RENESAS

IAR Embedded Workbench® for Renesas Synergy™ v8.23.3

Release Note

Renesas Synergy™ Platform
Synergy Tools & Kits
IAR EW for Synergy

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Renesas Synergy™ Platform

IAR Embedded Workbench® for Renesas Synergy™ v8.23.3

Introduction

This document provides supplemental release notes for the **IAR Embedded Workbench® for Renesas Synergy™ v8.23.3**. This version of the IAR EW for Synergy supports Synergy Standalone Configurator (SSC) v7.3.1, Synergy Software Package (SSP) software, executing on S7G2, S5D9, S5D5, S5D3, S3A7, S3A6, S3A3, S3A1, S124, S128, and S1JA MCU Groups.

Release Information

IAR EW for Synergy Release Version	v8.23.3.18530
Supported SSC Version	v7.3.1
Supported Operating Systems	Microsoft® Windows® 7 and Microsoft® Windows® 10

Contents

1.   Installing IAR EW for Synergy v8.23.3

1.1   Using the individual IAR EW for Synergy Installer

To install IAR EW for Synergy and get it ready for use, follow the *IAR EW for Synergy Getting Started Guide* on the Synergy Gallery.

The individual IAR EW for Synergy installer does not include the Synergy Standalone Configurator (SSC) or the Synergy Software Package (SSP).

- Both SSC and SSP are required to create Synergy projects using IAR EW for Synergy.
- Both SSC and SSP have their own Release Notes, which can be found on following pages:
 www.renesas.com/synergy/ssc
  www.renesas.com/synergy/ssp

Familiarize yourself with the SSC and SSP Release Notes before starting any Synergy project as **these documents contain important information**.

2.   Updating your IAR EW for Synergy License

If you have a time-limited IAR EW for Synergy license, after installing IAR EW for Synergy v8.23.3, update your IAR EW for Synergy license to a permanent license as follows:

1. In IAR EW for Synergy, select **Help > License Manager**.
2. In the IAR License Manager, select **License > Check for License Renewal**.
3. Select your license number and click the **Check selected licenses** button.
   The IAR License searches for license renewals for your license.
4. After the IAR License Manager has retrieved the updated license keys, click the **Renew selected** button.
   The IAR license Manager presents you with the renewal results.
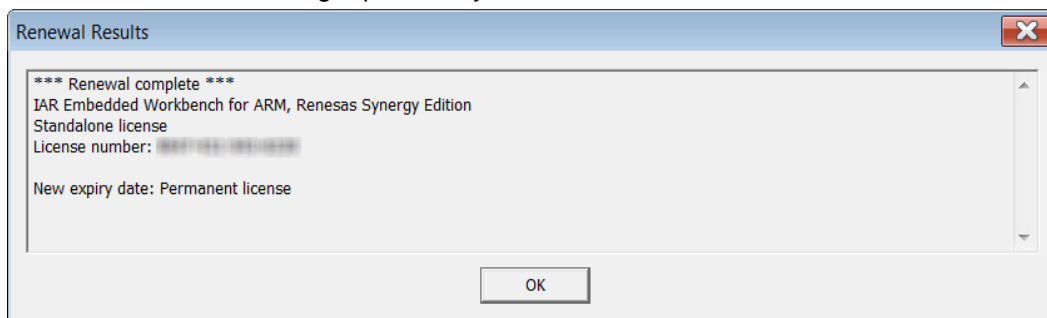
You have now updated your IAR EW for Synergy license to a permanent license.

3.   Building IAR Projects from Command Line

To build an EW Synergy project using an IAR compiler (`.ewp`) from the command line, the `<projectname>.custom_argvars` file needs to be invoked in the command line as it contains the tool and license information.

The `custom_argvars` file contains the following variables and their respective values:

`RENESAS_SYNERGY_INSTALLDIR`: Path to the directory where Synergy Standalone Configurator (SSC) is installed.

`RENESAS_SYNERGY_LICENSEFILE`: Path to the license file in the SSP installation directory within the SSC directory.

`AMS_KEEP_FILE`: Option to replace the encrypted files with decrypted files.

