

MCSDK Video 2.2.0

Release Notes

Applies to Release: 02.02.00.46
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MCSDK Video 2.02.00.46

1 Overview

This document is the Release Notes for the **Release 2.2.0.46** of the Multicore Video Infrastructure Demo which is built on Multicore Software Development Kit (called as MCSDK Video in short thereafter).

The MCSDK Video 2.2 is built leveraging two SDKs.

1. BIOS-MCSDK [SDK is DSP internal and provides platform abstraction, networking, inter-core communication, etc. For more details, please see [BIOS MCSDK Getting Started Guide](#) and [BIOS MCSDK User Guide](#)]
2. Desktop Linux SDK [SDK abstracts the messaging, PCIe transport and data I/O between host processor and DSP. For more details please see [Desktop Linux SDK Getting Started Guide](#) and [Desktop Linux SDK Development Guide](#)].

MCSDK Video 2.2 provides video specific software modules, video/image codecs, and video analytics libraries along with several out of box demo applications. MCSDK Video 2.2 application (along with the SDKs) provides complete development environment [host + DSP] to offload real-time video applications to TI C66x multi-core DSPs. Recommended development setup is to have a Linux PC with PCIe TI Multicore DSP Cards installed, running Ubuntu 12.04 LTS.

2 Licensing

The tables below describe the primary license for the packages that make up the MCSDK Video. As shown in the *Releases* section below, some of these packages are delivered with the Code Composer Studio installer or the MCSDK installer, and some are delivered with the MCSDK Video installer.

IMPORTANT: There may be portions of these packages under other licenses and you should refer to the individual package Software Manifest (after installation) for complete and specific licensing.

Target Content

This is software that runs on the device.

Package	Primary License	Manifest Location*
MCSDK Video	BSD	[as_installed]/mcsdk_video_<ver>/mcsdk_video_software_manifest_<ver>.pdf
NWAL	BSD	[as_installed]/nwal_c66x_<ver>/ti/drv/nwal/docs/NWAL_SoftwareManifest.pdf
PKTLIB	BSD	[as_installed]/ pktLib_c6678_<ver>/ti/runtime/pktlib/docs/pktLib_SoftwareManifest.pdf
Framework Components	BSD	[as_installed]/framework_components_<ver>/framework_components_<ver>_Manifest.html
XDAIS	BSD	[as_installed]/xdais_<ver>/xdais_<ver>_Manifest.html
Code Generation Tools	Click Wrap	[as_installed]/C6000 Code Generation Tools <ver>/LICENSE.txt
C6678 Video and Image Codecs	Click Wrap	[as_installed]/Codecs/C66x_<codec_name>_<ver>_ELF/packages/ti/sdo/codecs/<codec_name>/Docs/<codec_name>_Software_Manifest.pdf (when available)

*: For the location, replace <ver> with the version that is part of the component name (e.g., 2.2.0.41, etc.).

Host Tools

These are development tools that run primarily on the development host.

Package	Primary License	Manifest Location*
MCSDK	BSD	[as_installed]/mcsdk_<ver>/bios_mcsdk_swmanifest_<ver>.pdf
Desktop Linux SDK	BSD	[as_installed]/ desktop-linux-sdk_<ver>/docs/DESKTOP_LINUX_SDK_Software_manifest.pdf
Code Composer Studio 5	Click Wrap	N/A

*: For the location, replace <ver> with the version that is part of the component name (e.g., 2.0.5.17, etc.).

3 Documentation

- [MCSDK Video Getting Started Guide for TFTP based Demos](#): Provides information on installing the software from the three software packages (MCSDK Video, MCSDK, CCS), and running MCSDK Video demos via TFTP on a Windows PC.
- [MCSDK Video Getting Started Guide for PCIe based Demos](#): Provides information on installing the software and running MCSDK video demos on a desktop Linux PC with TI PCIe Multicore DSP cards installed.
- [MCSDK Video Development Guide](#): Provides internal details on how the MCSDK Video host and DSP applications are designed and developed.

4 Device Support

The device and platform supported with this release include:

- **C6678:** This release supports the Texas Instruments [TMS320C6678](#) high performance DSP. The EVMs supported by the software are [TMDXEVM6678L](#) and Advantech Lightning [DSPC-8681E](#) and [DSPC-8682E](#).

