VECTOR

3rdParty MCAL Integration

Technical Reference

Renesas RH850 P1M-C/P1H-C/P1H-CE

Version 1.0.0

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Status	Released

Document Information

History

Author	Date	Version	Remarks
Andrej Gazvoda	2018-06-08	1.0.0	Initial revision

Reference Documents

No.	Source	Title	Version
[1]	Vector	TechnicalReference_3rdParty-MCAL-Integration.pdf	see delivery

Scope of the Document

This document contains information about the integration of 3rd Party MCAL into Vector software stack.

Contents

1 MCAL Integration

1.1 Type of Integration

Comfort Integration
Vector tool DaVinci Configurator 5 is used for configuration

> as comfort editor for Mcu component (clock tree)

> as generic editor for other MCAL modules

Recommended workflow:
Generation and changes in configuration are done in DaVinci Configurator.

1.2 MCAL Location within SIP

The 3rd Party MCAL is separated from the Vector parts within the SIP. Furthermore, it might not be part of the delivery. In this case please refer to chapter 'First Steps' in document `TechnicalReference_3rdParty-MCAL-Integration.pdf` [1].

1.3 Supported 3rd Party Products

This integration supports the following Renesas targets:

- RH850P1M-C
- RH850P1H-C
- RH850P1H-CE

Note
Please refer to the Release Notes of the 3rd Party Products for further information, e.g. regarding supported versions, derivatives and compilers.

Note
Please be aware that only official 3rdParty-Vendor releases are part of this Vector integration package. Therefore any customer-specific releases cannot be considered.

Caution

Please contact the 3rdPartyVendor to find out if there are further Hotfixes available for your Mcal package.

It is essential to replace the affected MCAL parts in your original package before you start Script_MCAL_Prepare.bat.

1.4 Configuration Tools

> DaVinci Configurator 5

2 Vector Comment

Please consider the attached `TechnicalReference_3rdParty-MCAL-Integration.pdf` [1] for further information regarding Vector integration and setup of a project.

2.1 Known Issues

The original MCAL package might contain errors. Necessary patches are provided via the SIP folder `ThirdParty\ Mcal_Rh850P1xC\VectorIntegration\Patches\` (called 'patch folder' in this chapter).

2.1.1 Ver4.02.00

2.1.1.1 Spi Module cannot be generated

The reference destination of the configuration parameter `SpiClockFrequencyRef` is wrong in the Spi module description file. Therefore, no valid configuration can be created and generation is not possible.

This issue has been reported to Renesas issue database with ARCAADA-613.

To allow generation replace the file `R403_SPI_P1X-C.arxml` in the 3rdParty MCAL against the corrected file in the patch folder and re-start the 3rdParty MCAL Integration Helper tool.

2.1.1.2 Fls Module Generation Mismatch

The value for `FLS_CPU_FREQUENCY_MHZ` is erroneously generated as `$ConversionHelper.floatToInt($frequency)U`.

This issue has been reported to Renesas issue database with ARCAADA-618.

Renesas provided patches for the affected files `R403_FLS_P1X-C.arxml`, `Fls_Cfg_h`, `Fls_PBcfg_c` and `Fls_Validate` that can be found in the patch folder. Replace the related files from the 3rdParty MCAL and re-start the 3rdParty MCAL Integration Helper tool.

2.1.2 Ver4.02.01

2.1.2.1 Spi: Generation error regarding SpiClockFrequencyRef

The reference destination of the configuration parameter `SpiClockFrequencyRef` is wrong in the Spi module description file. The external Spi generator delivers the following error message:

```
[CG_ERROR] - [ERR_59_83_087] References path of Parameter SpiClockFrequencyRef
is not correct in /ActiveEcuC/Spi/SpiDriver0/SpiExternalDevice0
```

This issue has been reported to Renesas issue database with ARCAADA-639.

To allow generation replace the file `R403_SPI_P1X-C.arxml` in the 3rdParty MCAL against the corrected file in the patch folder and re-start the 3rdParty MCAL Integration Helper tool.

2.1.2.2 Spi: Generation error regarding SpiEnableCs

The generator does not accept the values "true" and/or "false" and instead requires "1" and/or "0". The external Spi generator delivers the following error message:

```
[CG_ERROR] - [ERR_59_83_121] The value of parameter 'SpiEnableCs' in the container 'SpiExternalDevice' should not be configured as false, since the value of the parameter 'SpiHwUnit' in the container 'SpiExternalDevice is configured as CSIH
```

This issue has been reported to Renesas issue database with ARCAADA-640.

To allow generation replace the generator's template and validation files `Spi_Cbk_h`, `Spi_Cfg_h`, `Spi_PBcfg_c` and `Spi_Validate` in the 3rdParty MCAL against the corrected file in the patch folder and re-start the 3rdParty MCAL Integration Helper tool.

2.1.2.3 Generation error regarding FlsCpuFrequency

The generation of Fls module is not possible due to the following error delivered from the external Fls generator:

```
[CG_ERROR] - [ERR_59_92_016] References path of Parameter FlsCpuFrequency is not correct in /ActiveEcuC/Fls/FlsGeneral0/FlsDataFlash0
```

This issue has been reported to Renesas issue database with ARCAADA-641.

To allow generation replace the file `R403_FLS_P1X-C.arxml` in the 3rdParty MCAL against the corrected file in the patch folder and re-start the 3rdParty MCAL Integration Helper tool.

3 Glossary and Abbreviations

3.1 Glossary

Term	Description
3rd party components / MCAL	BSW modules not provided by Vector. Vector may have integrated the software within the SIP but does not take over any responsibility regarding functionality of these modules.
DaVinci Configurator	Configuration and generation tool for Vector MICROSAR components

Table 3-1 Glossary

3.2 Abbreviations

Abbreviation	Description
MCAL	Microcontroller Abstraction Layer
AUTOSAR	Automotive Open System Architecture
SIP	Software Integration Package (as provided by Vector)
Msn	Module Short Name derived from AUTOSAR

Table 3-2 Abbreviations

4 Contact

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