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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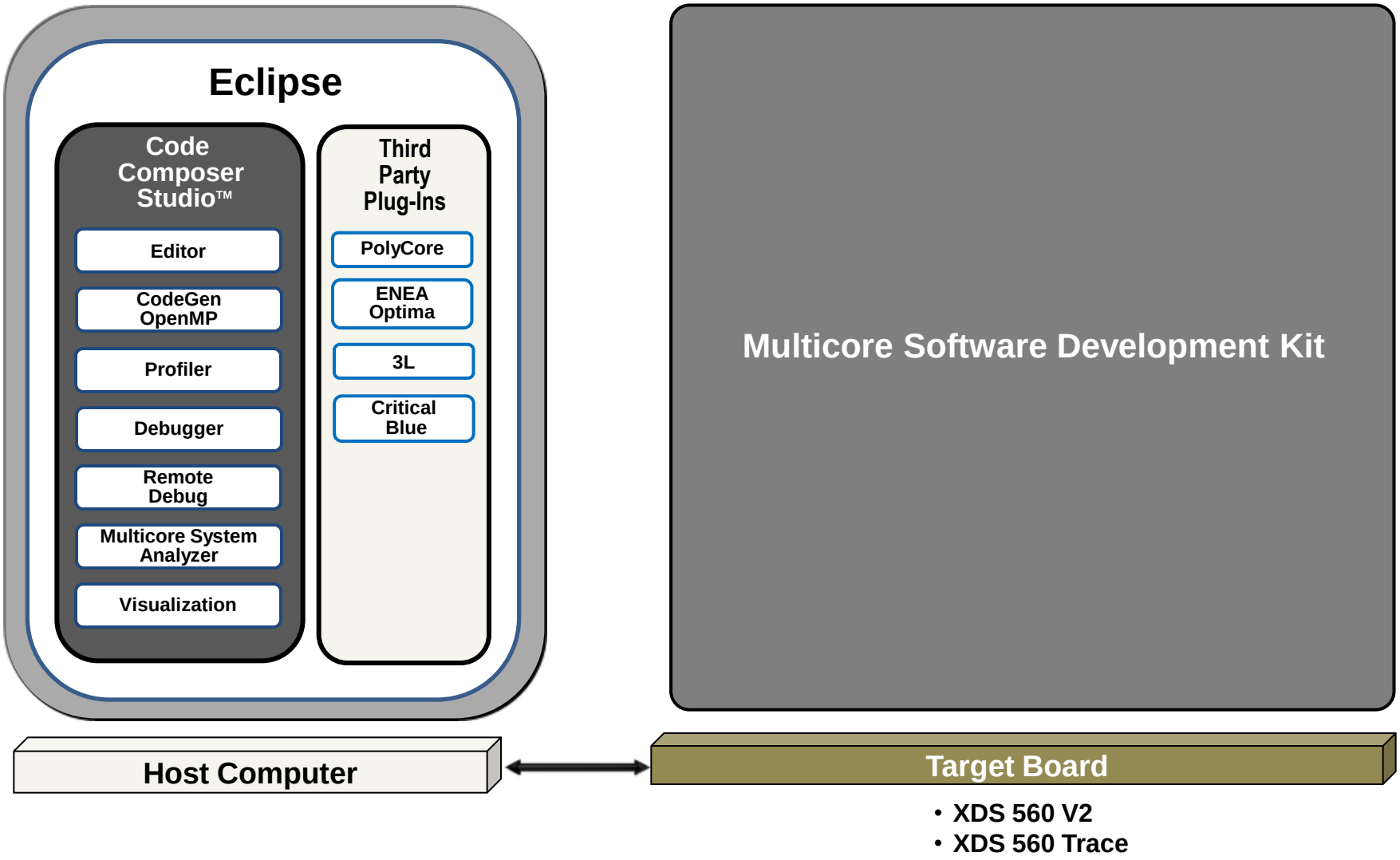
What is MCSDK?