5 Technical Support and Product Updates

For technical discussions and issues, please visit

- **C66x Multicore forum:** http://e2e.ti.com/support/dsp/c6000_multicore_dsps/f/639.aspx
- **TI-RTOS forum:** <http://e2e.ti.com/support/embedded/f/355.aspx>
- **Embedded Processors wiki:** http://processors.wiki.ti.com/index.php/Main_Page

For product updates, please visit

- **Multicore Video Infrastructure Demo for MCSDK:** <http://www.ti.com/tool/demovideo-multicore>

The MCSDK Video release download will also have pointers to applicable MCSDK, Desktop_Linux_SDK, and CCS release versions as well. Please review the release notes and software manifest before downloading and/or installing the software.

6 Installation

See the online *MCSDK Video Getting Started Guide for TFTP based Demos* ([link](#)) and *MCSDK Video Getting Started for PCIe based Demos* ([link](#)) for installation information.

7 Issue List

- CCS H.264 transcoder example build shows and error when using latest H.264 encoder and decoder lib.

8 Components in MCSDK Video 2.2

This is a release of MCSDK Video 2.2.0.

Component	Version	Installer
MCSDK Video	2.02.00.46	MCSDK Video
NWAL	1.0.0.8	MCSDK Video
PKTLIB	1.0.0.6	MCSDK Video
Framework Components	3.23.02.16	MCSDK Video
XDAIS	7.23.00.06	MCSDK Video
Video Codecs		
MPEG4/H.263 Encoder	02.04.01.02	MCSDK Video
HEVC Decoder	01.00.01.00	MCSDK Video
HEVC Encoder	02.00.00.02	MCSDK Video
H.264 HP Decoder	01.01.05.01	MCSDK Video
MPEG4/H.263 Decoder	02.03.01.04	MCSDK Video

MPEG2 Decoder	02.02.01.08	MCSDK Video
AVC Intra & Ultra Encoder	01.00.00.00	MCSDK Video
JPEG2000 Encoder	01.00.01.01	MCSDK Video
JPEG2000 Decoder	01.00.00.01	MCSDK Video
H264HP Encoder	01.00.03.00	MCSDK Video
MPEG2 Encoder	01.00.00.01	MCSDK Video
JPEG Decoder	03.01.02.02	MCSDK Video
JPEG Decoder	03.01.02.02	MCSDK Video
MCSDK	2.01.02.06	MCSDK Download
PDK C6678	1.1.2.6	MCSDK
EDMA3 LLD	2.11.05.02	MCSDK
SYS/BIOS	6.33.06.50	MCSDK
IPC	1.24.03.32	MCSDK
Desktop-Linux-SDK	1.00.03.00	Desktop-Linux-SDK Download
Desktop Linux SDK	1.00.03.00	Desktop Linux SDK
Other Tools		
CodeGen	7.4.0	MCSDK Video
CCS	5.2.1.00018	download
XDCTools	3.23.04.60	MCSDK
minGW	mingw-get-inst-20111118	download
Active Perl	5.14.2.1402	download

9 Release Features

9.1 MCSDK Video 2.02.00.46

Changes from previous release:

- MCSDK Video framework changes for improving H264HP decoder performance.
- MCSDK Video framework changes for enabling UHD HEVC decoder and HEVC encoder.
 - Modifications can be enabled via “RUN_UHD” and “RUN_UHD_DECODER” macros.
- MCSDK Video framework bug fix for HEVC multichip – multichannel.
- Integrated an updated H.264 HP decoder (01.01.05.01).
- Integrated an updated H.264 HP encoder (01.00.03.00).
- Integrated an updated HEVC encoder DEV.HEVC.E.C6678.02.00.00.02.
- Integrated an updated HEVC decoder DEV.HEVC.E.C6678.01.00.01.00.
- Included HEVC encoder example configuration files for different use cases.
- Included HEVC decoder example configuration files for UHD clips.
- Dropped support of Shannon EVM PCIe OOB demos. For a TI design example on how to run MCSDK video PCIe demos on Shannon EVM please visit <http://www.ti.com/tool/TIDEP0037>

9.2 MCSDK Video 2.02.00.45

Changes from previous release:

