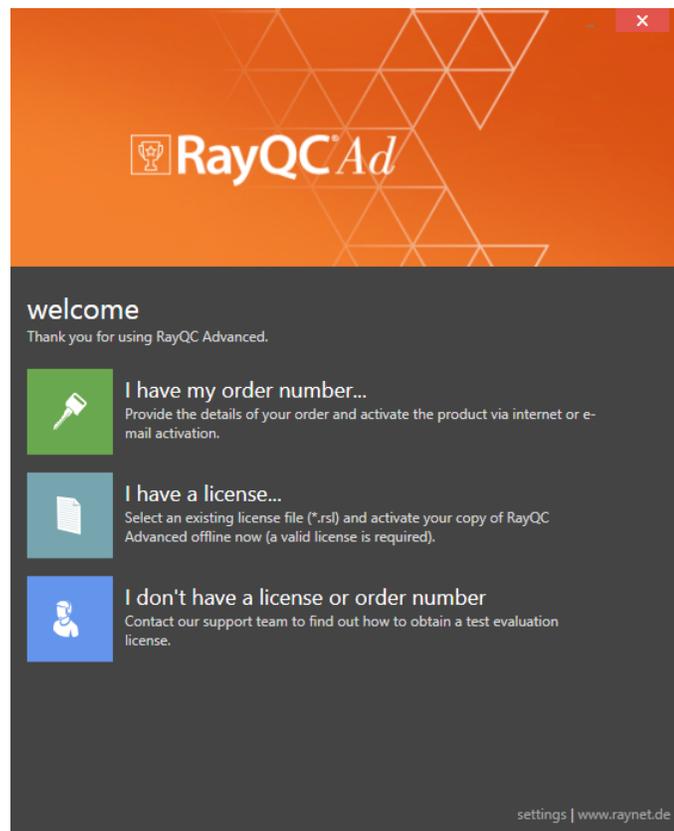
First time activation

The main screen when the product has been already activated

I have my order number

This option should be used if the order number from Raynet has already been received or there is a desire to transfer an existing license to the current machine running RayQC. For in-depth information please read this section. This options is only visible if the product has not been activated yet.

See details of the current activation

This options shows the details of the current activation. This option is only visible if the product has been already activated.

I have a license

If RayQC has already been activated, it can be re-activated on the same machine by using this procedure. For in-depth information please read this section. This options is only visible if the product has not been yet activated.

I don't have a license or order number

Choose this option if there is neither a license nor order number. For in-depth information please read this section. This option is only visible if the product has not been activated yet.

I want to take my activation back...

Use this option to deactivate a currently licensed version of RayQC. For in-depth information please read this section. This options is only visible if the product has been already activated.

Once the license file has been generated or copied to the correct location the following will be shown...
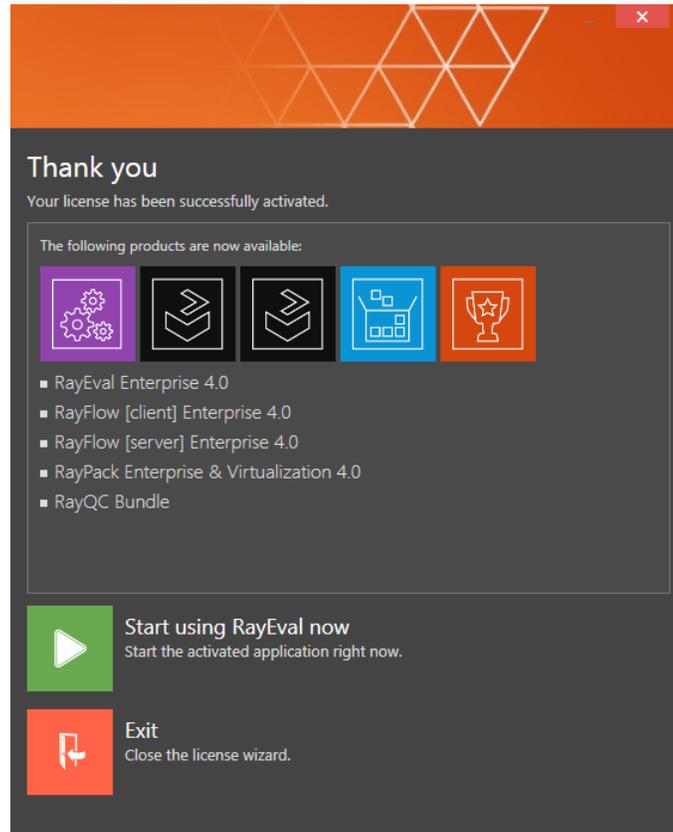
Note:
Depending on the license, more available products may be shown, as pictured above.

