

SDE2 2.3

Release Notes

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Abstract

This document contains the release notes of SDE2 2.3

Keywords

MoReUse, SDE2, Release Notes

References

[SDE2] SDE2 2.3 User Manual, STA/SDM/SDE2_2.3/0007,
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Distribution Status

NXP Semiconductors Restricted

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1 INTRODUCTION

1.1 Purpose and Scope

The main features that were added as part of SDE2 2.3 are:

- ❖ Support MIPS CPU cores with eCos RTOS.
- ❖ Support TM CPU cores with NULLOS.
- ❖ Support ARM CPU cores with osCAN RTOS.
- ❖ Support latest DSP-IC CPU cores.
- ❖ Support MIPS 24K CPU cores for Green Hills toolchain.
- ❖ Support building multiple applications.
- ❖ Support recursive closure of REQUIRES section.

The following are the host platforms supported

Host Platforms:

- ◆ Linux
- ◆ PC/Windows NT/Windows 2000/Windows XP (cygwin)

Problem reports concerning this release can be submitted at

<http://helpsync.soton.sc.philips.com/>

for Product **SDE2** under CTO Products >> Design Environments >> System Design Environments.

1.2 Supported Target Platforms (Configurations):

SI No	Configuration	Description
1	8051keil_nullos	KEIL toolchain support for 8051 microcontrollers
2	arm_ce	Microsoft Windows CE compiler toolchain for ARM CPU cores
3	arm_cexec	ARM CPU cores support for CEXEC RTOS
4	arm_nullos	ARM CPU cores support for NULLOS
5	arm_vxworks	Tornado compiler toolchain for ARM CPU cores
6	armads_nucleus	ADS Compiler toolchain for NUCLEUS RTOS for ARM CPU cores
7	armads_nullos	ADS Compiler toolchain for NULLOS for ARM CPU cores
8	armads_ucos	ADS Compiler toolchain for Micro OS (uCOS) RTOS for ARM CPU cores
9	armghs_nullos	GreenHills Compiler toolchain for NULLOS for ARM CPU cores
10	armghs_oscan (New)	GreenHills Compiler toolchain for osCAN RTOS for ARM CPU cores
11	armgnu_linux	GNU Compiler toolchain for ARM CPU cores with Linux as Target OS
12	armrvds_nullos	Realview Compiler toolchain for NULLOS for ARM CPU cores
13	armrvds_ucos	Realview Compiler toolchain for Micro OS (uCOS) RTOS for ARM CPU cores
14	hp_nullos	GNU toolchain compiler support for HP/UX
15	hpnsc_nullos	SystemC support for NxBuilder
16	mips_ce	Microsoft Windows CE compiler toolchain for MIPS CPU cores
17	mips_nullos	MIPS CPU cores support for NULLOS
18	mips_psos	DIAB compiler toolchain for MIPS CPU cores with PSOS RTOS
19	mips_vxworks	Tornado compiler toolchain for MIPS CPU cores
20	mipsghs_integrity	GreenHills Compiler toolchain for INTEGRITY RTOS for MIPS CPU cores
21	mipsghs_nullos	GreenHills Compiler toolchain for NULLOS for MIPS CPU cores
22	mipsgnu_ecos (New)	GNU Compiler toolchain for MIPS CPU cores with eCos RTOS
23	mipsgnu_linux	GNU Compiler toolchain for MIPS CPU cores with Linux as Target OS
24	real_mtos	REAL CPU cores with MTOS RTOS
25	real_nullos	REAL CPU cores with NULLOS
26	realsat_nullos	Saturn compiler toolchain for 16 bit REAL DSP cores
27	tm_psos	TCS Compiler toolchain support for TriMedia CPU cores with PSOS RTOS
28	tmtcs_nullos (New)	TCS Compiler toolchain support for TriMedia CPU cores with NULLOS
29	x86_ce	Microsoft Windows CE compiler toolchain for x86 CPU cores
30	x86_nt	Microsoft Windows C/C++ support on Windows NT/XP/2000
31	x86_vxworks	Tornado compiler toolchain for x86 CPU cores
32	x86ddk_nt	Microsoft DDK compiler toolchain support for x86 CPU cores
33	x86gnu_linux	GNU Compiler toolchain for x86 CPU cores with Linux as Target OS
34	x86gnu_nullos	GNU Compiler toolchain for x86 CPU cores with NULLOS
35	x86ncsc_nullos	Cadence NcSc toolchain for System C
36	x86osci_nt	OSCI toolchain for System C on Linux/Unix
37	x86osci_nullos	OSCI toolchain for System C on Windows

2 MATERIAL LIST

There are no physical media that are part of the release.

