
Release Notes

Processor Expert Software – Microcontrollers Driver Suite 10.4.1 Update

This update provides an additional content for Driver Suite 10.4

This is an incremental update of Driver Suite 10.4. You need to have Driver Suite 10.4 installed in order to be able to apply this update.

Installation instructions

1. Run Driver Suite / Eclipse
2. Go to the main menu Help > Install New Software...
3. Add a new install site using the Add... button
4. Type name of the install site into the Name field (e.g. DS 10.4.1).
5. Click on the Archive... button and find the com.freescale.pexdrv10.4.1.zip.
6. Select the Processor Expert Software – Microcontrollers Driver Suite Update 10.4.1 item.
7. Continue with the wizard. Accept the license agreement during the installation process.
8. Restart Eclipse.

List of changes

New Features:

- Kinetis SDK support readiness changes. You need to install this update to allow Kinetis SDK Eclipse updates to be installed and thus to use Kinetis SDK in Driver Suite.
- DDR Validation Tool for Vybrid processors has been added.
- Several improvements in PinSettings user interface.

Bug Fixes:

- ENGR00315167 - Fixed in component inspector 'Tabs view' wrong validation on allowed value range for Date or Time.
- ENGR00310645 - Linux home directory contained empty directory structure after creation of PEx project.
- ENGR00311282 - Fixed generation of ProjectInfo.xml: code path for static files were missing during fist code generation.
- ENGR00302967 - Fixed issue PEx hangs Eclipse for two minutes deleting a project after internal error during load.
- ENGR00314227 - Fixed issue with linked component was inserted twice to the project.
- ENGR00315100 - When CPU variant/package was switched in Component Inspector or Target Processor view, eclipse hanged.
- ENGR00312615 - Fixed issue with timing dialog - fixed list of values was initialized incorrectly.

- ENGR00314670 - When CPU variant/package was switched in Component Inspector or Target Processor view, eclipse hanged.
- ENGR00308990 - Fixed problem with deleting component while other components are in process of adding into project.
- ENGR00314897 - Updated configuration of Init_DDR_VYBRID component based on DDRMC documentation changes for VYBRID.
- ENGR00313770 - Fixed creation of PEx project for SKEA128xxx4, SKEAZ64xxx4 derivatives
- ENGR00313089 - ADC component now became correctly unavailable by Vybrid family.
- ENGR00315899 - Fixed problem with TSI EnableDevice PDD macro.
- ENGR00313816 - Fixed floating-point registers saving during context switch for Cortex-M4F devices.
- ENGR00312120 - Missing PEcfg_<CONFIGURATION_NAME> define generated to processor Cpu.h header.
- ENGR00309178 - Fixed ADC CFG2[MUXSEL] bit handling in ADC_LDD component. Problem occurred only in case of b-mux channel selection and only on MCUs that doesn't support pin settings.
- ENGR00308825 - Fixed Unexpected status of script: Beans\ADC\ADC_LDD.chg, please contact freescale support
- ENGR00308573 - An error preventing successful generation of project set for IAR compiler and MQX operating system has been fixed.
- ENGR00308314 - Fixed CAN_LDD idle/busy state in the SendFrame() method. Now is checking every message buffer state separately.
- ENGR00307927 - Initialization sequence has been improved to avoid unwanted interrupt caused by settings MUX and IRQC bit groups at the same time.
- Fixed bug that interrupt was enabled in Init method although Enable in Init. code property was set to no.
- ENGR00307843 - An error preventing successful generation of project using MK64 cpu and FLASH_LDD component has been fixed.
- ENGR00306958 - Fixed reconfiguration of Init_DDR_VYBRID component DDR settings using 'Reconfigure...' menu option. The default settings obtained from the reconfigure wizard didn't work in DDR Validation tool on the Vybrid XTWR-VF65GS10 board.
- ENGR00304943 - Default code in TSS event was surrounded by #ifdef directives. TSS component does not report compilation error after its removal from project now.
- ENGR00304174 - Fixed an error in ADC component when more than 20 channels are used.
- ENGR00300762 - Range check error bug fixed.
- ENGR00314900 - Corrected bug in projects with AsynchroSerial component using low power UARTs (missing symbol SIM_PDD_SetClockSourceUART0()).
- ENGR00317168 - CPU component: Fixed clock settings related to external oscillator mode (FEE, FBE).
- ENGR00298490 - Fixed: Usage of 'Reconfigure ...' menu option for Init_DDR_VYBRID component may cause the whole DDR validation fails even though it previously succeeded.
- ENGR00316824 - Init() method of Serial_LDD component is always enabled. Checking state of Init() method for MQX removed from LDD script.
- ENGR00316059 - Fix of unnecessary project build after project re-opening.
- ENGR00318581 - Clock gate initialization moved after USB divider setting.

