

Multicore Software Development Kit (MCSDK) Training

Introduction to the MCSDK

Agenda

- MCSDK Overview
- Software Architecture
- Evaluation Module (EVM)
- MCSDK Benefits

MCSDK Overview

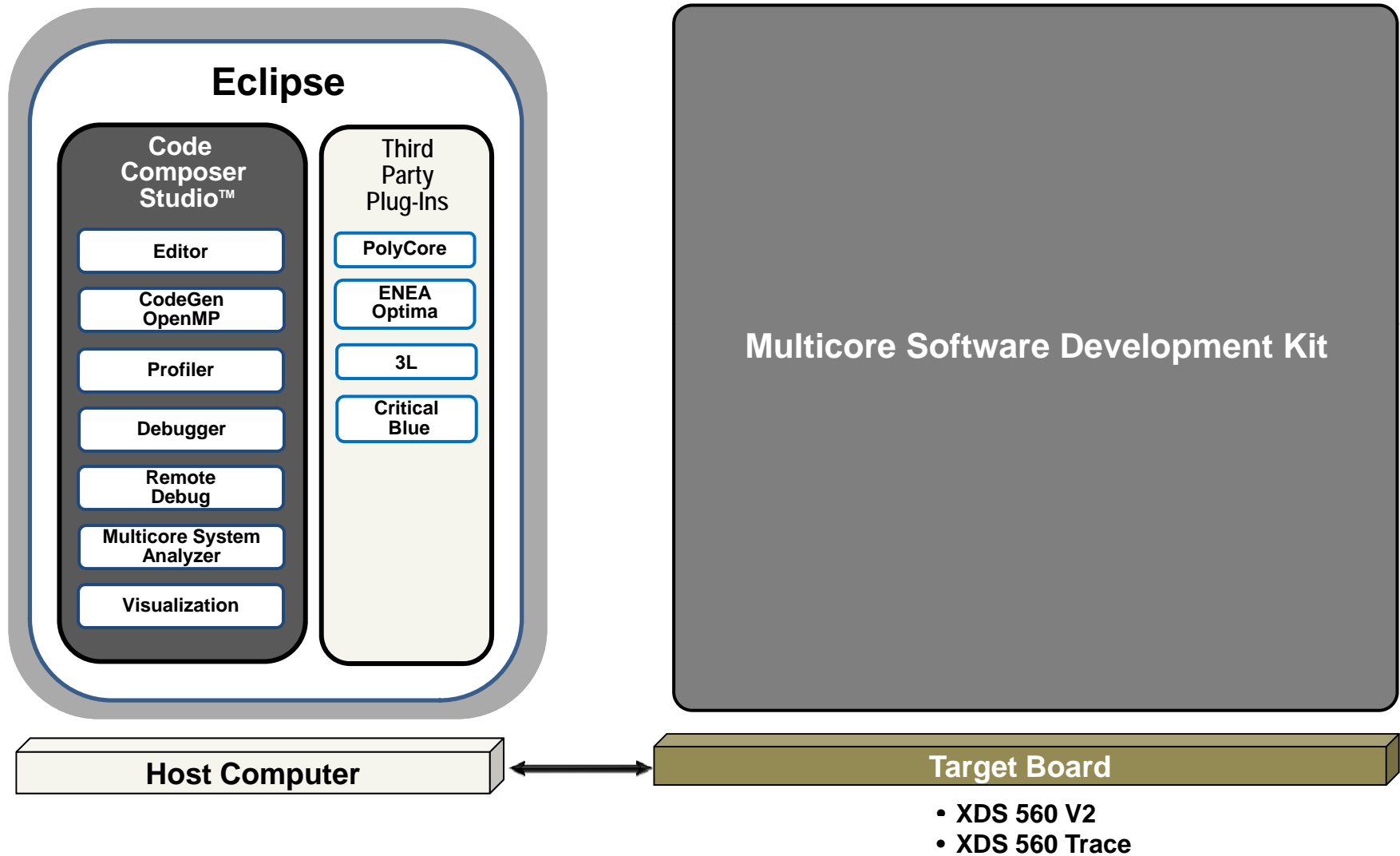
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What is MCSDK?

