Product Name	DAVE™
Release Version	V4.4.2
Type Of Release*	Productive
Name of the Supplier	Infineon Technologies AG
Mode of Release	Infineon Server(http://dave.infineon.com/)
Date of Release	2018-02-23
Previous Version	V4.3.2

Contents

1 Released Items 2

2 Support Packages 3

3 Tool Information 4

4 Changes to Previous Version 5

5 Installation Requirements 10

6 Known Limitations 11

7 Violations 13

*All types of releases named as Alpha, Beta, Release Candidate and Patch are not intended to be used for production code.

1 Released Items

1.1 Documents & Software

File Name	Description
DAVE_Release_Notes_v4-4-2.pdf	Release notes
DAVE-4.4.2 Plug-Ins	DAVE™ plug-ins (win 32bit & 64bit)
DAVE-4.4.2_Installation.pdf DAVE-4.4.2_Installation_win64.pdf	Installation procedure and overview description

1.2 Plug-ins Versions of DAVE™ v4.4.2

Installed Software	Version
DAVE CE	1.0.0.201609071238
GNU ARM C/C++ J-Link Debugging	4.1.4.201704251808

1.3 Installation path of DAVE™ v4.3.2 Plug-ins

Installed Software	Path
DAVE CE	http://dave.infineon.com/Neon/v4.4/CE
GNU ARM C/C++ J-Link Debugging	http://dave.infineon.com/Neon/v4.4/Debugger

Note:
From DAVE version 4.2.2, the products DAVE™ and DAVE™ SDK split into 2 separate installers, likewise the release notes also provided.

2 Support Packages

- SEGGER JLink

Note: For some versions of the J-Link software package, Windows Defender under Windows 10 triggered a false positive alarm for "Trojan:Win32/Tulim.C!plock" which disabled the download of the software package. This has been recently fixed by Microsoft via new virus definitions. Please make sure that Windows Defender virus definitions are up to date when downloading the package and are at least at the following version:
Antivirus definition: 1.213.5588.0

We recommend updating the installed J-Link software from time to time. The latest Segger J-Link version can be downloaded from: https://www.segger.com/downloads/jlink.

After uninstalling an older Segger J-Link version the preferences of existing workspaces have to be assigned to the new Segger installation:

->Window –Preferences ->DAVE ->DAVE CE Preferences

3 Tool Information

The following is the environment used for the development and testing.

Tool Name	Eclipse
Tool Version	Luna (eclipse 4.6.3)
JAVA	JRE8 v1.8.0_131 • JRE is bundled with DAVE
Platform	Windows 7, Windows 8.1, Windows 10. (32bit & 64bit).

4 Changes to Previous Version

4.1 Changes from previous version 4.3.2

New Features:

- Board selection option introduced.
- Library store default path is moved to DAVE package:
  moved from location from <USERS_HOME>/ D_LibraryStore_4.1
  To new default path: <DAVE v4.4.2 installation folder>\ D_LibraryStore_4.4
  Please note: the library path can be change in DAVE, in preferences
- DAVE package is upgraded from Eclipse Luna to Neon package.

Removed Features:

- MikroE debugger is removed.

Changes in installation concept:

- DAVE v4.4.2 is provided as zip file without installer.

4.2 Changes from previous version v4.2.8

New Features:

- Setting for optimized FPU code
  - New option added in project settings /ARM-GCC C Compiler / Miscellaneous: Fast math (-ffast –math).
  - When checking this option the complier is not adding code to verify FPU status registers hence the code size is reduced and execution time is faster.
- Static memory analyzer
  - A new view called **Static Memory Analyzer** has been implemented. This view provides table and graphical overview of the memory usage. The view can be activated as follows: →Windows →Show View → Static memory analyzer.
  - The map file of the project is read and the memory usage of the chip is shown graphically and in tables.
- Board pin labels
  - To simplify the manual pin assignment when developing SW for a specific board, DAVE can now process a text file that contains label information per pin. These label information are then shown in the manual pin mapping views (graphical and table view). The name of such a file has to be: “board_pin_label.bpl”. Board pin label files for various XMC kits can be downloaded from here.
  - Just copy the board_pin_lable.bpl file in the root of your project, open the manual pin mapping table view and see the labels that are defined in the file.
  - To see the labels in the graphical pin mapping view to option (icon top, right) “Show Board Pin Label” has to be chosen.
- Pin to resource in pin allocator view

