
Release Notes

S32 Design Studio for Power Architecture v1.0

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1 Release description

Freescale's S32 Design Studio for Power Architecture v1.0 for Automotive and Ultra-Reliable MCUs is based on the Eclipse open development platform and integrates the Eclipse IDE, GNU Compiler Collection (GCC), GNU Debugger (GDB), and other open-source software to offer designers a straightforward development tool with no code-size limitations.

1.1 Release content

- Eclipse Luna 4.4 Framework
- GNU Tools for e200 processors build tools (support VLE ISA only, based on gcc 4.9.2, binutils 2.24 and gdb 7.8)
- Libraries included: newlib, newlib-nano and Freescale EWL2
- P&E Multilink (with P&E GDB Server)
- New Project wizard to create application and library projects for supported devices
- Peripherals Register View
- Devices supported:
 - MPC5775K, MPC5774K
 - MPC5746R, MPC5745R, MPC5743R
 - MPC5777M
 - MPC5777C
 - MPC5748G, MPC5747G, MPC5746G
 - MPC5746C, MPC5745C, MPC5746D, MPC5746B, MPC5745D, MPC5745B
 - MPC5744P, MPC5743P, MPC5742P, MPC5741P
 - MPC5601P, MPC5602P, MPC5603P, MPC5604P
 - MPC5644B, MPC5644C, MPC5645B, MPC5645C, MPC5646B, MPC5646C
 - MPC5601D, MPC5602B, MPC5602C, MPC5602D, MPC5603B, MPC5603C, MPC5604B, MPC5604C, MPC5605B, MPC5606B, MPC5607B
 - MPC5606S

2 What's New

This is first release of S32 Design Studio for Power Architecture v1.0.

3 System Requirements

3.1 Recommended Configuration

- 2.6GHz Pentium® compatible processor or better
- 4GB RAM

- 2GB
- USB port for communications with target hardware
- Ethernet port for communications with target hardware (optional)

3.2 Operational Minimum Configuration

- 1.8GHz Pentium® compatible processor or better
- 2GB RAM
- 2GB
- USB port for communications with target hardware

3.3 Host Operating System Support

- Linux versions Ubuntu 12.04/14.04, Debian 8, CentOS 7

4 Product WEB page

S32 Design Studio for Power Architecture v1.0 product page is <http://www.freescale.com/S32DS>. It contains general information about this product, updates, and download links.

5 Installation and Licensing

To install S32 Design Studio for Power Architecture v1.0, choose the download option that meets your needs.

The installer package contains the complete S32 Design Studio for Power Architecture v1.0 suite and an installer. All data needed by the installer will be downloaded and no other download will be performed. Double-click the installation package and a wizard will guide you through the installation process.

New functionality including support for new devices can be added to S32 Design Studio for Power Architecture v1.0 with service packs, updates and patches. Service packs add specific support for new devices. Updates and patches correct software defects and add general functionality affecting more than one device family.

New support can be added directly from the Internet or from a downloaded archive. If your computer is connected to the Internet, select Install New Software in the Help Menu and all available updates will be displayed. If your computer does not have Internet access, you can download the archive that contains the service pack, update or patch you need from product page and follow the Service Pack Updater procedure posted on the site.

6 Technical Support

All S32 Design Studio issues are tracked through Freescale's normal Service Request Process. To report feature requests (enhancements) or defects for S32 Design Studio for Power Architecture v1.0, please submit a Service Request following the below steps:

1. Go to <http://www.nxp.com/support/sales-and-support:SUPPORTHOME>.
2. On the bottom of the page under Submit New Issues, click Hardware & Software.

3. Register with your business email to access NXP technical online support.
4. A verification email will be sent to your account. Click the link embedded in that email to verify your access.
5. On the NXP online support page, select Contact Support from the top menu and click “submit a new case” to start the process.

Appendix A: Known issues and Workarounds

There are some issues which are introduced by CDT therefore reproduced in S32 Design Studio. Those issues might be fixed when the fix is available with newer CDT version and when S32 Design Studio migrates to it.

- **Incorrect display of the resource excluded** in some build configuration even when corresponding build configuration set active, always show state for the first configuration.
Workaround: use the Build Configurations dialog to see the correct inclusion and exclusion for resources (files and folders). Select "Build Configurations..." menu item in local project menu.
- **Conditional watchpoints and breakpoints:** Conditional breakpoints and watchpoints, including those using ignore counts, do not work always.
Workaround: do not use conditions for breakpoints and watchpoints, instead check for condition in the code and set a normal breakpoint.
- **Renamed/copied project** launch configuration is not updated automatically
Workaround: Project and C/C++ Application parameters should be updated in the Debug Configurations dialog. Please note that if project is renamed or original project is removed – then the launch configuration could be filtered – you need to temporary uncheck Filter Deleted/Unavailable Projects.
- **Reset/Restart multicore debug session** when the restart of multicore debug session is performed, debug sessions for secondary cores stop being valid.
Workaround: The debug session for secondary cores should be terminated and started again to re-attach to core.
- **Debugger** might fail for MPC5777M when stopped on main() and memory window opened at address 0xFFE68000 and step performed (before initialization done).
Workaround: Open memory window at that address after xcptn_xmpl() is executed.
- **Disassembly view** content might be destroyed occasionally.
Workaround: Close disassembly view and open it again using menu Window → Show View → Disassembly.

Appendix B: Performance Considerations

The following suggestions will help keep the S32 Design Studio tools running at a respectable performance level.

- 1 To maximize performance, the S32 Design Studio tools should be installed on a computer with the recommended system configuration. While the tools will operate on a computer with the minimum configuration, the limited hardware will restrict its ability to function at desired performance levels.
- 2 Close unused projects. Eclipse caches files for all open projects in the workspace. If you need multiple projects open, try to limit the number of projects to no more than 10.
- 3 The Eclipse IDE provides several options that provide user assistance tools. These options, however, use memory and cpu bandwidth. If performance is slow and you do not need these options, turn them off.
 - Scalability options configure how eclipse deals with large source files.
 - Scalability options:
 - Editor live parsing: impacts parsing while typing, Outline View, semantic highlighting, folding, etc.
 - Semantic highlighting: C/C++ identifiers are colored
 - Syntax coloring: coloring of keywords, comments and literals
 - Parsing-based content assist proposals: content assist proposals which require parsing the file
 - Content assist auto activation: content assist activated automatically on trigger sequences, like '.', '::' or '->'.
 - To disable:
 - Click menu 'Window' -> 'Preference'
 - Expand 'C/C++' -> 'Editor' -> 'Scalability'
 - Uncheck 'Enable all scalability mode options'
 - Content Assist Auto Activation can reduce the number of keystrokes a developer must type to create code. The Content Assist plug-in consists of components that predict what a developer will type, based on the current context, scope and prefix.
 - To disable:
 - Click menu 'Window' -> 'Preference'
 - Expand 'C/C++' -> 'Editor' -> 'Content Assist'
 - Uncheck all the options for 'Auto-Activation'