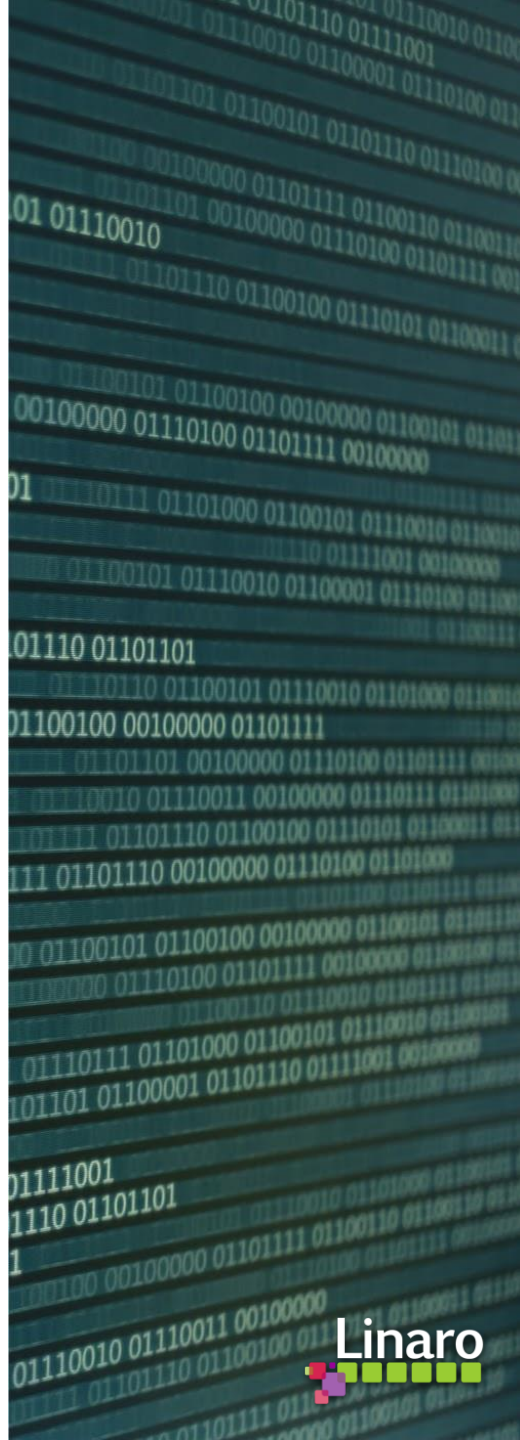
Open-CMSIS-Pack

Technical Project Meeting 2023-10-17

This meeting is recorded !

Agenda

- Welcome
- Project Boards
- Taxonomy
- Issues for Review
- Wrap Up



Boards:

- Open-CMSIS-Pack Specification Change Board

- CMSIS-Toolbox 2.2 Project Board
  - See progress and issues in scope for version 2.2.0
  - Please review and provide feedback in case you see topics missing
  - Add issues or comment on existing issues that you think should be added to 2.2.0

- CMSIS-Toolbox 2.3 Project Board

Do we need more than just taxonomy?

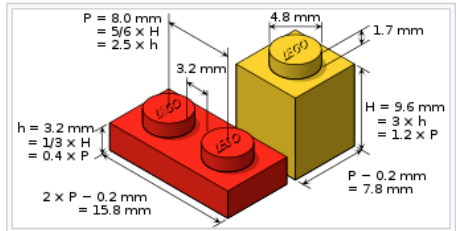
Our aspiration is to create a system that helps the Arm eco-system to share, update, and manage software (PLM)

Considerations are:

- Interface definitions
- Unified packs for essentials (FreeRTOS, lwIP, FileSystem, …)
- Structured ways to add 3rd party software
- Data sheets for software packs
- Better search capabilities (taxonomy)

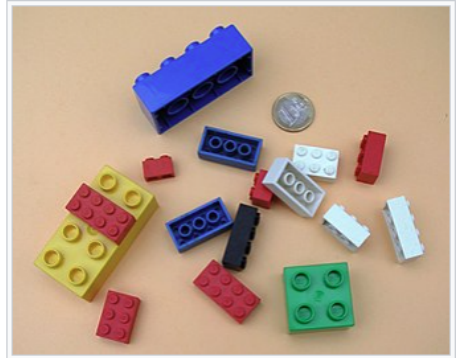
Rastermaß, Kompatibilität

Maß	Lego („System“)	Duplo	Quatro	Primo
Breite (Raster)	8 mm	16 mm	32 mm	48 mm
Breite (1x1-Baustein)	7,8 mm	15,6 mm	31,2 mm	46,8 mm
Höhe (Bausteinhöhe)	9,6 mm	19,1 mm	?	38,3 mm (davon 5 mm Röhrchenüberstand unten)
Plattenhöhe (relativ)	1/3	1/2	1/3	
Das Rastermaß spiegelt die Vergrößerung eines Bauwerks durch Anfügen eines Steins wider; an einem Stein ist es der von Noppenmitte zu Noppenmitte messbare Abstand.				