3 CONTENT LIST

The release consists of one tar.gz file (sde2_2_3.tar.gz), containing the sde tree (make files, scripts, examples and documentation), the current document and the installation notes.

There are newly added configurations directory under “sde” directory:

◆ armghs_oscan

This directory contains configuration specific make files for ARM CPU cores with osCAN RTOS.

◆ mipsgnu_ecos

This directory contains configuration specific make files for MIPS CPU cores with eCos RTOS.

◆ tmtcs_nullos

This directory contains configuration specific make files for TriMedai CPU cores with NULLOS.

Apart from these newly added configurations directory under “sde” directory the following directories have been created:

◆ gnu

This directory contains the common settings that are required by GNU based configurations.

◆ linux

This directory contains the common settings that are required for linux module development and also linux specific settings.

SDE2 2.3 has the following modifications:

1. sde/environment.mk and sde/common.mk modified to solve various PRs/CRs.
2. *gnu_linux/*.mk files for PRs/CRs related to Linux support.
3. sde/scripts/build_exe.pl perl script to support building multiple applications.
4. sde/scripts/requires.pl to solve the PR no. 56952.
5. New sde/scripts/generate_diversity_mk.pl perl script included to generate diversity.mk files based on the configurations.txt files.
6. New sde/scripts/application_diversity.pl perl script included to calculate the possible _TMDIVERSITY values based on the configurations.txt files.
7. sde/mipsgnu_nullos/*.mk to support MIPS24K CPU Core.
8. *gnu_*/*.mk files to purge the code and reduce the LOC.

4 IMPLEMENTED MODIFICATIONS

The details of all SDE2 PRs and CRs can be viewed in <http://helpsync.soton.sc.philips.com/>. for Product **SDE2** CTO Products >> Design Environments >> System Design Environments.

The following PRs/CRs have been solved in SDE2 2.3 release:

4.1 Corrected problems

The "PR Number" corresponds to the PR number in the CTO-Helpsync for SDE2.

Problem Rep.	Short Description
55063	build.pl shall behave at applications like build_exe.pl does
55904	Linux application build with shared libraries fails at execution
55921	Generated loc_list.* incomplete when using the Build_exe.pl script
55923	_SDE_INCLUDES path for *gnu_linux incorrect
56952	sde/scripts/requires.pl does not work properly
58192	tmFlags.h multiple inclusion guard not recognized by some compilers
58995	x86gnu_linux creates \$(TARGET).out, but mipsgnu_linux \$(TARGET)

4.2 New Features

The "CR Number" corresponds to the CR number in the CTO-Helpsync for SDE2.

Change Req.	Short Description
22647	SDE2 should implement recursive closure of REQUIRES(?) for header files
44738	Can OS eCos be implemented in SDE2 in relation with cpu class mips?
46174	osCAN new OSCLASS to be added into SDE2 in relation with cpu class ARM
46315	allow build_exe.pl to build multiple applications in one go
52273	Support from Trimedia on NULLOS
52274	Support latest tool-chain of DSP-IC.
55157	Support for linux kernel module building required
55556	Green Hills support for MIPS24K
55937	GNU toolchain based configs should use shared implementation
57987	support of tm3271 in SDE2

5 MODIFICATION INFORMATION

5.1 New configuration

Three new configurations **armghs_oscan**, **mipsgnu_ecos** and **tmtcs_nullos** have been added in SDE2 2.3.

Please refer to the table [Supported Target Platforms Section 1.2](#) for all supported Target platforms.

5.2 New tool chain support

SDE2 2.3 supports:

- **Green Hills Toolchain for ARM on osCAN** (armghs_oscan).
- **GNU Toolchain for MIPS on eCos** (mipsgnu_ecos).
- **TCS Toolchain for TriMedia on NULLOS** (tmtcs_nullos).

5.3 New environment and makefile variables

The following new environment variables are introduced in SDE2 2.3 release to support recursive closure of REQUIRES section.

