ETAS RTA-SUM v2.3.3

Status: Released

Getting Started Guide

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ETAS RTA-SUM 2.3.3 | RTA-SUM Getting Started Guide R01 EN – 10.2023

Contents

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1 Introduction

This Getting Started Guide provides an overview of RTA-SUM and its modules. It describes how to install the RTA-SUM ISOLAR-AB plugin and how to integrate RTA-SUM modules into an RTA-CAR project.

1.1 Revision History

Version	Change	Author
1.0.0	First release of RTA-SUM.	SUM Development Team (ETAS/ERS-Tn)
1.1.0	Editorial enhancements in the whole document. Table 1: Updated version information of RTA-SUM modules. Table 2: List of the supported GB specifications.	SUM Development Team (ETAS/ERS-Tn)
1.2.0	Table 1: Updated version information of RTA-SUM modules. Table 2: Updated list of the supported GB specifications. Figure 2: Figure updated. During installation user should specify the path of ISOLAR-AB.	SUM Development Team (ETAS/ERS-Tn)
2.0.0.Beta1	Model Year (MY) nomenclature replaced by Vehicle Intelligence Platform (VIP). Section 1.3: References removed. Section 2.9: Description of SUM_SOH added. Table 1: Updated version information of RTA-SUM modules. Table 2: Updated list of GB specifications supported in this release for VIP24 programs. Updated figures: Figure 1 to Figure 4, Figure 8 to Figure 11, Figure 13 and Figure 16. Section 4.2: Added description about a compatibility warning when using ISOLAR-AB 8.0.1	SUM Development Team (ETAS/ERS-Tn)
2.0.0.rc1	Release Candidate of RTA-SUM 2.0.0	SUM Development Team

	Table 1: Updated version information of RTA-SUM modules. Table 2: Updated list of GB specifications supported in this release for VIP24 programs. Section 3.1.1: Added section about compatibility of RTA-SUM plugin with ISOLAR-AB version. Section 4.2: Removed description about a compatibility warning when using ISOLAR-AB 8.0.1	(ETAS/ERS-Tn)
2.0.0	Release of RTA-SUM 2.0.0 Table 1: Updated version information of RTA-SUM modules.	SUM Development Team (ETAS/ERS-Tn)
2.1.0.rc1	Release Candidate of RTA-SUM 2.1.0 Table 1: Updated version information of RTA-SUM modules. Section 3: Updated supported ISOLAR-AB versions in this release.	SUM Development Team (ETAS/ERS-Tn)
2.1.0	Release of RTA-SUM 2.1.0 Table 1: Updated version information of RTA-SUM modules.	SUM Development Team (ETAS/ERS-Tn)
2.2.0_rc1	Release Candidate of RTA-SUM 2.2.0 Table 1: Updated version information of RTA-SUM modules. Table 2: Updated list of GB specifications supported in this release for VIP23 and VIP24 programs. Section 3: Updated supported ISOLAR-AB versions in this release.	SUM Development Team (ETAS/ERS-Tn)
2.2.0	Release of RTA-SUM 2.2.0 Table 1: Updated version information of RTA-SUM modules.	SUM Development Team (ETAS/ERS-Tn)
2.3.0	Release of RTA-SUM 2.3.0 Section 2.10: Description about RTA-SUM COMMON added. Section 4.2: Note about RTA-SUM COMMON integration added. Table 1: Updated version information of RTA-SUM modules. Section 3: Updated supported ISOLAR-AB versions in this release.	SUM Development Team (ETAS/ERS-Tn)

2.3.1	Release of RTA-SUM 2.3.1 Table 1: Updated version information of RTA-SUM modules. Table 2: Updated list of GB specifications supported in this release for VIP23 and VIP24 programs.	SUM Development Team (ETAS/ERS-Tn)
2.3.2.TP1	First Technical Preview of RTA-SUM 2.3.2 Table 1: Updated version information of RTA-SUM modules	SUM Development Team (ETAS/ERS-Tn)
2.3.2	Release of RTA-SUM 2.3.2 Table 1: Updated version information of RTA-SUM modules. Section 3: Updated version of RTA-SUM plugin in this release. Updated installation figures.	SUM Development Team (ETAS/ERS-Tn)
2.3.3.TP1	First Technical Preview of RTA-SUM 2.3.3 Table 1: Updated version information of RTA-SUM modules	SUM Development Team (ETAS/ERS-Tn)
2.3.3.TP2	Release Candidate of RTA-SUM 2.3.3 Table 1: Updated version information of RTA-SUM modules	SUM Development Team (ETAS/ERS-Tn)
2.3.3	Release of RTA-SUM 2.3.3 Changed Template Table 1: Updated version information of RTA-SUM modules. Section 3: Updated version of RTA-SUM plugin in this release.	SUM Development Team (ETAS/ERS-Tn)

1.2 Definitions and Abbreviations

API	Application Program Interface
BSW	Basic Software
BswM	Basic Software Mode Manager
CAN	Controller Area Network
Com	The RTA-BSW Communication Module
Dcm	The RTA-BSW Diagnostic Communication Module
Dem	The RTA-BSW Diagnostic Event Manager
DTC	Diagnostic Trouble Code
DIAG	The RTA-SUM Diagnostic Application Services
ECU	Electronic Control Unit
Ecuc	ECU Configuration File
ERRH	The RTA-SUM Error Handling Module
GM	General Motors
LNM	The RTA-SUM LIN Network Manager module
PNC	The RTA-SUM Partial Network Coordinator module
RTE	Run Time Environment
SOH	The RTA-SUM State of Health Manager module
SSM	The RTA-SUM Signal Status Monitor module
SSC	The RTA-SUM Security Service Coordinator module
SUM	Standard Utility Module
SUSD	Startup Shut down Coordinator
SW	Software
TCS	The RTA-SUM Timing Client Service module
VIP	Vehicle Intelligence Platform

2 Overview of RTA-SUM

RTA-SUM is a solution for integrating the Standard Utility Modules (SUMs) defined by GM for the Global B platform. SUMs are software components located in the Application Layer of the standardized architecture of AUTOSAR.

