Multicore Software Development Kit

Release Notes

Applies to Release: 03.00.04 Publication Date: April 24, 2014



Document License

This work is licensed under the Creative Commons Attribution-NoDerivs 3.0 Unported License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nd/3.0/ or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

Copyright (C) 2012-2014 Texas Instruments Incorporated - http://www.ti.com

Contents

| 1 | | Overviev | v | 1 |
|---|-----|----------|-------------------------------|----|
| 2 | | | 3 | |
| 3 | | | ntation | |
| 4 | | | and Device Support | |
| 5 | | | st | |
| 6 | | | I Support and Product Updates | |
| 7 | | | Support and Frouder Opulies | |
| 8 | | | | |
| 0 | 8.1 | | nance 03.00.04.18 | |
| | 0.1 | 8.1.1 | New features and fixes | |
| | | 8.1.2 | Known Issues | |
| | 8.2 | | nance 03.00.03.15 | |
| | 0.2 | 8.2.1 | New features and fixes | |
| | | 8.2.2 | Known Issues | |
| | 8.3 | Mainte | nance 03.00.02.14 | |
| | | 8.3.1 | New features and fixes | |
| | | 8.3.2 | Known Issues | 15 |
| | 8.4 | Mainte | nance 03.00.02.13 BETA | 15 |
| | | 8.4.1 | New features and fixes | 17 |
| | | 8.4.2 | Known Issues | 18 |
| | 8.5 | Mainte | nance 03.00.01.12 | 19 |
| | | 8.5.1 | New features and fixes | 21 |
| | | 8.5.2 | Known Issues | 23 |
| | 8.6 | Produc | tion 03.00.00.11 | 23 |
| | | 8.6.1 | New features and fixes | 25 |
| | | 8.6.2 | Known Issues | 29 |
| | 8.7 | Beta Bu | uild 03.00.00.10 | 30 |
| | | 8.7.1 | New features and fixes | 32 |
| | | 872 | Known Issues | 33 |

MCSDK Release 3.0.4

1 Overview

This document is the Release Notes for Release 3.0.4 of the Multicore Software Development Kit (MCSDK) for Linux and BIOS operating systems. This software release gives developers the ability to develop software for KeyStone II devices. Please refer to the *Getting Started Guide* chapter in the *User Guide* on how to install the MCSDK packages.

2 Licensing

Please refer to the software manifest, which outlines the licensing status for all packages included in this release.

3 Documentation

- MCSDK 3.0.x Users Guide: Provides information on features, functions, delivery package and, compile tools for the MCSDK release. This also provides detailed information regarding software elements and software infrastructure to allow developers to start creating applications. (NOTE: The latest version of the User Guide can be found on the online link as specified and a snapshot is provided in PDF format in the release at [INSTALL-DIR]/mcsdk_bios_<ver>//docs.)
- MCSDK Software Manifest: Provides license information on software included in the MCSDK release. This document can be found in the release at [INSTALL-DIR]/mcsdk_bios_
- EVM Quick Start Guide: Provides information on hardware setup and running the demonstration application that is loaded on flash. This document is provided as part of the EVM kit.

4 Platform and Device Support

The device and platforms supported with this release include:

| Platform | Supported Devices | Supported EVM |
|----------------|--------------------------------|--------------------|
| [<u>K2H</u>] | TCI6636K2H, 66AK2H06, 66AK2H12 | XTCIEVMK2X, EVMK2H |
| [<u>K2K</u>] | TCI6634K2K, TCI6638K2K | XTCIEVMK2X |

5 Issues List

The list of issues can be found online using this <u>link</u>. The snapshot of this list at the time of list can be found in the Releases section below. For the latest version, use the online list.

6 Technical Support and Product Updates

For technical discussions and issues, please visit:

- KeyStone Multicore forum
- TI-RTOS forum
- Linux Embedded Software forum
- Code Composer Studio forum
- TI C/C++ Compiler forum
- Embedded Processors wiki

For local support in China, please visit

• China Support forum

7 IS NOT

- Support for BIOS5 or older releases
- Support for CCS 4.x or older releases
- Support for platforms not listed in Section 4
- DSP image format other than ELF (e.g., COFF)
- Big endian DSP with ARM Little endian configuration
- Simulator is tested at the CSL/LLD level only. Higher level features (e.g IPC) may not work with the simulator.

8 Releases

8.1 Maintenance 03.00.04.18

This is a R3.0.4 maintenance release of the Multicore SDK. Items marked in **blue** are modifications from last release.

| Component | Description | Version | Installer | | |
|-------------------------|---|--|-----------|--|--|
| ARM Target Software | | | | | |
| Linux Kernel | ARM high-level operating system, network stack | 3.10 LTS (TAGS: K2_LINUX_03.10.10_14.03_03 K2_RT_LINUX_03.10.10_14.03_03) | MCSDK | | |
| U-boot | ARM boot loader | 2013.01 (TAG: K2_UBOOT_2013- 01_14.03_02) | MCSDK | | |
| Boot Monitor | Boot Monitor software provides secure privilege level execution service for Linux kernel code through SMC calls | K2_BM_13.11 | MCSDK | | |
| МРМ | Multi-processor manager for loading and managing DSP cores, including fault management | 2.0.1.1 | MCSDK | | |
| MPM Transport | Multi-proc-Manager Transport layer | 1.0.4.0 | MCSDK | | |
| Transport Net Lib | Transport Network Library | 1.0.0.11 | MCSDK | | |
| HPLIB | High Performance Library | 1.0.0.6 | MCSDK | | |
| NETAPI | Network API | 1.0.0.10 | MCSDK | | |
| Matrix Apps | Matrix launcher used for out of box demonstrations | 1.0.0.2 | MCSDK | | |
| Trace Framework | Trace framework for collecting and distributing log/event messages (ARM portion) | 1.1.1.1 | MCSDK | | |
| User-Mode LLDs | Subset of LLD that work on ARM user- space | See below | MCSDK | | |
| СМЕМ | Contiguous memory allocate for ARM user-space | 4.0.2.11 | MCSDK | | |
| DSP Target Software | e | | | | |
| SYS/BIOS | DSP real-time operating system | 6.37.00.20 | MCSDK | | |
| NDK | DSP network stack | 2.22.02.16 | MCSDK | | |
| IPC | DSP inter-process communication | 3.0.4.29 | MCSDK | | |
| cToolsLib | Trace debug library | 1.0.2.0 | MCSDK | | |
| UIA | Unified instrumentation architecture | 1.3.2.10 | MCSDK | | |
| Image Proc | Image processing demo | 1.0.0.0 | MCSDK | | |
| DSP Optimized Libraries | | | | | |

| DSPLIB | Generic DSP functions | 3.2.0.1 | MCSDK |
|--------------------|--|-------------------|----------------|
| MATHLIB | Math functions | 3.1.0.0 | MCSDK |
| IMGLIB | Image functions | 3.1.1.0 | MCSDK |
| SYSLIB (NOTE 1) | Small cell functions | 3.0.0.6 | MCSDK |
| Platform Developme | ent Kit (3.0.2.13) | | |
| CSL | Chip support library | 2.0.0.19 | MCSDK |
| AIF2 LLD | Antenna Interface LLD | 1.1.0.1 | MCSDK |
| BCP LLD | Bit Rate Coprocessor LLD | 2.0.0.4 | MCSDK |
| CPPI LLD | Packet DMA LLD | 2.0.0.13 | MCSDK |
| EDMA3 LLD | Enhanced Direct Memory LLD | 2.11.11.15 | MCSDK |
| FFTC LLD | FFT Accelerator Coprocessor LLD | 2.0.0.5 | MCSDK |
| HYPLNK LLD | HyperLink LLD | 2.0.0.10 | MCSDK |
| PA LLD | Packet Accelerator LLD | 2.0.1.5 | MCSDK |
| DCI- II D | Peripheral Component Interconnect | 2004 | MCCDIA |
| PCIe LLD QMSS LLD | Queue Manager LLD | 2.0.0.4 | MCSDK MCSDK |
| • | | | |
| RM LLD | Resource Manager LLD | 2.0.0.9 | MCSDK |
| SA LLD | Security Accelerator LLD | 2.0.3.0 | MCSDK |
| SRIO LLD | Serial Rapid IO LLD | 2.0.0.8 | MCSDK |
| TCP3D LLD | Turbo Coprocessor Decoder LLD | 2.0.0.3 | MCSDK |
| Platform Library | DSP EVM drivers and SOC initialization | 3.0.4.16 | MCSDK |
| NWAL | Network adaptation layer provides high level driver functionality abstracting NetCP LLDs PA and SA | 2.0.0.14 | MCSDK |
| Trace Framework | Trace framework for collecting and distributing log/event messages (DSP portion) | 1.1.1.1 | MCSDK |
| Fault Management | Library for core dump, watchdog timer | 1.0.0.1 | MCSDK |
| PKTLIB | Packet Library | 2.0.0.11 | MCSDK |
| NIMU Transport | NDK interface module | 3.0.0.2 | MCSDK |
| BMET_Eth | Bare-metal Ethernet transport used by Trace Framework | 1.0.0.2 | MCSDK |
| Host Development | Tools | | |
| Program_evm | Utility to update EVM flash with software images | 2.0 | MCSDK |
| Yocto-Arago | ARM software distribution | 1.4 | <u>Link</u> |
| Linux devkit | Development kit that is independent of Arago | N/A | MCSDK |
| CCS | Code Composer Studio integrated development environment | 5.5.0 | Link |
| Linaro Toolchain | ARM toolchain | 2013.03 (GCC 4.7) | <u>Link</u> |
| CodeGen | DSP compiler | 7.4.4 | CCS |
| | | • | |

| CG XML | Package of Perl scripts used to process the XML files that come from the Tl code generation tools. Use it to do things like build a spreadsheet that details the size of all the sections, or figure out how much of the memory map is taken up by specific libraries. | 2.30 | MCSDK |
|------------|--|-----------|-------|
| XDCTools | DSP RTSC packaging and build tools | 3.25.5.94 | MCSDK |
| Simulator | Simulator for K2L, K2E | 0.9.0 | ccs |
| MCSDK Apps | MCSDK applications (Trace framework, udma, DSP core parser, etc.) | 3.0.3.15 | MCSDK |

NOTE1: SYSLIB component is deprecated from the MCSDK package and not planned to be included in future releases