- 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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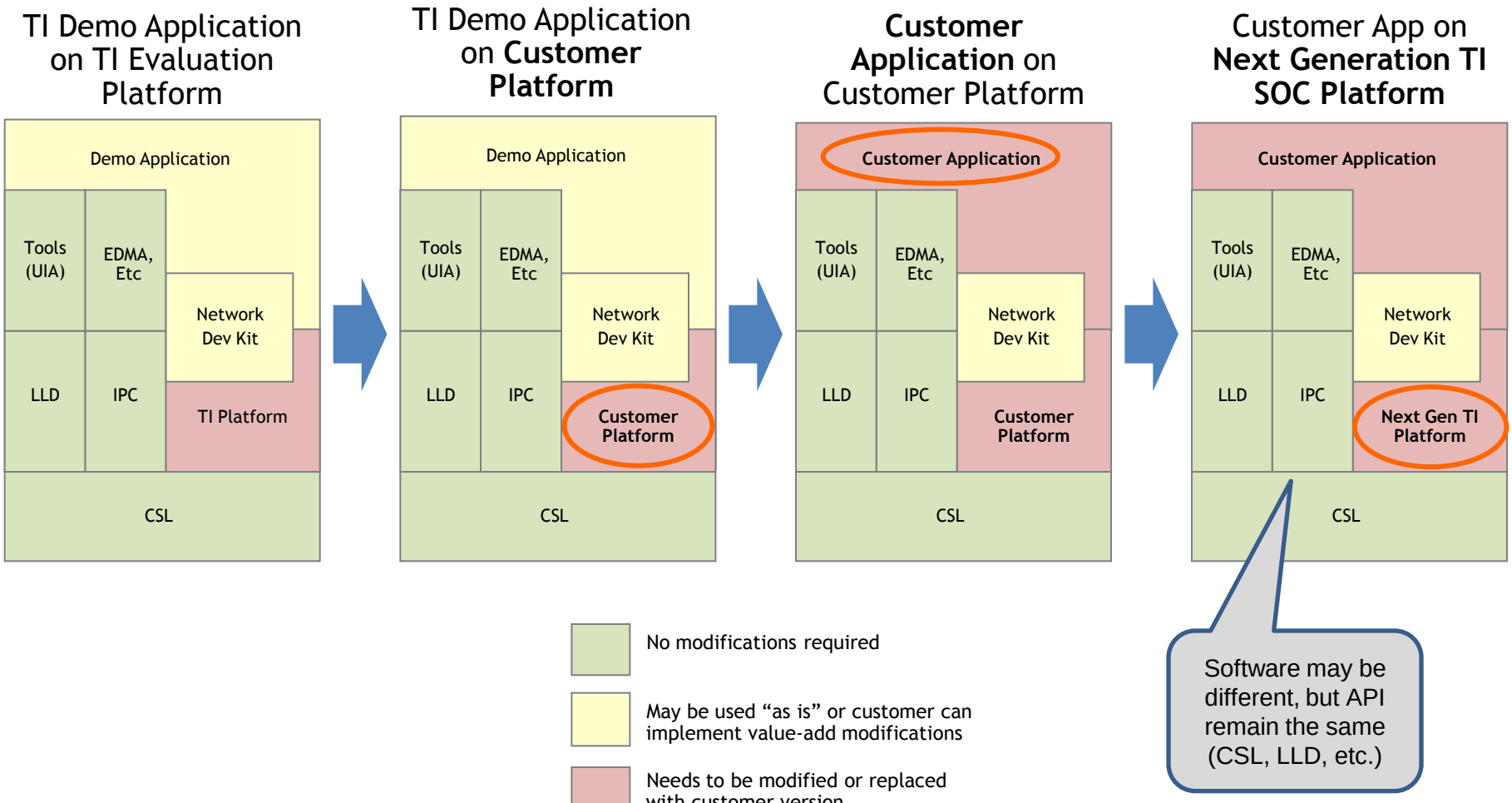