Maße von Legosteinen

	Lego	Duplo	Quatro	Primo
Lego		sitzt auch auf Lego-Noppen		
Duplo	2×2-Steine und deren Vielfache passen auf Duplo-Noppen		passt	passt mit seiner unten vorstehenden Zylinderhülse klemmend über 4 Duplo-Noppen. Weil der Korpus weniger weit nach unten reicht, bleibt der einfache Primostein auf 4 Duplonoppen (genauso wie auf einer Primonoppe) trotz Nachbarnoppen frei drehbar.
Quatro		passt		
Primo				


Vergleich von Lego- und Duplo-Steinen

Source: https://de.wikipedia.org/wiki/Lego

We need ways to educate industry and improve quality so that packs from different vendors fit together

Linaro

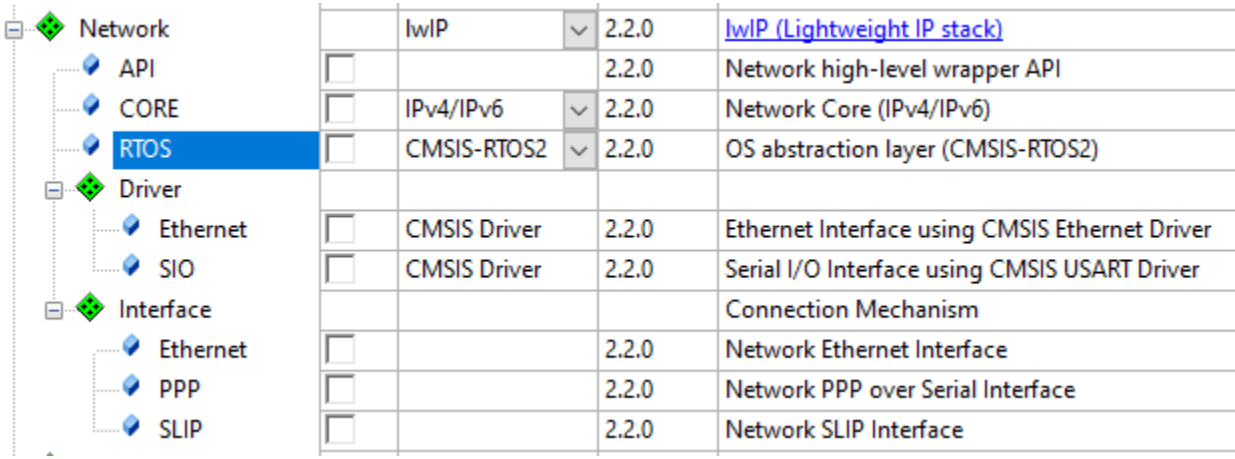
Pack Datasheet #260: github.com/Open-CMSIS-Pack/lwIP

- Generated “Pack Datasheet” based on *.PDSC XML data

- Possible “datasheet” content based on PDSC file
  - Pack
  - Link to documentation
  - License
  - Keywords (for search)
  - Components
  - External dependencies (required components)
  - Exposed header files (API)
  - Configuration files, user code template files, examples
  - Release history

- Not directly possible (based on PDSC file) but potential useful
  - Mandatory components (that a user must select)
  - Provided interfaces (i.e. BSD socket)
    - Maybe exposed header files is sufficient?
  - Overview diagram (could be part of documentation)
  - Related components (i.e. Crypto, IoT socket, Cloud stacks, RTOS kernels)
    - Maybe by listing packs that require components from this pack

Pack Datasheet example *needs more work*: https://github.com/ReinhardKeil/lwIP/tree/patch-1



Network		lwIP	2.2.0	lwIP (Lightweight IP stack)
API	☐		2.2.0	Network high-level wrapper API
CORE	☐	IPv4/IPv6	2.2.0	Network Core (IPv4/IPv6)
RTOS	☐	CMSIS-RTOS2	2.2.0	OS abstraction layer (CMSIS-RTOS2)
Driver				
Ethernet	☐	CMSIS Driver	2.2.0	Ethernet Interface using CMSIS Ethernet Driver
SIO	☐	CMSIS Driver	2.2.0	Serial I/O Interface using CMSIS USART Driver
Interface				Connection Mechanism
Ethernet	☐		2.2.0	Network Ethernet Interface
PPP	☐		2.2.0	Network PPP over Serial Interface
SLIP	☐		2.2.0	Network SLIP Interface

Pack cross reference

Used by:

- pack: MDK-Packs::IoT_Socket

lwIP::lwIP

uses:

- component: CMSIS:RTOS2
- component: RTOS&FreeRTOS:Core
- component: CMSIS Driver:Ethernet
- component: CMSIS Driver:Ethernet MAC
- component: CMSIS Driver:Ethernet PHY
- component: CMSIS Driver:USART

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Issues to Review

- Discussion: YAML as replacement of pdsc #257
- [cbuildgen] Use multifile file compilation with IAR #685
- Single CMakeLists.txt for both Release and Debug #1139
  - meeting scheduled
- Implement <csolution-name>.cbuild-pack.yml #1122 (ST) (draft PR #1143)
  - awaiting documentation of the algorithm
- Default Linker Script handling #1134 - *leave comments*
- Add Memory Information to build information files #1117 - *leave comments*
- CMakeLists Proposal - *leave comments and feedback in* #1044

Wrap Up

Is anyone preparing/working on a topic to present and discuss in the coming weeks?

- Please contact Joachim.Krech@arm.com ahead of the meeting

Next Open-CMSIS-Pack meeting: 24th Oct 2023 @ 16:00 CET (15:00 UK)

Linaro

Thank you