RTA-SUM takes the form of a plug-in to the ETAS AUTOSAR Authoring Tool, ISOLAR-AB.

RTA-SUM is comprised of the following modules, each of which is described in more detail in its own separate User Guide.

2.1 RTA-SUM DIAG

The RTA-SUM Diagnostic Application Service (DIAG) primary function is to implement the diagnostic functionality defined in GB6003.

2.2 RTA-SUM ERRH

The RTA-SUM Error Handling Module (ERRH) is notified of error events created by BSW Production Errors or SUM error events. SUM_ERRH filters the events with the appropriate debounce algorithm, and based on the results of that algorithm, it notifies Dem of an event and a test pass/fail for that event.

2.3 RTA-SUM LNM

The RTA-SUM LIN Network Manager (LNM) manages interaction with the BSW services related to LIN Network Management for an ECU that is a master of any LIN Network. There is one SUM_LNM per network.

2.4 RTA-SUM PNC

The RTA-SUM Partial Network Coordinator (PNC) manages all BSW services related to Partial Networks (PNs) for an ECU that is a member of any PN. SUM_PNC is implemented in all ECUs that are members of any PN.

2.5 RTA-SUM SSC

The RTA-SUM Security Service Coordinator (SSC) has numerous responsibilities, including the transmission and reception of Authenticated and Non-Authenticated messages, the ECU Unlock functionality, Security Peripheral Key Provisioning Support, Secure Incoming Message Error Monitoring and Diagnostic tasks for both Transmitters and Receivers.

2.6 RTA-SUM SSM

The RTA-SUM Signal Status Monitor (SSM) defines a standard implementation to interpret the various "status" of the data values that are associated with received serial data signals, and it provides a consistent interface to functional software. SUM_SSM is responsible for handling status information related to the Signal Integrity and Source Integrity for received signals, and for the handling of the generation/checking of safety signals transmitted/received within a protected signal group, as described in GB8002.

2.7 RTA-SUM SUSD

The RTA-SUM Startup Shutdown Coordinator (SUSD) is responsible for numerous functions, including the Application State Manager, Application SW-C Start/Shutdown, Operating/Battery Voltage Monitor, and Wakeup Reason DID.

2.8 RTA-SUM TCS

The RTA-SUM Timing Client Service (TCS) primary function is to provide a synchronized time stamp for the extended date record of a DTC. SUM_TCS fulfills the requirements of a TS Slave described in GB6001. This module is not intended to provide any control functions or vehicle driver/passenger viewable display data.

2.9 RTA-SUM SOH

The RTA-SUM State of Health Manager (SOH) is defined to support monitoring functionalities and reporting at the multiple stages of the operational health of the host ECU communication systems, hardware, operating system and software components.

2.10 RTA-SUM COMMON

The RTA-SUM COMMON is an ETAS-specific module defined to support the implementation of the interfaces that are common for more than one RTA-SUM module

2.11 RTA-SUM Modules Versions

Table 1 describes the RTA-SUM modules and program versions supported in this release.

	VIP22	**VIP23**	**VIP24**
DIAG	4.1.6	5.2.1	6.3.2
ERRH	4.1.7	5.5.4	6.3.3
LNM	4.0.5	4.0.5	6.1.2
PNC	3.1.0	5.4.4	6.2.0
SOH	n.a.	n.a.	6.3.3
SSC	4.2.3	5.4.5	6.3.3
SSM	3.3.6	5.7.1	5.7.1
SUSD	3.5.5	5.3.1	6.5.0
TCS	3.3.0	3.3.0	3.3.0
COMMON	4.1.2	5.4.0	6.2.0

Table 1. RTA-SUM modules and versions supported.

2.12 Supported GB Specifications

Table 2 provides the list of GB specifications supported in this release.

GB#	VIP22	VIP23	VIP24
GB8002	v1.24 - 22.22.141	23.23.154	24.24.158
GB8001	22.22.141	23.23.156	24.24.158
GB8000	21.21.141	23.23.149	23.23.149
GB6000	22.22.150	23.23.162	24.24.163
GB6001	v4.6	23.23.159	24.24.161
GB6003	v2.9 - 22.22.149	v3.2.1 – 23.23.152	v3.4 – 24.24.157
GB4001	22.22.142	23.23.155	23.23.155
GB4002	22.22.147	23.23.154	23.23.154
GB4007	22.22.147	23.23.154	23.23.154
GB4008	22.22.145	23.23.163	23.23.163
GB3001	20.20.136	20.20.136	24.24.162
GB9100	4.0s	4.0s	4.0s

Table 2. Supported GB specifications.