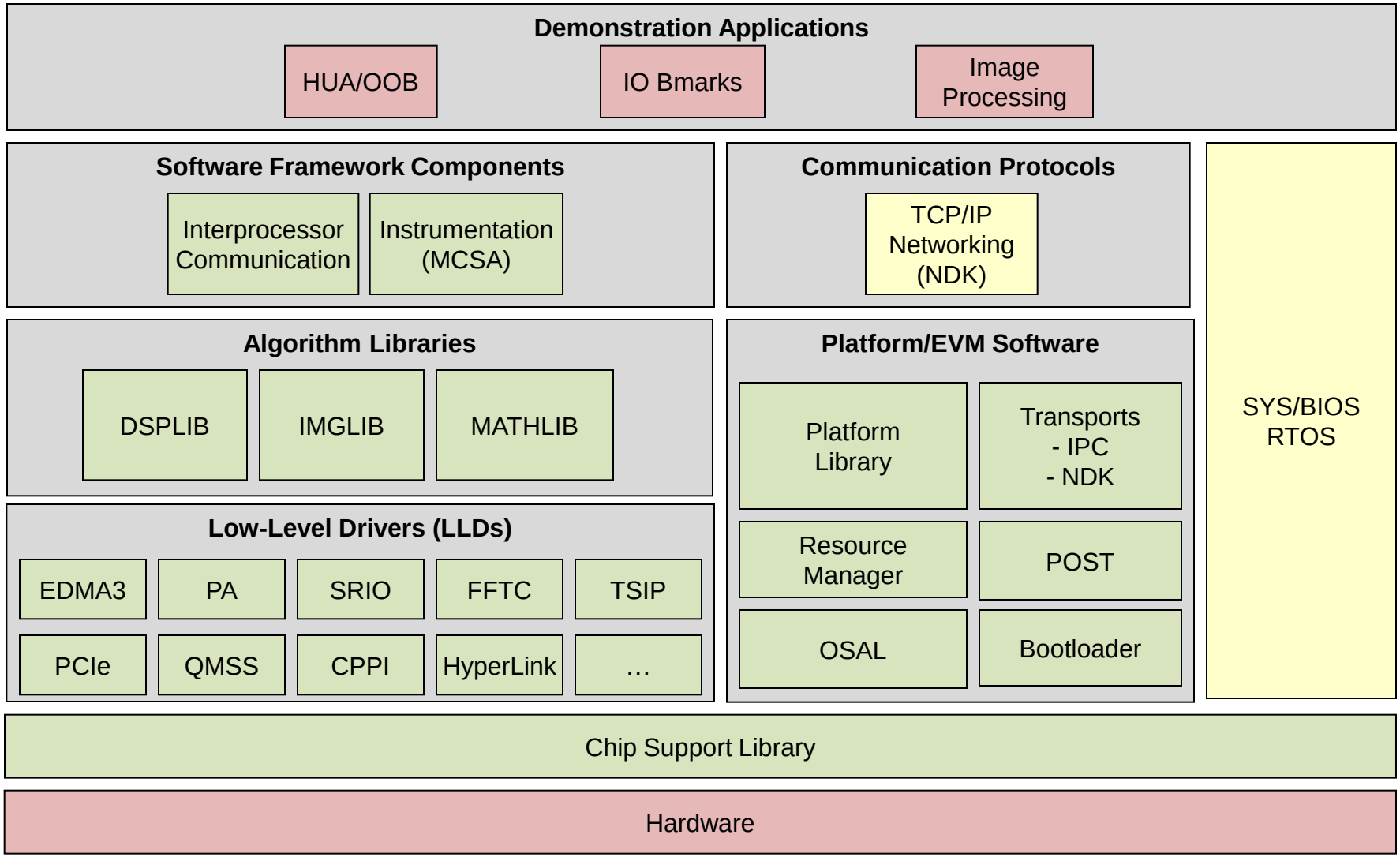
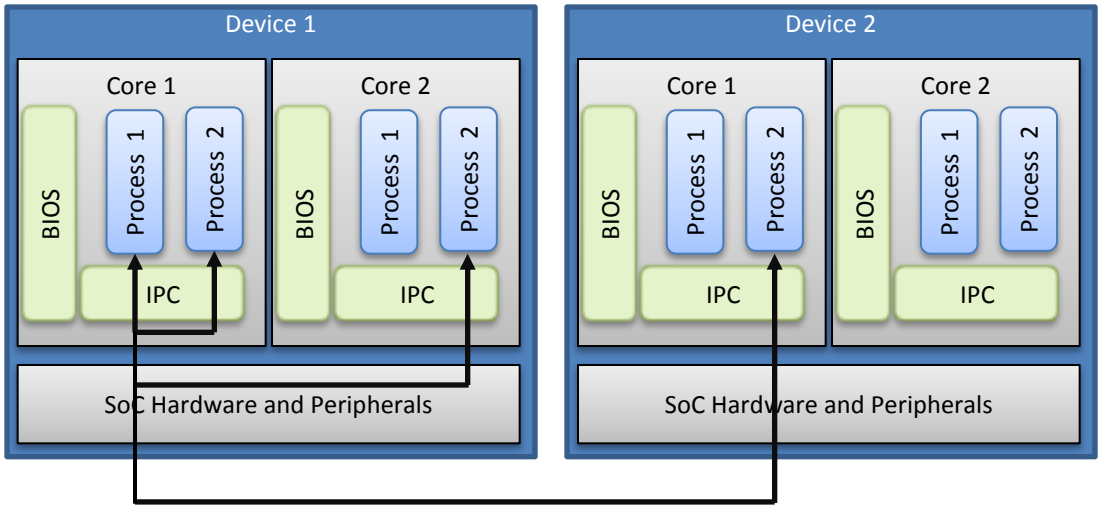
Migrating Development Platform