The following command should be used to build the EW Synergy project (`*.ewp`) from the command line:

`<IAR installation dir>\common\bin\IarBuild.exe Project_Name.ewp Debug -varfile Project_Name.custom_argvars`

or with some helpful extra options,

```
<IAR installation dir>\common\bin\IarBuild.exe Project_Name.ewp Debug -log all -
parallel 8 -varfile Project_Name.custom_argvars
```

4.   Summary of New Features and Updates to IAR EW for Synergy v8.23.3

A newer version of the toolchain has been added in this build, which includes minor improvements and bug fixes.

5.   Recent Important Feature Additions

5.1   Added Synergy User Pack Exporter

IAR EW for Synergy v8.23.3 and SSC v6.2.0 introduced the ability to export a Synergy User Pack (as known from e² studio).

Two variants of packs can be created as follows:
- Standard user pack, containing non-SSP (that is, custom) components and SSP component settings
- Board pack

Users cannot export:
- SSP components and SSP source files (for example, `<Project>\synergy\ssp`)
- SSP generated files (for example, `<Project>\synergy_cfg\ssp_cfg`)

A pack file will be generated based on the details and selections in the **Synergy User Pack Exporter** wizard. The pack file will also contain a `.PDSC` file describing any exported components (in CMSIS format).

To access the **User Pack Exporter** from within IAR EW for Synergy, open a Renesas Synergy project, then click on the **Renesas Synergy** menu and select the **Export Synergy User Pack...** menu item as shown in the following graphic.
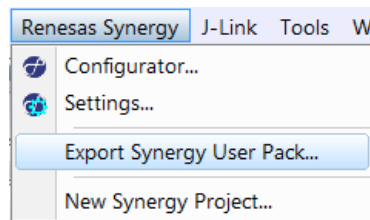
The main use case is to create a pack for a custom board (rather than a Renesas board). New Synergy projects can then be based on the custom board.

For a description of how to create a custom board pack, see the *ISDE User's Guide* inside the *SSP User's Manual* on the Renesas Synergy Solutions Gallery.

Note: In order for the Synergy User Pack Exporter in IAR EW for Synergy/SSC to be able to include files in the user pack (`*.pincfg` files), the files need to be part of the Synergy project in IAR Embedded Workbench for Synergy. To add files to a project, go to **Project > Add Files**. Set the file name filter to **All Files (*.*)**. After you add a file to a project, it will become visible in the project in the **Workspace** window.

6.   Synergy Hardware Platform Support

MCU Groups supported: S7G2, S5D9, S5D5, S5D3, S3A7, S3A6, S3A3, S3A1, S128, S124, and S1JA.

7.   Issues fixed in Release v8.23.3

7.1   Thread List in IAR EW for Synergy is not displayed

Issue ID: 13347

The information of Threads used in the project is not available in the Thread list view of IAR EWSYN.

7.2   Error message popup when trying to download and debug a project on S3A7

Issue ID: 12750

Trying to download a project using flash loader in EWSYN may result in J-Link Driver popup messages offering the user to abort the debug session.

8.   Known Issues in Release v8.23.3

### 8.1   Creating a new Synergy project fails if Workspace/Project is saved on C:\ (root)

Issue ID: 9611

Creating a new Synergy project fails if the **Workspace**/**Project** is saved on `C:\` (root).

Workaround: Create your workspaces and project files in proper subdirectories.

