



Release Notes
CodeWarrior Development Studio for MPC55xx/MPC56xx
Version 2.10

I. About this Release

A. Version Information

CodeWarrior™ Development Studio for MPC55xx/MPC56xx Version 2.10

B. System Requirements

Recommended Configuration

- 1.8 GHz Pentium® compatible processor or better
- Microsoft Windows XP/Vista/7
- 2 GB RAM
- 2 GB hard disk space, 400 MB on Windows system disk
- CD-ROM drive for installation
- USB port for communications with target hardware
- Ethernet port for communications with target hardware (optional)

Operational Minimum Configuration

- 1.4 GHz Pentium® compatible processor or better
- Microsoft Windows XP
- 1 GB RAM
- 1 GB hard disk space, 400 MB on Windows system disk
- CD-ROM drive for installation
- USB port for communications with target hardware
- Ethernet port for communications

C. Supported Operating Systems

- Windows XP Pro Edition (32-bit)
- Windows XP Pro Edition (64-bit)
- Windows Vista Home Premium Edition (32-bit)
- Windows Vista Home Premium Edition (64-bit)
- Windows Vista Business Edition (32-bit)
- Windows Vista Business Edition (64-bit)
- Windows 7 Home Premium Edition (32-bit)
- Windows 7 Home Premium Edition (64-bit)
- Windows 7 Professional (32-bit)
- Windows 7 Professional (64-bit)

D. Installation and Licensing

To install CodeWarrior Development Studio for MPC55xx/MPC56xx V2.10, double-click the installation package and a wizard will guide you through the installation process.

This CodeWarrior release is available in two editions: Special Edition and Standard Edition. The Special Edition supports C/C++ code up to 128KB in both the compiler and the debugger. The Standard Edition supports unlimited C/C++ code size in both the compiler and debugger. An Evaluation Edition is available which includes all the functionality of the Standard Edition for 30 days, after which it reverts to the Special Edition.

E. Getting Help

All CodeWarrior issues are tracked through Freescale's normal Service Request Process. To report feature requests (enhancements) or defects for CodeWarrior Development Studio for MPC55xx/MPC56xx v2.10, please submit a Service Request.

1. Go to <http://www.freescale.com/support>
2. Log in.
3. On the resulting MyFreescale page, click Enter a Service Request
4. Choose category Software Product Support
5. Choose topic CodeWarrior
6. Click Next.
7. Provide the required information. An attachment up to 10 MB may be attached to the SR. You may also specify email addresses of people you would like to keep notified on the progress of the SR. Separate multiple email addresses with commas.
 - **Type:** pick from Question, Defect Report, Feature Request
 - **Subject:** be short and descriptive
 - **Description:** details your question, defect or feature request
 - **Severity:** choose from Normal, High, or Highest
 - **Reproducibility:** enter reproducibility information
 - **Target:** specify the microcontroller/microprocessor family involved
 - **Product:** CW for EPPC MPC55xx
 - **Root Cause/Nature:** enter root cause (e.g. software defect)
 - **RTOS:** enter the RTOS being used (e.g. NA)
 - **Major:** 2
 - **Minor:** 10
 - **Patch:** leave blank
 - **Component:** enter component (e.g. Debugger)
 - **Host:** enter host operating system

Please note: The Product field must be set to CW for EPPC MPC55xx. This will allow Freescale to find SRs related to this project very easily, report on them, and gather statistics on how the product is doing.

8. When finished, click Submit.

After Submit is selected, a confirmation page will be displayed with the SR number. You will also receive a confirming email sent to the address specified in your Freescale account.

F. Supported Targets

CodeWarrior Development Studio for MPC55xx/MPC56xx V2.10 supports all the devices included in version 2.9.

II. New Features

A. Build Tools

- Compiler exports optimization level as predefined macro.
- Compiler supports fused MAC instructions (efsmadd, efsmsub,...).
- VLE compiler updates the base register of big structures to ensure the structure items' offsets are within the range of 16 bit the load/store instructions.
- Linker can be used to fill unused bytes with a defined byte pattern.



- The spe header file has been updated to be in sync with latest release of “Enhanced Signal Processing Extension and Embedded Floating-Point Version 2 Auxiliary Processing Units Programming Interface Manual”

Appendix A — Defects Fixed

The table below lists the defects that have been resolved in this release.

Compiler	
MTWX40358	Linker should display a message (error, warning) when multiple declarations are detected in libraries.
MTWX48116	Unable to compile a specific assembly line, which includes a value calculation with a data object and @ asm operation, if the data object is located in small data section.
MTWX49604	Assembler has issues when the "@lo" directive is used.
MTWX50452	Compiler generates incorrect ISR prologue/epilogue if vle_multiply option used and ISR includes __ev64_* object or save_spe option is added.
MTWX50753	CodeWarrior crashes when building a C++ template with a syntax error instead of reporting a template error.
MTWX50985	Compiler generates wrong memory access when a 8 bit loop counter is used.
MTWX51114	There is no support for the following MSL libraries in EWL: MSL_C.PPCEABI.bare.S.UC, Runtime.PPCEABI.S.UC
MTWX51125	Some E200z7 special purpose registers (TBL, TBU, L1CSR1) are not recognized by the inline/standalone assembler.
MTWX51438	Compiler reports an error, "register not applicable for this processor," for mcsr register
MTWX51341	Cannot disable dead-stripping of assembly code in main.c.
MTWX51479	It takes a very long time to build a large project.
MTWX51632	Compiler build times have increased since the CW MPC55xx/MPC56xx v2.7release.
MTWX51783	Internal error generated by inline assembly instruction
MTWX51944	Book E to VLE inline assembler translation is incorrect. Instruction ORI is translated into E_ORI which is incorrect in specific cases.
MTWX52130	Compiler generates faulty code if "fused MAC instruction generation" is enabled.
MTWX52174	Build tools do not generate proper relocation for instruction e_li r*,symbol@l. The result is an invalid opcode.
MTWX52545	Compiler generates wrong load instruction (e_lha) when peephole optimization is enabled.
Documentation	
MTWX44517	Linker options "-relocate" and "-norelocate" have no impact on a generated .elf file. These linker options are not supported, so they have been removed from the Build Tools Reference Manual.
MTWX47861	Linker does not support AT, Access Flags for MEMORY and ALIGNALL, so they have been removed from Build Tools Reference Manual.
MTWX48492	Descriptions for vector options (SPE, SPE Addl, SPE2, None) have been added to the Targeting Manual. Description for "spe2_vector" compiler option has been added to Build Tools Reference Manual.
MTWX50449	Build Tools Reference Manual has been updated to correctly state that __declpec(interrupt) defaults to saving 64-bit registers.
MTWX51789	A section called "How to rebuild the EWL Libraries," has been added to the Build Tools Reference Manual.



Appendix B — Known issues and Workarounds

The table below lists the known issues and their workarounds.

Debugger	
MTWX50429	<p>Description: In complex projects global variables and global enum variables display "Out of Scope" in the Variables window even when the scope is correct.</p> <p>Workaround: Download the P&E debugger patch from the URL listed below and replace the existing {CWInstall}\pemicro directory with the contents of the zip file.</p> <p>http://www.pemicro.com/fixedlinks/CW_ICDPPCNEXUS_v13402.zip</p>