- The Multicore Software Development Kit (MCSDK) provides the **core foundational building blocks** for customers to **quickly start developing embedded applications** on TI high performance multicore DSPs.
 - Uses the SYS/BIOS or Linux **real-time operating system**
 - Accelerates customer time to market by focusing on **ease of use** and **performance**
 - Provides **multicore programming** methodologies
- **Available for free** on the TI website bundled in one installer, all the software in the MCSDK is in **source form** along with pre-built libraries

Software Development Ecosystem

Multicore Performance, Single-core Simplicity



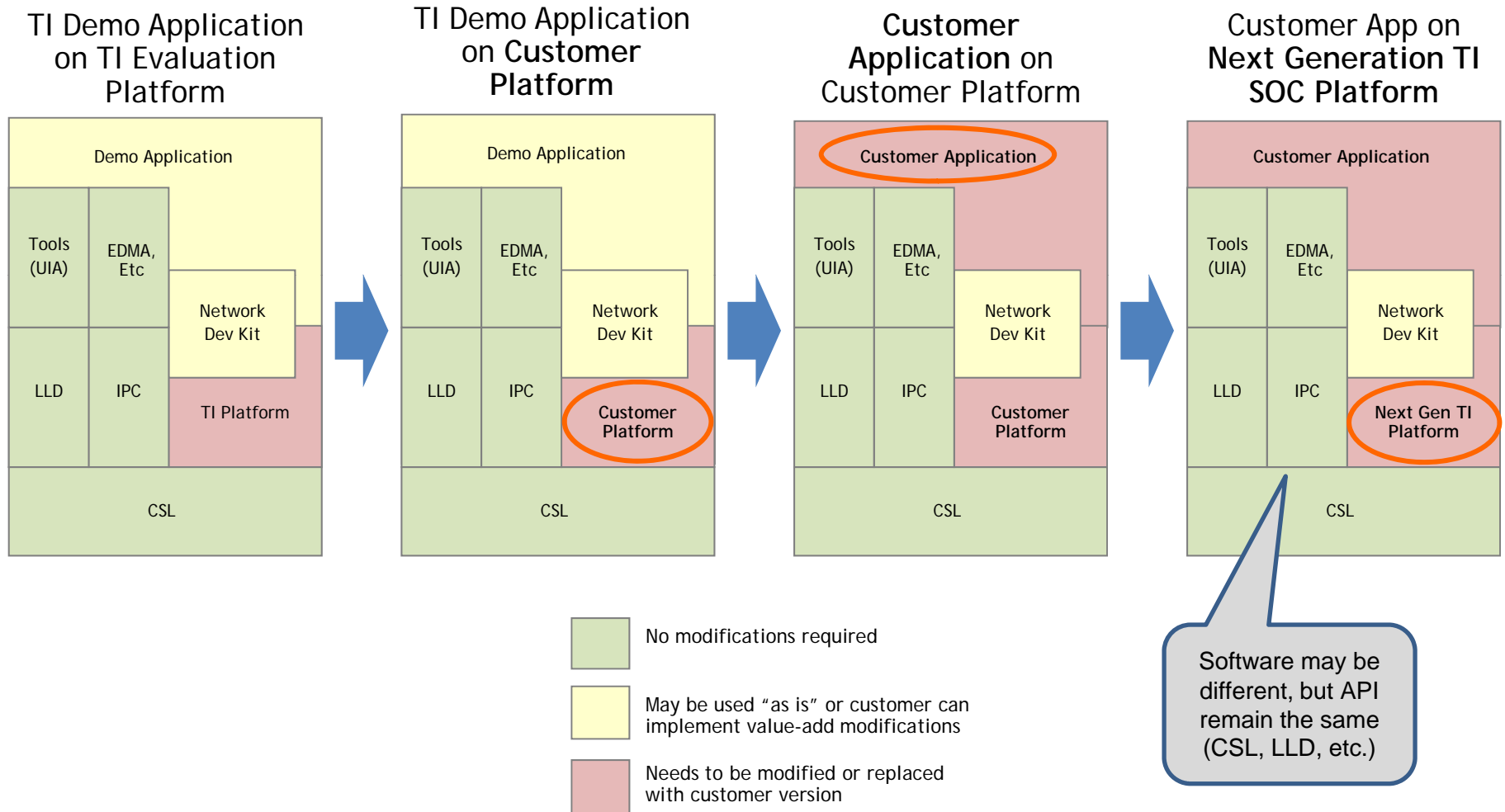
MCSDK Variants

Name	Release	DSP	ARM	OS	Notes
BIOS- MCSDK	1.x, 2.x	x	NA	SYS/BIOS	DSP-only SOC running SYS/BIOS real-time operating system
Linux- MCSDK	1.x, 2.x	x	NA	Linux on DSP	DSP-only SOC running Linux real-time operating system

