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# TF-M openCI Static Check

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# 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](#)
- [Configs](#) in the CI
- Configs of Ignore

```
--ignore COMPLEX_MACRO
--ignore AVOID_EXTERNS
--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

```
#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`

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Customized tools

# Project customized tools

## Copyright

### Current status

- Scripts in CI for [copy right](#)
- Expect file header:
  - “Copyright” + Year
  - “SPDX-License-Identifier” + License

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

### Propose

- Apply to TF-M code folders



# 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"
  - "wcscopy"
  - "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

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More topics related to  
static check?



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