- ENGR00318859 - An internal error issued when MCM module configuration is enabled has been fixed.
- ENGR00309890 - Fixed defect: An internal error appears when generation of linker file is disabled.

Component Development Environment 1.7

New Features:

- ENGR00311146 - Support editing of folders for methods and events into CDE.
- ENGR00276516 - 'Enter' button in in the Target Project page in the New component wizard causes shift to the next page.
- ENGR00260876 - CDE supports C++ in generated drivers.
- CDE now supports adding new local Property Type File using context menu.

Bug Fixes:

- ENGR00310102 - Wrong predefined project name in KDS - fixed.
- ENGR00309872 - Missing 'Show CPU specific methods and events' check box when adding method or event into interface - fixed.
- ENGR00308450 - CDE now correctly reads all .tps files from encrypted PEx Data.
- ENGR00309876 - After the method/event parameter editing, it isn't moved to the end of parameters list in method/event implementation and declaration.
- ENGR00319484 - Fixed defect:
 - copy and then paste action (Property Type) implementation was corrupted (paste action tried to add Property Type to Property Types instead of Property Type File)
 - delete action tried to remove Property Type from wrong parent object

- **Known problems and limitations**

- ENGR00308769 - In some cases Driver Suite crashes down during the Code Generation process without any error reporting. This behavior has been observed when the IAR eclipse plugin (<http://eclipse-update.iar.com/arm/6.50>) has been installed. The problem is caused by a defect in JRE 1.6: https://bugs.eclipse.org/bugs/show_bug.cgi?id=360855.

Workaround:

Switch to JRE 1.7. If you use the Driver Suite product (Driver Suite Eclipse environment), follow these steps:

1. Close eclipse
2. Install latest JRE 1.7
3. Go to the Driver Suite installation folder <Driver Suite>\eclipse
4. Rename folder "jre" to something else, e.g. "jre-bad"
5. Start eclipse (when step 4 is done, eclipse searches for latest installed Java runtime)

If you don't want to upgrade your system JRE then you can use JRE 1.7 only for your Driver Suite installation. In such case follow these steps:

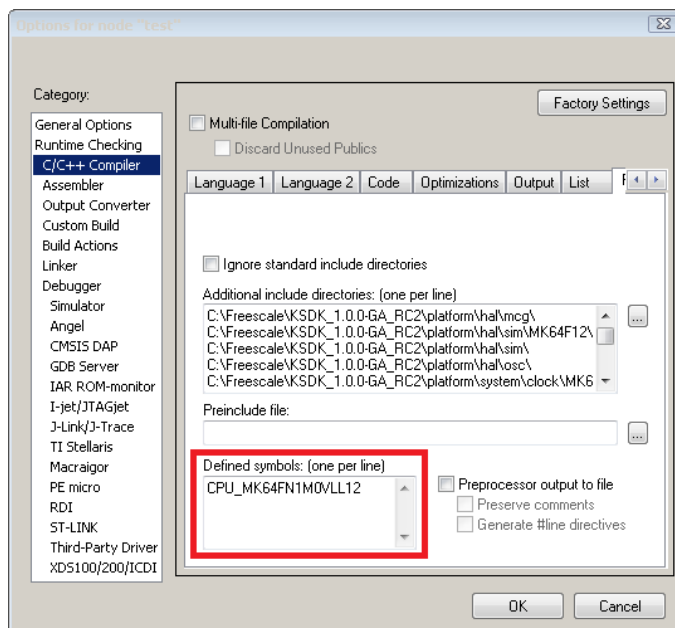
1. Download JRE 1.7 in a form of a zip package
2. Replace the current content of the jre folder in <Driver Suite>\eclipse folder by the content of the package
3. Restart Driver Suite

This workaround will work also in case of a Eclipse plug-in installation of Driver Suite.

- ENGR00320785 - IAR Embedded Workbench integration: Projects with SDK support cannot be built in IAR Embedded Workbench. This error message is reported: "No valid CPU defined".

Workaround:

Add CPU_XXX preprocessor symbol in IAR project, where XXX is the name of MCU part number in Processor Expert.



- "Enable Processor Expert for existing C project" Wizard doesn't work properly for SDK projects. There is neither a possibility to specify the project the wizard is opened for is the SDK project nor a possibility to specify what SDK should be used for the project.