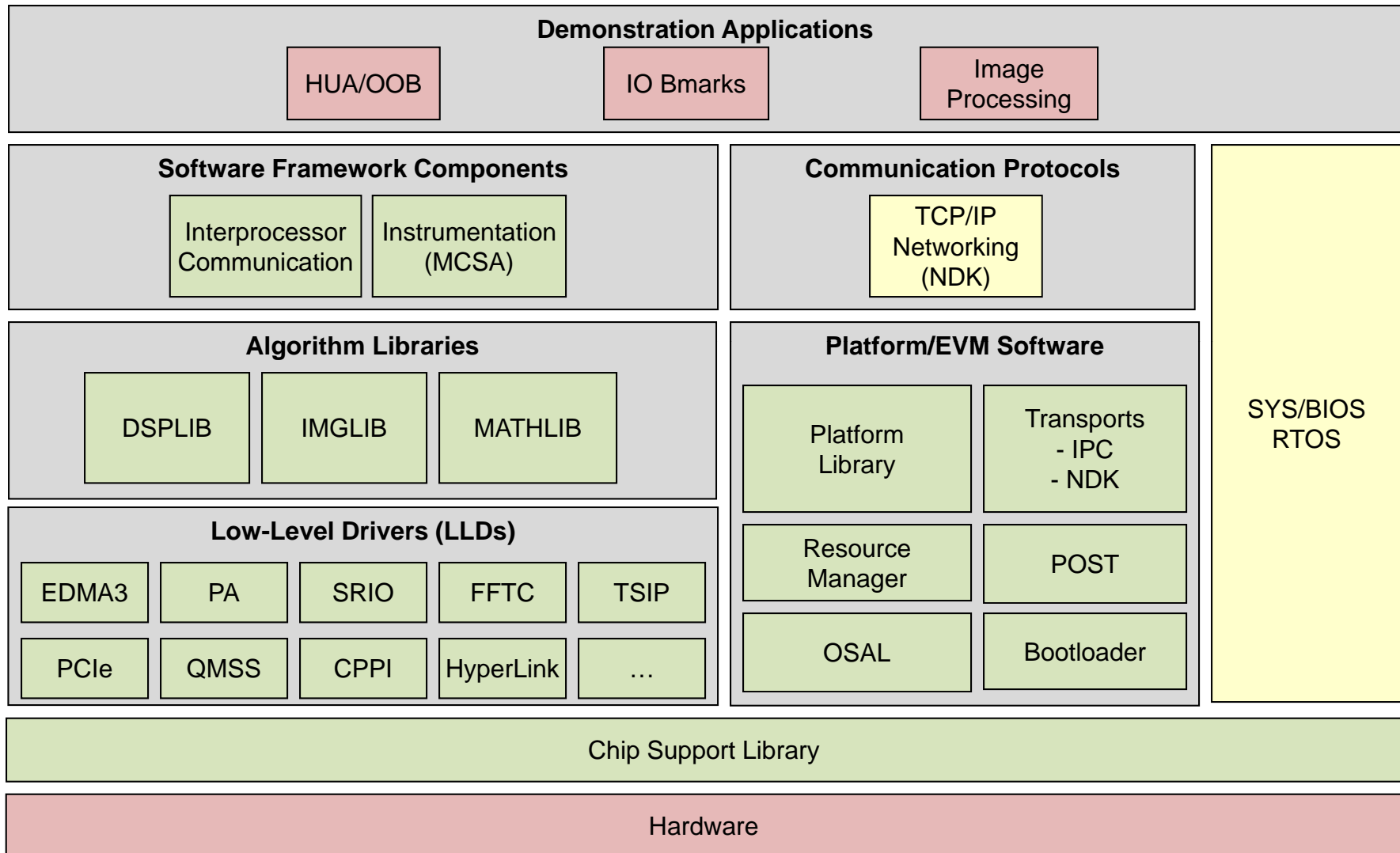
Software Architecture

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