3 Installation

This section describes the RTA-SUM Plugin installation process.

3.1 Prerequisites

ISOLAR-AB 9.2.2 (included in RTA-CAR 9.2.2) or higher is required for RTA-SUM and its modules to function correctly.

The computer on which RTA-SUM is to be installed must meet the minimum system requirements for the target version of ISOLAR-AB. Please refer to the ISOLAR-B Getting Started Guide for the exact requirements.

3.1.1 Compatibility with ISOLAR-AB versions

ISOLAR-AB 9.2.2 (included in RTA-CAR 9.2.2) is recommended for using RTA-SUM 2.3.3. Compatibility with previous versions of ISOLAR-AB is not supported.

3.2 RTA-SUM Installation

RTA-SUM is integrated as a plug-in to ISOLAR-AB, which needs to be fully installed before you begin the installation of RTA-SUM.

Launch the RTA-SUM Plugin installer (SUM-Plugin.exe) from the root folder of the installation DVD and select the path where ISOLAR-AB integrations for RTA-SUM should be installed.

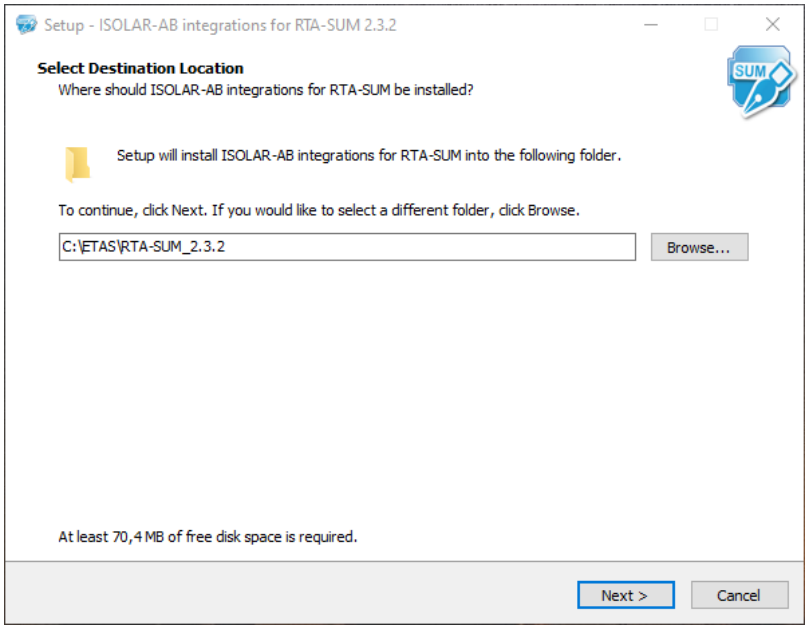


Figure 1. Integration RTA-SUM on ISOLAR AB.

Select the ISOLAR-AB version into which the RTA-SUM packages will be integrated.

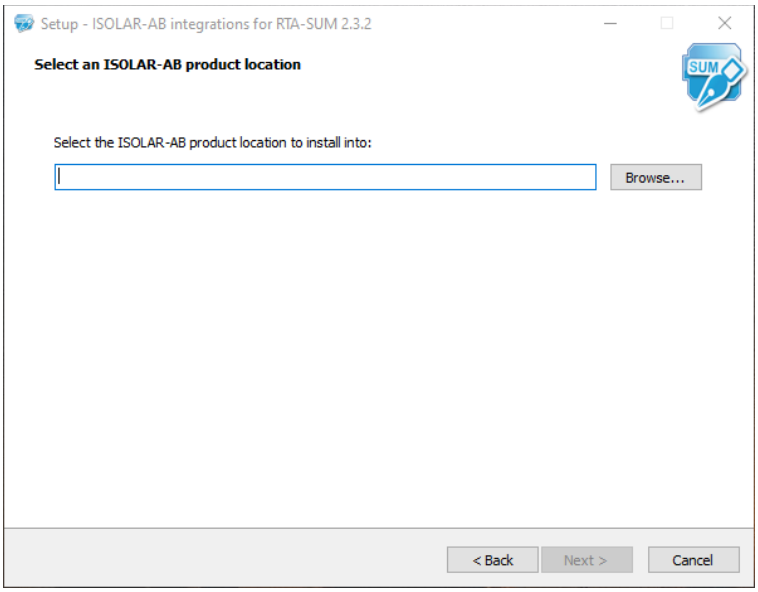


Figure 2. Integration RTA-SUM on ISOLAR AB. Selecting ISOLAR version.

Wait for the installation to complete and click “Finish” to close the installer.