Then the option of starting RayQC or just closing the activation wizard is made available.

Troubleshooting

If any issues arise during the activation process, please contact our help desk to receive assistance in activating RayQC.

I have my order number

RayQC can be activated either directly online or via email once the order number has been delivered. The activation process generates a license file (`*.rsl`) that is created (or must be copied) to the installation directory of RayQC (in the same location as the `RayQC.exe`). When performing an online activation, sufficient permissions must be readily available to allow the creation of the license file in the installation directory. The activation **binds** the license to the machine on which it was activated on. This is the only time that an active connection to the internet is required (if activating online).
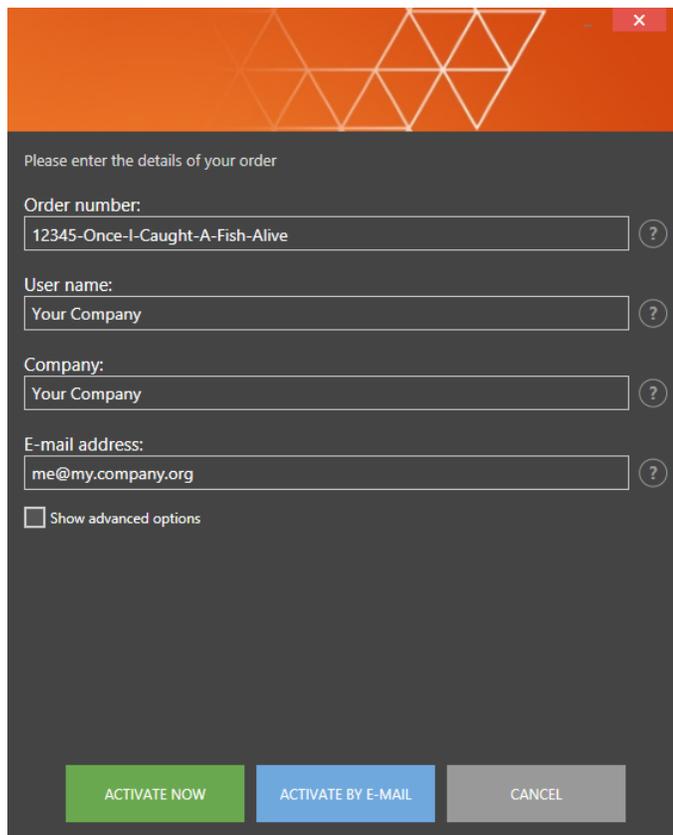
Choosing the **ACTIVATE NOW** button, connects to the Raynet license server using the information provided and will dynamically generate a license file. Choosing the **ACTIVATE BY E-MAIL** button will open a dialog as shown here. Choosing the **CANCEL** button will abort the activation process.

Order details

Order number:
This is the unique order number received when RayQC has been purchased. If it is necessary to recover the order number, please contact our sales team.

User name:
This is the name of the user that is activating RayQC. It does not need to be the same name used to order RayQC.

Company:
This is the name of the company for which RayQC will be licensed. This name will appear in the License and Edition view of RayQC.

E-mail address:
This is the email address of the person that performs the activation. We respect the privacy of our customers, this email address will only be used by Raynet and only when there are any problems or important information regarding the license.

Advanced options

On choosing the advanced options check box, extended information and possibilities of the licensing and activation of RayQC are shown.