8.1.1 New features and fixes

| New feature description |
|---|
| MPM Transport support for EDMA3 |
| Trace framework enhancements: Local contract creation in ARM |
| MPM transport enhancements for Hyperlink open timeout, shared library support |
| EDMA3 user mode LLD |
| MMAP/MPAX user mode LLD |
| MPM-Transport support with HyperLink & EDMA3 |
| Uio Module driver to support uio based user space drivers |
| Secure storage feature |
| Native ARM and DSP compilation on target |
| MPM sub-components sync and mailbox |
| Allow Linux RM Server Test application to run as a daemon |

| ID | Headline |
|---------------|---|
| SDOCM00106268 | Both dynamic and static libmpmtransport libraries are required |
| SDOCM00106332 | Concurrent transport over two hyperlink interfaces is not possible (mpmtransport library) |
| SDOCM00105708 | C++ linkage problem with ti/csl/csl_serdes_aif2.h |
| SDOCM00105999 | HPLIB without OSAL |
| SDOCM00105709 | hplib_vmMemAlloc doesnt always give unique addresses. |
| SDOCM00105714 | Kernel crashes when initializing eth2 |
| SDOCM00107019 | Keystone MMAP: Declare OSAL symbols as weak. |
| SDOCM00107027 | MCSDK 3.0.4: RM policy must reserve pass rx flow 26 for ARM |
| SDOCM00105722 | Missing Serdes Config files for 10GE |
| SDOCM00107059 | RM DspClientTest/dsp_client.cfg.xs has wrong device name for k2h |
| SDOCM00106978 | rt kernel: offload fails while trying to setup an inflow ipsec connection |
| SDOCM00102460 | USB File copy of 400M bytes does not run to completion HCI host not respoding |
| SDOCM00102454 | USB file creation error using 500M bytes file size |
| SDOCM00105592 | (Child) CMEM: Support for more than 2 memory blocks |
| SDOCM00105591 | (Child) CMEM: Support for pool buffer with size greater than 2GB |
| SDOCM00106647 | Bug in CSL Serdes 10GE API |
| SDOCM00105746 | CPTS does not timestamp PTP packets on port 3 (SGMII-2) |
| SDOCM00105231 | CPTS Driver - the period for 1PPS is too short |
| SDOCM00106345 | Hyperlink interface probing feature required in mpmtransport library |
| SDOCM00106490 | Hyperlink Peripheral need to be reset independent of a priori link status |
| SDOCM00106686 | MPM creates something in /tmp folder where the privileges are not correct and blocks other users to use MPM |

| SDOCM00106739 | MPM EDMA transfers with multiple links |
|---------------|--|
| SDOCM00102978 | MPM transport: Need to support non root application |
| SDOCM00102835 | Need More UDMA Channels For MSGCOM |
| SDOCM00106443 | On Kepler Rev2.0 and Rev 3.0 EVMs, u-boot does not detect usb 3.0 flash drives plugged into an usb 3.0 hub |
| SDOCM00106444 | SERDES configuration for XGE needs to be updated to match latest PDK 3.1.x implementation |
| SDOCM00104958 | Supports for port 2,3 and STAT_C, STAT_D in the ethernet driver |
| SDOCM00103287 | U-boot DDR Configuration Incorrect |
| SDOCM00106050 | U-boot does not detect R3.0 USB on Rev 2.0/3.0 EVM |
| SDOCM00103572 | U-boot POST DDR3 (1333MT/s, 32-bit) memory test failure |
| SDOCM00107171 | UDMA error -22 opening submit queue tag 12 |
| SDOCM00106738 | Use second EDMA instance for transfers accross hyperlink1 |
| SDOCM00105900 | (Child) Bare Metal Eth Transport: Does not free up all the descriptors taken from the system during destroy |
| SDOCM00104275 | MPM: Loading fails if the linker adds a hole in resource table section |
| SDOCM00104165 | After 5 or more reboots, system fails to mount file system if the kernel is booted from USB rev2 drive |
| SDOCM00106956 | keystone_mmap: Expose private header files |
| SDOCM00099489 | Linux kernel USB driver fails in reading 1GB file |
| SDOCM00102194 | If initial dhcp fails because of incorrect filename, ipaddr is not set |
| SDOCM00105194 | ipsec inflow issue with NTP daemon |
| SDOCM00098942 | Linux SPI driver: extend support to all three SPI ports |
| SDOCM00105682 | MCSDK 3.0.3.15 NAND Writer RBL ECC Layout Incorrect |
| SDOCM00106722 | mcsdk linux installer file name should reflect it's a 32-bit application |
| SDOCM00104908 | Need ifdown/up support for Hyperlink from user mode |
| SDOCM00106017 | New RM helper API required for getting client name from RM Request message |
| SDOCM00105634 | U-boot update to keystone_net.c driver to close netcp and qm before early return. |
| SDOCM00104167 | USB drive which formatted for booting the kernel does not get recognize by USB driver if connected to the HUB |
| SDOCM00105255 | MCSDK 303: Loading boot through CCS complains for default file name and paths |
| SDOCM00106801 | TraceFramework: Incorporate contract handle checks in library to best extent |
| SDOCM00107194 | Traceframework: Warnings noticed during DSP test application |
| SDOCM00104164 | uboot usb start warning message "scanning bus 0 for devices cannot reset port 1!?" should be removed |
| SDOCM00107394 | CTRL-C during Hyperlink transfer driven by ARM (memcpy) is causing K2H to lockup. |
| SDOCM00106350 | Include option for Hyperlink SerDes setting at 12.5Gbps (speed selection to be exposed in mpm-transport configuration) |

8.1.2 Known Issues

| ID | Headline |
|---------------|---|
| SDOCM00101319 | Kernel coredump / crash dump not supported |
| SDOCM00102002 | Unable to make connection to the gdbserver from ddd client terminal |
| SDOCM00107055 | native compilation - devkit cannot be installed natively on the EVM |
| SDOCM00106313 | Periodic (every second) high cycle usage by RT linux scheduler on isolated core |
| SDOCM00105609 | Linux Kernel needs to enable RX UDP/TCP checksum offload to NETCP |
| SDOCM00106663 | packets drop due to virtual and physical view inconsistency |
| SDOCM00106426 | Linux coherent memory is not mapped as outer shareable. This will cause race conditions with DMA coherency in certain cases |
| SDOCM00107233 | Need to fix Serdes TX coefficients API in Linux Driver |
| SDOCM00106240 | CSL_BootCfgGenerateInterDSPInterrupt is incorrect |
| SDOCM00107025 | ipsec inflow: (1) issues on egress path with ipsec context stored in skb |
| SDOCM00107145 | K2H with RT Linux can not handle the load above 20kpps |
| SDOCM00107147 | K2H with RT Kernel shows UDP InErrors with iperf tests |
| SDOCM00107159 | Fix to XGE CDR Reset sequence in Linux |
| SDOCM00106378 | Syslib does not include DAT |
| SDOCM00107138 | rt-kernel: memtester fails when testing 90pct of memory |
| SDOCM00107049 | HWQueue unit test fails with the message "failed to open write queue, errno=-22" |

| SDOCM00105864 | UDMA unit test fails with rt-kernel and rt-nfs combination. |
|---------------|---|
| SDOCM00106007 | UDMA unit test fails almost 20% of time if run multiple times with regular kernel |
| SDOCM00106646 | (Child) UDMA does not free receieve free buffers on channel close |

Note: At the time of release, there was hardware issues for NAND flash and USB for the following evaluation modules

- XTIEVMK2X Rev 2.0
- EVMK2H Rev3.0

8.2 Maintenance 03.00.03.15

This is a R3.0.3 maintenance update of the Multicore SDK.

| Component | Description | Version | Installer | | |
|---------------------------|---|--|----------------|--|--|
| ARM Target Software | | | | | |
| Linux Kernel | ARM high-level operating system, network stack | 3.10 LTS (TAGS: K2_LINUX_03.10.10_13.11_01 K2_RT_LINUX_03.10.10_13.11_01) | MCSDK | | |
| U-boot | ARM boot loader | K2_UBOOT_2013-01_13.11 | MCSDK | | |
| Boot Monitor | Boot Monitor software provides secure privilege level execution service for Linux kernel code through SMC calls | K2_BM_13.11 | MCSDK | | |
| МРМ | Multi-processor manager for loading and managing DSP cores, including fault management | 2.0.0.2 | MCSDK | | |
| MPM Transport | Multi-proc-Manager Transport layer | 1.0.1.0 | MCSDK | | |
| Transport Net Lib HPLIB | Transport Network Library | 1.0.0.9 | MCSDK | | |
| NETAPI | High Performance Library Network API | 1.0.0.4 | MCSDK MCSDK | | |
| Matrix Apps | Matrix launcher used for out of box demonstrations | 1.0.0.2 | MCSDK | | |
| Trace Framework | Trace framework for collecting and distributing log/event messages (ARM portion) | 1.0.2.0 | MCSDK | | |
| User-Mode LLDs | Subset of LLD that work on ARM user- space | See below | MCSDK | | |
| CMEM | Contiguous memory allocate for ARM user-space | 4.0.1.8 | MCSDK | | |
| DSP Target Softwar | e | | | | |
| SYS/BIOS | DSP real-time operating system | 6.35.04.50 | MCSDK | | |
| NDK | DSP network stack | 2.22.02.16 | MCSDK | | |
| IPC | DSP inter-process communication | 3.0.4.29 | MCSDK | | |
| cToolsLib | Trace debug library | 1.0.2.0 | MCSDK | | |
| UIA | Unified instrumentation architecture | 1.3.0.2 | ccs | | |
| Image Proc | Image processing demo | 1.0.0.0 | MCSDK | | |
| DSP Optimized Libra | aries | ' | | | |

| DSPLIB | Generic DSP functions | 3.2.0.1 | MCSDK | | |
|------------------------|--|------------|-------------|--|--|
| MATHLIB | Math functions | 3.1.0.0 | MCSDK | | |
| IMGLIB | Image functions | 3.1.1.0 | MCSDK | | |
| SYSLIB | Small cell functions | 3.0.0.4 | MCSDK | | |
| Platform Developme | ent Kit (3.0.2.13) | | | | |
| CSL | Chip support library | 2.0.0.17 | MCSDK | | |
| AIF2 LLD | Antenna Interface LLD | 1.1.0.0 | MCSDK | | |
| BCP LLD | Bit Rate Coprocessor LLD | 2.0.0.4 | MCSDK | | |
| CPPI LLD | Packet DMA LLD | 2.0.0.13 | MCSDK | | |
| EDMA3 LLD | Enhanced Direct Memory LLD | 2.11.10.09 | MCSDK | | |
| FFTC LLD | FFT Accelerator Coprocessor LLD | 2.0.0.5 | MCSDK | | |
| HYPLNK LLD | HyperLink LLD | 2.0.0.9 | MCSDK | | |
| PA LLD | Packet Accelerator LLD | 2.0.1.4 | MCSDK | | |
| PCIe LLD | Peripheral Component Interconnect Express | 2.0.0.4 | MCSDK | | |
| QMSS LLD | Queue Manager LLD | 2.0.0.18 | MCSDK | | |
| RM LLD | Resource Manager LLD | 2.0.0.8 | MCSDK | | |
| SA LLD | Security Accelerator LLD | 2.0.2.0 | MCSDK | | |
| SRIO LLD | Serial Rapid IO LLD | 2.0.0.8 | MCSDK | | |
| TCP3D LLD | Turbo Coprocessor Decoder LLD | 2.0.0.3 | MCSDK | | |
| Platform Library | DSP EVM drivers and SOC initialization | 3.0.3.15 | MCSDK | | |
| NWAL | Network adaptation layer provides high level driver functionality abstracting NetCP LLDs PA and SA | 2.0.0.14 | MCSDK | | |
| Trace Framework | Trace framework for collecting and distributing log/event messages (DSP portion) | 1.0.2.0 | MCSDK | | |
| Fault Management | Library for core dump, watchdog timer | 1.0.0.1 | MCSDK | | |
| PKTLIB | Packet Library | 2.0.0.11 | MCSDK | | |
| NIMU Transport | NDK interface module | 3.0.0.2 | MCSDK | | |
| BMET_Eth | Bare-metal Ethernet transport used by Trace Framework | 1.0.0.2 | MCSDK | | |
| Host Development Tools | | | | | |
| Program_evm | Utility to update EVM flash with software images | 2.0 | MCSDK | | |
| Yocto-Arago | ARM software distribution | 1.3 | <u>Link</u> | | |
| Linux devkit | Development kit that is independent of Arago | N/A | MCSDK | | |
| CCS | Code Composer Studio integrated development environment | 5.5.0 | <u>Link</u> | | |

