TMS320DM368 DVSDK 4_01_00_09 Release Notes

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Digital Video Software Development Kit (DVSDK) 4_01_00_09 for the TMS320DM368

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This is a Generally Available (GA) release of the DaVinci Software Development Kit (DVSDK) 4_01_00_09 for the TMS320DM368 platform. This DVSDK Software release gives developers the ability to evaluate the hardware and software capabilities of the TMS320DM368 platform. Developers will be able to evaluate the ARM Linux programming environment and easily utilize the hardware support for the powerful multimedia codecs.

This document is divided into the following sections:

Contents

Documentation

- Latest up to the minute information and updates may be found on the Texas Instruments Embedded Processors Wiki.

- The *Quick Start Guide* contains information on how to set up your board for an out of box demo showcase as well as for software development. It is located in the *docs/* folder in the DVSDK along

with other documentation.

- The *Software Developer's Guide* contains information on how to start developing software on the TMS320DM368 board and is located in the *docs/* folder in the DVSDK installation along with other documentation.

Content Overview

The TMS320DM368 Linux DVSDK includes the following components:

- Platform Support Package
  - ♦ Linux kernel 2.6.32.17
  - ♦ Boot loaders (u-boot, UBL) and their flashing utilities
- Multimedia Package
  - ♦ Multimedia Framework Product (MFP)
    - ◊ Codec Engine Framework
    - ◊ Framework Components
    - ◊ Linux Utils (CMEM)
    - ◊ XDAIS (eXpress DSP Algorithm Interoperability Standard)
  - ♦ Davinci Multimedia Application Interface (DMAI)
  - ♦ H/W accelerated codecs
    - ◊ Encoders: H.264, MPEG-4, JPEG, AAC, G711, MPEG-2
    - ◊ Decoders: H.264, MPEG-4, MPEG-2, AAC. JPEG, G711, VC1
  - ♦ H/W accelerated Gstreamer TI plugin
- Graphics Package
  - ♦ Qt/Webkit application framework

What's New

The following high-level features are new from the previous SDKs:

- Encode support at 1080P resolution.
- The DVSDK demos are updated with the following new features:
  - ♦ 1080P resolution capture using the Leopard Imaging camera board in encode demo
  - ♦ 1080I resolution preview in encode demo
  - ♦ Options to disable preview and file recording in encode demo
  - ♦ Performance improvements in encodedecode demo
- The setup script now provides an option to select between camera board or composite/component as video input.

Installation and Usage

The *Software Developer's Guide* contains information on how to start developing software on the TMS320DM368 device and is located in the *docs/* folder in the DVSDK installation along with other documentation.

Host Support

This release only supports <u>Ubuntu 10.04 LTS 32-bit</u> as your development host.

Dependencies

The DVSDK requires the CodeSourcery toolchain, a link is provided on the DVSDK 4.xx Release Page or provided with a CD in your kit.

QualiTI tool requires the Code Generation Tools XML Output Perl Utility Scripts (CG XML) that is not included in the DVSDK. The CG XML component is available <u>here</u>

Device Support

This DVSDK supports the TMS320DM368 EVM

Note that only silicon revision 1.2 or above is supported.

Validation Information

This release has been tested with TMS silicon revision 1.2 on EVM base board revision G, and LI-5M02 Camera board Rev 2.0.

Upgrade and Compatibility Information

N/A

Known Issues and Limitations

Known Issues

- SDOCM00077823 - The Encode demo can only achieve 30 fps for H264 if the system solely does video encode, with the -f, -w flags set, and without specifying the -s, -a and -o flags. When enabled, extra features such as audio encode, writing to NFS filesystem or SD card, displaying a preview, running QT, etc. will lower the frame rate. Out-of-box, the GUI, preview and file write features are enabled, hence the demo can only reach about 26 fps with H264. Frame rate is lower when using MPEG2 and MPEG4 (HD Vicp-based) as these codecs are less efficient relative to H264.
- SDOCM00077807 - The Encodedecode demo for H264 can only reach up to 27 fps at 720P resolution out-of-box.
- SDOCM00077978 - Mouse loses power over time when connected to DM368 EVM
- SDOCM00074628 - (Encode demo) First frame of encoded stream is corrupted.
- SDOCM00074625 - Encoded content has a black strip on top (component input). This is visible on the preview as well.
- SDOCM00074604 - (Encode demo) Encoded contents have a black strip on left side (composite input).
- SDOCM00074518 - Distortion is heard in the decode demo during audio (aac) decode after pause and play.

- SDOCM00074485 - Audio decode operation finishes slightly before the end of the stream.
- SDOCM00072912 - Left side crop observed while playing back a stream using GStreamer pipeline or DVSDK demos.
- SDOCM00074857 - In EncodeDecode demo, white lines are seen at the top edge of image.
- SDOCM00077916 - Audio decode demo failed to decode some high sound bit rate audio streams.
- SDOCM00073168 - Installer deletes the entire contents of the install folder when installation is cancelled.

More details on the known issues can be found on the <u>DSP Tools and Software Bug Search page</u>. You must be a registered user on my.ti.com before you request a new account for the SDOWP database.

Versioning

This is a Generally Available (GA) release (DVSDK 4_01_00_09) for TMS320DM368.

Technical Support and Product Updates

- Latest up to the minute information and updates may be found on the <u>Texas Instruments Embedded Processors Wiki</u>.

- The <u>Embedded Software Linux forum</u> is a forum for discussing the Linux DVSDK development. New versions of the DVSDK are also announced here.

- The <u>DVSDK download page</u> is a top level page for finding the latest DVSDK releases for all TI platforms.