  - A right mouse click on a pin in the graphical pin mapping view shows now all signal options where the pin can be assigned to. By selection one of the options the respective pin assignment can be performed.
- Flash image file extension aligned to selected format
  - The file extension of the selected image artifact is now aligned to the chosen format:
    .hex for intel hex format
    .bin for binary format
  - The format can be chosen in Settings/ ARM-GC Create Flash Image / Output.
- Eclipse GDB plugin support from Mikroelektronika
  - In addition the GDB Segger_l-Link Debugger plug in from the gnuarmeclipse open source community, added a debugger plug in from Mikroelektronika: GDB MikroE Debugging.
  - This new debugger plug-in provides option for two debug probes:
    1. J-Link Debug Probe
    2. CMSIS DAP compliant debug probe.
  - Similarly the BMI tool has been extended to support J-Link and CMSIS DAP.
  - For CMSIS DAP probe, a CMSIS DAP v2 compliant debug probe.
- Run Button
  - If a valid debug configuration is assigned to a project, the run button can be used to program the code to the target and run the code, without opening the debugger.
- Generate code before build
  - The DAVE preference provide an option to always do a code generation before build (default is disabled).
- Mandatory connection
  - DAVE provides now a signal property: “mandatory connection”. If this property is assigned to a signal/event, it is required to be connected otherwise an error message is shown upon code generation. It is planned that the new version of CCUx related APPs will use this feature to solve the problem that not all interrupt nodes per CCU can be used.
- New global variable in make file to determine tool chain path.
  - For make file user, a new global variable is introduced (“TOOLCHAIN_ROOT”) to determine the path of the ARM tool chain.

Bug fixes:

- Debugger: Wrong value in nested structures has been fixed (new version of GDB in ARM tool chain plus update of the debugger plug-in from gnuarmeclipse)
- DAVE APP Manifest: MF function getInstanceLabel was not working properly, now fixed.

4.3 Changes from previous version v4.2.6

- Fixed resource management failure due wrong handling of multiple versions of Device Descriptions installed in the Library store.

4.4 Changes from previous version v4.2.4

- Performance Improvements done in 11 scenarios of transaction and user interaction
    - Next transactions while creating a new project (about 80%)
    - Switching the active project (about 35%)
    - Open the signal connection dialog (about 50%)
    - Others: Code generation, Debug perspective launch, Import project wizard opening, APP UI configuration with direct variable access and parameter dependency.
- Fixed the issues like sporadic solver communication error and others
- New feature: Widgets tooltip for integer is shown in HEX format.

4.5 Changes from previous version v4.2.2

- Improved/solved DAVE behavior in following scenarios,
    - Solver communication sporadically was not working due to the more memory requested in RAM for this process.
    - Library manager: Already installed DAVE APPs were presented for download, although the respective hide option was checked. Subsequent download and install process of the APPs happened without overwrite message
    - App dependency view icon gets corrupted when other tab is selected.
    - DAVE doesn't refresh/reload the project after switching branch in GIT and other versioning system. Applicable only to the versioning client installed in DAVE.

4.6 Changes from previous version v4.1.4 (**January 2016 Patch Release**)

- Separate installer for DAVE™ and DAVE™ SDK
- Performance Improvements
    - Faster solver result parsing.
    - Faster opening Signal Connection Dialog
    - Faster Opening APPs with complex UI
    - Native 64-bit installer
- Added C11 option in compiler settings
- Improved visibility of XMC Lib documentation in Help Content DAVE™ help.
- New linker option –specs=nosys.specs
    - Default for new project.
    - Enable easy semi-hosting
- Optional plugin for GCC 5.0
- ITab widget to mirror UI tab from required APPs
- Projects created in DAVE-4.2.2 can only be used in DAVE-4.2.2 or higher versions of DAVE and cannot be used in DAVE-4.1.x, due to incompatible extension in the manifest. This incompatibility is due to introduction of new feature in DAVE-4.2.x for reading the user label of Required APP from Top level APP.

- The workspace created with DAVE-4.1.4 and then used with DAVE-4.2.2; the workspace cannot be used with DAVE-4.1.4 again.
- Bug fixes

4.7 Changes from previous version v4.1.4 (November 2015 Patch Release)

- BMI utility update for properly closing the JLink connection when the GUI dialog close.

