

Open-CMSIS-Pack

Technical Project Meeting 2023-06-06

This meeting is recorded !



Agenda

- Welcome
- Project Boards
- CMSIS-Toolbox 2.0.0-dev1
- Topics to review
- Generator CLI workflow (genlayer.yml)
- csolution CLI workflow
- Wrap Up

Boards:

- [Open-CMSIS-Pack Specification Change Board](#)
- [CMSIS-Toolbox 2.0 Project Board](#)
- new! [CMSIS-Toolbox 2.1 Project Board](#)

CMSIS-Toolbox 2.0.0-dev1

- Targeted for Wednesday 2023-06-07
- [csolution] `rte: base-dir`` node in cproject allows to rename and relocate the default 'RTE' folder location [#947](#)
- [csolution] cdefault handling [#841](#)
 - cdefault.yml added to CMSIS-Toolbox's /etc directory
 - *.cdefault.yml|yaml are no longer read
- [csolution] Improve predictability of loaded packs (pack: names) [#941](#)
- [csolution] `list dependencies`` and `list components`` (condition processing)
 - `--verbose` = dependency verbose messages
 - `-- debug` = filter and dependency messages
- [csolution] command `update-rte`` added [#727](#) (see slide)
- [cpackget] updated version 0.9.4 (#151, #159, #169)

Topics to review

- vcpkg registry for cmsis-toolbox
 - Location: <https://aka.ms/vcpkg-artifacts-arm>
 - Artifact ID (1.x.y) `arm:tools/open-cmsis-pack/ctools`
 - Artifact ID (2.x.y) `arm:tools/open-cmsis-pack/cmsis-toolbox`
 - **Deprecating:** github.com/Open-CMSIS-Pack/vcpkg-ce-registry/
- [cmsis-toolbox] discontinue cmsis-toolbox.sh - shell installer [#957](#)
- [cbuild] intermittent build failures (macOS) [#64](#)
- <https://github.com/Open-CMSIS-Pack/csolution-examples>
 - [Added csolution.yml templates](#) – note only the Simple is complete at this point

Exploring CubeMX Generator CLI flow / genlayer.yml

- Reviewed current CubeMX workflow with generator *.GPDSC file, problems are:
 - Run command differs for first / subsequent invocation
 - 'required' components need to be manually transferred into cproject.yml
 - When components are removed, these added components are not easy to spot
- Alternative approach: Add a `genlayer.yml` file with useful pre-configuration into DFP/BSP
 - Use `list layers` command to identify these layers
 - The `genlayer.yml` file contains the required run command for reconfiguration
 - Backward compatible approach is possible as CubeMX can generate both files (genlayer.yml + gpdsc)
- Related:
 - [https://github.com/Open-CMSIS-Pack/devtools/blob/main/tools/projmgr/docs/Manual/Generator%20\(Proposal\).md](https://github.com/Open-CMSIS-Pack/devtools/blob/main/tools/projmgr/docs/Manual/Generator%20(Proposal).md)
 - <https://github.com/Open-CMSIS-Pack/devtools/issues/637>

Finding Board, Device and Pack IDs

- Boards: <https://www.keil.arm.com/boards> => BSP
 - add PackID to csolution.yml *packs* node: `-pack <vendor>::<<name>[@version]`
 - run `csolution csolution.yml list boards [-f <filter>]`
 - add BoardID to csolution.yml *target-types* node: `-board <Bvendor>::<<Bname>[@Breversion]`
- Devices: <https://www.keil.arm.com/devices> => DFP
 - add PackID to csolution.yml *packs* node: `-pack <vendor>::<<name>[@version]`
 - run `csolution csolution.yml list devices [-f <filter>]`
 - add BoardID to csolution.yml *target-types* node `-board <Bvendor>::<<Bname>[@Breversion]`
- Software: <https://www.keil.arm.com/packs/> => PackID
 - add PackID to <project>.cproject.yml *packs* node: `-pack <vendor>::<<name>[@version]`
 - run `csolution csolution.yml list components [-f <filter>]`
 - add ComponentID to cproject.yml *components* node: `-component: <vendor>::<<name>[@version]`

Adding / Removing components

- After changing components: (this may also result from a changed pack version)
 - run `csolution csolution.yml --context <context> list dependencies`
 - add components until there is no unresolved dependencies
 - run `csolution csolution.yml --context <context> update-rte --verbose`
 - copies component configuration files into project & generates `RTE_Components.h`, `PreInclude*.h`
 - if a config file shows `update@version` compare against the `base@version` and decide:
`ARM::CMSIS:RTOS2:Keil RTX5&Source@5.5.4:`
 - `C:/tmp/demo/RTE/CMSIS/RTX_Config.c (base@5.0.0) (update@5.1.1)`
 - review/edit list of 'active' component config files to match your application requirements
- Convert does all the above prior to conversion
 - run `csolution csolution.yml convert`
- `cbuild` creates the build artifacts - without `update-rte`
 - run `cbuild csolution.yml`

Wrap Up

CMSIS-Toolbox:

- 2.0.0-dev0 24th May 2023
- 2.0.0-dev1 7th June 2023 - blocking changes
- 2.0.0-dev2 16th June 2023
- ... bug fixing
- 2.0.0 release 30th June 2023

Next Open-CMSIS-Pack meeting: 13th June 2023 @ 16:00 CET (15:00 UK)

- About: CMSIS-Toolbox 2.0 focus: review and discussion of pending topics

Thank you