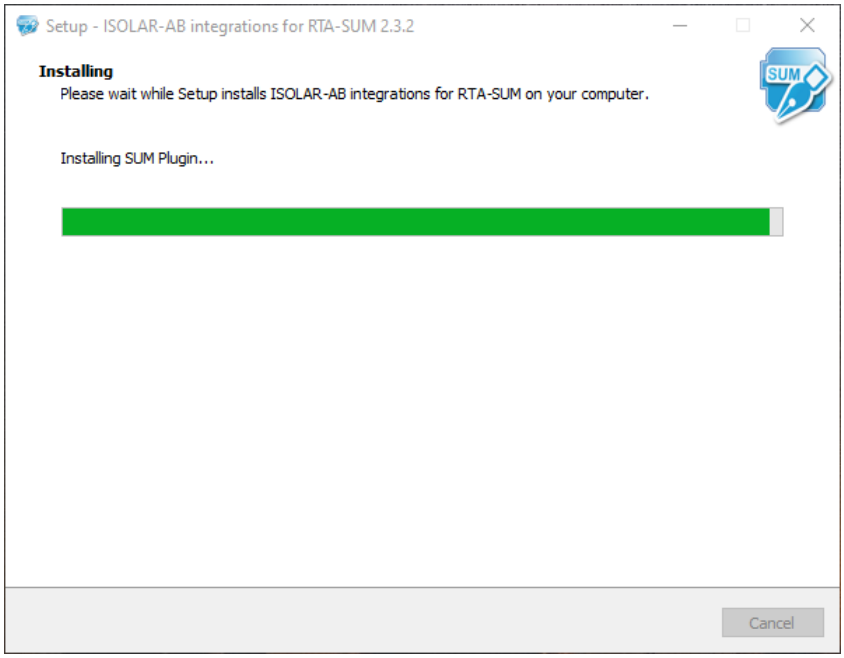


Figure 3. Installation ongoing.

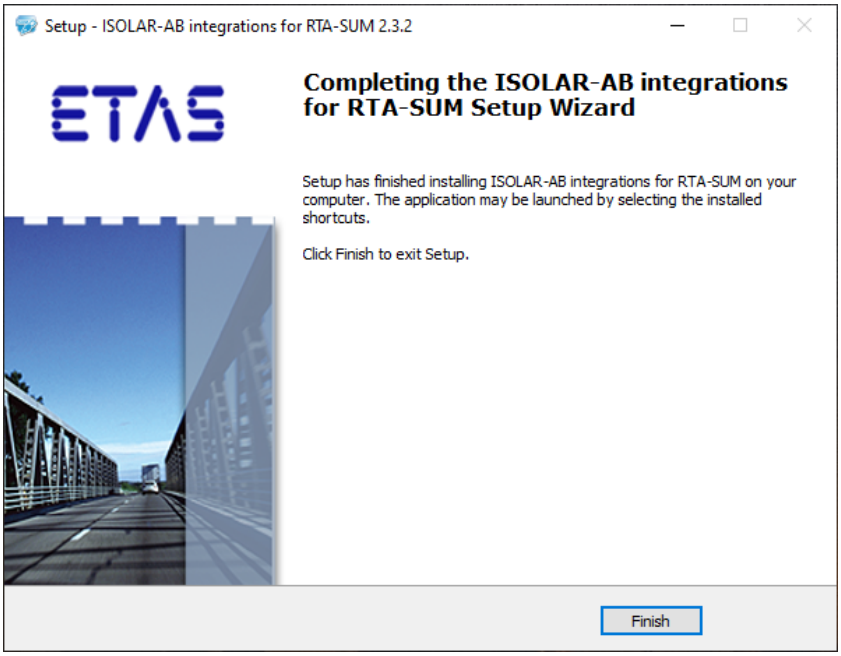


Figure 4. Installation completed.

You can now open ISOLAR-AB and create a new project for integrating RTA-SUMs. Documentation relating to each of the RTA-SUM modules can be found in the installation path.

3.3 Licensing

To be able to work with an ETAS software product, you require a license. This section contains basic details on ETAS License. Details concerning the scope of the licenses and other legal aspects can be found in “Terms and Conditions”.

3.3.1 ETAS License Models

There are two different license models available for licensing RTA-SUM software:

Machine-Named License, Local

- A license of this type is managed by the user himself/herself.
- As it is linked to a particular PC (more precisely: to the MAC address of the Ethernet adapter), it is valid wherever the PC is used.
- When you change your PC, you require a new license

Concurrent (or Floating) License, Server-Based

- The licenses are provided for the specific user names. Several users share a limited number of licenses.

How to get a License

Contact the responsible person, if your company has a tool coordinator and server-based license management for ETAS software. Otherwise (in case of a machine-named license) you obtain your license from the ETAS license-portal (the URL is shown on your Entitlement Certificate).

There are three ways of logging in on the welcome page:

Activation ID: Once you have logged in, a specific activation is visible and can be managed – the activation ID is shown on your Entitlement Certificate.

Entitlement ID: All activations of the entitlement are visible and can be managed (e.g. for a company with just one entitlement).

E-mail and password: All activations of the entitlements assigned to the user account are visible and can be managed (e.g. for a tool coordinator responsible for several entitlements).

If you need help in the portal, click Help link.

What Information is required?

Information on the hosts must be entered to activate licenses:

Machine-named license: The MAC address of the Ethernet adapter to which the license is to be bound is required.

Concurrent (floating) license: You need a server host or a server triad.

Note: If this data changes (e.g. due to changes in the hardware or a change of user), the license must be given a “rehost”. This procedure is also described in the portal help file.

License File

The result of your activities is the provision of a file <name>.lic with which you can license your software in the ETAS License Manager.

Open ETAS License Manager:

- Click All Programs®->ETAS®License Management®->ETAS License Manager on Windows 7 Start menu.