Hardware ID:
This is a ID calculated based on the hardware on which the activation is taking place on. The ID is unique, but cannot be used to personally identify a user. It is used to generate the license for the machine on which the activation process is carried out on.
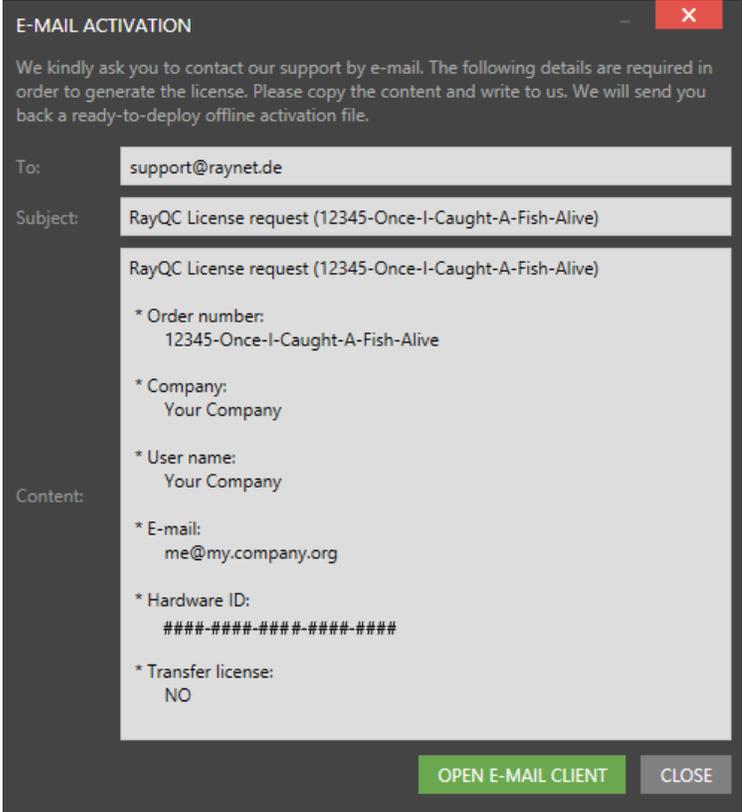
Transfer the license
If this option is selected, the order number and details may be used to activate RayQC on a second machine, that has differing hardware (which obviously has a different Hardware ID). This assumes that RayQC has been deinstalledfrom the machine on which it was previously activated on. The transfer license functionality is logged on our license servers and is periodically checked to ensure that no abuse is made of this functionality.

If the license transfer is part of a regular maintenance and can therefore be prepared and scheduled, it is highly recommended to use the deactivation function first, to disconnect license and packaging machine. This is the standard way for transferring licenses. The option offered here is intended for unscheduled transfers, required if a machine, for whatever reason, cannot be accessed or used operational any longer.

Activation by e-mail

On choosing the Activation by e-mail, the dialog shown below is displayed.

This basically shows the contents of the email that will be sent to Raynet. If RayQC detects that an e-mail client is installed on the machine on which the activation process is active, the button **SEND E-MAIL** will be active and selectable. Clicking this button will then send an email to Raynet and a license file with instructions how use the license file will be delivered. This information is also available here.

If no email client is present on the machine on which the activation process is taking place, copy and paste the contents of the dialog onto a machine on which an email client is present, and send the information from that client. On receiving the mail, a license file will be generated and sent back including instructions on how to use the license. This information is also available here.

> **Tip:**
> Please ensure that when copy & pasting information from the **E-MAIL ACTIVATION** dialog everything is added as shown above (To: Subject: and Content:)