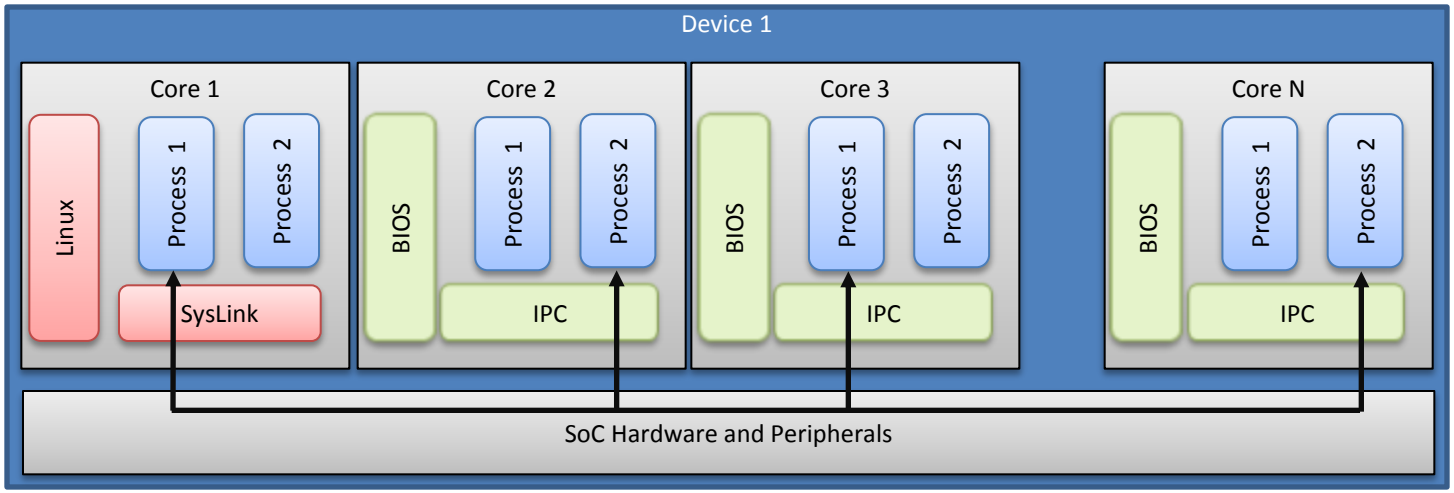
BIOS-MCSDK Software



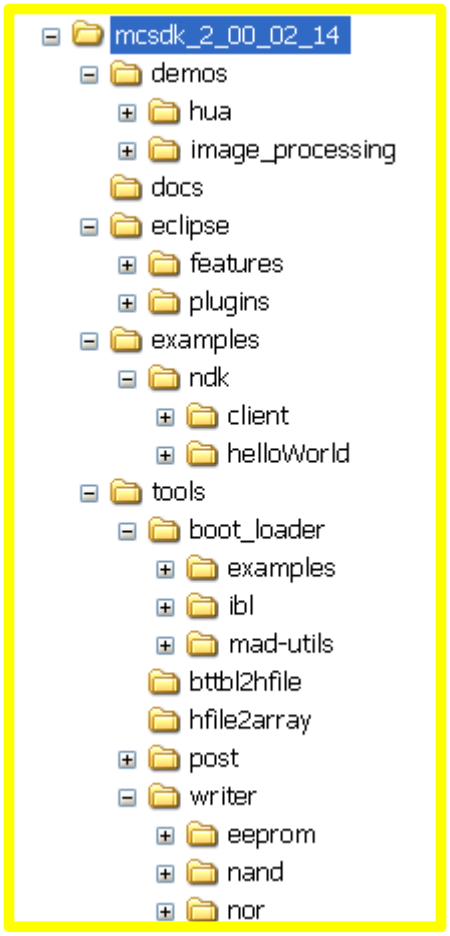
Interprocessor Communication (IPC)