- MCSDK Video framework bug fixes for VA multichannel
- MCSDK Video framework MIPS process improvement for MPEG2 decoder
- MCSDK Video framework with Hyperlink enabled
- MCSDK Video framework changes for enabling multiple octal-Shannon boards
- Updated Desktop Linux SDK to 01.00.03.00
- Integrated an updated H.264 HP decoder (01.01.04.03)
- Integrated an updated HEVC encoder DEV.HEVC.E.C6678.01.00.00.44.
 - Optimized 1080p60
 - GA1.0
- Integrated an updated HEVC decoder DEV.HEVC.E.C6678.01.00.00.29
 - Enabled 4K decoding on 2-chips
 - Hyperlink enabled
- H.264 BP/MP was deleted from MCSDK video framework package

9.3 MCSDK Video 2.02.00.42

Changes from previous release:

- Integrated an updated H264 HP encoder.
 - Added NAL size in term of bytes
 - Fixed padding issue when resolution is not multiple of 16
 - Bug fixes
- Integrated an updated H264 HP decoder.
 - H.264 BP-MP decoder features merged on HP decoder
 - Fixed issues for live streams and error streams
 - Bug fixes
- Integrated an updated HEVC encoder DEV.HEVC.E.C6678.01.00.00.42.
 - Performance improved for Video conferencing 1080p60 use case
 - Bug fixes

9.4 MCSDK Video 2.02.00.41

Changes from previous release:

- Updated to BIOS MCSDK 02.01.02.06
- Integrated HEVC Encoder DEV.HEVC.E.C6678.01.00.00.40
 - Video conferencing 1080p60 use case
 - Visual quality improvement
 - Bug fixes
- Bug fixes for MCSDK video host
- Resolved end of file hang for multi-component demos

9.5 MCSDK Video 2.02.00.39

Changes from previous release:

- Added sv05 DSP build which supports Video Analytics demos
- Verified single component video demos on TMDXEVM6678L
- Enhanced MCSDK Video host application
 - Multi-channel enhancement
 - Host and DSP I/O buffer allocation according to the frame size
 - Added frame-overlay thread

9.6 MCSDK Video 2.02.00.38

Changes from previous release:

- Enhanced MCSDK Video framework code to support chip to chip ISR
- Updated Desktop Linux SDK to 01.00.02.00
- Integrated an updated HEVC Encoder (01.00.00.38)
 - Improved cycle performance
 - Improved video quality
 - Bug fixes
- Integrated an updated HEVC Decoder (01.00.00.23)
- Integrated an updated JPEG Encoder (02.02.03.00)
- Integrated an updated H.264 HP decoder (01.01.02.07)
 - 4-core decoder enabled

9.7 MCSDK Video 2.02.00.33

Changes from previous release:

- Integrated an updated HEVC Encoder (01.00.00.30)
 - Supporting rate control, WPP, and Hierarchical B
 - Improved cycle performance for 1080p30 encoding
 - Bug fixes
- Integrated an updated HEVC Decoder (01.00.00.21)
 - Improved cycle performance
 - Bug fixes
- Exposed scaling matrix of HEVC encoding in codecParams.cfg

9.8 MCSDK Video 2.02.00.32

Changes from previous release:

- Integrated an updated JPEG Encoder
- Integrated an updated J2K Encoder
- Integrated an updated HEVC Encoder
 - Supporting scaling matrix
 - Improved cycle performance
- Integrated an updated HEVC Decoder
 - Improved cycle performance
- Added a transcoding demo with YUV scaling
 - 1080p H264 Dec → Scale to 720p → 720p H265 Enc
- Deprecated sv01 build and Ethernet packet based demos with sv01
- Updated videoTranscode project to replace H264BP encoder with H264HP encoder
- Removed H264BP encoder from the release package

9.9 MCSDK Video 2.02.00.28

Changes from previous release:

- Integrated an updated JPEG Decoder
- Made the following enhancements for HEVC transcoding demo
 - IBBP support
 - Video quality improvement
 - Cycle performance improvement

9.10 MCSDK Video 2.02.00.23

The first Alpha release of MCSDK Video 2.2:

- The following Codecs are added in sv04 to work with both TFTP and PCIe based data I/O
 - HEVC Encoder
 - HEVC Decoder
- HEVC transcoding demo is added for PCIe based Data I/O
- MPEG2DEC-H264HPENC transcoding demo is added for PCIe based Data I/O
- Multi-channel support for concurrent encodes on C6678