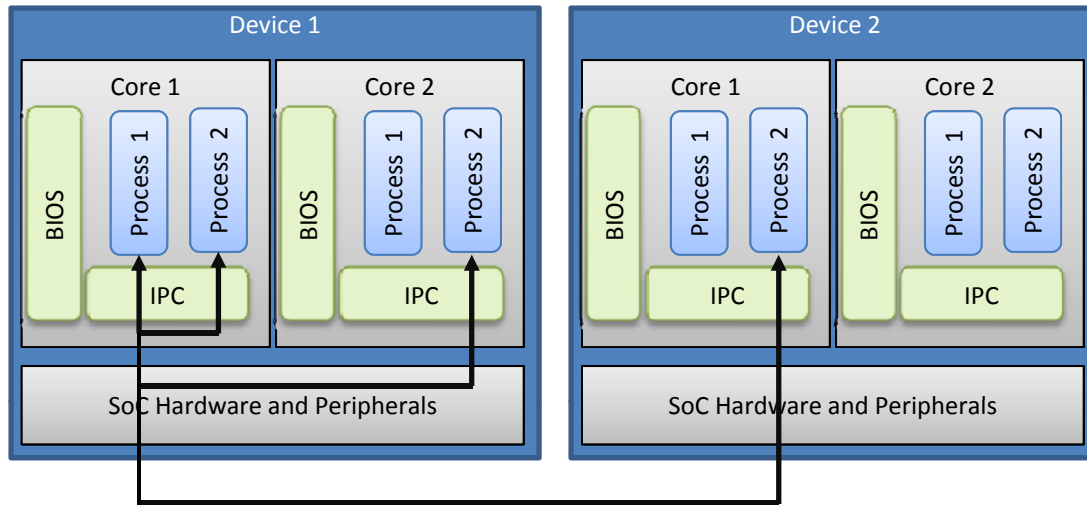
Migrating Development Platform