| Linaro Toolchain | ARM toolchain | 2013.03 | <u>Link</u> |
|------------------|--|-----------|-------------|
| CodeGen | DSP compiler | 7.4.4 | ccs |
| CG_XML | Package of Perl scripts used to process the XML files that come from the TI code generation tools. Use it to do things like build a spreadsheet that details the size of all the sections, or figure out how much of the memory map is taken up by specific libraries. | 2.30 | MCSDK |
| XDCTools | DSP RTSC packaging and build tools | 3.25.2.70 | MCSDK |
| Simulator | Simulator for K2L, K2E | 0.9.0 | ccs |
| MCSDK Apps | MCSDK applications (Trace framework, udma, DSP core parser, etc.) | 3.0.3.15 | MCSDK |

8.2.1 New features and fixes

| Identifier | Description |
|-------------|-------------------------------------|
| New Feature | Linux kernel update to LTS 3.10 |
| New Feature | Hyperlink user mode LLD |
| New Feature | MMAP/MPAX DSP LLD |
| New Feature | MPM-Transport support for HyperLink |
| New feature | Regression test on EVMK2H EVM |

| Id | Headline |
|---------------|--|
| SDOCM00102400 | RBL Ethernet boot is not working on the EVM |
| SDOCM00102915 | DSP library to program MPAX on the fly to access high memory |
| SDOCM00103198 | CMEM: Enhance with ability to map and unmap allocated memory |
| SDOCM00103195 | CMEM: Memory block length is a signed 32-bit integer |
| SDOCM00102612 | CSL Serdes Update needed for handling shutdown and restore |
| SDOCM00101523 | SRIO at 4X Keystone2(6638) to Keystone1(6678) does not get port status of OK |

| SDOCM00104143 | Need documentation for other netapi test programs |
|---------------|---|
| SDOCM00105104 | cppiK2KC66BiosTestProject gets symbols in the reserved far sections cannot be accessed as near error during linking |
| SDOCM00103055 | Support CPTS timestamping of IEEE 1588 Annex F packets |
| SDOCM00104971 | PALLD: (EMAC) Interface-based routing |
| SDOCM00097235 | Per Port packet and byte count stats for Transmit direction |
| SDOCM00104383 | HPLIB kernel module updates for linux 3.10 kernel |
| SDOCM00103114 | Need to prevent linux bridge from flooding bcast/multicast when HW QOS is being used |
| SDOCM00104791 | QMSS Cache Issue: Missing writeback causes qmssGObj to be corrupted |
| SDOCM00104384 | IPSECMGR kernel module updates for linux 3.10 kernel |
| SDOCM00104541 | SERDES updates for PCIE, SGMII and SRIO |
| SDOCM00104327 | netapi/nwal need to expose pa v2 apis to applicatio |
| SDOCM00104162 | Accumulator needs independent APIs to separate the allocation of accumulator channels from their configuration |
| SDOCM00104629 | Need NETPERF 2.6.0 in the filesystem |
| SDOCM00104933 | Policy offload for IPSEC Inflow mode fails |
| SDOCM00105106 | mmap_k2kResourceTestProject & mmap_k2kTestProject get *** No rule to make target error during compilation |
| SDOCM00105067 | Installer gets an Invalid Arguments error when installing XDC tools and XDC tools is not installed |
| SDOCM00104142 | need latest iproute2 package in filesystem for K2H |
| SDOCM00103769 | QMSS Shaper FW to support negative "offset" field to allow for just IP packet lengths to be used in shaping |
| SDOCM00104679 | SSH over eth1 failed in MCSDK 3.0.2 but works in 3.0.1 |
| SDOCM00104204 | EVM rev 2.0 (PG1.1) with 8GB does not pass memtester. Unable to allocate 3.5GB |
| SDOCM00103845 | Reconfigure QoS parameters dynamically |
| SDOCM00104566 | Add support for IEEE1588 Annex F to CPTS driver |
| SDOCM00102647 | Linux kernel crashes sporadically when 4 cores are used |
| SDOCM00104326 | Need pdsp to keep egress traffic counters (pkts, bytes) by output interface (1,2, and 0 for unspecified) |
| SDOCM00104104 | MCSDK 3.0.2: program_evm shows errors and does not load nand/nor |
| SDOCM00104103 | BM: enable ECC enable in L2CTLR of CP15 register of ARM core |
| | |

| SDOCM00103615 | ipsecmanager needs to support bridge interface |
|---------------|--|
| SDOCM00104681 | Priority based and/or interface based routing support needed for Exception routes in PASS |
| SDOCM00104713 | Extra padding on outbound Ethernet packet if length is less than 64 bytes |
| SDOCM00104914 | High resolution timer is not functional |
| SDOCM00104714 | Ethernet inbound packet got FCS delivered to pcap interface |
| SDOCM00104548 | SRIO Throughput benchmarking example support for lower speed |
| SDOCM00104497 | QMSS core local objects must be placed in sub-sections for correct OMP behavior |
| SDOCM00103251 | transport lib needs multiprocess friendly locks and poll loops |
| SDOCM00090624 | Delete Classifer API will try and delete the same ad hoc IP rule if it is used in multiple classifiers |
| SDOCM00103252 | ipsec inflow mode support in kernel needs to support ipv6 |
| SDOCM00104666 | Add rng-tools to the filesystem |
| SDOCM00105323 | Remove graceful power shutdown bindings to User Guide |
| SDOCM00105270 | Need coredump featured enabled in Linux Kernel for MCSDK 3.0.x |
| | |

8.2.2 Known Issues

| Id | Headline |
|---------------|---|
| SDOCM00101319 | Kernel coredump / crash dump not supported |
| SDOCM00102002 | Unable to make connection to the gdbserver from ddd client terminal |
| SDOCM00102775 | Kernel IPSEC inflow acceleration sample in Transport Net Lib currently does not enable PA Assisted Reassembly |

Note: At the time of release, there was hardware issues for NAND flash and USB for the following evaluation modules

- XTIEVMK2X Rev 2.0
- EVMK2H Rev3.0

8.3 Maintenance 03.00.02.14

This is a R3.0.2 maintenance update of the Multicore SDK.

| Component | Description | Version | Installer |
|--------------------|--|---|-----------|
| ARM Target Softwar | re | | |
| Linux Kernel | ARM high-level operating system, network stack | K2_LINUX_03.08.04_13.09_01 K2_RT_LINUX_03.08.04_13.09_01 | MCSDK |

| U-boot | ARM boot loader | K2_UBOOT_2013-01_13.09_01 | MCSDK |
|-------------------------|---|---------------------------|----------------|
| | Boot Monitor software provides secure | | |
| Boot Monitor | privilege level execution service for Linux kernel code through SMC calls | | |
| Boot Monitor | Multi-processor manager for loading and | K2_BM_13.08 | MCSDK |
| | managing DSP cores, including fault | | |
| MPM | management | 2.0.0.1 | MCSDK |
| MPM Transport | Multi-proc-Manager Transport layer | 1.0.0.0 | MCSDK |
| Transport Net Lib HPLIB | Transport Network Library High Performance Library | 1.0.0.9 1.0.0.4 | MCSDK MCSDK |
| NETAPI | Network API | 1.0.0.9 | MCSDK |
| | Matrix launcher used for out of box | | |
| Matrix Apps | demonstrations | 1.0.0.2 | MCSDK |
| | Trace framework for collecting and | | |
| | distributing log/event messages (ARM | | |
| Trace Framework | portion) | 1.0.2.0 | MCSDK |
| | Subset of LLD that work on ARM user- | | MACCOL |
| User-Mode LLDs | space | See below | MCSDK |
| СМЕМ | Contiguous memory allocate for ARM user-space | 4.0.0.6 | MCSDK |
| DSP Target Software | · · | | |
| SYS/BIOS | DSP real-time operating system | 6.35.04.50 | MCSDK |
| NDK | DSP network stack | 2.22.02.16 | MCSDK |
| IPC | DSP inter-process communication | | |
| cToolsLib | Trace debug library | 3.0.2.26 1.0.2.0 | MCSDK MCSDK |
| UIA | Unified instrumentation architecture | 1.3.0.2 | CCS |
| Image Proc | Image processing demo | 1.0.0.0 | MCSDK |
| _ | | 1.0.0.0 | IVICSDR |
| DSP Optimized Libra | | <u> </u> | |
| DSPLIB | Generic DSP functions | 3.1.0.0 | MCSDK |
| MATHLIB | Math functions | 3.0.2.0 | MCSDK |
| IMGLIB | Image functions | 3.1.1.0 | MCSDK |
| SYSLIB | Small cell functions | 3.0.0.4 | MCSDK |
| Platform Developm | Platform Development Kit (3.0.2.13) | | |
| CSL | Chip support library | 2.0.0.16 | MCSDK |
| AIF2 LLD | Antenna Interface LLD | 1.0.0.17 | MCSDK |
| BCP LLD | Bit Rate Coprocessor LLD | 2.0.0.4 | MCSDK |
| CPPI LLD | Packet DMA LLD | 2.0.0.13 | MCSDK |
| EDMA3 LLD | Enhanced Direct Memory LLD | 2.11.10.09 | MCSDK |
| FFTC LLD | FFT Accelerator Coprocessor LLD | 2.0.0.5 | MCSDK |
| HYPLNK LLD | HyperLink LLD | 2.0.0.9 | MCSDK |
| PA LLD | Packet Accelerator LLD | 2.0.1.3 | MCSDK |
| PCIe LLD | Peripheral Component Interconnect | 2.0.0.4 | MCSDK |

