MISRA C Liaison Report

to ISO/IEC JTC1/SC22/WG14

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LDRA Limited, and
Chairman, MISRA C Working Group
Introduction

- The MISRA C Working Group presents this liaison report to WG14
- Although the Liaison Representative is unable to attend, the MISRA C Working Group is represented.
- This report summarises the activity within the MISRA C Working Group, and offers opinion on WG14 proposals.
The Team

The MISRA C Working Group has representation from:

- The UK
- Germany
- Italy
- Poland
- The USA

In addition the MISRA C Working Group has strong support from the MISRA Study Group in Japan.
Liaison

The MISRA C Working Group has formal liaison with:

- ISO/IEC JTC1/SC7/WG26  
  Software Testing (via BSI delegate)
- ISO/IEC JTC1/SC22/WG14  
  The C Language
- ISO/IEC JTC1/SC22/WG23  
  Language Vulnerabilities
MISRA C SitRep – Summary

Issued

- MISRA C:2012 (3rd Ed. 1st Rev) Published Feb 2019
- MISRA C:2012 Addendum 1 MISRA-C:2004 v MISRA C:2012
- MISRA C:2012 Addendum 2 (2nd Ed) Coverage against “C Secure”
- MISRA C:2012 Addendum 3 Coverage against “CERT-C”
- MISRA C:2012 Amendment 1 Additional security guidelines

Issued, but ongoing...

- Exemplar Suite In GitLab
MISRA C SitRep – Road Map

■ Work In Progress
  - MISRA C:2012 Amendment 2 Update for C11/C18 core functionality
  - MISRA C:2012 Amendment 3 Update for C11/C18 new functionality

■ Under Consideration
  - Coverage of Standard Library Enhance, esp. wrt hosted implem’s?
  - Coverage of ISO/IEC TR 24772 Produce coverage matrix?

Some work is jointly with MISRA C++ to ensure consistent approach!
MISRA Related Proposals

- **N2008 Pygott** enum Representation Type
  - Listed in SD3.
  - MISRA C are keen to see this progressed

- **N2112 Banks** Enumerating & Cross-referencing Annex J
  - Adopted... See N2427 for progress (thanks)

- **N2258 Banks** Proposal for “defensive” attribute
  - Further work on the proposal required, by MISRA C.
  - Hopefully can re-submit ahead of the Freiburg meeting
WG14 Proposals

- N2393  Gustedt  Make false and true first-class language features
  - MISRA C support the proposal
- N2394  Gustedt  Introduce the nullptr constant
  - MISRA C support the proposal
- N2408  Ballman  The [[fallthrough]] attribute
  - MISRA C support the proposal in principle
  - Question the need for a null statement though?
- N2410  Ballman  The [[noretturn]] attribute
  - MISRA C support the proposal
- N2411  Ballman  Querying attribute support
  - MISRA C support the proposal
WG14 Proposals

N2417  Gustedt   Modernize time.h functions v.2x

- MISRA C support the proposal in principle... And vote “Yes” except for:
  - Q5: No... Fixing the problem is trivial!
  - Q9, Q10, Q11, Q12, Q25: No

  o Better to add *buf* as an *optional* extra parameter to the base function (with default 0) rather than creating another function.
  o Can deprecate the non-use of the extra parameter?
WG14 Proposals

- N2419  Rytarowski  Add methods for setting and getting the thread
  - MISRA C support the proposal

- N2427  Gusted  change bullet points in annex J ...
  - MISRA C acknowledge the progress made. Thanks.
WG14 Proposals

- N2429    Gustedt    Function failure annotation
  - MISRA C support the proposal in principle

- N2430    Meneide    [[nodiscard("should have a reason")]]
  - MISRA C support the proposal

- N2432    Gustedt    Remove support for function defns with identifier lists
  - MISRA C support the proposal

- N2438    Stoughton  Realloc with size 0 ambiguity
  - MISRA C support the proposal in principle
  - MISRA C are of the view that all (x)alloc(0) functions should always return null and an error.