Infineon DAVE-Bench for XC800

Release Notes

Current Version : V2.0.1

Last Version : V2.0.0

The Infineon DAVE Bench for XC800 is a platform providing free development tools for Infineon's 8-bit micro-controllers family, based on the Open Source Eclipse architecture.
The following release notes give an overview of the key changes and limitations related to this release. For additional details, kindly refer to the online Help manual.
For license details, please refer to the terms of use which have to be accepted during installation process, and can be found in the Help menu.

Contents:

- Installation
- Supported Controller Families
- Supported Devices
- Main changes
- Known limitations
- History

Installation

To install Infineon DAVE Bench for XC800, go to the setup directory and run setup.exe, then follow the installation wizard's instructions.

The setup will install the following components:

- ECLIPSE based IDE V2.0.1
- SDCC compiler V2.9.0 R7.0.0
- Hitop debugger V1.0.1
- FLOAD flash load utility V5.2
- U-SPY UART Terminal V2.0.0
- DAS server [1)] V2.9.2
- Visual C++ Runtime [1)] V9.0 SP1

[1)] Component only installed if not already present on user system

Initial help for the first steps:

Please read the "Quick Start Tutorial" that can be found in the Eclipse Help View:

Help >Help Contents>DAVE Bench >Quick Start

Or press "Getting Started" in the Welcome screen.

Or press "Quick Start Video" in the Welcome screen for Quick Start Video demonstration

Or Go to Help>Help Contents>DAVE Bench>Quick Start Video

System requirements:

- 32-bit operating systems only: Windows 2000 SP4, Windows XP Professional SP2, Windows Vista SP1, Windows 7
- Eclipse 3.5 + CDT 6.0.2, JRE 1.6 or higher
- PC with minimum 64MB
- FLOAD execution requires minimum version V2.0 of .NET Framework

For connection between the PC and target device, a USB2 certified cable should be used.

Supported operating systems (32-bit versions only):

- Windows 2000 SP4
- Windows XP Professional (SP2)
- Windows Vista (SP1)
- Windows 7

Please Note:
You will need administrator permissions to install the program on all the supported operating systems.

Supported Microcontroller Families

- XC800

Supported Devices

- XC822/XC824
- XC835/XC836
- XC864/XC866
- XC886/XC888

- XC874/XC878
- XC858

Main changes between V2.0.0 and V2.0.1

Main changes from previous released version are listed below.
The tables only provide an overview of the key changes, details can be seen in the online Help manual.

1. General

Description	Type	Reference
New Devices are added (XC866L-2FR-150C, XC866L-4FR-150C), and the SDCC tool supports the above devices.	Enhance	AI00059029

2. IDE

Description	Type	Reference

3. SDCC

Description	Type	Reference
Support for XC866-150C Variant.	Enhance	AI00056270
In a structure, if a bit field size is greater than the available bits in the current byte, then SDCC realigns it to the next byte. In the current version, a warning is issued currently to inform the user about this compiler specific behavior	Fix	AI00057170:
Error in output file extension other than “HEX” - Bug Fixed	Fix	AI00055563
Bit variables are not properly assigned to Bit segment starting at address 0x20 - Bug Fixed	Fix	AI00051630
Hex file generated even when linker finds an unresolved symbol - In the current version, in this particular case, the message is changed from warning to error. Further, linker exits immediately without creating output file	Fix	AI00058465

4. Hitop

Description	Type	Reference
A few SFR values are shown properly and a few of them are NOT working (showing '?' symbol). In the screenshot below, for SFR "TR2" the value is shown as '?', where as for T2_T2MOD the value is shown correctly	Enhance	AI00059032

5. FLOAD

Description	Type	Reference

6. U-SPY

Description	Type	Reference

Version 2.0.0 of U-SPY has been integrated	Enhance	AI00059030

7. DAS

See release note of DAS in on http://www.infineon.com/das

Known bugs and limitations in V2.0.1

Following bugs limitations are known.