| | Express | | |
|--------------------|--|-----------|-------------|
| QMSS LLD | Queue Manager LLD | 2.0.0.14 | MCSDK |
| RM LLD | Resource Manager LLD | 2.0.0.7 | MCSDK |
| SA LLD | Security Accelerator LLD | 2.0.2.0 | MCSDK |
| SRIO LLD | Serial Rapid IO LLD | 2.0.0.7 | MCSDK |
| TCP3D LLD | Turbo Coprocessor Decoder LLD | 2.0.0.3 | MCSDK |
| Platform Library | DSP EVM drivers and SOC initialization | 3.0.2.14 | MCSDK |
| NWAL | Network adaptation layer provides high level driver functionality abstracting NetCP LLDs PA and SA | 2.0.0.13 | MCSDK |
| Trace Framework | Trace framework for collecting and distributing log/event messages (DSP portion) | 1.0.2.0 | MCSDK |
| Fault Management | Library for core dump, watchdog timer | 1.0.0.1 | MCSDK |
| PKTLIB | Packet Library | 2.0.0.11 | MCSDK |
| NIMU Transport | NDK interface module | 3.0.0.2 | MCSDK |
| BMET_Eth | Bare-metal Ethernet transport used by Trace Framework | 1.0.0.2 | MCSDK |
| Host Development 1 | Tools | | |
| Program_evm | Utility to update EVM flash with software images | 2.0 | MCSDK |
| Yocto-Arago | ARM software distribution | 1.3 | <u>Link</u> |
| Linux devkit | Development kit that is independent of Arago | N/A | MCSDK |
| ccs | Code Composer Studio integrated development environment | 5.5.0 | <u>Link</u> |
| Linaro Toolchain | ARM toolchain | 2013.03 | Link |
| CodeGen | DSP compiler | 7.4.2 | CCS |
| CG_XML | Package of Perl scripts used to process the XML files that come from the TI code generation tools. Use it to do things like build a spreadsheet that details the size of all the sections, or figure out how much of the memory map is taken up by specific libraries. | 2.30 | MCSDK |
| XDCTools | DSP RTSC packaging and build tools | 3.25.2.70 | MCSDK |
| Simulator | Simulator for K2L, K2E | 0.9.0 | ccs |
| MCSDK Apps | MCSDK applications (Trace framework, udma, DSP core parser, etc.) | 3.0.2.14 | MCSDK |

8.3.1 New features and fixes

| Identifier | Description |
|-------------|--|
| New Feature | Linux Kernel support for 10 G Interface |
| New feature | Uboot support for 512 MB NAND |
| New feature | Shared library support for PA/SA/Transport net lib user space components |

| Id | Headline |
|---------------|---|
| SDOCM00102512 | Accumulated channels are not working with QM2 |
| SDOCM00103115 | ARM user space transport: net test router test ipsec capability is broken |
| SDOCM00102655 | sleeping function called from invalid context at linux/kernel/mutex.c |
| SDOCM00103338 | In u-boot, the "usb dev" command does not return the correct Capacity |
| SDOCM00102552 | USB driver crashes when used with more than 2GB of memory |
| SDOCM00103437 | U-boot: Slow USB access to an Ext4 filesystem during uboot |
| SDOCM00103127 | nwalUnitTestSaK2HTestProj test project does not build under Linux because of incorrect case used for some include files |
| SDOCM00103493 | MPM: Open files are not closed |
| SDOCM00099452 | u-boot usb reset hangs |
| SDOCM00102795 | Remove RAC-FL CSL from MCSDK-CSL |
| SDOCM00102557 | U-Boot boot reliability has deteriorated (8/100 failures) |
| SDOCM00103116 | Misc issues with user space transportlib, and test programs |
| SDOCM00103200 | Trace framework multi instances example memory allocation error and simulator were used as RTSC target platform |
| SDOCM00103109 | Add PCIe fatal error handling in Linux kernel |
| SDOCM00103205 | Misc transportlib problems |
| SDOCM00101265 | PCIE enhancement to support disabling of SERDES and BAR configuration |
| SDOCM00101554 | Hyperlink SERDES 312.5Mhz configuration Support |
| SDOCM00102686 | u-boot usb initialization issue: "usb start" fails for the first two times, third time passes |
| SDOCM00102940 | TAC2 CSL needs to support 6 SGCP and 3 FrontEnd |
| SDOCM00102814 | LLD makefiles need to support shared libraries |

| SDOCM00103615 | ipsecmanager needs to support bridge interface |
|---------------|--|
| SDOCM00103501 | MPM: Add a FAQ section for MPM in user guide |
| SDOCM00103832 | linux ethernet driver: reference to a destroyed pointer(ale) causes a corruption |
| SDOCM00103887 | transport net lib, default SA to PA heap for inflow mode is not sized properly |
| SDOCM00103569 | ipsec inflow mode in kernel needs to support handling fragmented ipsec packets on receive |
| SDOCM00103929 | Optimization for Pktlib_freePacket() |
| SDOCM00103107 | pktlib is not built with optimization and other flags as passed from Yocto in linux devkit |
| SDOCM00103395 | kernel oops during bringup of ethernet interface |
| | |

8.3.2 Known Issues

| Id | Headline | |
|---------------|--|--|
| SDOCM00101319 | Kernel coredump / crash dump not supported | |
| SDOCM00102002 | Unable to make connection to the gdbserver from ddd client terminal | |
| SDOCM00102775 | Kernel IPSEC inflow acceleration sample in Transport Net Lib currently does not enable Assisted Reassembly | |
| SDOCM00105231 | CPTS Driver - the period for 1PPS is too short | |

Note: At the time of release there were Hardware issues related to the following on the Rev2.0 XTIEVMK2X EVM: NAND flash, USB

8.4 Maintenance 03.00.02.13 BETA

This is the **BETA** release for R3.0.2 maintenance update of the Multicore SDK. This fixes bugs that affected small cell functionality.

| Component | Description | Version | Installer |
|---------------------|---|-------------|-----------|
| ARM Target Software | 2 | | |
| Linux Kernel | ARM high-level operating system, network stack | 3.8.4_13.08 | MCSDK |
| U-boot | ARM boot loader | 2013_01_13 | MCSDK |
| Boot Monitor | Boot Monitor software provides secure privilege level execution service for Linux kernel code through SMC calls | 13.07 | MCSDK |
| МРМ | Multi-processor manager for loading and managing DSP cores, including fault management 2.0.0.0 | | MCSDK |
| MPM Transport | Multi-proc-Manager Transport layer 1.0.0.0 MCSDK | | MCSDK |

| Transport Net Lib | Transport Network Library 1.0.0.8 MCSDK | | | |
|---|--|---------------|-------|--|
| HPLIB | High Performance Library | 1.0.0.3 MCSDK | | |
| NETAPI | Network API 1.0.0.8 MCSDK | | MCSDK | |
| Matrix Apps | Matrix launcher used for out of box demonstrations 1.0.0.2 MCSDK | | MCSDK | |
| Trace Framework | Trace framework for collecting and distributing log/event messages (ARM portion) | 1.0.2.0 | MCSDK | |
| User-Mode LLDs | Subset of LLD that work on ARM user-space | See below | MCSDK | |
| DSP Target Software | | | | |
| SYS/BIOS | DSP real-time operating system | 6.35.04.50 | MCSDK | |
| NDK | DSP network stack | 2.22.02.16 | MCSDK | |
| IPC | DSP inter-process communication | 3.0.2.26 | MCSDK | |
| cToolsLib | Trace debug library | 1.0.2.0 | MCSDK | |
| UIA | Unified instrumentation architecture | 1.3.0.2 | ccs | |
| Image Proc | Image processing demo | 1.0.0.0 | MCSDK | |
| DSP Optimized Librar | ries | | | |
| DSPLIB | Generic DSP functions | 3.1.0.0 | MCSDK | |
| MATHLIB | Math functions | 3.0.2.0 | MCSDK | |
| IMGLIB | Image functions | 3.1.1.0 | MCSDK | |
| SYSLIB | Small cell functions | 3.0.0.4 | MCSDK | |
| Platform Development Kit (3.0.2.13) | | | | |
| CSL | Chip support library | | MCSDK | |
| AIF2 LLD | Antenna Interface IIID | | MCSDK | |
| BCP LLD | Bit Rate Coprocessor LLD | 2.0.0.4 | MCSDK | |
| CPPI LLD | Packet DMA LLD | 2.0.0.12 | MCSDK | |
| EDMA3 LLD | Enhanced Direct Memory LLD | 2.11.9.8 | MCSDK | |
| FFTC LLD | FFT Accelerator Coprocessor LLD | 2.0.0.5 | MCSDK | |
| HYPLNK LLD | HyperLink LLD | 2.0.0.7 | MCSDK | |
| PA LLD | Packet Accelerator LLD | 2.0.1.2 | MCSDK | |
| PCIe LLD | Peripheral Component Interconnect Express | 2.0.0.4 | MCSDK | |
| QMSS LLD | Queue Manager LLD | 2.0.0.13 | MCSDK | |
| RM LLD | Resource Manager LLD | 2.0.0.6 | MCSDK | |
| SA LLD | Security Accelerator LLD | | | |
| SRIO LLD | Serial Rapid IO LLD | 2.0.0.7 | MCSDK | |
| TCP3D LLD | Turbo Coprocessor Decoder LLD | 2.0.0.3 | MCSDK | |
| Platform Library | DSP EVM drivers and SOC initialization | 3.0.1.12 | MCSDK | |
| NWAL Network adaptation layer provides high level driver functionality abstracting NetCP LLDs PA 2.0.0.12 MCSDK | | | | |

| | and SA | | |
|---------------------|--|---|-------------|
| Trace Framework | Trace framework for collecting and distributing log/event messages (DSP portion) | 1.0.2.0 MCSDK | |
| Fault Management | Library for core dump, watchdog timer | 1.0.0.1 | MCSDK |
| PKTLIB | Packet Library | 2.0.0.10 | MCSDK |
| NIMU Transport | NDK interface module | 3.0.0.2 | MCSDK |
| BMET_Eth | Bare-metal Ethernet transport used by Trace Framework | 1.0.0.2 | MCSDK |
| Host Development To | pols | | |
| Program_evm | Utility to update EVM flash with software images | 2.0 MCSDK | |
| Yocto-Arago | ARM software distribution | 1.3 | <u>Link</u> |
| Linux devkit | Development kit that is independent of Arago | evelopment kit that is independent of Arago N/A MCSDK | |
| CCS | Code Composer Studio integrated development environment | 5.4.0 | <u>Link</u> |
| Linaro Toolchain | ARM toolchain 2013.03 <u>Link</u> | | <u>Link</u> |
| CodeGen | DSP compiler 7.4.2 CCS | | ccs |
| CG_XML | Package of Perl scripts used to process the XML files that come from the TI code generation tools. Use it to do things like build a spreadsheet that details the size of all the sections, or figure out how much of the memory map is taken up by specific libraries. | | MCSDK |
| XDCTools | DSP RTSC packaging and build tools 3.25.2.70 MCSDK | | MCSDK |
| Simulator | Simulator for K2L, K2E | 0.9.0 | ccs |
| MCSDK Apps | MCSDK applications (Trace framework, udma, DSP core parser, etc.) 3.0.1.12 MCSDK | | MCSDK |