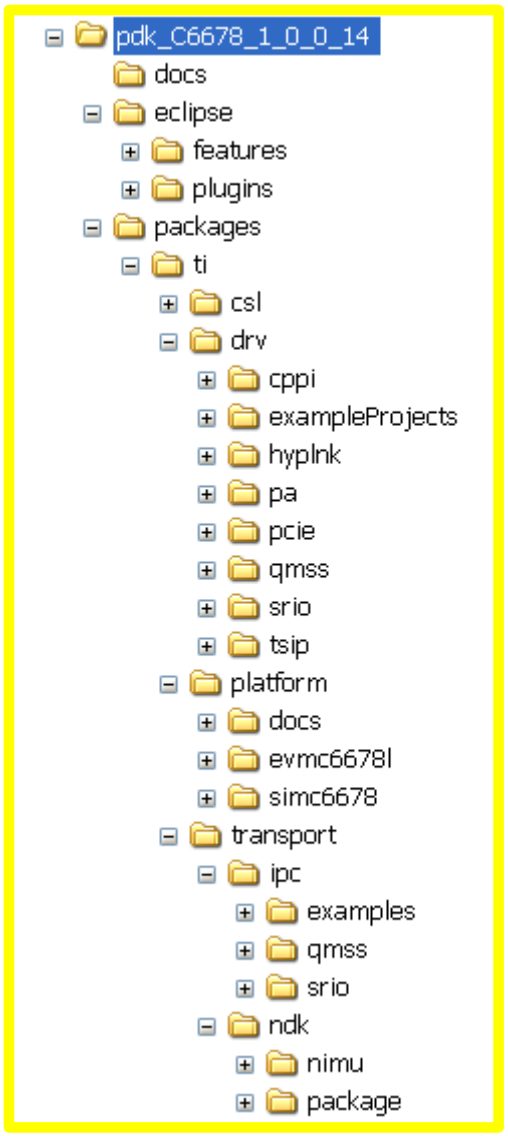


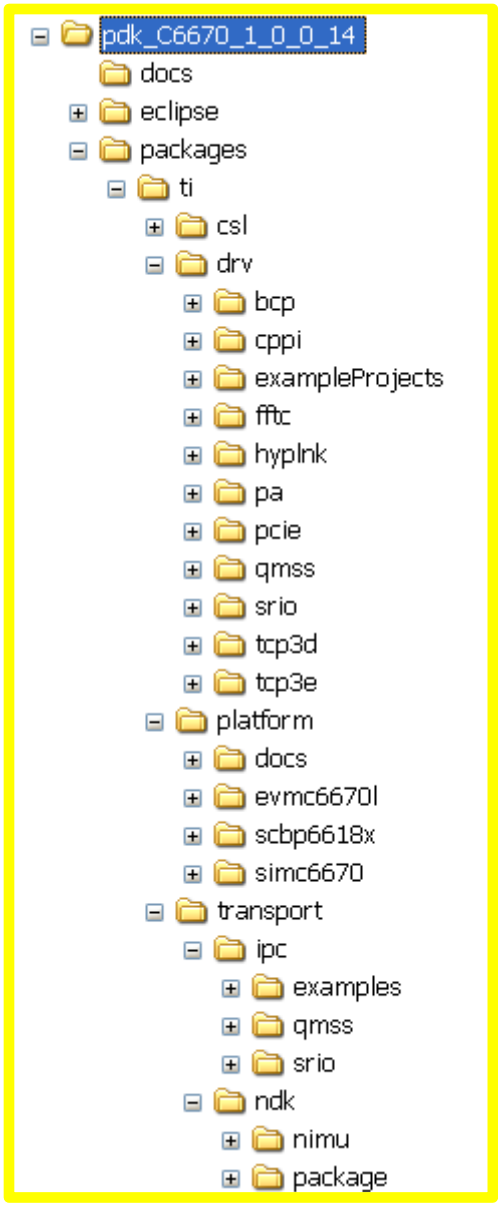
IPC Transports	Task to Task	Core to Core	Device to Device
Shared Memory	x	x	
Navigator/QMSS	x	x	
SRIO	x	x	x
PCIe	x	x	x
HyperLink	x	x	x



Packaging (BIOS-MCSDK)







Evaluation Module (EVM)

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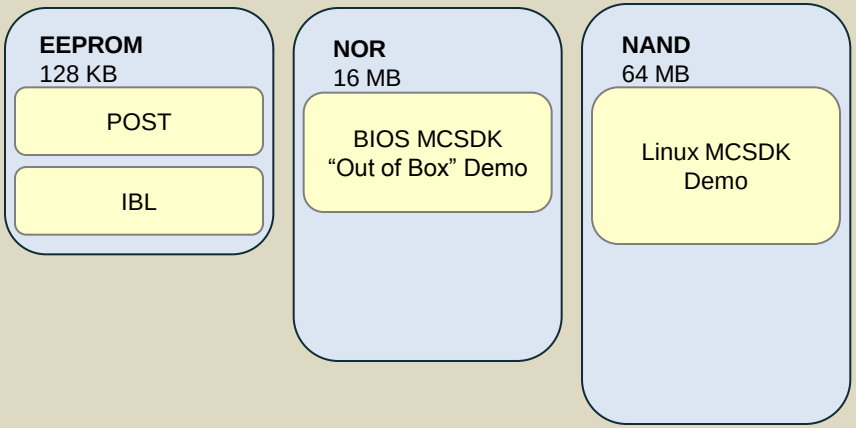
Linux/BIOS MCSDK C66x Lite EVM Details

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 MCSDK software:
http://focus.ti.com/docs/toolsw/folders/print/bioslinuxmcsdk.html

Download Software

Refer to the MCSDK User's Guide:
http://processors.wiki.ti.com/index.php/BIOS_MCSDK_2.0_User_Guide

User's Guide

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

Software Forums

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