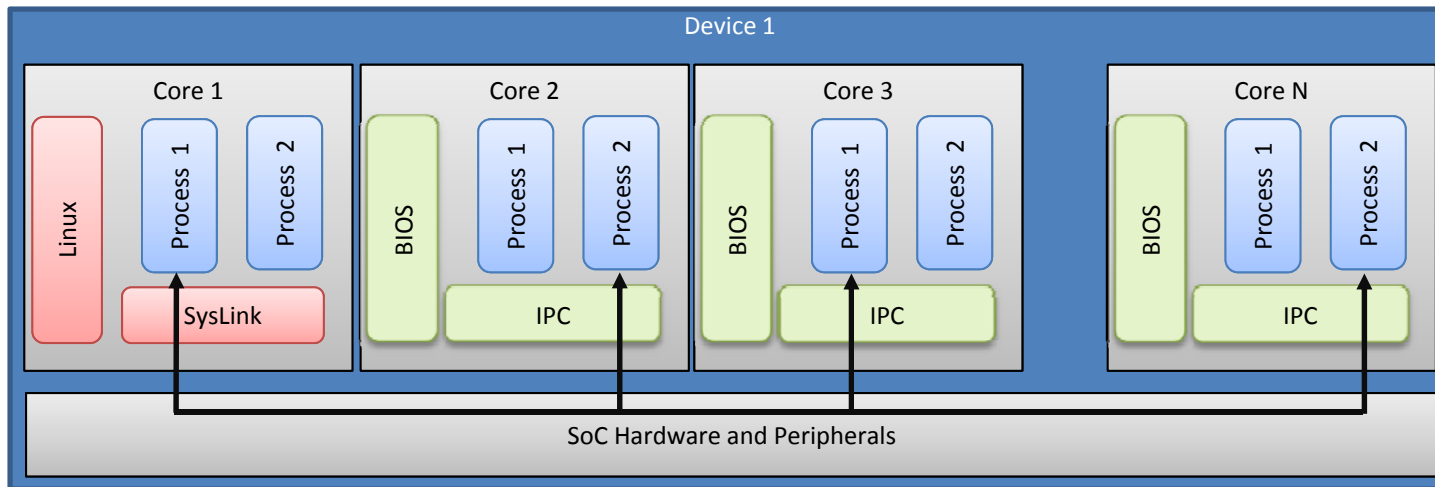
BIOS-MCSDK Software



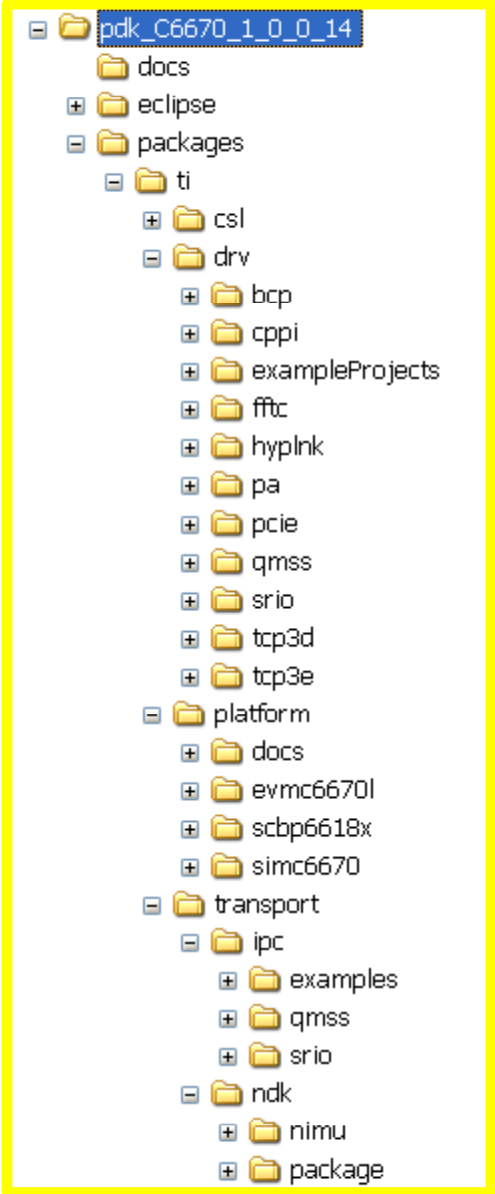
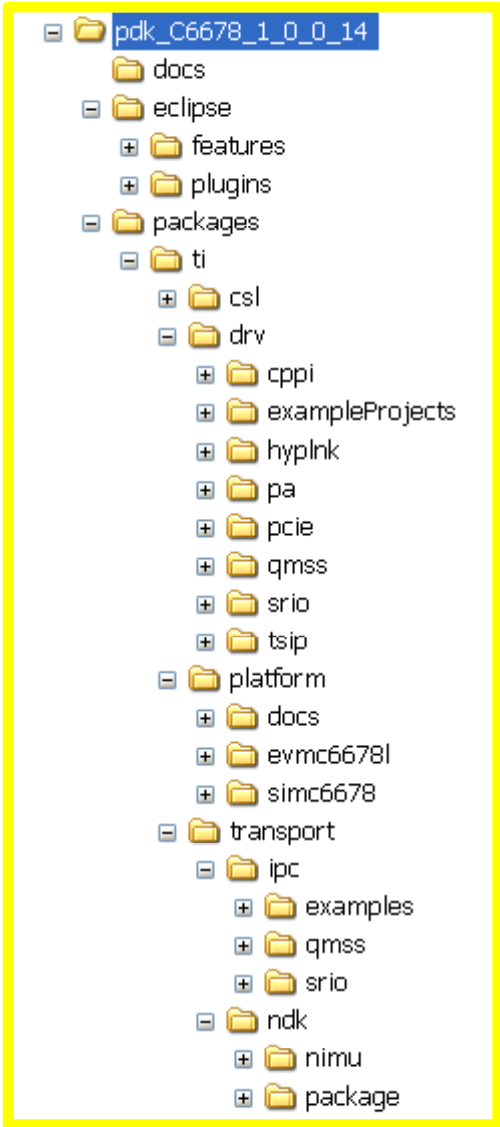
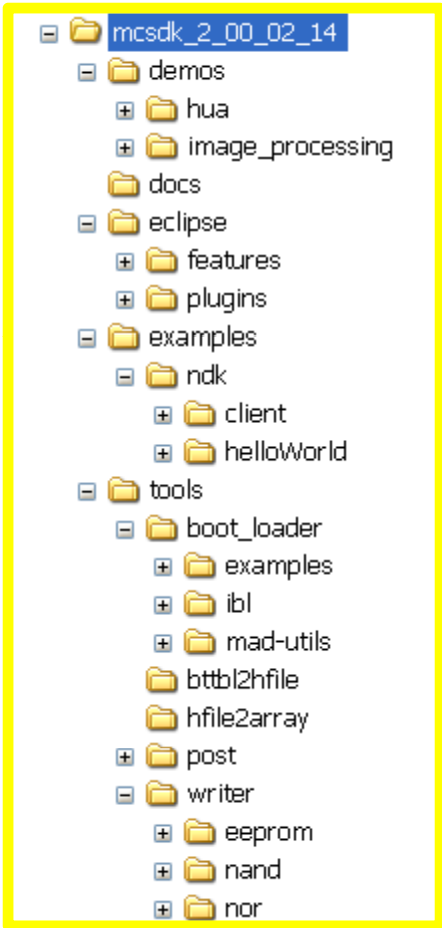
Interprocessor Communication (IPC)



IPC Transports	Task to Task	Core to Core	Device to Device