8.4.1 New features and fixes

| id | Headline |
|---------------|--|
| SDOCM00102702 | K2 Linux kernel using up 8 High priority accumulator channels |
| SDOCM00102813 | Fail route info used by Netfp to send packets to Linux incorrect |

8.4.2 Known Issues

| Id | Headline | | |
|---------------|---|--|--|
| SDOCM00101699 | Add Header/Trailer Utility for bootable images | | |
| SDOCM00101319 | Kernel coredump / crash dump not supported | | |
| SDOCM00102686 | u-boot usb initialization issue: "usb start" fails for the first two times, third time passes | | |
| SDOCM00102655 | sleeping function called from invalid context at linux/kernel/mutex.c | | |
| SDOCM00102647 | Linux kernel crashes sporadically when 4 cores are used | | |
| SDOCM00102552 | USB driver crashes when used with more than 2GB of memory | | |
| SDOCM00102400 | RBL Ethernet boot is not working on the EVM | | |
| SDOCM00102002 | Unable to make connection to the gdbserver from ddd client terminal | | |
| SDOCM00102775 | Kernel IPSEC inflow acceleration sample in Transport Net Lib currently does not enable PA Assisted Reassembly | | |
| SDOCM00099452 | u-boot usb reset hangs if done during boot | | |
| SDOCM00103027 | Linux DSP Client Exchange Test App Getting Link Errors | | |
| SDOCM00102655 | Sleeping function called from invalid context at linux/kernel/mutex. | | |

8.5 Maintenance 03.00.01.12

This is a maintenance update of the Multicore SDK.

| Component | Description | Version | Installer | | |
|---|--|------------|-----------|--|--|
| ARM Target Software | | | | | |
| Linux Kernel | ARM high-level operating system, network tack 3.8.4.13 MCSDK | | MCSDK | | |
| U-boot | ARM boot loader | 2013 01 13 | MCSDK | | |
| Boot Monitor | Boot Monitor software provides secure privilege level execution service for Linux | | MCSDK | | |
| MPM | Multi-processor manager for loading and managing DSP cores, including fault management | 2.0.0.0 | MCSDK | | |
| MPM Transport | Multi-proc-Manager Transport layer | 1.0.0.0 | MCSDK | | |
| Transport Net Lib | Transport Network Library | 1.0.0.8 | MCSDK | | |
| HPLIB | High Performance Library | 1.0.0.3 | MCSDK | | |
| NETAPI | Network API | 1.0.0.8 | MCSDK | | |
| Matrix Apps | Matrix launcher used for out of box demonstrations | 1.0.0.2 | MCSDK | | |
| Trace Framework | Trace framework for collecting and distributing log/event messages (ARM portion) | 1.0.2.0 | MCSDK | | |
| User-Mode LLDs | Subset of LLD that work on ARM user-space See below | | MCSDK | | |
| DSP Target Software | | | | | |
| SYS/BIOS | DSP real-time operating system | 6.35.04.50 | MCSDK | | |
| NDK | DSP network stack | 2.22.02.16 | MCSDK | | |
| IPC | DSP inter-process communication | 3.0.2.26 | MCSDK | | |
| cToolsLib | Trace debug library | 1.0.2.0 | MCSDK | | |
| UIA | Unified instrumentation architecture | 1.3.0.2 | CCS | | |
| Image Proc | Image processing demo | 1.0.0.0 | MCSDK | | |
| DSP Optimized Libra | ries | | | | |
| DSPLIB | Generic DSP functions | 3.1.0.0 | MCSDK | | |
| MATHLIB | Math functions | | MCSDK | | |
| IMGLIB | Image functions 3.1.1.0 MCSDK | | MCSDK | | |
| SYSLIB | Small cell functions 3.0.0.3 | | MCSDK | | |
| Platform Developme | ent Kit | | | | |
| CSL | Chip support library 2.0.0.15 MCSDK | | MCSDK | | |
| AIF2 LLD Antenna Interface LLD 1.0.0.16 MCS | | MCSDK | | | |

| | | 1 | | |
|--|--|-------------------|-------------|--|
| BCP LLD | Bit Rate Coprocessor LLD | LLD 2.0.0.4 MCSDK | | |
| CPPI LLD | Packet DMA LLD | 2.0.0.12 MCSDK | | |
| EDMA3 LLD | Enhanced Direct Memory LLD 2.11.9.8 MCSDK | | MCSDK | |
| FFTC LLD | FFT Accelerator Coprocessor LLD 2.0.0.5 MCSDK | | MCSDK | |
| HYPLNK LLD | HyperLink LLD | 2.0.0.7 | MCSDK | |
| PA LLD | Packet Accelerator LLD. | 2.0.1.1 | MCSDK | |
| PCIe LLD | Peripheral Component Interconnect Express | 2.0.0.4 | MCSDK | |
| QMSS LLD | Queue Manager LLD | 2.0.0.13 | MCSDK | |
| RM LLD | Resource Manager LLD | 2.0.0.5 | MCSDK | |
| SA LLD | Security Accelerator LLD | 2.0.1.4 | MCSDK | |
| SRIO LLD | Serial Rapid IO LLD | 2.0.0.7 | MCSDK | |
| TCP3D LLD | Turbo Coprocessor Decoder LLD | 2.0.0.3 | MCSDK | |
| Platform Library | DSP EVM drivers and SOC initialization | 3.0.1.12 | MCSDK | |
| NWAL | Network adaptation layer provides high level driver functionality abstracting NetCP LLDs PA and SA | 2.0.0.12 | MCSDK | |
| Trace Framework | Trace framework for collecting and distributing log/event messages (DSP portion) | 1.0.2.0 | MCSDK | |
| Fault Management | Library for core dump, watchdog timer | 1.0.0.1 | MCSDK | |
| PKTLIB | Packet Library | 2.0.0.10 MCSDK | | |
| NIMU Transport | NDK interface module 3.0.0.2 | | MCSDK | |
| BMET_Eth | Bare-metal Ethernet transport used by Trace | | MCSDK | |
| Host Development Tools | | | | |
| Program_evm | Utility to update EVM flash with software images | 2.0 MCSDK | | |
| Yocto-Arago | ARM software distribution | 1.3 | <u>Link</u> | |
| Linux devkit | Development kit that is independent of Arago | N/A | MCSDK | |
| CCS | Code Composer Studio integrated development environment | 5.4.0 <u>Link</u> | | |
| Linaro Toolchain | ARM toolchain | 2013.03 | Link | |
| CodeGen | DSP compiler | 7.4.2 | ccs | |
| CG_XML | Package of Perl scripts used to process the XML files that come from the TI code generation tools. Use it to do things like build a spreadsheet that details the size of all the sections, or figure out how much of the memory map is taken up by specific libraries. | 2.30 MCSDK | | |
| XDCTools | DSP RTSC packaging and build tools | 3.25.2.70 | MCSDK | |
| Simulator | Simulator for K2L, K2E | 0.9.0 CCS | | |
| MCSDK Apps MCSDK applications (Trace framework, udma, 3.0.1.12 M | | MCSDK | | |

| DSP core parser, etc.) | |
|------------------------|--|

8.5.1 New features and fixes

| Identifier | Description | |
|-------------|---|--|
| New Feature | User space PA/SA LLDs' Multi-process support update | |
| New feature | Transport net lib enhancements: | |
| New feature | Ethernet time stamping (CPTS) support for PTP | |
| New feature | User space contiguous memory allocator | |
| New feature | 8 GB Memory support | |

| id | Classification | Headline |
|---------------|----------------|--|
| SDOCM00101670 | Defect | u-boot does not set ENSAT bit in the ARMPLLCTL1 register |
| SDOCM00101709 | Defect | IPC ARM –DSP does not work, if MPAX based coherency support is enabled for ARM Contiguous memory |
| SDOCM00100094 | Defect | PKTLIB rebuild fails due to missing file from release package (issue actually closed in R3.0.0) |
| SDOCM00101450 | Defect | u-boot: Not all power on self-tests supported (issue actually closed in R3.0.0) |
| SDOCM00101665 | Defect | QoS performance issues for High priority queues with high throughput (issue actually closed in R3.0.0) |
| SDOCM00102169 | Defect | Kernel n/w driver: netcp_tx_notify() BUG_ON gets asserted occasionally |
| SDOCM00102515 | Defect | Graceful shutdown of netapi ipsecmgr daemon not supported. |
| SDOCM00102659 | Defect | nwal_SaStart is not using passed in virtual address of PA_SS_CFG_CP_ACE_CFG_REGS |
| SDOCM00100657 | Defect | UBIFS kernel from Alpha-9 release images takes over a minute to boot |
| SDOCM00102498 | Defect | Queue Open does not return is Allocated count properly if the queue has been opened multiple times |
| SDOCM00102553 | Defect | Unable to use traceframework shared library - soname wrong in the library |
| SDOCM00102333 | Defect | MCSDK NDK Examples - Client & HelloWorld - DHCP Hangs |