New Environment variables :

_TMNESTEDINCLUDE to recursively close REQUIRES section.

The following new makefile variables are introduced in SDE2 2.3 release to support recursive closure of REQUIRES section.

New Environment variables :

_SDE_MISSING_RFILES list of components without R Files.

_SDE_IMPORT_REQUIRES recursive list of REQUIRES section.

5.4 Extra gmake targets

None.

6 INTERFACE COMPATIBILITY

This distribution includes binaries like GNU cpp, gmake, gawk, sed, etc. which are covered by the GNU General Public License.

6.1 Global Nexperia header files

You can find the latest information about the Nexperia header files on the WEB:

http://pwww.cto.sc.philips.com/products/reuse_standards/html/global_files.html

7 MODIFICATIONS TO DOCUMENTATION

SDE2 user manual is updated with all required information pertaining to this release.

8 INSTALLATION INSTRUCTIONS

The installation instructions are part of a separate document - SDE2_Installation_Notes_2.3.txt. This document is also present on the CODS server.

8.1 CM Synergy

When the “sde” tree is a subproject in your CM Synergy system (ref. Chapter 5 of the SDE2 User Manual), you can replace the “old” CM Synergy project by a new one as follows:

- ◆ Checkout the current “sde” directory
- ◆ Unuse the “sde” directory
- ◆ Migrate the new “sde” directories and all its subdirectories to the requested location.

NOTE: The migration is recommended to be done by a person who has good experience using CM Synergy tool for migration (Eg, Build Manager of your team). Kindly contact us in case of problems.

9 SDE2 SERVICE AND SUPPORT

For support on SDE2, please contact the CTO Helpdesk.

CTO HelpDesk email : cto.helpdesk@nxp.com

CTO HelpDesk phone:	America	+ 1 (0) 480 752 6700
	Asia	+ 91 (0) 80 556 1239
	Europe	+ 44 (0) 23 8031 6530

CTO HelpSync URL, for problem reports and support requests

<http://helpsync.soton.sc.philips.com> (training, consultancy, ..)

CTO HelpDesk URL, for detailed information and methods of contact:

http://pww.cto.sc.philips.com/html/cto_helpdesk.html (NXP Semiconductors internal only)

ST&A URL, for detailed information on all ST&A products and services

<http://pww.cto.sc.philips.com/sta/>

A new ticket should be created against the product SDE2 which is in the product hierarchy under for Product **SDE2** under CTO Products >> Design Environments >> System Design Environments.

If you have not used CTO HelpSync before online registration is available at:

<http://helpsync.soton.sc.philips.com:6530/scripts/isynch.dll?panel=UserSelfReg>

Possible Problems, Known Errors and Restrictions

PR	Description	Work-Around/Action
HS#15871	configuration/runtime diversity not functioning with NT (dlls)	One possible work around is to build all DLLs that are required for the application, irrespective of whether required rebuilding or not. All DLLs can be rebuilt using build_exe.pl script Warning: This might consume more build time.
NA	Dependency generation problem when the source files has a huge number of dependent files (headers). This limitation is of windows command line options. The command line options limit on windows is 8200 characters. If the filenames of the dependent files (all files inclusive) exceed this limit, then an empty dependency file is generated	No workaround currently. Under Analysis.
NA	Working with gmake version 3.81	Refer to Appendix D of Release notes

Appendix A Unix/PC file system compatibility

SDE2 is delivered Unix compatible, that means that all files do not contain an ^M symbol in the end (provided if the tar.gz file is unzipped only on Unix).

Appendix B Mips_psos target compilation process

Due to PR 570, now we generate 2 library files. If one use local sys_conf.h file, we recompile always to get libstart_local.a up to date. If you use global sys_conf.h file, we compile only the first time libstart.a and then recompilation is not needed.

Appendix C Add TCT Epics compiler support to SDE2

HelpSync ID#49764 (Tjeu Horsch) - Add TCT Epics compiler support to SDE2, This CCB approved problem has not been implemented in SDE2 due to unavailability of TCT compiler toolchain. Also, this integration into SDE2 is not the User's number one priority.

Appendix D Gmake 3.81

SDE2 has been found to have problems when working with gmake 3.81 as there are some architectural changes in gmake 3.81 as compared to gmake 3.80 and earlier versions. It is highly recommended to use only gmake 3.80 when using SDE2.