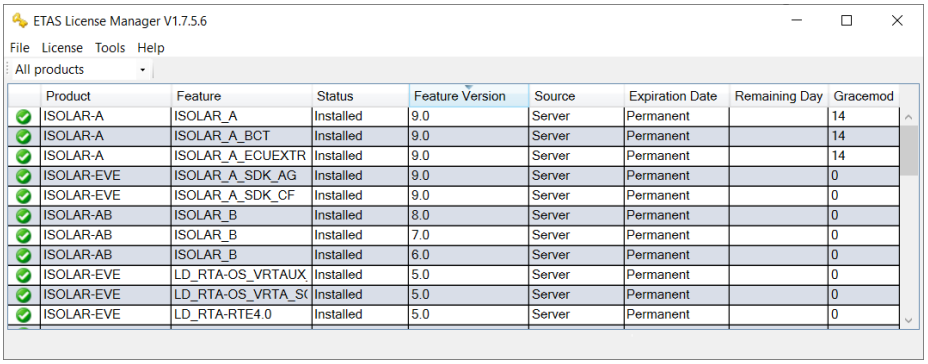
  <or>

- Click ETAS License Manager directly on “Apps” view in the Windows 8 / Windows 8.1 / Windows 10 Start menu.

Check License Status:

- Open the ETAS License Manager.
- Check the “Status” column.

The ETAS License Manager contains one entry for each installed product. The symbol at the beginning of the entry and the “Status” column entry indicate if a valid license has already been obtained or not.



Product	Feature	Status	Feature Version	Source	Expiration Date	Remaining Day	Gracemod
ISOLAR-A	ISOLAR_A	Installed	9.0	Server	Permanent		14
ISOLAR-A	ISOLAR_A_BCT	Installed	9.0	Server	Permanent		14
ISOLAR-A	ISOLAR_A_ECUEXTR	Installed	9.0	Server	Permanent		14
ISOLAR-EVE	ISOLAR_A_SDK_AG	Installed	9.0	Server	Permanent		0
ISOLAR-EVE	ISOLAR_A_SDK_CF	Installed	9.0	Server	Permanent		0
ISOLAR-AB	ISOLAR_B	Installed	8.0	Server	Permanent		0
ISOLAR-AB	ISOLAR_B	Installed	7.0	Server	Permanent		0
ISOLAR-AB	ISOLAR_B	Installed	6.0	Server	Permanent		0
ISOLAR-EVE	LD_RTA-OS_VRTAUX	Installed	5.0	Server	Permanent		0
ISOLAR-EVE	LD_RTA-OS_VRTA_SC	Installed	5.0	Server	Permanent		0
ISOLAR-EVE	LD_RTA-RTE4.0	Installed	5.0	Server	Permanent		0

Figure 5. License Manager (Installed Licenses)

To add a License file:

- Open the ETAS License Manager.
- Select the menu, **File->Add License File.**

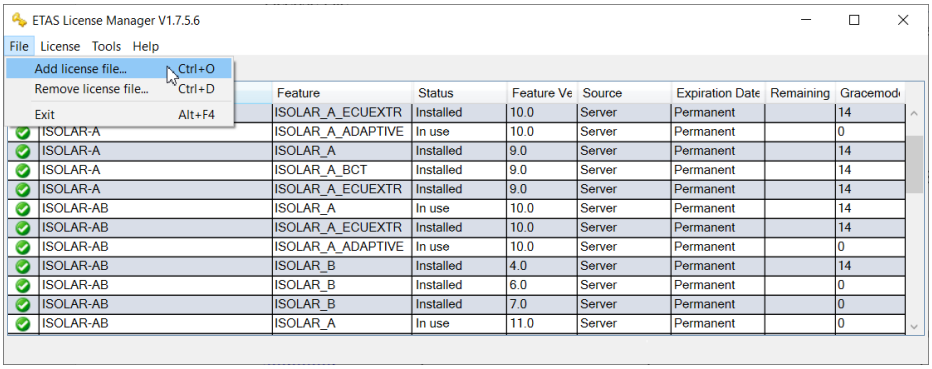


Figure 6. Add a License

The “Add License File” window opens.

- Next to the “Select License File” field, click the [. . .] button to select the .lic file.
- Click OK.

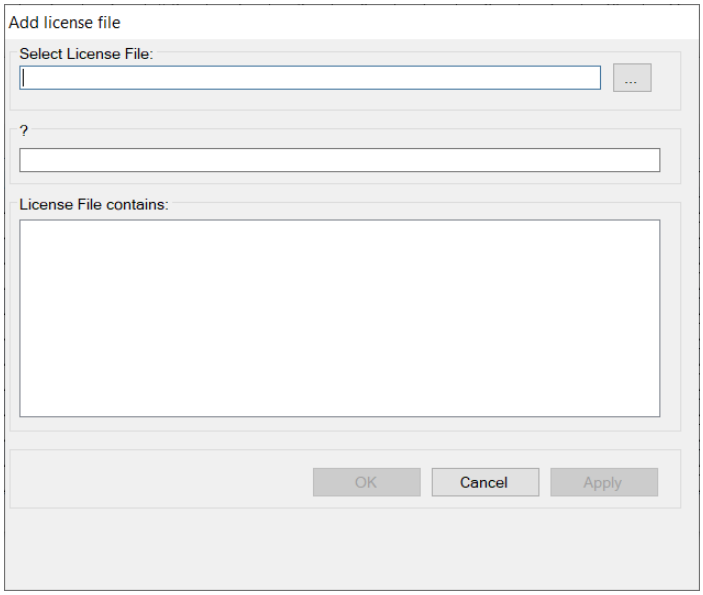


Figure 7. Add a License File.