1. General

Description	Type	Reference
No support for 64 bit operating systems	Limit.	-

2. IDE

Description	Type	Reference
Build error happens when a 'C' file with a name matching name of any of the project's file resides in one directory above the project directory. This happens when the project is outside of the workspace directory i.e. when a project is added into workspace and not copied *Work-around:* *Avoid storing source files in the directories containing XC800 projects.*	Issue	AI00053122 [build management]
Build fails when sh.exe is present in a directory which is defined in the PATH variable. This problem mostly occurs when Cygwin is installed on the system. *Work-around:* *Add Environment variable "Path" in Window -> Preferences->Environment page and set its value same as System Path variable except for the directory which contains the sh.exe executable.*	Issue	AI00053682 [build management]
During import of build settings, code and constant segment definitions corresponding to non existent files are also imported.	Limit.	[project management]
On definition of code / const segment name and not specifying the location value, IDE will still pass the code/const segment option to the linker tool.	Limit.	[build module]
Inconsistent usage of forward slash and backward slash in the file paths present in the generated make file.	Limit.	[build module]
Environment variable settings are not exported into the generated make files.	Limit.	[build module]
On changing the build settings, IDE doesn't automatically rebuild the project even when Build automatically option is set to ON.	Limit.	[build module]
Build Artifact extension has to be ".hex" (Case-sensitive). This is the default extension and this should not be changed.	Limit.	[build module]
Under certain circumstances importing existing XC800 project using eclipse standard feature "Import->General->Existing projects into workspace" may introduce errors in the project settings. It is highly recommended to use DAVE Bench's import existing project wizard in order to import the existing XC800 projects.	Limit.	[project management]

3. SDCC

Description	Type	Reference

Test case containing fabsf () fails *Work-around:* -	Issue	AI00051866
Compilation error for a test case containing complex pointer operations *Work-around:* -	Issue	AI00051865
Problem with Code segment relocation in Code Space *Work-around:* -	Issue	AI00051812
Problems with complex structures and bit fields. *Work-around:* -	Issue	AI00051864
Pointer arithmetic (comparison of two pointers, {p+2 != 0} etc.,) and string library routines like strcpy() etc., in medium memory model fails (AI00051863). The user should not use pointer arithmetic and string functions in medium memory model.	Limit.	-
ONLY one .c file can be compiled at a time using SDCC. This is relevant for command line users only.	Limit.	-
The compiler does not support generation of code using two data pointers (instead, it uses the DPSEL register). The assembler identifies DPSEL register and generates the code accordingly.	Limit.	-
Compiler does not generate code for the new XC800 variant of MOVC instruction (movc @dptr++, a). Currently, assembler also does not recognize this instruction. So, if "movc @dptr++, a" instruction is used, the tool chain throws error.	Limit.	-
Extern variables cannot be assigned before its extern declaration.	Limit.	-
Functions are static by default and are non-reentrant.	Limit.	-
Overlaying optimization is supported only in the small memory model.	Limit.	-
The prototype of an ISR must be present in the source file containing the main() function.	Limit.	-
Linker does not support multiple memory ranges for flash/external RAM areas. Also, it does not support gaps in memory ranges.	Limit.	-
Floats are enabled in large memory model only due to code size limitation. So, print routines like printf (), sprintf () etc., will output <NO_FLOAT> when floats are used with these routines in small and medium memory models.	Limit.	-
Path of the output file & input source files should follow same convention (i.e., use either forward slash or backward slash in the paths, but do not mix-up). Incase, if output file and input files are referring to the current directory, then either specify the path explicitly for all the files or do not specify the path for any of the files. This is taken care in DAvE Bench for XC800 IDE by default. Eg1: sdcc -mXC800 -pXC888_8FF --model-small -o ".\Dhry.hex" .\Dhry.rel .\Time.rel .\MemInitxxx.s .\startupxc886.s -----> Correct. Path specified for all files. Eg2: sdcc -mXC800 -pXC888_8FF --model-small -o ".\output\Dhry.hex" .\Dhry.rel .\Time.rel .\MemInitxxx.s .\startupxc886.s -----> Correct. Path specified for all files. Output file placed in a separate directory other than the source files. Eg3: sdcc -mXC800 -pXC888_8FF --model-small -o "Dhry.hex" Dhry.rel Time.rel MemInitxxx.s startupxc886.s -----> Correct.	Limit.	-

Path not specified for any of the files. Eg4: sdcc -mXC800 -pXC888_8FF --model-small -o "Dhry.hex" .\Dhry.rel .\Time.rel .\MemInitxxx.s .\startupxc886.s ---> Incorrect. Explicit path for the output file in "-o" switch is missing.		

