**Algorithms integration**

**Testing Procedure**

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# Introduction

## Purpose

This document contains the guideline and process for the testing phase of the Algorithms Integration Activity as a part of the HAI.

## Overview

The objective from the Algorithms integration Testing is.

* Making sure that the integration Activity was correctly done.
* Making sure that there is no interface conflict with the Basic SW and that the ECU image can be generated.
* Making sure that there are no blocking points for the Validation activity.

Our scope

Checkpoints

**Integration**

**Integration** **test**

.

Rejected

Validation

SW Integration

Create Checkpoint

OK?

# Integration Test

The integration Test is subdivided into four sub activities like the image below

1. Basic MTS Test
2. ECU interface test
   * Linker Test
   * SW DevGate
3. Smoke Test

Hint:

Solid line’s Activity means, Mandatory Activity

Dashed Line’s Activity means, Optional Activity (Could be switched ON/OFF based on the project’s needs)

Step 3

Step 2

(BSW interface Test)

Step 1

(Minimal Test)

SW DevGate

Smoke Test

OK?

Linker Test

OK?

Basic MTS Test

## Basic MTS Test (Mandatory)

Such Activity will run locally on the same Machine where the integration Activity was done and it takes about five Minutes.

## Objective

* JointSim Can be invoked
* Components could got initialized and got into the Normal running mode.

## Block Diagram

Such Section Answers the question How to be done, see the image below

Check Components‘ Status

Close MTS

Wait 5 Mins

Invoke MTS

## ECU interface test (Optional)

Such Activity can be done by one of the following Activities

* Linker Test, A local Activity to link the following
  + All libs from the components
  + All Wrappers
  + RTE
* SW DevGate, A remote service to link the following
  + All libs from the components
  + All Wrappers
  + RTE
  + Basic SW

## Objective

Making sure that the communication in-between the components and the BSW is well established “No ports Mismatch”, ECU objects.

## Block Diagram

**BSW**

**Application Layer**

**……**

CMP 3

Wrp 3

CMP 2

Wrp 2

Wrp 1

CMP 1

RTE

## Smoke Test (Optional)

Such Activity will run remotely on HPC and it takes about Two Hours.

## Objective

* SIMConfig: JointSim Can be invoked , ports’ names are Ok
* SIMRun: Components could get initialized and got into the Normal running mode, interface test on the simulation level.
* SIMRUN\_Func: Basic functional test for all components (Basic scenarios).
* SILSIL: Reproducible results from the SW, run one recording two times, events should be the same.

## Block Diagram