| SDOCM00101585 | Defect | Ping replies for jumbo packets (8000 bytes) from the EVM stop after ~8 replies sent |
|---------------|--------|--|
| SDOCM00101976 | Defect | XDC does not have the C6636K2H platform. |
| SDOCM00101730 | Defect | IPC demo fails to run on second time |
| SDOCM00102248 | Defect | PKTLIB does not writeback the descriptors |
| SDOCM00102202 | Defect | PA LLD prevLink not assigned correclty |
| SDOCM00102341 | Defect | CSL_CPSW_nGF_getStats returns invalid values |
| SDOCM00102514 | Defect | Linux kernel crash seen in mutex lock |
| SDOCM00101980 | Defect | Host tool dspcoreparse utility needs to be built with 32 bit format |
| SDOCM00101665 | Defect | QoS performance issues |
| SDOCM00101589 | Defect | PA User mode test Application fails to run when compiled with -O2 flags |
| SDOCM00101885 | Defect | Non root user doesn't have permissions to run MPMCL routines on K2H platform |
| SDOCM00102589 | Defect | PDK AIF2: aif2CpriFastCMK2KTestProject gets bad calling context error when run |
| SDOCM00101450 | Defect | Not all power on self tests supported. |
| SDOCM00101966 | Defect | CPSW CSL supports only 4 ports but hardware supports 5 ports |
| SDOCM00101833 | Defect | User mode LLD: nwalTest should be in the test filesystem, not release filesystem |
| SDOCM00102657 | Defect | RM Rm_resourceStatus API is passing Rm_Handle instead of rmInst to the allocatorGetAllocatorList API |
| SDOCM00102052 | Defect | Qmss_start without Qmss_init leads to segmentation fault in arm user space |
| SDOCM00101871 | Defect | qmlld: Qmss_insertMemoryRegion() can error exit with open critical section |
| SDOCM00101749 | Defect | Qmss_getStarvationCounts() does not work for QM2 |
| SDOCM00101793 | Defect | qmss_device.c only has 6/20 INTC queues defined |
| SDOCM00101872 | Defect | Qmss_insertMemoryRegion can error exit leaking RM allocations |
| SDOCM00101354 | Defect | PA LLD example on arm needs to be restartable |
| SDOCM00100607 | Defect | UDMA loopback unit test fails for general purpose (non-accumulator) queues |
| SDOCM00100411 | Defect | PDK_INSTALL_PATH used in instead of SA_INSTALL_PATH in ti/drv/sa/sa3gppEnabler/makefile_armv7 |
| SDOCM00100410 | Defect | Use by LLD makefiles of gcc instead of ld to perform library link fails with certain gcc versions |
| | | |

| SDOCM00100981 | Defect | PDK_Keystone2 Eclipse plugin does not get detected when TCI6614 PDK is installed |
|---------------|-------------|--|
| SDOCM00100409 | Defect | Building sa3gppEnabler for ARM fails due to makefile error |
| SDOCM00101897 | Enhancement | qmss lld user tests: add RM to all remaining test cases |
| SDOCM00101898 | Enhancement | pa lld: add RM to all pa examples |
| SDOCM00101900 | Enhancement | pa lld: make one DSP example downloadable from ARM with MPM. |
| SDOCM00101899 | Enhancement | cppi lld: add RM to user mode test+example |
| SDOCM00101322 | Enhancement | RM resource owner reference count must be returned as part of Resource Status request type |

8.5.2 Known Issues

| Id | Headline |
|---------------|---|
| SDOCM00101699 | Add Header/Trailer Utility for bootable images |
| SDOCM00099452 | u-boot usb reset hangs if done during boot |
| SDOCM00101319 | Kernel coredump / crash dump not supported |
| SDOCM00102702 | K2 Linux kernel using up 8 High priority accumulator channels |
| SDOCM00102686 | u-boot usb initialization issue: "usb start" fails for the first two times, third time passes |
| SDOCM00102655 | sleeping function called from invalid context at linux/kernel/mutex.c |
| SDOCM00102647 | Linux kernel crashes sporadically when 4 cores are used |
| SDOCM00102552 | USB driver crashes when used with more than 2GB of memory |
| SDOCM00102400 | RBL Ethernet boot is not working on the EVM |
| SDOCM00102002 | Unable to make connection to the gdbserver from ddd client terminal |
| SDOCM00102775 | Kernel IPSEC inflow acceleration sample in Transport Net Lib currently does not enable PA Assisted Reassembly |

8.6 Production 03.00.00.11

This is the production release of the Multicore SDK.

| Component | Description | Version | Installer |
|---------------------|---|------------|-----------|
| ARM Target Software | • | | |
| Linux Kernel | ARM high-level operating system, network stack | 3.8.4.11 | MCSDK |
| U-boot | ARM boot loader | 2013_01_11 | MCSDK |
| Boot Monitor | Boot Monitor software provides secure privilege level execution service for Linux | 3.0.0.11 | MCSDK |

| | kernel code through SMC calls | | |
|----------------------|--|------------|-------|
| МРМ | Multi-processor manager for loading and managing DSP cores, including fault management | 1.0.0.1 | MCSDK |
| Transport Net Lib | Transport Network Library | 1.0.0.7 | MCSDK |
| HPLIB | High Performance Library | 1.0.0.2 | MCSDK |
| NETAPI | Network API | 1.0.0.7 | MCSDK |
| Matrix Apps | Matrix launcher used for out of box demonstrations | 1.0.0.2 | MCSDK |
| Trace Framework | Trace framework for collecting and distributing log/event messages (ARM portion) | 1.0.2.0 | MCSDK |
| User-Mode LLDs | Subset of LLD that work on ARM user-space | See below | MCSDK |
| DSP Target Software | | | |
| SYS/BIOS | DSP real-time operating system | 6.35.01.29 | ccs |
| NDK | DSP network stack | 2.22.02.16 | MCSDK |
| IPC | DSP inter-process communication | 3.0.0.20 | MCSDK |
| cToolsLib | Trace debug library | 1.0.0.2 | MCSDK |
| UIA | Unified instrumentation architecture | 1.3.0.2 | ccs |
| Image Proc | Image processing demo | 3.0.0.11 | MCSDK |
| DSP Optimized Librar | ries | | |
| DSPLIB | Generic DSP functions | 3.1.0.0 | MCSDK |
| MATHLIB | Math functions | 3.0.2.0 | MCSDK |
| IMGLIB | Image functions | 3.1.1.0 | MCSDK |
| SYSLIB | Small cell functions | 3.0.0.1 | MCSDK |
| Platform Developme | nt Kit | | |
| CSL | Chip support library | 2.0.0.14 | MCSDK |
| AIF2 LLD | Antenna Interface LLD | 1.0.0.15 | MCSDK |
| BCP LLD | Bit Rate Coprocessor LLD | 2.0.0.3 | MCSDK |
| CPPI LLD | Packet DMA LLD | 2.0.0.12 | MCSDK |
| EDMA3 LLD | Enhanced Direct Memory LLD | 2.11.7.4 | MCSDK |
| FFTC LLD | FFT Accelerator Coprocessor LLD | 2.0.0.4 | MCSDK |
| HYPLNK LLD | HyperLink LLD | 2.0.0.7 | MCSDK |
| PA LLD | Packet Accelerator LLD. | 2.0.0.10 | MCSDK |
| PCIe LLD | Peripheral Component Interconnect Express | 2.0.0.4 | MCSDK |
| QMSS LLD | Queue Manager LLD | 2.0.0.12 | MCSDK |
| RM LLD | Resource Manager LLD | 2.0.0.4 | MCSDK |
| SA LLD | Security Accelerator LLD | 2.0.0.6 | MCSDK |
| | | | 1 |

| TCP3D LLD | Turbo Coprocessor Decoder LLD | 2.0.0.3 | MCSDK |
|---------------------|--|-----------|-------------|
| Platform Library | DSP EVM drivers and SOC initialization | 3.0.0.8 | MCSDK |
| NWAL | Network adaptation layer provides high level driver functionality abstracting NetCP LLDs PA and SA | 2.0.0.11 | MCSDK |
| Trace Framework | Trace framework for collecting and distributing log/event messages (DSP portion) | 1.0.2.0 | MCSDK |
| Fault Management | Library for core dump, watchdog timer | 1.0.0.1 | MCSDK |
| PKTLIB | Packet Library | 2.0.0.9 | MCSDK |
| NIMU Transport | NDK interface module | 3.0.0.2 | MCSDK |
| BMET_Eth | Bare-metal Ethernet transport used by Trace Framework | 1.0.0.2 | MCSDK |
| Host Development To | pols | | |
| Program_evm | Utility to update EVM flash with software images | 2.0 | MCSDK |
| Yocto-Arago | ARM software distribution | 1.3 | <u>Link</u> |
| Linux devkit | Development kit that is independent of Arago | N/A | MCSDK |
| CCS | Code Composer Studio integrated development environment | 5.4.0 | Link |
| Linaro Toolchain | ARM toolchain | 2013.03 | <u>Link</u> |
| CodeGen | DSP compiler | 7.4.2 | ccs |
| CG_XML | Package of Perl scripts used to process the XML files that come from the TI code generation tools. Use it to do things like build a spreadsheet that details the size of all the sections, or figure out how much of the memory map is taken up by specific libraries. | 2.30 | MCSDK |
| XDCTools | DSP RTSC packaging and build tools | 3.25.0.48 | ccs |
| Simulator | Simulator for K2L, K2E | 0.9.0 | ccs |
| MCSDK Apps | MCSDK applications (Trace framework, udma, DSP core parser, etc.) | 3.0.0.11 | MCSDK |

8.6.1 New features and fixes

| Identifier | Description |
|-------------|---|
| New feature | Real Time pre-empt patch for Linux kernel |
| New feature | CPSW configuration support through sysfs |

| New feature | Transport Net Lib demo |
|-------------|--|
| New feature | Image processing demo in Matrix apps |
| New feature | Multi task examples support in user mode QMSS/CPPI LLD |
| New feature | IPC demo in Matrix apps |

| id | Classification | Severity | Headline |
|---------------|----------------|------------|---|
| SDOCM00101662 | Defect | S2 - Major | mpm: dsp reset/reload does not work |
| SDOCM00101633 | Defect | S2 - Major | Qmss_queueOpenInRange broken w/ RM |
| SDOCM00101663 | Defect | S2 - Major | mpm: remove 10bit alignment constraint of start address on dsp images |
| SDOCM00092459 | Enhancement | S2 - Major | QMSS LLD/Sample: Support for restarting a program running in user space w/o restart |
| SDOCM00101570 | Defect | S2 - Major | aif2LteCheckRf, aif2WcdmaCheckRf and aif2LteTddCheckRf test projects get linking errors for byte ordering for BE only |
| SDOCM00101623 | Defect | S2 - Major | srio_drv.c incorrectly sends value of handle and not address to Semaphore_delete |
| SDOCM00098735 | Defect | S3 - Minor | tcp3dK2HC66BiosExampleProject_Kepler-BE & tcp3dK2KC66BiosExampleProject_Kepler-BE projects do not complete on simulator |
| SDOCM00099599 | Work Item | S2 - Major | Fastpath IPC support on KS II devices |
| SDOCM00100398 | Defect | S3 - Minor | Can't update .dtb file in ubifs image |
| SDOCM00101566 | Defect | S2 - Major | PA_emacExample_K2KC66BiosExampleProject compiles but does not run to completion |
| SDOCM00101379 | Defect | S2 - Major | Reboot command from Linux does not work; it gets errors or does not boot to the Linux prompt |
| SDOCM00101323 | Work Item | S2 - Major | RM: DSP+ARM Linux Test Application |
| SDOCM00101321 | Enhancement | S2 - Major | RM allocators must track reference counts for allocated/freed resources |
| SDOCM00101269 | Defect | S2 - Major | Unconfigure NETCP rules for exception packet handling in netapi_shutdown. |
| SDOCM00101297 | Defect | S2 - Major | POST in U-boot is not supported |
| SDOCM00091099 | Defect | S2 - Major | PDK Keystone2: cppiSimtci6634C66BiosExampleProject (LE & BE) compiles but test does not pass when run |
| SDOCM00100987 | Enhancement | S2 - Major | QM/CPPI Multi-Task Example Required |
| SDOCM00101114 | Defect | S2 - Major | RM LLD user space library is not found under devkit |
| SDOCM00101252 | Defect | S2 - Major | Linux traffic control feature is not enabled in Beta release. |