Once the license file has been generated the following will be shown:
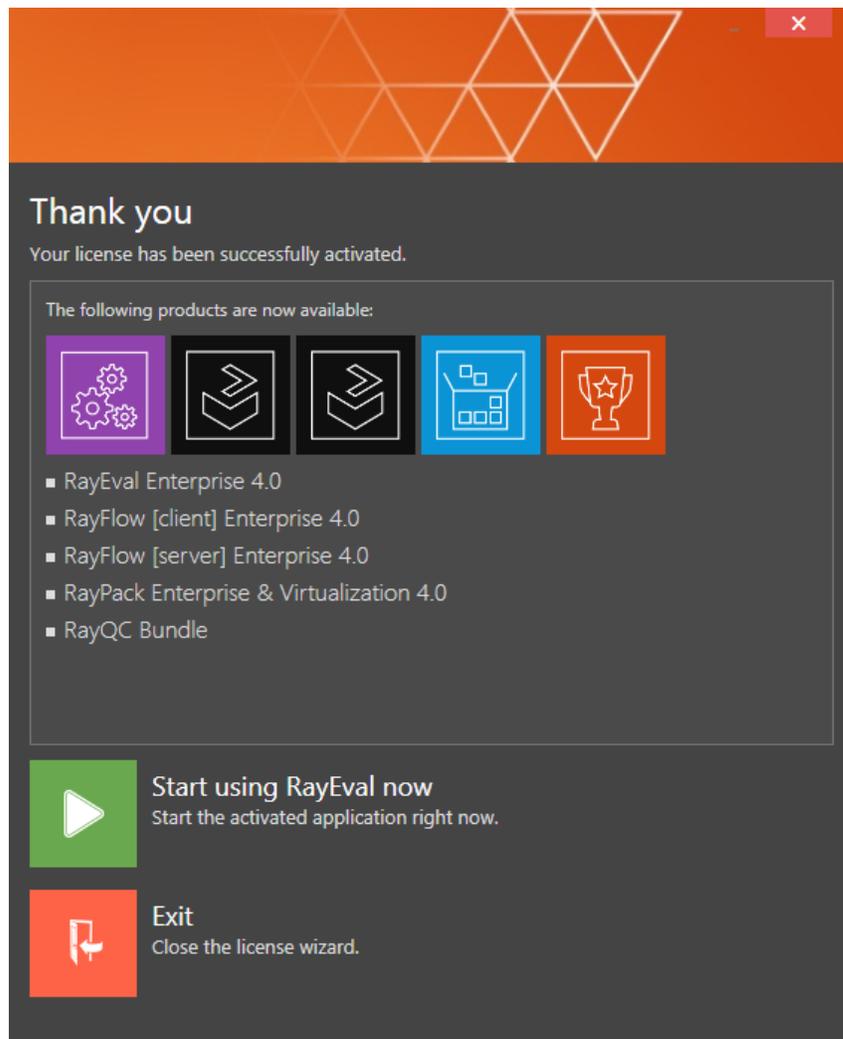
Note:
Depending on the license, more available products may be shown. As an example, see the image above.
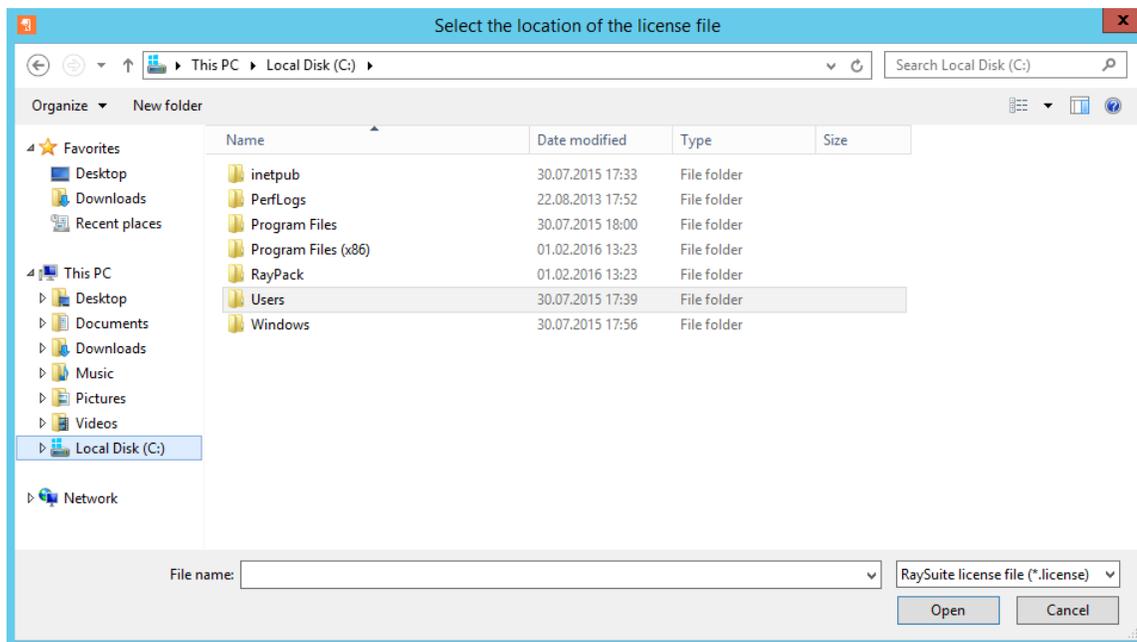
The option of starting RayQC or just closing the activation wizard are available now.

Troubleshooting

If there are any problems during the activation process, please contact our help desk for receiving assistance in activating RayQC.

I have a license

If a license is already available, or a license file has been received as a result of activating RayQC via e-mail, then all that is required is to copy the license file into the installation directory of RayQC (the directory in which the `RayPack.exe` resides). Clicking on the **I have a license** button on the **License wizard** dialog opens a dialog box which allows to choose the license file. Once chosen, the file will be copied automatically to the RayQC installation directory. Please ensure that sufficient permissions to allow the creation/copying of a file to the installation directory of RayQC are available.

Once the license file has been copied to the correct location the following will be shown:

> **Note:**
> Depending on the license, more available products may be shown. As an example, see the image above.

