Release Notes for the MISRA-C:2004 Compliance Module M2CM-3.0-QAC-8.0

March 2011

Contents

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Overview

This release of M2CM uses a reworked Message System. A description of this is found in the M2CM-3.0-QAC-8.0-User_Guide, and is detailed in the message level mappings in this document.

The text of this release incorporates changes made in the MISRA-C2 Technical Corrigendum.

Implementation Changes

Rule	Rule Text	Notes
1.1	All code shall conform to ISO/IEC 9899:1990 C programming language, ISO 9899, amended and corrected by ISO/IEC 9899/COR1:1995, ISO/IEC 9899/AMD1:1995, and ISO/IEC 9899/COR2: 1996192	Messages 0401, 0609, 0611, 0612, 0614, 0639, 0647, 0715, 0739, 0828, 0857, 0858, 0859, 0875 removed. Messages 0232, 0233, 0244, 0261, 0321, 0322, 0338, 0426, 0427, 0429, 0430, 0431, 0432, 0435, 0436, 0437, 0446, 0447, 0448, 0449, 0450, 0451, 0452, 0453, 0454, 0456, 0457, 0458, 0466, 0467, 0468, 0469, 0476, 0477, 0478, 0481, 0482, 0483, 0484, 0485, 0486, 0487, 0493, 0494, 0495, 0496, 0513, 0514, 0515, 0536, 0537, 0540, 0541, 0542, 0546, 0550, 0554, 0555, 0556, 0557, 0558, 0559, 0560, 0561, 0562, 0563, 0564, 0565, 0580, 0588, 0589, 0590, 0591, 0605, 0616, 0619, 0620, 0621, 0622, 0629, 0631, 0638, 0640, 0641, 0642, 0643, 0644, 0645, 0646, 0649, 0650, 0651, 0653, 0655, 0656, 0657, 0659, 0664, 0665, 0671, 0673, 0674, 0675, 0677, 0682, 0683, 0684, 0685, 0690, 0698, 0699, 0708, 0709, 0736, 0737, 0738, 0746, 0747, 0755, 0756, 0757, 0758, 0766, 0767, 0768, 0774, 0775, 0801, 0802, 0803, 0804, 0811, 0812, 0821, 0834, 0835, 0844, 0845, 0851, 0852, 0866, 0873, 0877, 0940, 0941, 0943, 0944, 1023, 1024, 1025, 1033 Added. Messages 0547, 0627, 0628, 0635, 0831, 0850, 0856, 1011 Added silently.
1.2	No reliance shall be placed on undefined or unspecified behaviour.	Messages 0503, 0504, 0505, 0507, 0508, 0509, 0586, 3680 Removed. Messages 0914, 0915,2800, 2810, 2820, 2830, 2840, 2930 Added. Messages 0235, 0301, 0302, 0307, 0400, 0401, 0402, 0403, 0544, 0545, 0602, 0623, 0626, 0630, 0636, 0745, 0777, 0779, 0809, 0813, 0814, 0836, 0848, 0853, 0854, 0885, 0887, 0888, 1509, 1510, 3113, 3114, 3319 Added silently.
3.1	All usage of implementation-defined behaviour shall be documented.	Messages 0271, 0274, 0275, 0294, 0295 Removed. Messages 0581, 2850, 2851, 2852, 2853, 2855, 2856,

		2857, 2860, 2861, 2862, 2890, 2895 Added.
		Messages 0303, 0305, 0306, 0634 Added silently.
9.1	All automatic variables shall have been assigned a value before being used.	Messages 3321, 3347, 3348, 3349, 3353, 3354 removed. Messages 2883, 2961, 2962, 2971, 2972 added.
9.2	Braces shall be used to indicate and match the structure in the non-zero initialisation of arrays and structures.	Message 679 removed.
10.1	The value of an expression of integer type shall not be implicitly converted to a different underlying type if: a) it is not a conversion to a wider integer type of the same signedness, or b) the expression is complex, or c) the expression is not constant and is a function argument, or d) the expression is not constant and is a return expression	Message 3306 removed. Messages 2900, 4240, 4241, 4242, 4243, 4244, 4245 added.
11.4	A cast should not be performed between a pointer to object type and a different pointer to object type.	Messages 0316, 0317 added.
12.8	The right hand operand of a shift operator shall lie between zero and one less than the width in bits of the underlying type of the left hand operand.	Messages 0500, 0501 removed. Message 2790 added.
12.11	Evaluation of constant unsigned integer expressions should not lead to wrap-around.	Messages 3302, 3303, 3304 removed. Message 2910 added.
13.7	Boolean operations whose results are invariant shall not be permitted.	Messages 3355, 3356, 3357, 3358, 3359, 3360 removed. Messages 2990, 2991, 2992, 2993, 2994, 2995, 2996 added.
14.1	There shall be no unreachable code.	Messages 0689, 3201, 3325 removed. Messages 2744, 2880, 2882 added.
14.7	A function shall have a single point of exit at the end of the function.	Message 2006 removed. Message 2889 added.
14.9	An if (expression) construct shall be followed by a compound statement. The else keyword shall be followed by either a compound statement, or another if statement.	Messages 2212, 2214 made silent.
16.8	All exit paths from a function with non-void return type shall have an explicit return statement with an expression.	Message 0744 removed. Messages 2877, 2887, 2888 added.
17.2	Pointer subtraction shall only be applied to pointers that address elements of the same array.	Messages 2771, 2772 added.
17.3	>, >=, <, <= shall not be applied to pointer types except where they point to the same array.	Messages 2771, 2772 added silently.
17.5	The declaration of objects should contain no more than 2 levels of pointer indirection.	Message 5102 removed. Messages 3260, 3261, 3262, 3263 added.
18.2	An object shall not be assigned to an overlapping object.	Messages 2776, 2777 added.
21.1	Minimisation of run-time failures shall be ensured by the use of at least one of (a) static analysis tools/techniques; (b) dynamic analysis tools/techniques; (c) explicit coding of checks to handle run-time faults.	Messages 0272, 0273, 0290, 0291, 0296, 0297, 0585, 0587, 3372, 3382, 3685, 3689 removed. Messages 2791, 2792, 2801, 2802, 2811, 2812, 2821, 2822, 2831, 2832, 2841, 2842, 2871, 2872, 2891, 2892, 2896, 2897, 2901, 2902, 2911, 2912, 2931, 2932, 2980, 2981, 2982, 2983 added.