Shared Memory	x	x	
Navigator/QMSS	x	x	
SRIO	x	x	x
PCIe	x	x	x
HyperLink	x	x	x



Packaging (BIOS-MCSDK)



Evaluation Module (EVM)

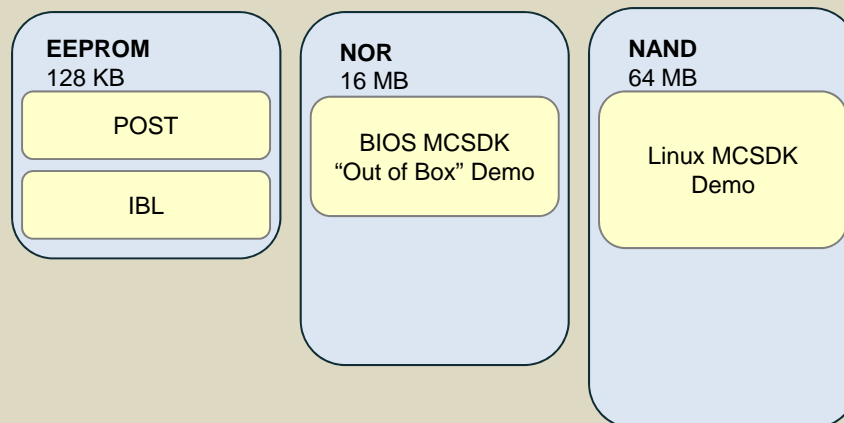
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Linux/BIOS MCSDK C66x Lite EVM Details