Workaround:

1. In "Enable Processor Expert for Existing C Project" Wizard select Target Processor with `_4SDK` suffix. Processors with this suffix are supported by the Kinetis SDK.
2. After Wizard finish an error message occurs and project is not completely generated.
3. Go to project Properties to the "Processor Expert" -> "Kinetis SDK Specific" and fill the SDK path. Use browse button and select a path to the Kinetis SDK folder or fill the `#{KSDK_PATH}` which is default system variable. This variable points to the default Kinetis SDK folder.
4. After this project still shows some errors. Remove the PinSettings component from project and add new PinSettings component from Components Library. This process adds missing `fsl_clock_manager` component to the project too.
5. Exclude the following files from the Project_Settings -> Startup_Code folder from build (Project Explorer popup menu -> Resource Configurations -> Exclude from Build):

- `startup_MK64F12.S`
- `startup.c`
- `system_MK64F12.c`

6. Press the button "Generate Processor Expert Code" and project should be generated without errors.

- ENGR00318539 - MKE04Z128LK4] Can't set 'Baud rate' in Serial_LDD component.

Workaround:

- Use other pin for TxD than `FTM0_CHO_output` which shouldn't be in the available list.

- ENGR00316233 - The Rename function doesn't work as expected

Workaround:

- This issue is reproducible only when autobuild enabled, project is changed and without saving renamed.
- It causes false errors being reported.
- There is simple workaround - proceed code generation again to fix it.

- ENGR00267865, ENGR00267282 - The CAU_LDD component doesn't work correctly.

Workaround:

- Use MMCAU library directly without CAU_LDD component. For more information see the MMCAU library documentation.

- ENGR00319943 - MQX Lite RTOS component – It is erroneously possible to disable LWsemaphores. They have to be always enabled, otherwise the MQX Lite-based project is not possible to be built

- ENGR00322691 - If an absolute path to SDK entered in New Project Wizard ends with backslash then PEx+SDK standalone projects are not correctly created. In that case you case see the following error message:

```
fatal error: fsl_device_registers.h: No such file or directory
Events.h
```

You can also see warnings about invalid include paths.

Workaround:

Do not use the ending backslash in the absolute path to KSDK.

- ENGR00322502 – Processor Expert for ColdFire+: the bool type is redefined in PE_Types.h when stdbool.h is included before. This causes compiler error (declaration specifier conflict: illegal 'bool' sequence).

Workaround:

Replace the bool type definition in the PE_Types.h header file:

```
typedef unsigned char          bool;

by

#ifdef bool
typedef unsigned char          bool;
#endif
```

DDR Validation Tool

- ENGR00309871 - Kinetis family processors are not supported in DDRv v2.0.1
- ENGR00317464 - Remote connection doesn't work properly and cannot be used for J-Link HW & XTWR-VF65GS10 board in a target connection for a DDR validation session.

Currently only localhost accessible HW can be connected and is working as expected. Note that target connection might display a broken chain with red mark icon which means that HW is not properly connected. This may happen when trying to connect to localhost accessible J-Link HW & XTWR-VF65GS10 board that has been physically connected and powered-up later than the DDR Validation session has started. In that case close and restart the whole Eclipse environment and try to connect to target again.

- ENGR00317458 - Fixed inaccurate DDR validation tool initialization leading to fail validation process when a new DDR component added into PEx project. Then invalid result in all validation table cells within a given scenario have been reported by the tool even though HW connection was working and the tool UI displayed performing proper validation stage.
- Limitation: 64-bit OS's are not supported. DDRv within the Driver Suite requires 32-bit environment.

CDE

- ENGR00322002 - Lost properties issue: If a property of the "Include properties" type is created before its related .item file exist and is used for the property before the component is saved then CDE behaves improperly and could forget all the properties created after this "Include properties" property.

Workaround:

Create the .item file before the "Include properties" property.

- ENGR00309883 - Not possible to remove the first character in a description of an inherited property.

Workaround:

- First character in a description of an inherited property cannot be removed standard way using neither Backspace nor Delete key.

- Text input verifier doesn't allow empty value and therefore cancels user inputs leading to this result.
- Select first character and type your input.
- ENGR00314469 - Inherited/shared components not offered when creating .PEupd
 - Adding inherited/shared components from system directory into the list of components when exporting to .PEupd is not supported yet (only files from workspace).
 - This functionality will be supported within solution of component repositories.
- ENGR00318257 - Content of a component could disappear from CDE views if the the component inherits other component(s) and you rename it.

Workaround:

- When this issue appears the customer simply needs to close and reopen the eclipse project with the component.

<http://www.freescale.com/processorexpert>
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