Further information can be found in the detailed SDCC release notes, available through the Help menu.
Additionally, please refer to the link below for the list of open bugs in the open source SDCC:
http://sourceforge.net/tracker/?atid=100599&group_id=599&func=browse

4. Hitop

Description	Type	Reference
No Views for SFRs	Limit	-

5. FLOAD

Description	Type	Reference
-	-	-

6. U-SPY

Description	Type	Reference
ini-file created with version V1.3.2 and earlier will not work with V2.0.0. Either new ini-file should be created or old ['ini' files created with USPY version earlier than V2.0.0] 'ini' file can be converted to USPY V2.0.0 compatible format using "Convert 'ini' file" option under File Menu	-	Please refer the U-SPY release notes

7. DAS

Description	Type	Reference
-	-	-

History from previous releases

Following are the history of changes and limitation across the versions released already

Main changes between V1.0.2 and V2.0.0

Main changes from previous released version are listed below.
The tables only provide an overview of the key changes, details can be seen in the online Help manual.

1. General

Description	Type	Reference

2. IDE

Description	Type	Reference
DAVE Bench for XC800 moved to Eclipse 3.5 CDT 6.0.2 environment	Enhance	AI00056121
DAVE Bench feature update from Infineon internet added	Enhance	-
Active Project Problems View added	Enhance	AI00056118
Highlighting of files in editor area that do not belong to the Active Project	Enhance	-
Quick start demonstration using video added	Enhance	AI00056117
Library Manager plug-in for downloading example projects from the Infineon internet added	Enhance	AI00056116
Color of breakpoint sign of breakpoints in source file changed	Enhance	-
Supports the DAVE path visible across the workspace	Enhance	AI00056100
The DAVE settings changes can be synchronized with DAVE Bench using popup menu item	Enhance	AI00055202
Open of DAVE with Active Project is now supported in all cases. To utilize this enhanced feature the installation of DAVE Mothersystem v 2.2r2 is required	Enhance	-
Online update of know deviation and problems support added via Help contents	Enhance	AI00054605
"Clean" operation happens after "build" operation	Fix	AI00056274
Tool tip background cut in welcome screen for certain display resolution	Fix	AI00056101
DAVE Bench enter endless loop when importing project in a special scenario when general import feature used.	Fix	AI00055213
FLOAD cannot be launched by IDE on Windows Vista when installed in Program Files	Fix	AI00053125

3. SDCC

Description	Type	Reference
	-	-

4. Hitop

Description	Type	Reference
Support of complex address expressions in Expression View and Memory View added	Enhance	-
Global Variables can now be added to Variable View	Fix	-
Register values in Register view can be changed	Fix	-
Single stepping is now also possible if all 4 HW breakpoints are set	Fix	-
Breakpoints from non Active Projects will have no impact on the breakpoints of the Active project	Fix	-
Breakpoints in assembler source code are supported	Fix	-
HW reset on the target MCU during debugging is now supported correctly	Fix	-
BMI bit on XC82x and CX83x is changed automatically to OCDS Mode when a debug session is started	Enhance	AI00054992

5. FLOAD

Description	Type	Reference
Requires .NET Framework 2.0	Fix	-
Bug fixed for Command line input, option –bm does not take in the correct parameter	Fix	-
Added a Command line input option, –COM, to support COM port selection	Enhancement	-

6. U-SPY

Description	Type	Reference

7. DAS

Description	Type	Reference

Known bugs and limitations in V2.0.0

Following bugs limitations are known.