DVD Contents

- **Factory default recovery**
 - EEPROM: POST, IBL
 - NOR: BIOS MCSDK Demo
 - NAND: Linux MCSDK Demo
 - EEPROM/Flash writers
- **CCS 5.0**
 - IDE
 - C667x EVM GEL/XML files
- **BIOS MCSDK 2.0**
 - Source/binary packages
- **Linux MCSDK 2.0**
 - Source/binary packages

EVM Flash Contents



Online Collateral

TMS320C667x processor website

<http://focus.ti.com/docs/prod/folders/print/tms320c6678.html>

<http://focus.ti.com/docs/prod/folders/print/tms320c6670.html>

MCSDK website for updates

<http://focus.ti.com/docs/toolsw/folders/print/bioslinuxmcsdk.html>

CCS v5

http://processors.wiki.ti.com/index.php/Category:Code_Composer_Studio_v5

Developer's website

Linux: <http://linux-c6x.org/>

BIOS: http://processors.wiki.ti.com/index.php/BIOS_MCSDK_2.0_User_Guide

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MCSDK Benefits

- Faster time to market for end-customer products
- Stable foundation of optimized software components
- Multicore programming methodologies
- Free, full source code
- Easy-to-use, hardened API
- Modular software architecture to simplify migration to future SOC
- Built-in demonstrations showcasing SOC strengths and multicore software framework
- Positive customer out-of-box experience
- Software ecosystem with third-party tools
- Documentation: Online wiki
- Support: E2E forum

For More Information

Download MSDK software:

<http://focus.ti.com/docs/toolsw/folders/print/bioslinuxmsdk.html>

The screenshot shows the Texas Instruments website page for the BIOS MSDK software. It includes a navigation menu, a product description, and a table of software kits. The table lists three kits: BIOS MSDK for C64x, C64x+ and C64x+ - BETA-2; BIOS MSDK - C4499LUN; and BIOS MSDK - C64x2. Each kit has a 'Get Software' button and a status of 'ACTIVE'.

Part Number	Texas Instruments	Model	Price (USD)
BIOS MSDK for C64x, C64x+ and C64x+ - BETA-2	Get Software	ACTIVE	Free
BIOS MSDK - C4499LUN	Get Software	ACTIVE	Free
BIOS MSDK - C64x2	Get Software	ACTIVE	Free



Refer to the MSDK User's Guide:

http://processors.wiki.ti.com/index.php/BIOS_MSDK_2.0_User_Guide

The screenshot shows the Texas Instruments website page for the BIOS MSDK 2.0 User Guide. It includes a navigation menu, a search bar, and an introduction section. The introduction states that the BIOS MSDK provides the core foundational building blocks for application software development on TI's high performance and multicore DSPs.



For questions regarding topics covered in this training, visit the following e2e support forums:

http://e2e.ti.com/support/dsp/c6000_multi-core_dsps/f/639.aspx

<http://e2e.ti.com/support/embedded/f/355.aspx>

The screenshot shows the TI E2E Community forum page for the C6000 Multicore DSP. It features a search bar, a list of recent posts, and a sidebar with options and popular discussions. The main content area displays a list of forum posts with their titles, authors, and dates.



The screenshot shows the TI E2E Community forum page for Embedded Software. It features a search bar, a list of recent posts, and a sidebar with options and popular discussions. The main content area displays a list of forum posts with their titles, authors, and dates.