| SDOCM00101411 | Defect | S2 - Major | ESP module should be enabled for IPSEC testing in the absense of IPSEC Manager |
|---------------|-------------|------------|---|
| SDOCM00101231 | Defect | S2 - Major | SRIO_MulticoreLpbkK2KC66BiosExampleProject BE compiles but does not complete when run on the EVM |
| SDOCM00101046 | Enhancement | S2 - Major | PA LLD unit test on arm needs to be restartable |
| SDOCM00101413 | Defect | S2 - Major | SCTP protocol support is not there in MCSDK. |
| SDOCM00101431 | Defect | S2 - Major | Linux QoS does not send traffic through configured queues |
| SDOCM00101353 | Defect | S2 - Major | Matrix Launcher: Unable to save EEPROM read data to a local file. |
| SDOCM00101293 | Defect | S2 - Major | gpio irq driver crash |
| SDOCM00101249 | Defect | S2 - Major | Linux USB driver does not work |
| SDOCM00101318 | Defect | S2 - Major | UART1 is not enabled in Linux kernel |
| SDOCM00101053 | Defect | S2 - Major | Ispci command not part of sdk rootfs. |
| SDOCM00101552 | Defect | S2 - Major | Reserved register used in u-boot arch/arm/cpu/armv7/keystone/clock.c |
| SDOCM00095678 | Defect | S2 - Major | Keystone 2: User mode A15 drivers don't have any DMB/DSB barriers |
| SDOCM00100799 | Defect | S2 - Major | Kernel Panic occurs when using secondary buffer with keystone_net_core.c |
| SDOCM00101558 | Defect | S2 - Major | gpio driver acks pending interrupts without calling lenders |
| SDOCM00098816 | Defect | S2 - Major | Need to add SMP IRQ affinity and routing support. |
| SDOCM00091094 | Defect | S2 - Major | PDK Keystone2: PA_emacExample_Simtci6634BiosExampleProjec (LE & BE) compiles but test does not pass when run |
| SDOCM00088707 | Defect | S2 - Major | QMSS (Keystone2) infrastructure examples don't work when both QMs are enabled in qmss_device.c |
| SDOCM00099583 | Defect | S2 - Major | hyplnk_K2KC66BiosExampleProject_Kepler project does not compile |
| SDOCM00100870 | Defect | S2 - Major | cppiK2KC66BiosTestProject is getting PS data length mismatch failures |
| SDOCM00100868 | Defect | S2 - Major | PA_emacExample project does not complete |
| SDOCM00100892 | Defect | S2 - Major | syslog does not work in base filesystem |
| SDOCM00100992 | Defect | S2 - Major | MCSDK installer installs SA LLD directly to c:\ti it should install to directory c:\ti\salld_keystone2_02_00_00_05 or similar |
| SDOCM00100988 | Defect | S2 - Major | CCS can not connect to the DSP cores once Linux boots up on the ARM side |
| SDOCM00100730 | Defect | S2 - Major | All Aif2 projects are not linking due to memory range not found: DDR2 |
| SDOCM00099887 | Defect | S2 - Major | MCSDK 3.x: Phy link goes on and off |

| SDOCM00100983 | Defect | S2 - Major | UBI image has limited free space available in the rootfs |
|---------------|-------------|------------|--|
| SDOCM00100826 | Defect | S2 - Major | Building RM for Linux not supported |
| SDOCM00099072 | Defect | S2 - Major | Yocto build issues |
| SDOCM00100576 | Defect | S2 - Major | ctools mc_pc_trace_edma_drn unit test fails to initialize dsp trace function |
| SDOCM00100312 | Enhancement | S2 - Major | Need support for 10G in the latest revision of cppi_device.c and csl_cppi.h |
| SDOCM00100293 | Defect | S2 - Major | Linux User Mode LLD Test in PA Fails to run to completion |
| SDOCM00100455 | Defect | S2 - Major | NFS rootfs doesn't work over eth1 |
| SDOCM00101003 | Defect | S2 - Major | k2 cslr_device.h, qmss device.c has unsupported regions defined for QM |
| SDOCM00100930 | Defect | S2 - Major | mount debugfs by default in the filesystem |
| SDOCM00100989 | Defect | S2 - Major | Qmss_insertMemoryRegion() should use rm to allocate (instead of just check) link ram indicies. |
| SDOCM00100986 | Enhancement | S2 - Major | qmss lld: Qmss_removeMemoryRegion needs to be added to RM. |
| SDOCM00100937 | Defect | S2 - Major | Revisit DTB file name to reflect the correct naming: k2h/k2k |
| SDOCM00101018 | Defect | S2 - Major | Linux Bridge Control add bridge package was not installed. |
| SDOCM00101016 | Enhancement | S2 - Major | Cppi_initDescriptor() API can returns incorrect queue for descriptor return queue |
| SDOCM00100871 | Defect | S2 - Major | fftcMCK2KC66BiosTestProject does not complete |
| SDOCM00100117 | Defect | S2 - Major | pktdma driver - the descriptor type field is hardcoded - wrong value |
| SDOCM00100872 | Defect | S2 - Major | fftcSimpleK2KC66BiosTestProject does not complete |
| SDOCM00100869 | Defect | S2 - Major | bcpK2KC66BiosExampleProject and bcpK2KC66BiosTestProject projects do not complete |
| SDOCM00100759 | Defect | S2 - Major | Packets received from Netcp have an unexpected extra VLAN header with VLAN Id 0 causing Netfp receive to fail |
| SDOCM00100758 | Defect | S2 - Major | K2 Kernel doesnt configure the MPUs. Unable to use queue thresholds from DSP |
| SDOCM00100677 | Defect | S2 - Major | Warnings in U-boot boot log |
| SDOCM00099159 | Defect | S2 - Major | SRIO LLD Type9/11 Message configuration currently does not handle second QM instance in the case of Keystone-2 Devices |
| SDOCM00099090 | Defect | S2 - Major | SRIO_MulticoreLpbkK2KC66BiosExampleProject Type11 latency and through tests do not run |
| SDOCM00098856 | Defect | S2 - Major | SRIO_LoopbackTestProject Multicore test does not run into completion |
| SDOCM00100654 | Enhancement | S2 - Major | K2 uboot should take Ethernet MAC address from environment variable |

| SDOCM00101346 | Defect | S2 - Major | Matrix Launcher: Read UBI image corrupts file system. |
|---------------|--------|------------|--|
| SDOCM00101230 | Defect | S2 - Major | SRIO_LpbkDioIsrK2KC66BiosExampleProject BE compiles but does not complete when run on the EVM |
| SDOCM00100777 | Defect | S3 - Minor | Warning about unused parameters in inline function - cppi_desc.h in pdk/keystone2_1_00_00_09 |
| SDOCM00101315 | Defect | S3 - Minor | system shutdowned, but not clean. |
| SDOCM00101420 | Defect | S3 - Minor | CSL Update needed for handling additional SGMII ports in K2H/K2K |
| SDOCM00101496 | Defect | S3 - Minor | The kstrtoul API improperly used |
| SDOCM00101330 | Defect | S3 - Minor | Image Processing is not available in current Matrix |
| SDOCM00094658 | Defect | S3 - Minor | PDK 6638 BE: qmInfraMCSimtci6634C66BiosExampleProject does not run to completion for Big Endian (when using the simulator) |
| SDOCM00101023 | Defect | S3 - Minor | Loading Linux Kernel using CCS scripts issues |
| SDOCM00100910 | Defect | S3 - Minor | Root filesystem doesn't boot cleanly |
| SDOCM00100909 | Defect | S3 - Minor | linux "reboot" doesn't work |
| SDOCM00100995 | Defect | S3 - Minor | Need a minimal filesystem in the release for basic testing |
| SDOCM00100785 | Defect | S3 - Minor | Virt_to_idmap always assumes base addres of Linux at 0x80000000 in MCSDK 3.0 alpha 9 |
| SDOCM00100111 | Defect | S3 - Minor | reboot command causes kernel panic when using NFS rootfs |
| SDOCM00100406 | Defect | S3 - Minor | Customer request: Qmss_IsQueueOpen() API |
| SDOCM00100051 | Defect | S3 - Minor | uboot hangs with wrong file name using dhcp |
| SDOCM00101328 | Defect | S3 - Minor | IPC demo is not available on the Matrix |
| SDOCM00101080 | Defect | S3 - Minor | u-boot tftpboot speed increase |

8.6.2 Known Issues

| Id | Headline |
|---------------|--|
| SDOCM00101670 | u-boot does not set ENSAT bit in the ARMPLLCTL1 register |
| SDOCM00101699 | Add Header/Trailer Utility for bootable images |
| SDOCM00101709 | IPC ARM –DSP does not work, if MPAX based coherency support is enabled for ARM Contiguous memory |
| SDOCM00100094 | PKTLIB rebuild fails due to missing file from release package |
| SDOCM00099452 | u-boot usb reset hangs if done during boot |

| SDOCM00101450 | u-boot: Not all power on self-tests supported. |
|---------------|--|
| SDOCM00101319 | Kernel coredump / crash dump not supported |
| SDOCM00101665 | QoS performance issues for High priority queues with high throughput |

8.7 Beta Build 03.00.00.10

This is the beta release of the Multicore SDK.