8.2   C++ projects may require additional linker option '--skip_dynamic_initialization'

When creating C++ projects using EW for Synergy v8.23.3, the additional linker option '`--skip_dynamic_initialization`' may be required (in **Project > Options > Linker > Extra Options**).
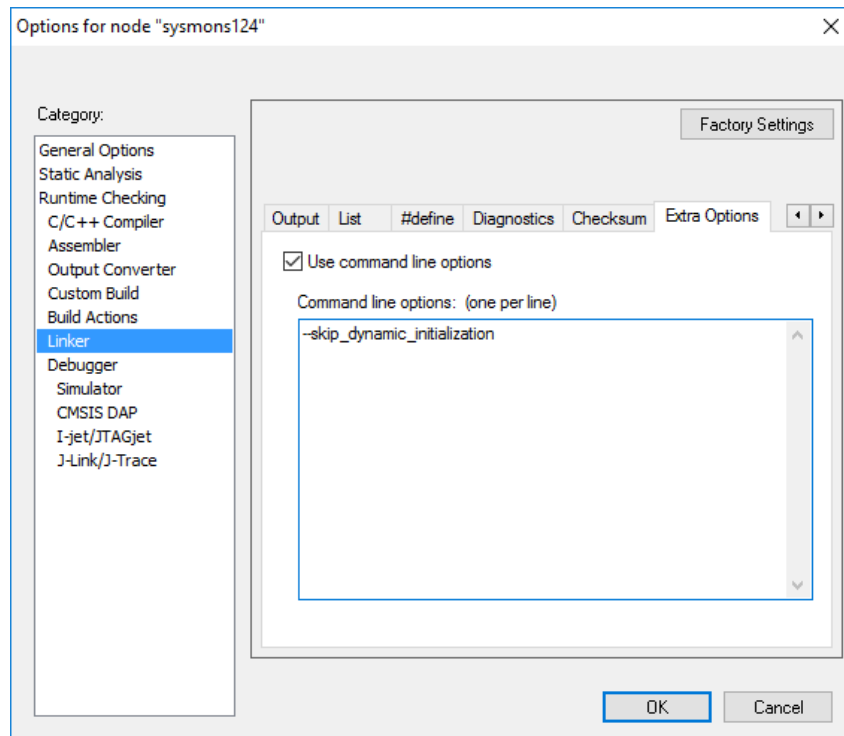
Not adding this linker option in C++ projects may result in the following linker error:

```
Fatal Error[Lp049]: there was no reference to __iar_data_init3, but it is needed
to call extra init routines
```

After adding the '`--skip_dynamic_initialization`' linker option, check the behavior of your application and make sure the SSP performs the correct initialization for C++. If not, a call to `__iar_dynamic_initialization()` needs to be included in the application. See the following entry from the *IAR EW for Synergy User's Manual* about the '`--skip_dynamic_initialization`' linker option.

--skip_dynamic_initialization

Syntax	--skip_dynamic_initialization
Description	When using the IAR C/C++ compiler and the standard library, C++ dynamic initialization is handled automatically.

Use this option to suppress dynamic initialization to be performed during system startup. Typically, this can be useful if you need to set up, for example, heap management for an RTOS before the initialization takes place.

In this case you must add a call to the library function __iar_dynamic_initialization in your application source code. Initialization will then take place at the time of the call to this function. |
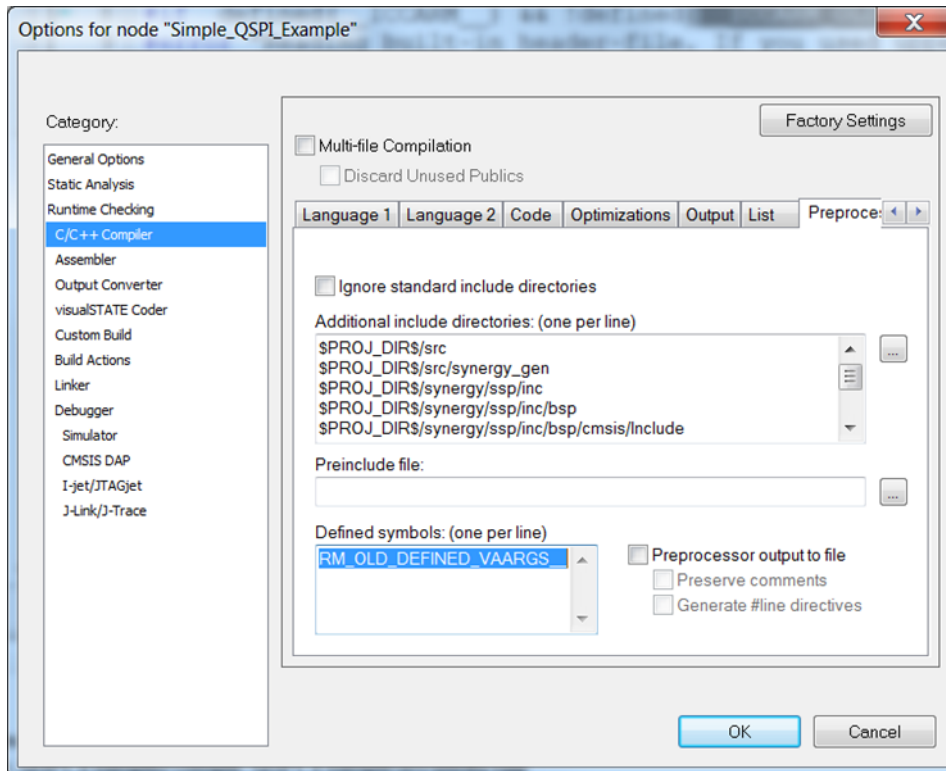
To set this option, use **Project>Options>Linker>Extra Options**.

