

DaVinci PSP 03.21.00.04 Release Notes



Release Notes

April 21, 2011

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Versioning

This is Release 03.21.00.04 of DaVinci PSP SDK product.

Introduction

The DaVinci PSP Software Development Kit (SDK) serves to provide a fundamental software platform for development, deployment and execution of Linux based applications on Texas Instruments SoCs. The Linux kernel and U-Boot software in this release are based upon the following repositories:

Component	Version	Release Repository Information		
		Repository URL	Baseline Commit-id	Release Tag
DaVinci Linux Kernel	2.6.37	[1]	cda6ca38f96f0719ce3500da856e7d4bf0abbc38 [†]	v2.6.37_DAVINCIPSP_03.21.00.04
U-Boot	2010.12	[2]	250ef029844be2cb98635f265359396866d1749f [‡]	v2010.12_DAVINCIPSP_03.21.00.04

[†]This commit id corresponds to the commit from the DaVinci GIT tree ^[3] based on which the Linux kernel code was developed.

[‡]This commit id corresponds to the commit from the U-Boot mainline GIT tree ^[4] based on which the U-Boot code was developed.

The file system that was used for testing is based on Arago Project ^[5]. Filesystem is not packaged in PSP release. Please check the section on Update and Compatibility Information.

For detailed information on the various software components included in the release and how to use them, please refer to the User's Guide.

The kernel and U-Boot have been compiled with CodeSourcery GNU Toolchain for ARM Processors 2009-q1-203 ^[6] based on GCC 4.3.3.

Device Support

This release supports the Texas Instruments DM365, DM368 and DA850/OMAP-L138/AM18x Evaluation Modules (EVMs).

Obtaining the Release Package

The PSP release package can be obtained from TI's Technology and Software Publicly Available (TSPA) download site ^[7].

Documentation

The User's Guide provides instructions on how to use the PSP SDK package. A PDF snapshot is also included in the `docs` folder of the SDK package.

The Features and Performance Guide provides feature information and performance benchmarks on drivers included with the PSP SDK package. A PDF snapshot is also included in the `docs` folder of the SDK package.

What's Supported

The SDK package supports the following components. For a detailed list of features supported, refer to the features and performance guide

Component	Notes
User Boot Loader (UBL)	Serves as the primary bootloader for the device. Requires CCStudioV5 for build.
U-Boot	De facto bootloader for Linux on ARM. Serves as the secondary bootloader
Flashing Utilities	Required to flash boot software (UBL and U-Boot) on EVM. Uses CCStudioV5/Linux/cygwin for building and execution. Supports MMC/SD, SPI, NAND and NOR flash (SPI and NOR flash on DA850/OMAP-L138/AM18x EVM only)
Examples	Help demonstrate device driver usage where no standard utilities are available. Examples are included for Video, EDMA, GPIO and McBSP.
Pre-built binaries	Help use release package straightaway without the need to re-build anything. Pre-built binaries for Linux kernel and modules, U-Boot, UBL, flash writer and examples are included.

What's Not Supported

- Booting U-Boot from MMC card.
- Following Linux drivers are not supported:
 - SDIO - WLAN
 - UPP (Universal Parallel Port)
 - eQEP
 - eCAP
- Following driver features are not supported (for a detailed overview of limitations of each driver refer to Features and Performance Guide):
 - USB Dual Role, OTG support over USB0 (MUSB-OTG) interface.
 - VPIF
 - VBI capture and display support

Features in this Release

This release currently supports **DA850/OMAP-L138/AM18x** and **DM36x** platforms from TI. Support for **DM644x**, **DM646x**, **DM355** and **DA830/OMAP-L137/AM17x** will be added later.

- Linux Kernel Version 2.6.37
- U-Boot Version 2010.12
- Video Drivers on DM36x are following Media Controller framework.
- UBL and Flash writers can be built from Linux.

Fixed in this Release

Issue Identifier	Issue headline
SDOCM00075224	In UBL, 4-bit ECC correction false completion state reported by ECC hardware has been taken care.
SDOCM00075933	DM365: UBL: Removed extended wait configuration for NAND
SDOCM00076092	dm365: Corrected a bug where U-Boot was writing a wring value to teardown EMAC
SDOCM00079458	spi: SPI was unable to transfer > 64KB data using DMA mode. This has been corrected.

Known Issues

Issue Identifier	Issue headline	Known Workaround(s)
SDOCM00059997 (OMAP-L138)	amixer controls to control left/right playback volume is inverted	None. This has to be corrected in the EVM hardware.
SDOCM00060000 (OMAP-L138)	amixer controls to switch on/off, left/right playback is inverted	None. This has to be corrected in the EVM hardware.
SDOCM00060007 (OMAP-L138)	GLCD flickering is observed whenever SPI flash is accessed. This is due to the muxing of GLCD backlight control pins (EPWM) and SPI flash chip select pins	None. This has to be corrected in the EVM hardware.
SDOCM00062443	Unable to create jffs2 partion on nand using flash_eraseall -j	flash_eraseall can be used without -j option and the partition can still be mounted with jffs2 file system.
SDOCM00064559	audio: Capture fails in mmap mode with -v option	None
SDOCM00067005	SPI: CPU load is high even in DMA mode	None
SDOCM00067843 (OMAP-L138)	DA850: When TPS65070 PMIC is configured for an output voltage of 1.0V, I2C bus becomes un-unsable	This is an issue with EVM hardware. To workaround this issue, the release uses gpio based bit-banging i2c driver in Linux kernel.

Installation and Usage

Please look for detailed installation and usage instructions in User's Guide

Upgrade and Compatibility Information

To upgrade to new PSP release, simply delete the old release and extract the new release in its place.

Dependencies

Please refer to User's Guide for dependencies.

Validation Information

Please use LFTB hosted in arago [8] for validating the release. Documentation on using LFTB is included in the LFTB package itself.

Technical Support and Product Updates

For further information or to report any problems, contact <http://community.ti.com> or <http://support.ti.com>.

DaVinci Linux Mailing List: <http://linux.davincidsdp.com/mailman/listinfo/davinci-linux-open-source>.

References

- [1] <http://arago-project.org/git/projects/?p=linux-davinci.git;a=summary>
 - [2] <http://arago-project.org/git/projects/?p=u-boot-davinci.git;a=summary>
 - [3] <http://git.kernel.org/?p=linux/kernel/git/khilman/linux-davinci.git;a=commit;h=887f8d18de5efbeafc76e5c509fd53f9018992fa>
 - [4] <http://git.denx.de/?p=u-boot.git;a=commit;h=bb3bcfa2426cc6a0aecec7270e3ee67ca843a125>
 - [5] <http://arago-project.org/>
 - [6] <http://www.codesourcery.com/sgpp/lite/arm/portal/release858>
 - [7] http://software-dl.ti.com/dsps/dsps_public_sw/psp/LinuxPSP/DaVinci_03_21/03_21_00_03/index_FDS.html
 - [8] <http://arago-project.org/git/projects/?p=test-automation/target-code/psp/lftb.git;a=summary>
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