The “ETAS License Manager” window shows information on the selected license. The “Feature Version” column shows the version number of the license, not the version number of the software.

Warning: If the green symbol is not displayed, there might be a problem with the license file or the license relates to another product. Additional information on ETAS License Manager can be found in the “Online Help” of the ETAS License Manager.

4 Getting Started

This section provides guidelines on the integration of RTA-SUM modules into a RTA-CAR project.

For details about the configuration of each of the RTA-SUM modules, please refer to the separate module-specific User Guides.

4.1 Creating a RTA-CAR Project

Once the RTA-SUM plugin has been installed, open ISOLAR-AB and create a new RTA-CAR project.

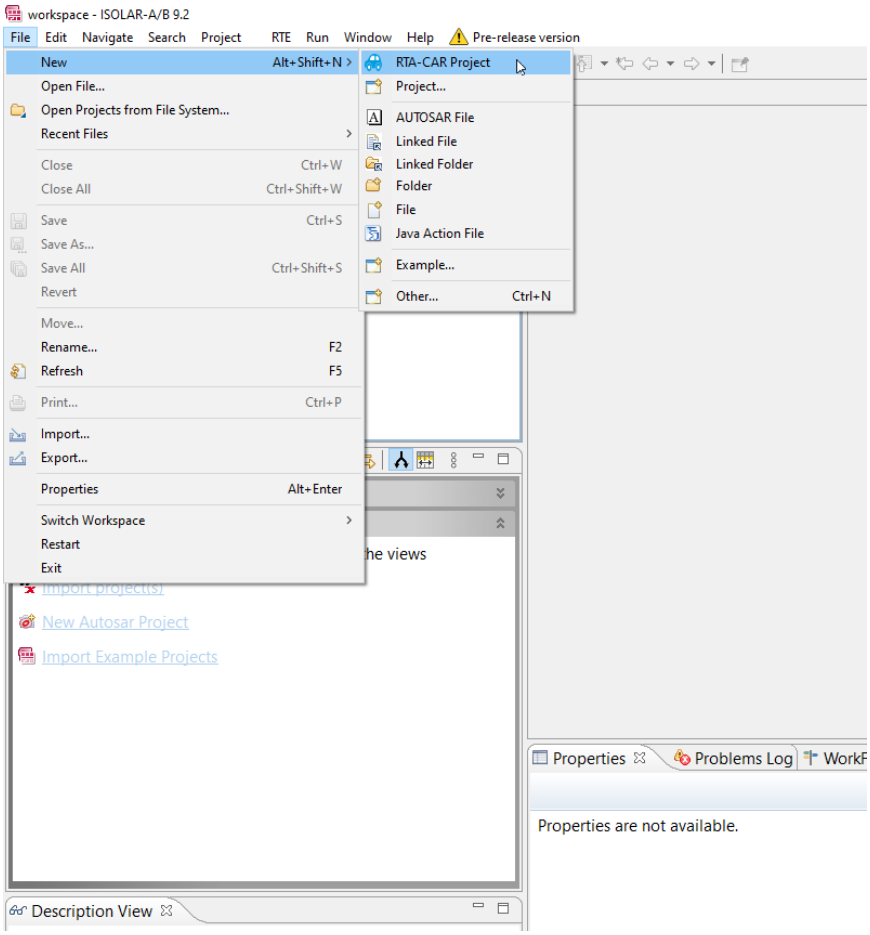


Figure 8. RTA-CAR project creation.

Select the option *RTA-CAR OEM project*, and the VIP that will be relevant to your project in the Platform version configuration dialog. Then click Next.

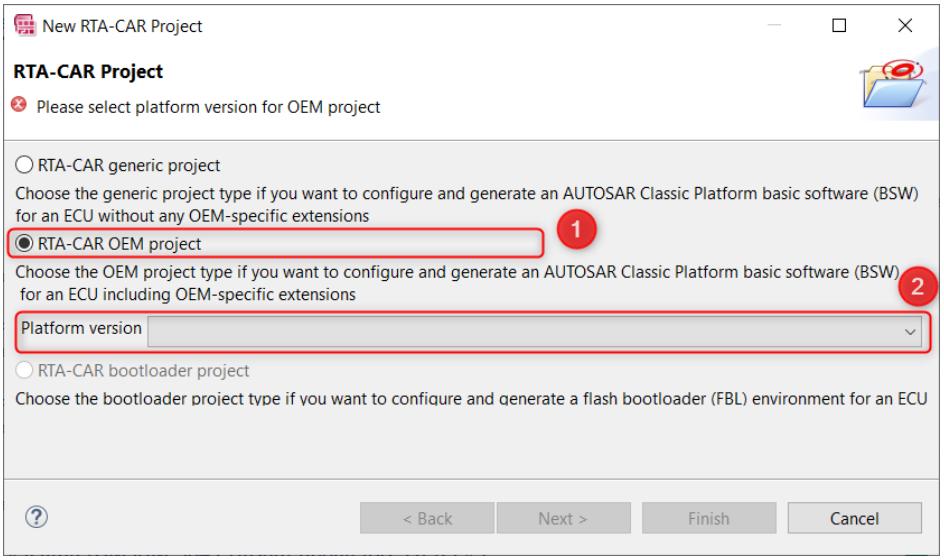


Figure 9. Project settings (1).