8.3   Including 'stdarg.h' requires additional preprocessor flag __ICCARM_OLD_DEFINED_VAARGS__

Issue ID: IDE-17580

When including 'stdarg.h' in a project, the preprocessor flag __ICCARM_OLD_DEFINED_VAARGS__ needs to be defined manually (in **Project > Options > C/C++ Compiler > Preprocessor**).

Not adding this preprocessor flag in projects including 'stdarg.h' will result in build errors.

8.4 When using the standalone installer to install IAR EWSYN, a warning message is sometimes shown by the windows defender

In such a scenario, click **Run anyway** as seen in the following graphic, to install the application.

8.5 CRUN under EWSYN

Issue ID: 12972

C-Run with bounds checking is not supported with Synergy projects in EWSYN.

Applies to: All MCUs

Workaround: None

8.6 Cannot debug the program when selecting "Download and Debug" option after setting an ID code in the project

Issue ID: 12845

Cannot debug the program when selecting the option "Download and Debug" in EWSYN or "Debug" in e² studio for the first time after setting an ID code in the project.

Workaround: When the debug fails, select the option to "Debug without download" in EWSYN or "Debug" in e² studio again to successfully debug the program.

8.7 Project build fails after migrating the project to new SSP version

Issue ID:13900

In some cases, the build fails with the error "Secure builder required" after migrating the project to a newer SSP version in EWSYN.

Workaround: Select **Project** > **Make (F7)** after the issue occurs. The project should then build without errors.

8.8 Selecting .tar format does not export the project in tar format

Issue ID: 12925

When exporting the project, selecting `.tar` format option does not export the project in the tar format, but exports it in `.zip` format.

Applies to: Not Applicable

Workaround: Edit the archive file name by replacing the `.zip` with `.tar` and the project will be exported in `.tar` format.

Website and Support

Visit the following vanity URLs to learn about key elements of the Synergy Platform, download components and related documentation, and get support.

Synergy Software	www.renesas.com/synergy/software
Synergy Software Package	www.renesas.com/synergy/ssp
Software add-ons	www.renesas.com/synergy/addons
Software glossary	www.renesas.com/synergy/softwareglossary
Development tools	www.renesas.com/synergy/tools
Synergy Hardware	www.renesas.com/synergy/hardware
Microcontrollers	www.renesas.com/synergy/mcus
MCU glossary	www.renesas.com/synergy/mcuglossary
Parametric search	www.renesas.com/synergy/parametric
Kits	www.renesas.com/synergy/kits
Synergy Solutions Gallery	www.renesas.com/synergy/solutionsgallery
Partner projects	www.renesas.com/synergy/partnerprojects
Application projects	www.renesas.com/synergy/applicationprojects
Self-service support resources:	
Documentation	www.renesas.com/synergy/docs
Knowledgebase	www.renesas.com/synergy/knowledgebase
Forums	www.renesas.com/synergy/forum
Training	www.renesas.com/synergy/training
Videos	www.renesas.com/synergy/videos
Chat and web ticket	www.renesas.com/synergy/resourcelibrary

Revision History

Rev.	Date	Description	
		Page	**Summary**
1.00	Feb.28.19	-	Initial release
1.01	Apr.02.19	-	Second release
1.02	Dec.19.19	-	Third release
1.03	Feb.11.20	-	Fourth release with updates to section 1

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