4.8 Changes from previous version v4.1.4 (October 2015 Release)

- Automatic notification for DAVE Plug-Ins updates through web links.
- Warning message about unused solver variable only in Debug mode.

4.9 Changes from previous version v4.1.2

- APPs version management for projects with PR and Beta APPs.
- BMI plugin support for XMC1400 device

4.10 Initial Version

List of Features Supported

- DAVE APP Development SDK
    - DAVE APP Project Creation Wizard
    - DAVE APP Update Site Creation Wizard
    - DAVE APP Manifest Definition Groovy Editor
    - DAVE APP GUI Designer
    - DAVE APP Template Editor
- DAVE Code Generation Framework
    - C/C++ Integrated Development Environment
    - Managed Build System (ARM GCC Compiler)
    - DAVE Library Manager
    - Code Engine Features
        - Add New App Dialog
        - APP Dependency View
        - APP Dependency Tree View
        - HW Signal Connectivity View
        - APP User Interface
        - Pin Mapping Perspective
        - Code Generation
        - Manual Pin Allocator
        - HW Signal Connection
        - Manual Resource Assignment
        - Global Interrupt Editor
        - Change Required APP Instance dialog
        - APPs Upgrade
        - Device Migration

- Report

NOTE: Please refer the Known Limitations listed at Section 6 for this release

5 Installation Requirements

Computer	PC with Windows Vista, Windows 7, Windows 8.1, Windows 10. (32bit & 64bit)
RAM	4 GB (recommended)

Please refer the Installation procedure distributed in the download for the details.

6 Known Limitations

Module	ID	Issue Description	Workaround
Tool Chain	97230	Build failure while switching back to the default tool chain between ARM GCC4.9 and 5.0	Create new project and copy user application files to it.
Debugger	96706	Hard fault is not triggered during single step debug in the following scenario: When an access to a protected memory address range is attempted.	Use PLS debugger. Use debugger from third party tool vendor, e.g. iSYSTEM, Lauterbach, PLS
Debugger	77492	Switching between the registers multiple times in memory tab makes memory tab flicker, gives stack error and debugger hung	Restart DAVE
Solver	76172	Solver does not allow allocating more than 6 DMA channels to connect to USIC channels.	More the 6 DMA channels can be achieved by using interrupt or direct mode
Solver	70559	ADC_Mesurement APP can share max of six channels with one single pin(Alias feature and pin sharing) using ANALOG_IO APP. However, Solver error may occurs when trying to share the same Analog for fourth ADC_Measurement Channel	Increasing solver timeout may solve the issue.

Important Notes:

- New DAVE v4 versions are always backward compatible to older DAVE v4 versions. This means, project created with older DAVE v4 versions can be imported and used with newer DAVE v4 version. New DAVE v4 versions are not always forward compatible; this means, projects created with newer DAVE versions cannot always be imported and used in older DAVE v4 versions.
- The below table lists the valid combination of DAVE version and usage of projects with respect to the DAVE version used for that project creation.

DAVE version	Projects created using following DAVE versions				
	V4.1.4	V4.2.2	V4.2.4	V4.2.6	V4.3.2
V4.1.4	√	X	X	X	X
V4.2.2	√	√	√	√	X
V4.2.4	√	√	√	√	X
V4.2.6	√	√	√	√	X
V4.2.8	√	√	√	√	X
V4.3.2	√	√	√	√	√

- The DAVE APPs released in April'16 can be used in DAVE-4.1.4 or higher versions.
- DAVE-4.2.2 or higher version: The DAVE APPs using following new features can only work with DAVE-4.2.2 or higher version, the warning message will be shown during APPs instantiation.
  - ITAB (mirroring GUI tab content of Required APP in Top level APP)
  - Read the user label of Required APP from Top level APP
- DAVE-4.3.2: This version provides mandatory signal connection feature. So, The DAVE APPs suing this feature can only work with DAVE-4.3.2 or higher version. Eg. PWM & and other APPs using CCU peripherals.
- The workspaces created by DAVE-4.2.4 or lower versions may give 'solver path not found' error if they are used by other DAVE versions, in case respective versions used for creation doesn't exist. The workspace dependency with absolute solver path is resolved from DAVE-4.2.6

7 Violations

NA