Agenda

- Background for not enabled
- Static checks
- Discuss one by one
Background

• Was added to the repo but not enabled
• Infra and jobs are more stable
• The static check can lower the effort from reviewer
• Could help to improve the code quality with a consistent rule
Static checks

Common tools

• Checkpatch
• cppcheck

Project customized tools

• Copyright
• Include order
• Banned APIs
• Line endings
Common tools

Checkpatch

Current status

- Tool Source from [linux/v5.9](https://github.com/ARM-software/linux-v5.9)
- **Configs** in the CI
- Configs of Ignore
  ```
  --ignore COMPLEX_MACRO
  --ignore AVOID_EXTERN
  --ignore VOLATILE
  --ignore PREFER_KERNEL_TYPES
  --ignore LEADING_SPACE
  --ignore CODE_INDENT
  --ignore SUSPECT_CODE_INDENT
  --ignore BRACES
  --ignore CONST_STRUCT
  --ignore INITIALISED_STATIC
  --ignore SPDX_LICENSE_TAG
  --ignore C99_COMMENT_TOLERANCE
  --ignore ARRAY_SIZE
  --ignore QUOTED_WHITESPACE_BEFORE_NEWLINE
  ```

Propose/Discussion

- Apply to TF-M code folders *
- Remove the item “ARRAY_SIZE” by modify TFM code to have a consistent array size define in different SP
  - Preferred format
    ```c
    #define ARRAY_SIZE(arr) (sizeof(arr)/sizeof(arr[0]))
    ```

  * [secure_fw/ & interface/]
Common tools

cppcheck

• Tool version  cppcheck-1.81
• **Configs** in the CI
• Currently ignored checks for TF-M :
  • Unused Functions
  • Unmatched Suppression
  • Variable Scope
  • Missing Include System

Propose discussion

• Apply to TF-M code folders
• Ignore other checks that conflict with good practices :
  • Unused Variable
  • redundant initialization
arm

Customized tools
Project customized tools

Copyright

Current status

• Scripts in CI for copyright
• Expect file header:
  • “Copyright” + Year
  • “SPDX-License-Identifier” + License

Propose

• Apply to TF-M code folders

/*
 * Copyright (c) 2017-2020, Arm Limited. All rights reserved.
 * SPDX-License-Identifier: BSD-3-Clause
 */
Project customized tools

Include order

Current status

• Scripts in CI for include order
• Expect:
  • Group order
  • Alphabetic order of headers

Propose

• Apply to TF-M code folders
• Tweak group orders for TFM specific
Project customized tools

Banned APIs

Current status

- Scripts in CI for banned APIs
- Expect no Security Sensitive APIs:
  - "strcpy"
  - "wcscpy"
  - "strncpy"
  - "strcat"
  - "vsprintf"
  - ...

Propose/Discussion

- Apply to TF-M code folders
- More APIs needs to add apart from the existing ones in the scripts?
Project customized tools

Line endings

Current status

• Scripts in CI for line endings
• Expect the unix style line ending

Propose/Discussion

• Unify the line endings
• Apply to the TFM repo
More topics related to static check?