Specify the project name and select RTA-OS port and RTA-BSW ConfGen version according to your configuration. Click Next and then Finish.

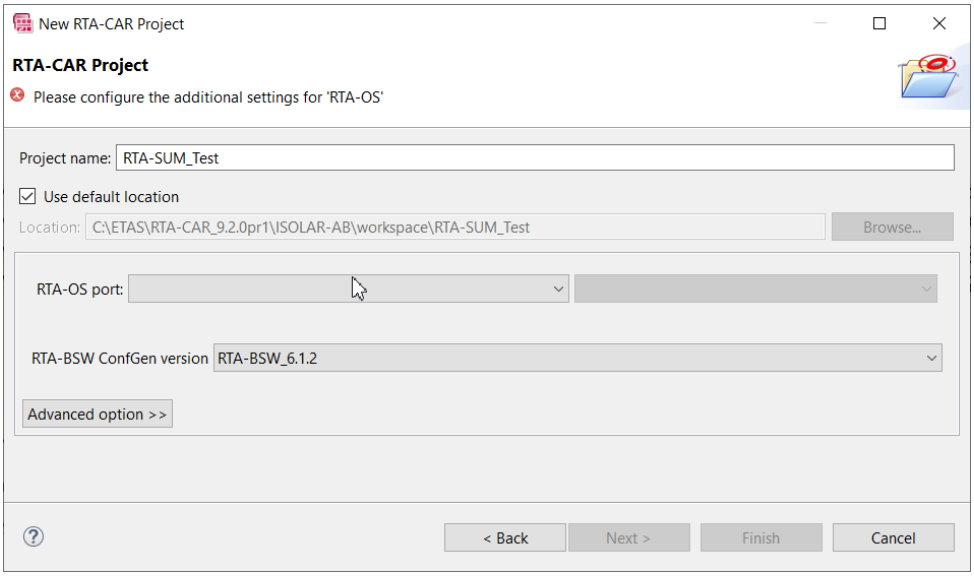


Figure 10. Project settings (2).

The RTA-CAR toolchain will create the basic folder structure for your project, and once you have that basic structure in place, you can proceed with the next step and integrate the RTA-SUM modules into your project.

Note: An ECU Instance is required before starting the integration of the RTA-SUM modules.

4.2 Integration of RTA-SUM modules

Open the RTA Code Generator dialog.

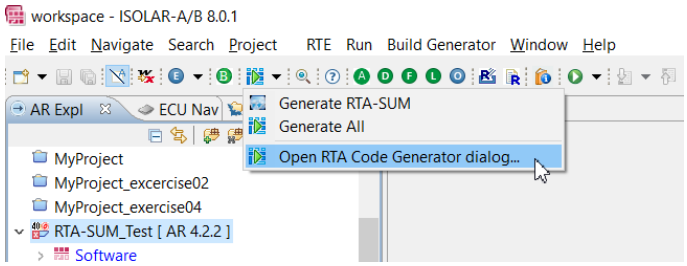


Figure 11. RTA-SUM modules integration.

In the RTA Code Generator dialog (Figure 12), select the RTA-SUM modules that you want to integrate by choosing the available VIP version, which should be the same as the VIP version you selected when you created the project.

If you leave a module set to "*--Not Configured--*", it will not be integrated into the project.

Note that you can also configure the Log and Output paths to be used by the code generation.

When you have made all the required changes, click Run to build the selected RTA-SUM modules.

Please note that RTA-SUM COMMON will be integrated by default according to the VIP version selected during project creation. No configuration or EcuCValues are required for this module.

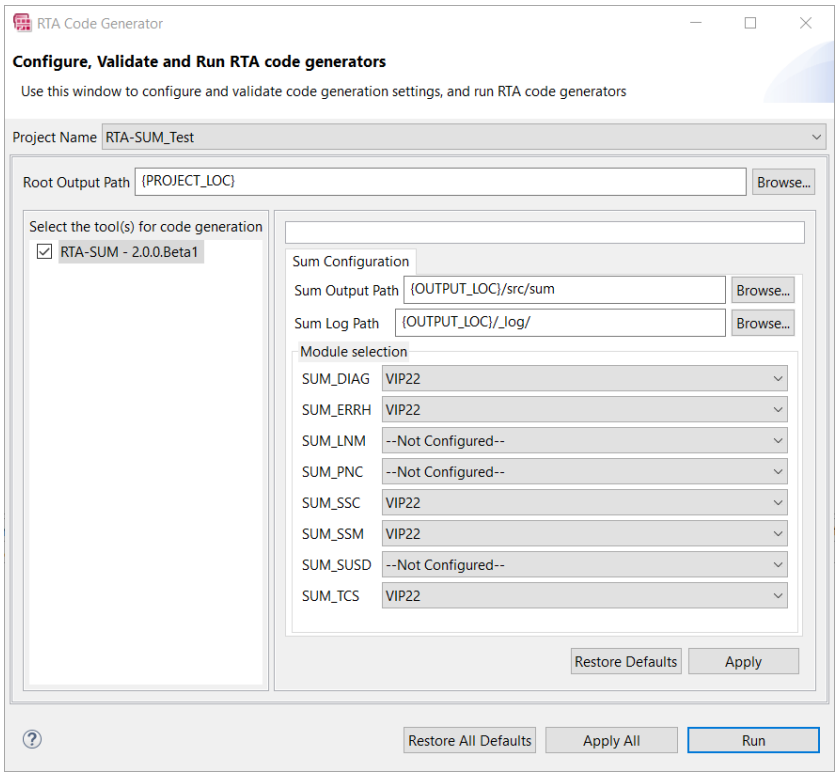


Figure 12. RTA Code Generator.

