**Integration Manual**

**For**

**XCP Interfrace (XcpIf)**

**VERSION: 1.00**

**DATE: 19-Jan-2018**

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**Document Change History**

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| **Version** | **Description** | **Author(s)** | **Revision Date** | **Approved By** | **Approved Date** | **Status** |
| 1.00 | Initial document release | K. Smith | 19-Jan-2018 | K. Smith | 19-Jan-2018 | Released |

**Note:**

This version 1.00 was baselined without requirements or a design finalized.

**Table of Contents**

[1 Abbrevations And Acronyms 4](#_Toc389222316)

[2 References 5](#_Toc389222317)

[3 Dependencies 6](#_Toc389222318)

[3.1 SWCs 6](#_Toc389222319)

[3.2 Global Functions(Non RTE) to be provided to Integration Project 6](#_Toc389222320)

[4 Configuration REQUIREMeNTS 7](#_Toc389222321)

[4.1 Build Time Config 7](#_Toc389222322)

[4.2 Configuration Files to be provided by Integration Project 7](#_Toc389222323)

[4.3 Da Vinci Parameter Configuration Changes 7](#_Toc389222324)

[4.4 DaVinci Interrupt Configuration Changes 7](#_Toc389222325)

[4.5 Manual Configuration Changes 7](#_Toc389222326)

[5 Integration DATAFLOW REQUIREMENTS 8](#_Toc389222327)

[5.1 Required Global Data Inputs 8](#_Toc389222328)

[5.2 Required Global Data Outputs 8](#_Toc389222329)

[5.3 Specific Include Path present 8](#_Toc389222330)

[6 Runnable Scheduling 9](#_Toc389222331)

[7 Memory Map REQUIREMENTS 10](#_Toc389222332)

[7.1 Mapping 10](#_Toc389222333)

[7.2 Usage 10](#_Toc389222334)

[7.3 Non RTE NvM Blocks 10](#_Toc389222335)

[7.4 RTE NvM Blocks 10](#_Toc389222336)

[8 Compiler Settings 11](#_Toc389222337)

[8.1 Preprocessor MACRO 11](#_Toc389222338)

[8.2 Optimization Settings 11](#_Toc389222339)

[9 Appendix 12](#_Toc389222340)

# Abbrevations And Acronyms

|  |  |
| --- | --- |
| **Abbreviation** | **Description** |
| DFD | Design functional diagram |
| MDD | Module design Document |

# References

This section lists the title & version of all the documents that are referred for development of this document

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Title** | **Version** |
| 1 | Software Naming Conventions | 1.02 |
| 2 | Software Design and Coding Standards | 2.01 |

# Dependencies

## SWCs

|  |  |
| --- | --- |
| **Module** | **Required Feature** |
| **<Name of SWC>** | <Addition of global data, function>\*. |

Note : Referencing the external components should be avoided in most cases. Only in unavoidable circumstance external components should be referred. Developer should track the references.

## Global Functions(Non RTE) to be provided to Integration Project

The following functions need to be defined as non-trusted.

* CopyCalPageReq\_Oper
* SetCalPageReq\_Oper
* Xcp\_Event

The following function needs to be defined as trusted:

* XcpAppl\_CalibrationWriteTrustd

# Configuration REQUIREMeNTS

## Build Time Config

|  |  |  |
| --- | --- | --- |
| **Modules** | **Notes** |  |
| **None** |  |  |

## Configuration Files to be provided by Integration Project

## Da Vinci Parameter Configuration Changes

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Notes** | **SWC** |
| **None** |  |  |

## DaVinci Interrupt Configuration Changes

|  |  |  |  |
| --- | --- | --- | --- |
| **ISR Name** | **VIM #** | **Priority Dependency** | **Notes** |
| **None** |  |  |  |

## Manual Configuration Changes

|  |  |  |
| --- | --- | --- |
| **Constant** | **Notes** | **SWC** |
| **None** |  |  |

# Integration DATAFLOW REQUIREMENTS

## Required Global Data Inputs

None

## Required Global Data Outputs

None

## Specific Include Path present

Yes

# Runnable Scheduling

This section specifies the required runnable scheduling.

|  |  |  |
| --- | --- | --- |
| **Init** | **Scheduling Requirements** | **Trigger** |
| **CDD\_XcpIfInit1** | None | RTE (Init) |

|  |  |  |
| --- | --- | --- |
| **Runnable** | **Scheduling Requirements** | **Trigger** |
| **CDD\_XcpIfPer1** | None | RTE (100ms) |

**.**

# Memory Map REQUIREMENTS

## Mapping

|  |  |  |
| --- | --- | --- |
| **Memory Section** | **Contents** | **Notes** |
| **None** |  |  |
|  |  |  |

\* Each …START\_SEC… constant is terminated by a …STOP\_SEC… constant as specified in the AUTOSAR Memory Mapping requirements.

## Usage

|  |  |  |
| --- | --- | --- |
| **Feature** | **RAM** | **ROM** |
| **None** |  |  |

Table 1: ARM Cortex R4 Memory Usage

## NvM Blocks

\*See DataDict.m

# Compiler Settings

## Preprocessor MACRO

None

## Optimization Settings

None

# Appendix

## XCP Configuration

Below are the following options that need to be enabled for the component to properly work.

<< ADD XCP NOTES >>>

## XCP Configuration

Based on the XCP settings for the DAQ lists, components descriptions (arxml), source files (.c), and m-files are created based on the configuration. These compoents will also need to be imported into the project.

Key items

* DAQ runnables should be placed in the lowest priority task for a given runnable rate. This should be called before the checkpoint. This will ensure a good sample and avoid lag for a given runnable rate.
* Multiple DAQs can be configured to run at different rates. Each DAQ list will have its own set of description, source, and m-files to be integrated.

## Integration Compatibility with ES400A

If this component is used with ES400A version 2.0.0 or earlier will require a header file to be created to map constants that are defined in ES400A to the values used by ES104B. These values are different then where defined in ES104A. Below is a sample template that can be used:

File Name: CDD\_XcpIf.h

File Contents:

|  |
| --- |
| #ifndef CDD\_XCPIF\_H  #define CDD\_XCPIF\_H  /\* Included this private until ES400 is separated from ES104 \*/  #include "CDD\_XcpIf\_Cfg\_private.h"  #define XCPIF\_XCPCMDOK\_CNT\_U08 XCPIF\_CMDOK\_CNT\_U08  #define XCPIF\_SEGNOTVLD\_CNT\_U08 XCPIF\_RTNSEGNOTVLD\_CNT\_U08  #define XCPIF\_CRCPAGEMODNOTVLD\_CNT\_U08 XCPIF\_RTNPAGEMODNOTVLD\_CNT\_U08  #define XCPIF\_OUTOFRNG\_CNT\_U08 XCPIF\_RTNOUTOFRNG\_CNT\_U08  #endif |

# Template Change History

|  |  |  |  |  |  |  |
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| **Version** | **Description** | **Author(s)** | **Revision Date** | **Approved By** | **Approved Date** | **Status** |
| 1.00 | Initial version | S. Sengottaniyan | NA | - | NA | Released |
| 1.01 | Rework on initial version | S. Sengottaniyan | 23-May-2014 | - | 23-May-2014 | Released |
| 1.02 | Removed Config Id references from the document | M. Mehta | 10-Jul-2014 | L. Newton | 10-Jul-2014 | Released |
| 1.03 | Modificaions for EA4 | M. Story | 06-May-2015 | SEPG | 06-May-2015 | Released |
| 1.04 | Aligned to portal version guideline | Umesh Sambhari | 21-Nov-2017 | NA | NA | Released |