

# Qualified Target Integration Process

This technical note describes the Rapita Systems *Qualified Target Integration Process*, including points of contact, stages of the process, deliverables produced during it, and timescales.

The Qualified Target Integration Process is undertaken if you have purchased the following from Rapita Systems: *qualification kit(s)* for the RVS tool(s) you are using, a *tool integration service*, and a *qualified target integration kit*.

## Points of contact

A *Rapita Field Application Engineer* and *Software Quality Assurance Engineer* will work closely with you throughout the *Qualified Target Integration Process*.

## Stages

The *Qualified Target Integration Process* includes three stages:

- Integrate RVS tools
- Generate a qualified target integration kit (QTIK)
- Produce qualification evidence

Important milestones and timescales in the process are shown in Figure 1.

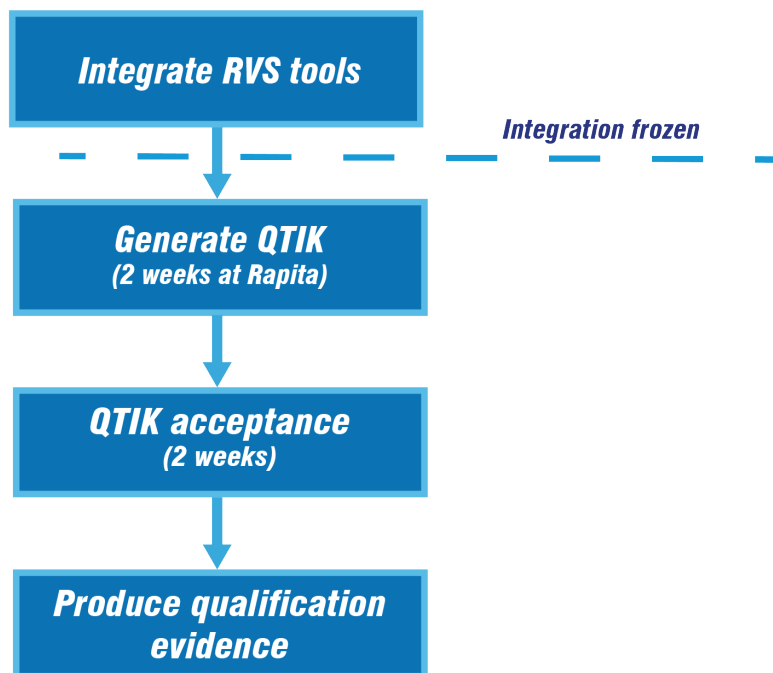


Figure 1. Stages and timescales of the Qualified Target Integration Process

## Integrate RVS tools

During this stage, a Rapita Field Application Engineer helps to integrate RVS into your project environment and writes and delivers an *Integration Report*, which contains details of your project environment, such as your build system.

You can preview *generic qualification kit* documents, which describe our internal qualification processes for the RVS tool(s) you're using during this stage. When the integration is complete, you can use RVS within your project.

As your RVS license includes support and maintenance, you can benefit from our world-class support service throughout your use of RVS.

At the end of this stage, you and Rapita agree to "freeze" the integration, such that no more changes can be made to it, and your *Integration Report* accurately describes it. Further stages in the qualification process cannot take place until your integration has been frozen.

## Generate a QTIK

After your integration has been “frozen” and when you’re ready to qualify RVS in your project, we do the following:

- Write an *Integration Qualification Report*, which reviews your integration for issues that may affect tool qualification.
- Create an *onsite test* (code to test RVS tool features) and *list of expected results* (the expected output of the onsite test when built and run within your integration).
- Construct a *generic qualification kit*, a collection of documents that summarize our internal tool qualification processes.

These three elements make up the *qualified target integration kit* (QTIK), which we send to you.

It typically takes at least 2 weeks for us to complete this stage. If your project has a tight schedule, it is important that you take this period of time into account when agreeing to “freeze” your integration.

We ask that you review the QTIK within two weeks of the delivery date.

## Produce qualification evidence

In the final stage of the process, you complete tool qualification by creating the evidence you need to meet DO-330 COTS tool user qualification guidelines. You do this by:

- Confirming that the delivered verification records are for a verification environment (e.g. Windows OS version) that is representative of your development environment.
- Reviewing the *known problems* described in the *generic qualification kit*, and taking any actions needed to make sure they don’t affect your integration.
- Ensuring that you’re using the tools correctly by following the *Conditions of use* specified in the *generic qualification kit* and *Integration Qualification Report*.
- Building the *onsite test* and running it within your project environment and ensuring that the results match those in the *list of expected results*.

After doing this, you have:

- Evidence that RVS tools work in a representative verification environment (from in-house tests in the *generic qualification kit*)
- Evidence that you are using RVS correctly (as results from your *onsite tests* match the *list of expected results*)

When combined, this evidence is sufficient to qualify RVS for use in your project.

## Scope of qualified target integrations

According to the guidance given in DO-178/DO-330, qualification is specific to a specific version of RVS (defined in the *generic qualification kit*) and a specific integration (defined in the *Integration Report*).

As such, if you change either of these, you need to go through the *Qualified Target Integration Process* again.



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