Assuming the generation runs correctly, the generated files will be written to your specified output folder and the static code artefacts for the supported RTA-SUM modules will be in the ecu_config folder.

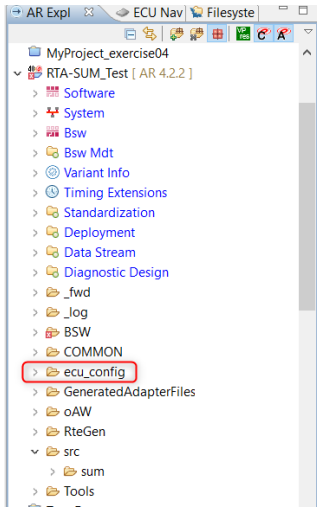


Figure 13. Output folder structure.

RTA-SUM modules can be regenerated through the RTA Code Generator.

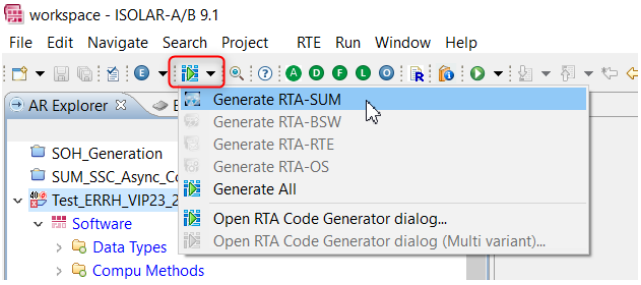


Figure 14. RTA-SUM re-generation.

4.3 Dependencies of RTA-SUM Modules

After the generation of the RTA-SUM SWCs and source code, each RTA-SUM module will then require specific BSW configuration, as well as interactions with the BSW modules, and with the other RTA-SUM modules.

Given the dependencies between the different RTA-SUM modules, the recommended order in which to integrate them is as follows:

1. SUSD
2. PNC
3. SSC
4. SSM

5. ERRH
6. DIAG
7. TCS
8. SOH

Once you've configured the BSW and satisfied the dependencies between the RTA-SUM modules, you must then regenerate the BSW source code, which will include an update of the Service SWC descriptions of the BSW modules.

Please consult the RTA-BSW Getting Started Guide for more details on how to configure the BSW and run the generators.

After regenerating the BSW source code, the interfaces will have been created and included in the BSW SWCDs, so the RTA-SUM SWCs will be able to resolve any references that might eventually be missing.

4.4 ASW and System Integration

With the configurations of the BSW and the RTA-SUM modules completed, the next step is to update the ASW, adding the RTA-SUM SWC prototype to the composition and creating the connections with the other SWC (ASW, BSW Service Components, other RTA-SUM modules).

A detailed description of these tasks is outside the scope of this document, so please consult the relevant RTA-CAR Guides for more information on how to update your ASW composition and how to create connections using the RTA-CAR toolchain.

In summary, however, the steps required to integrate the RTA-SUM modules with your ASW and your system will be as follows:

1. Update all the connections in the ASW composition (i.e. connect the RTA-SUM modules among them and with the ASW and BSW Service Components).
2. Update your System configuration: Add the SWC to the ECU Mapping using the "SWC To ECU Mapping Editor".
3. Regenerate the EcuExtract.
4. Update the RTE Configuration mapping the new runnables to the Tasks.

4.5 RTE Generation

After your system configuration has been updated, you can generate the RTE. The generated RTE code will contain all the function calls that allow the RTA-SUM modules to interact with each other and with the ASW and BSW.

5 Privacy

5.1 Privacy Statement

Your privacy is important to ETAS so we have created the following Privacy Statement that informs you which data are processed in RTA-SUM, which data categories RTA-SUM uses, and which technical measure you have to take to ensure the users privacy. Additionally, we provide further instructions where this product stores and where you can delete personal or personal-related data.

5.2 Data Processing

Note that personal or personal-related data respectively data categories are processed when using this product. The purchaser of this product is responsible for the legal conformity of processing the data in accordance with Article 4 No. 7 of the General Data Protection Regulation (GDPR). As the manufacturer, ETAS GmbH is not liable for any mishandling of this data.

5.3 Data and Data Categories

When using the ETAS License Manager in combination with user-based licenses, particularly the following personal or personal-related data respectively data categories can be recorded for the purposes of license management:

- Communication data: IP address,
- User data: UserID, WindowsUserID.

5.4 Technical and Organizational Measures

This product does not itself encrypt the personal or personal-related data respectively data categories that it records. Ensure that the data recorded are secured by means of suitable technical or organizational measures in your IT system. Personal or personal-related data in log files can be deleted by tools in the operating system.

6 Contact Information

Technical Support

For details of your local sales office as well as your local technical support team and product hotlines, take a look at the website: www.etas.com/hotlines

ETAS Headquarters

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Fax: +49 711 3423-2106
Internet: www.etas.com