1. General

Description	Type	Reference
No support for 64 bit operating systems	Limit.	-

2. IDE

Description	Type	Reference
Build error happens when a 'C' file with a name matching name of any of the project's file resides in one directory above the project directory. This happens when the project is outside of the workspace directory i.e. when a project is added into workspace and not copied *Work-around:* *Avoid storing source files in the directories containing XC800 projects.*	Issue	AI00053122 [build management]
Build fails when sh.exe is present in a directory which is defined in the PATH variable. This problem mostly occurs when Cygwin is installed on the system. *Work-around:* *Add Environment variable "Path" in Window -> Preferences->Environment page and set its value same as System Path variable except for the directory which contains the sh.exe executable.*	Issue	AI00053682 [build management]
On Windows Vista, when program is launched in non Administrative mode, error occurs while updating startup.ini file of FLOAD. *Work-around:* *On Windows Vista, Install the tool in any location other than Program Files in order to run it using non administrative account.*	Issue	AI00053125 [external tools]
During import of build settings, code and constant segment definitions corresponding to non existent files are also imported.	Limit.	[project management]
On definition of code / const segment name and not specifying the location value, IDE will still pass the code/const segment option to the linker tool.	Limit.	[build module]
Inconsistent usage of forward slash and backward slash in the file paths present in the generated make file.	Limit.	[build module]
Environment variable settings are not exported into the generated make files.	Limit.	[build module]
On changing the build settings, IDE doesn't automatically rebuild the project even when Build automatically option is set to ON.	Limit.	[build module]
Build Artifact extension has to be ".hex" (Case-sensitive). This is the default extension and this should not be changed.	Limit.	[build module]

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Test case containing fabsf () fails *Work-around:* -	Issue	AI00051866
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Problem with Code segment relocation in Code Space *Work-around:* -	Issue	AI00051812
Problems with complex structures and bit fields. *Work-around:* -	Issue	AI00051864
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and string library routines like strcpy() etc., in medium memory model fails (AI00051863). The user should not use pointer arithmetic and string functions in medium memory model.		
ONLY one .c file can be compiled at a time using SDCC. This is relevant for command line users only.	Limit.	-
The compiler does not support generation of code using two data pointers (instead, it uses the DPSEL register). The assembler identifies DPSEL register and generates the code accordingly.	Limit.	-
Compiler does not generate code for the new XC800 variant of MOVC instruction (movc @dptr++, a). Currently, assembler also does not recognize this instruction. So, if "movc @dptr++, a" instruction is used, the tool chain throws error.	Limit.	-
Extern variables cannot be assigned before its extern declaration.	Limit.	-
Functions are static by default and are non-reentrant.	Limit.	-
Overlaying optimization is supported only in the small memory model.	Limit.	-
The prototype of an ISR must be present in the source file containing the main() function.	Limit.	-
Linker does not support multiple memory ranges for flash/external RAM areas. Also, it does not support gaps in memory ranges.	Limit.	-
Floats are enabled in large memory model only due to code size limitation. So, print routines like printf (), sprintf () etc., will output <NO_FLOAT> when floats are used with these routines in small and medium memory models.	Limit.	-
Path of the output file & input source files should follow same convention (i.e., use either forward slash or backward slash in the paths, but do not mix-up). Incase, if output file and input files are referring to the current directory, then either specify the path explicitly for all the files or do not specify the path for any of the files. This is taken care in DAvE Bench for XC800 IDE by default. Eg1: sdcc -mXC800 -pXC888_8FF --model-small -o ".\Dhry.hex" .\Dhry.rel .\Time.rel .\MemInitxxx.s .\startupxc886.s -----> Correct. Path specified for all files. Eg2: sdcc -mXC800 -pXC888_8FF --model-small -o ".\output\Dhry.hex" .\Dhry.rel .\Time.rel .\MemInitxxx.s .\startupxc886.s -----> Correct. Path specified for all files. Output file placed in a separate directory other than the source files. Eg3: sdcc -mXC800 -pXC888_8FF --model-small -o "Dhry.hex" Dhry.rel Time.rel MemInitxxx.s startupxc886.s -----> Correct. Path not specified for any of the files. Eg4: sdcc -mXC800 -pXC888_8FF --model-small -o "Dhry.hex" .\Dhry.rel .\Time.rel .\MemInitxxx.s .\startupxc886.s ---> Incorrect. Explicit path for the output file in "-o" switch is missing.	Limit.	-

Further information can be found in the detailed SDCC release notes, available through the Help menu.
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4. Hitop

Description	Type	Reference
Variable View: Currently it is not possible to display global variables in the variable view, only local variable are shown. *Work-around:* *Global variables can be viewed in the expression view*	Issue	-
Memory View: Currently it is not possible to specify a memory address by an expression, The memory address that specifies the memory that should be displayed in the memory view has to be an absolute address in hex format. *Work-around:* *Look up the memory address of the expression in the map file and use this address to display memory content.*	Issue	-
SFR view: Currently only CPU SFRs are shown, there are no specific views to show peripheral SFRs. *Work-around:* *SFRs can also be viewed in the expression view.*	Limit	-

5. FLOAD

Description	Type	Reference
-	-	-

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