| Component | Version | Installer |
|---------------------|--------------|-----------|
| | | |
| NDK | 2.22.02.16 | MCSDK |
| IPC | 3.00.00.16 | MCSDK |
| SYS/BIOS | 6.35.01.29 | CCS |
| DSPLIB | 3.1.0.0 | MCSDK |
| MATHLIB | 3.0.1.1 | MCSDK |
| IMGLIB | 3.1.1.0 | MCSDK |
| Transport Net Lib | 1.0.0.6 | MCSDK |
| SYSLIB | 3.0.0.1A | MCSDK |
| HPLIB | 01.00.00.01 | MCSDK |
| THI LID | 01.00.00.01 | Wester |
| PKTLIB | 02.00.00.09 | MCSDK |
| NETAPI | 01.00.00.06 | MCSDK |
| NEIAFI | 01.00.00.00 | WESTR |
| NWAL | 02.00.00.10 | MCSDK |
| Multi Proc | | |
| Manager | 03.00.00.08B | MCSDK |
| Matrix Utility | | |
| Apps Demo | 01.00.00.01 | MCSDK |
| Linux Kernel | 03.08.04.10 | MCSDK |
| LINGX RETHER | 03.00.04.10 | Medak |
| Uboot | 2013_01_10 | MCSDK |
| Boot Monitor | 3.0.0.10 | MCSDK |
| SA LLD | 02.00.01.02 | MCSDK |
| 0/1 EED | | MOSK - |
| Trace Framework | 1.00.02.00 | MCSDK |
| PDK | 3.0.1.12 | MCSDK |
| Platform Library | 3.0.0.8 | MCSDK |
| NIMU Transport | 3.0.0.2 | MCSDK |
| CSL | 2.0.0.13 | MCSDK |
| PA LLD | 2.0.0.9 | MCSDK |
| CPPI LLD | 2.0.0.10 | MCSDK |
| QMSS LLD | 2.0.0.11 | MCSDK |
| PCIe LLD | 2.0.0.4 | MCSDK |
| SRIO LLD | 2.0.0.5 | MCSDK |
| Hyperlink LLD | 2.0.0.6 | MCSDK |

| BCP LLD | 2.0.0.2 | MCSDK |
|---------------|------------|---|
| FFTC LLD | 2.0.0.3 | MCSDK |
| TCP3D LLD | 2.0.0.3 | MCSDK |
| RM LLD | 2.0.0.3 | MCSDK |
| AIF2 LLD | 1.0.0.12 | MCSDK |
| EDMA3 LLD | 2.11.5.2 | MCSDK |
| Other Tools | | |
| | | http://processors.wiki.ti.com/index.php/Download_CC |
| CCS | 5.4.0 | S (see Note1) |
| CodeGen | 7.4.2 | CCS |
| | | https://launchpad.net/linaro-toolchain- |
| | | binaries/trunk/2013.03/+download/gcc-linaro-arm- |
| Linaro | 2013.03 | linux-gnueabihf-4.7-2013.03-20130313_linux.tar.bz2 |
| Yocto | 1.3 | N/A |
| | | http://arago-project.org/git/people/hzhang/oe- |
| | | layersetup-mcsdk.git?p=people/hzhang/oe-layersetup- |
| oe-layersetup | 3.0.0.10 | mcsdk.git;a=summary |
| DVT | 3.3.0 | CCS |
| XDCTools | 3.25.00.48 | CCS |
| Simulator | 0.7.1 | Contact TI technical support team |
| CG_XML | 2.30 | MCSDK |
| Python | 2.7.2 | http://www.python.org/download/releases/2.7.2/ |
| | | http://sourceforge.net/projects/mingw/files/Autom |
| | | ated%20MinGW%20Installer/mingw-get- |
| | | inst/mingw-get-inst-20110316/mingw-get-inst- |
| minGW | 20110316 | 20110316.exe/download |
| IIIIIGW | 20110310 | 20110310.CAC/ download |

Notes:

- 1. At the time of this release, the GA version of CCS 5.4.0 was not available. The MCSDK was validated on the Release Candidate (RC) of CCS 5.4.0. If CCS 5.4.0 is not listed on the CCS download page, please download and use the CCS 5.4.0 RC (windows, Linux).
- 2. There is a known issue that the ubi rootfs has limited space available on the flash(SDOCM00100983). It is recommended to use NFS mount or init ramfs to test the rootfs. If ubi rootfs has to be used, please keep the log file or load the new file to rootfs /tmp directory, which will not occupy extra flash space. Another workaround is to remove files that are not required (e.g. /boot/vmlinux-3.8.4-rt2, etc.) from rootfs. In the next release, /boot/vmlinux-3.8.4-rt2 will be removed from rootfs.
- 3. There is known issue that CCS cannot connect to the DSP cores once Linux boots up on the ARM side (SDOCM00100988). By default, when Linux boots up, the MPM server runs as a daemon and powers down the DSP till an DSP image is loaded and run. But, in this state CCS can't connect to DSP. The workaround is to use DSP without MPM by renaming the mpmserver binary (e.g.: mv /usr/bin/mpmsrv /usr/bin/mpmsrv.1) so that it does not start next time the board is rebooted. In the next release, MPM will have an command/option for not powering down slave cores in idle state.

8.7.1 New features and fixes

| Identifier | Description |
|---------------|--|
| New feature | Upgrade Linaro tool chains version to v2013.03 with GCC 4.7 hardfp |
| New feature | Upgrade CCS tools version to v5.4 |
| New feature | Switched upstream Linux kernel release from 3.6.6 to 3.8.4. Location of DTB is changed to arch/arm/boot/dts in 3.8.4, Linux DTB file name is changed to ulmage-tci6638-evm.dtb |
| New feature | Software work around in kernel and u-boot to make Ethernet stable on EVM |
| New feature | Disabled 10G by default. Customer needs to enable it through defconfig if want to use 10G |
| New feature | Add ARM errata 763126 support in Boot Monitor |
| New feature | Added Matrix utility demos |
| New feature | Added SA LLD into MCSDK package |
| New feature | Added PDK user mode LLD libs |
| New feature | Add support for Syslib Netfp send/receive plain text data and Msgcom ARM-DSP IPC |
| SDOCM00100906 | Osal_qmssConvertDescPhyToVirt and Osal_qmssConvertDescPhyToVirt not returning converted addresses |
| SDOCM00100758 | K2 Kernel doesnt configure the MPUs. Unable to use queue thresholds from DSP Workaround: - MPU setting is being overwritten through the kernel module. Following steps would need to be followed before running any user mode examples - Insert Kernel module from the file system (/lib/modules/\$KERNEL_VER/extra/hplibmod.ko, where \$KERNEL_VER=\$(uname -r)) - insmod hplibmod.ko - cat /proc/netapi |
| SDOCM00100753 | Transport Network OOB clear text and IPSEC demo program and its test scripts are not working |
| SDOCM00100715 | Transport Network OOB IPSEC and test example information is not available on User Guide |
| SDOCM00100482 | HPLIB: hplib_VM_MemMap doesn't seem to be mapping memory properly |
| SDOCM00100481 | Function hplib_vmMemAlloc: Critical section lock not being released |
| SDOCM00100432 | Problem in cslr_tac2_cfg.h |
| SDOCM00100375 | PDF version of User Guide in Alpha-9 does not contain all sections |
| SDOCM00100245 | Elapsed time calculated using NETCP PA timer counter is ~20-25% less |
| SDOCM00099848 | GDB Debugging for user Mode applications triggers SIGILL |
| SDOCM00099613 | tisdk-rootfs.cpio filesystem asks for password for root login |

| SDOCM00099589 | Installer GPLv3 instructions refers to non-existent "Software Developer's Guide" |
|---------------|--|
| SDOCM00099538 | mcsdk-3.0 needs devkit |
| SDOCM00099484 | Linux rootfs NFS mount is very unstable |
| SDOCM00099461 | Resource Manager exhibits memory leaks when allocating and freeing resources |
| SDOCM00099245 | TAC FEI definitions missing in MCSDK3.0 |
| SDOCM00099095 | aif2WcdmaK2KTestProject_Kepler does not run to completion on the EVM |
| SDOCM00099094 | aif2LteK2KTestProject_Kepler does not run to completion on the EVM |
| SDOCM00098581 | Linux dtb/Image/vmlinux are not copied to build images directory in Yocto |
| SDOCM00093749 | USB support in U-boot |
| SDOCM00100432 | Problem in cslr_tac2_cfg.h |
| SDOCM00100245 | Elapsed time calculated using NETCP PA timer counter is ~20-25% less |

8.7.2 Known Issues

| Description |
|--|
| CCS cannot connect to the DSP cores once Linux boots up on the ARM side |
| UBI image has limited free space available in the rootfs |
| Virt_to_idmap always assumes base addres of Linux at 0x80000000 in MCSDK 3.0 alpha 9 |
| Problem in cslr_tac2_cfg.h |
| CPPI/QMSS PDK test cases do not work |
| Linux User Mode LLD Test in PA Fails to run to completion |
| Elapsed time calculated using NETCP PA timer counter is ~20-25% less |
| Add DSP unit test example for MPM server |
| reboot command causes kernel panic when using NFS rootfs |
| uboot hangs with wrong file name using dhcp |
| Fastpath IPC support on KS II devices |
| hyplnk_K2KC66BiosExampleProject_Kepler project does not compile |
| |

| SDOCM00099489 | Linux kernel USB driver fails in reading 1GB file |
|---------------|---|
| SDOCM00099488 | u-boot and kernel fail to detect USB devices |
| SDOCM00099484 | Linux rootfs NFS mount is very unstable |
| SDOCM00099461 | Resource Manager exhibits memory leaks when allocating and freeing resources |
| SDOCM00099452 | u-boot usb reset hangs |
| SDOCM00099245 | TAC FEI definitions missing in MCSDK3.0 |
| SDOCM00099161 | k2k u-boot dhcp timeout |
| SDOCM00099159 | SRIO LLD Type9/11 Message configuration currently does not handle second QM instance in the case of Keystone-2 Devices |
| SDOCM00099136 | KeyStone II: Linux kernel need to take care of LPAE address translation for vring descriptor |
| SDOCM00099095 | aif2WcdmaK2KTestProject_Kepler does not run to completion on the EVM |
| SDOCM00099094 | aif2LteK2KTestProject_Kepler does not run to completion on the EVM |
| SDOCM00099090 | SRIO_MulticoreLpbkK2KC66BiosExampleProject Type11 latency and through tests do not run |
| SDOCM00098942 | Linux SPI driver: extend support to all three SPI ports |
| SDOCM00098856 | SRIO_LoopbackTestProject Multicore test does not run into completion |
| SDOCM00098816 | Need to add SMP IRQ affinity and routing support. |
| SDOCM00098735 | tcp3dK2HC66BiosExampleProject_Kepler-BE & tcp3dK2KC66BiosExampleProject_Kepler-BE projects do not complete on simulator |
| SDOCM00098703 | DSP IBL and boot examples do not work |
| SDOCM00098389 | loadlin/keystone-sim.ccxml file should be renamed loadlin/tci6638-sim.ccxml |
| SDOCM00097548 | TCP3d driver needs external interleaver support |
| SDOCM00096895 | qmSched*BiosTestProject is not passing on the simulator, gets model order doesn't match firmware error. |
| SDOCM00095678 | Keystone 2: User mode A15 drivers don't have any DMB/DSB barriers |
| SDOCM00093503 | PDK 6638 Simulator: BCP Big Endian projects fail |
| SDOCM00091852 | Stepping on kernel code, takes interrupt |
| SDOCM00091099 | PDK Keystone2: cppiSimtci6634C66BiosExampleProject (LE & BE) compiles but test does not pass when run |
| SDOCM00100933 | hplibkernel module: CMA (supposedly cache coherent) memory for user space transport does not seemed to be cached. |
| | |