The option of starting RayQC or just closing the activation wizard are available now.
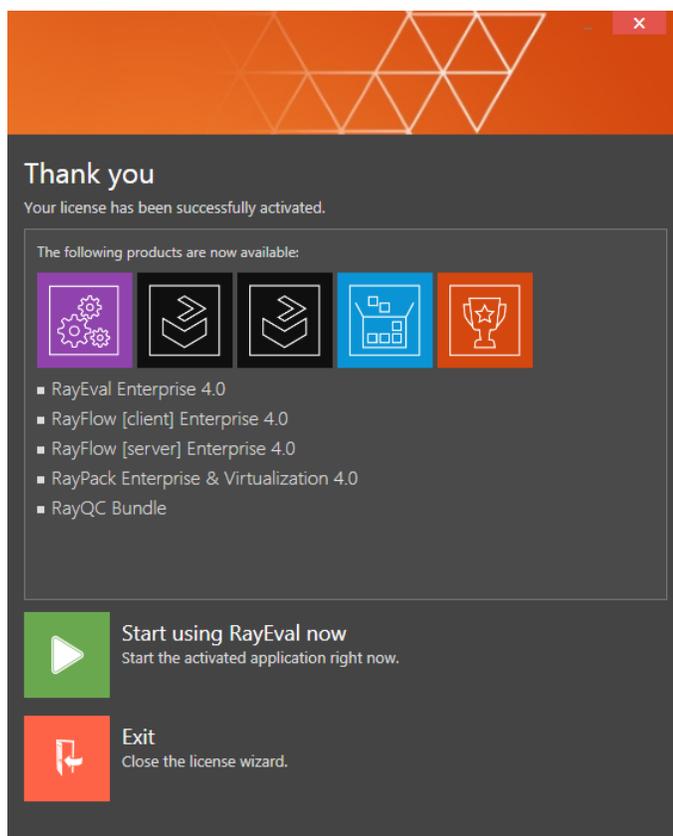
Troubleshooting

If there are any problems during the activation process, please contact our help desk for receiving assistance in activating RayQC.

I do not have a license or order number

If neither a license or order number is available, then just simply register with Raynet to download an evaluation license for RayQC. This allows potential customers to test and work with RayQC before purchasing. Choosing **I don't have a license or order number** opens the Raynet website in the default browser, allowing potential customers to download an evaluation copy of RayQC.

I want to take my activation back

Deactivating an existing license for RayQC may be required if the packaging machine used has to be switched. Whenever there is a scheduled migration, e. g. when a virtual machine is transferred in a way that affects the **Hardware ID**, or when a physical machine is no longer used for packaging purposes, deactivating the license is the right thing to do.

To deactivate a licensed RayQC installation

1. Launch RayQC and open the license and edition tab of the **about** area.

2. Click on the **Open the license wizard** button on the lower left hand side of the application window.

3. Use the option **I want to take my activation back...**

4. Enter the **order number** that was originally used to activate RayQC on the current machine. It was part of the resources and information material delivered during product purchase.

5. If required, adjust the user name already entered into the input field **User name**. The users who activate and deactivate an installation do not necessarily have to be the same.

6. Click on **DEACTIVATE NOW**.

   The license wizard will connect to the Raynet licensing server and send the deactivation information. On success, the number of licenses available for activation, which are bound to the used order number, is incremented by one. With this new free license it is possible to activate any RayQC installation, on the current machine or any other.

Troubleshooting

If any problems during this process occur, please contact our help desk for receiving assistance in deactivating RayQC.

Additional Information

Further information regarding RayQC can be found in several resources.

- The *Operations Supplement* provides information about third-party software packages and libraries redistributed with RayQC.

- The *Installation Guide* provides IT professionals with a guide on how to install RayQC for the first time.

- The *User Guide* provides detailed information about both, the RayQC Checklist management tool and the RayQC Collision management tool.

- The *Get Started Guide* provides a new user with an introduction and tips on the use of the RayQC Checklist management tool.

- The *Get Started Advanced Module Guide* provides a new user with an introduction and tips on the use of the RayQC Collision management tool.

- The product website www.rayqc.de provides information about the product, news, and support.

- Raynet and its partners offer a range of training courses that can also be customized to meet your requirements. For more information on these courses, speak with your Raynet consultant.

Need Help?

Request RayQC support

Our Raynet support team gladly assists you on any question or issue you encounter regarding RayQC. Feel free to sign in and open incidents via our Raynet support panel, or by simply sending an email to support@raynet.de if you are an already registered Raynet customer.

Join the RaySuite community

The RaySuite community resides within our Knowledge Base: https://raynet.de/Support/. Once you have signed up for access to the Raynet support panel, you automatically have access to the Knowledge Base, too. You will surely come to a point where you would love to suggest a new feature for the future development of RayQC. Maybe you need to find some tips & tricks to hit your target right. the RaySuite community is your place for discussing such topics, for sharing and expanding your own experience.

Contact your Raynet sales representative

Our sales team is the right contact for any license or edition question you might encounter. Would you like to benefit from a professional RayQC training? Ask for dates and locations to find the right training to meet your needs. You are highly welcome to step in contact via sales@raynet.de.

Software Packaging Quality Control

RayQC is part of the RaySuite®.

More information online
www.raynet.de