Release Notes

SDCC Compiler Tool chain for XC800

The SDCC for XC800 is the port of the free SDCC compiler 2.4.0. Although, originally it was 2.4.0, this was later updated to the 2.5.4 March 2006 nightly version. The port for Infineon Technologies 8 bit microcontroller XC800 series is versioned as 2.5.4B4. It is under GPL but has not yet been put into FSF. This SDCC release for XC800 is a Beta4 Release. This software is of beta quality and tested with the XC878, XC886/888 and XC866 boards.

This "Release Notes" covers Release Information, Released items, the important features, list of closed and open bugs, limitations, system requirements, and download and installation instructions.

Release Information:

Release Version No	2.5.4 B4
Date of Release	March 5th 2008
Description of known Open Bugs	• Comparison between two floating point values to see if they are equal or not-equal. This may result in erroneous output (Appendix A).

Released Items:

S. No.	Released Item	Version	Status of Update
1	SDCC Toolchain for XC800 (SDCC_XC800_2.5.4B4_R1.7_Setup.zip)	2.5.4 B4	Updated
2	User Manual for SDCC Compiler for XC800 (sdcc_xc800_usermanual.pdf)	2.5.4 B4	Updated
3	Release Notes (SDCC_XC800_CompilerToolchain_Release_Notes.pdf)	2.5.4 B4	Updated

Important Features:

This is a Beta4 Release of the software (version is 2.5.4 B4) to support XC878 Board. The package continues the support for XC866 and XC886/888 without any change to the existing interface.

NOTE: Please note that the compiler target switch –mxc886 has to be used for XC878. However, xc878.h header file should be included in the test case if it has to be built for XC878.

System Requirements:

SDCC requires Windows NT/Windows2000/ Windows XP based machines with minimum 64MB RAM.

Installation Instructions:

Follow the instructions in the installer.

Changes Over Previous Version:

- Support for XC878 is added. (Header file xc878.h is added)
- User Manual is updated for the usage of XC878.
- Added XC88x_MDU_KEIL_BROMLIB.s file, wrapper to make use of Keil library routines and MDU library routines which are embedded in the boot ROM of xc886.

Limitations:

- The compiler still does not support generation of code using two data pointers (DPSEL register). The assembler identifies DPSEL register and generates the code accordingly.
- Compiler does not generate code for the new variant of MOVC instruction. This is supported by the macro defined in the xc866.h file.
- TRAP instruction is emitted only by the macro defined in the xc866.h file.
- Extern variables cannot be assigned before its extern declaration.
- Programs requiring dynamic memory allocation using “malloc()” should be compiled in model large.

- No support for signed bit fields.

Known Issues(Other than open bugs):

No known issues.

Appendix A:

The bug is related to comparing two floating point values to see if they are equal or not-equal. There are almost always going to be small differences between numbers that "should" be equal. Instead, always check to see if the difference between them is very small or insignificant. In other words check to see if the difference between them is less than 1.192092896E-07F

For example, Let us consider a long value 123456789

If we convert this to a floating point value it will become 1.234567e8 [This is a truncated value]. So comparing 1.234567e8 with 123456789 will lead to test failed in SDCC.

Work Around: If the difference between the two values is less than 1.192092896E-07F then the values are equal.

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