

MARTe2-core - Meeting #342

MARTe2 QA-audit (v0.17)

31.05.2018 10:18 - André Neto

Status:	Closed	Start date:	31.05.2018
Priority:	Normal	Due date:	
Assignee:	André Neto	% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:	v0.17	Spent time:	0.00 hour

Description

The v0.17 is dedicated to the release multi-buffer brokers and data sources.

Requirements review

Date of the review: 31/05/2018

Person who did the review: André Neto

Version of requirements: N/A

Result of review: N/A

List of non-conformities: N/A

Comments: No new requirements were added w.r.t. to v0.14.

Architecture & design review

Date of the review: 31/05/2018

Person who did the review: André Neto

Version of architecture & design document: N/A

Result of review: N/A

List of non-conformities: N/A

Comments: No updates related to the architecture.

Code and documentation review

Date of the review: 31/05/2018

Person who did the review: André Neto

Version of source code: 0.17

Result of review: PASS

List of non-conformities:

Note 974: Worst case function for stack usage: 'MARTe::ConfigurationDatabase::Copy' is recursive, loop contains call to 'MARTe::ConfigurationDatabase::Copy'. See +stack for a full report. [MISRA C++ Rule 7-5-4]

List of warnings reported by Doxygen:

documented symbol `DoubleInteger< T > MARTe::DoubleInteger< T >::operator &' was not declared or defined. Source/Core/BareMetal/L0Types/DoubleInteger.h

documented symbol `void MARTe::DoubleInteger< T >::operator &=' was not declared or defined. Core/BareMetal/L0Types/DoubleInteger.h

Member Inverse(Matrix< float64 > &inverse) const (function) of class MARTe::Matrix is not documented. Source/Core/BareMetal/L0Types/Matrix.h

documented symbol `ReferenceT< T > * MARTe::ReferenceT< T >::operator &' was not declared or defined. Source/Core/BareMetal/L2Objects/ReferenceT.h

The version of doxygen was updated on vcis to 1.8.14.

Remark

The documentation of DataSourceel has to be revisited.

Remark

The SquareRoot template methods for float32 and float64 need to be provided.

```
template<typename Type>
inline Type SquareRoot(const Type x) {
    Type tmp = x;
    if (tmp < (Type) 0) {
        REPORT_ERROR_STATIC_0(ErrorManagement::Warning, "SquareRoot<Type> of negative number");
        tmp *= -1;
    }
    return sqrt(tmp);
}
```

It is only valid for Type being float64. In case of float32, there would be an implicit casting to satisfy the sqrt method. Two implementations shall be provided to call sqrt and sqrtf, as appropriate

Remark

The following classes have non-virtual destructors. As long they are not base classes of any derived class, it is safe, but they need to be monitored (flexlint will check and signal this as error code 1509).

Matrix, Vector, GlobalObjectsDatabase, LoadableLibrary, MemoryArea, StaticListHolder, CharBuffer, AnyTypeCreator, LexicalAnalyzer, Token, TokenInfo, Directory, MutexSem, ThreadInformation.

Unit test review

Date of the review: 31/05/2018

Person who did the review: André Neto

Version of unit tests: 0.17

Result of coverage tests review: PASS

Result of functional tests review: PASS

Result of review: PASS

List of non-conformities:

LCOV report (files containing functions not executed at all):

Note: execute with

```
lcov -l Build/MARTE2.coverage.info
```

Filename	Lines	Functions	Branches
	Rate	Num	Rate Num
=====			

L1Portability/Environm...Linux/BasicConsole.cpp	79.4%	223	76.2%	42	-	0
L1Portability/FastResourceContainer.cpp	83.5%	97	71.4%	7	-	0
L1Portability/MemoryArea.cpp	91.2%	57	91.7%	12	-	0
L2Objects/ClassProperties.cpp	92.9%	28	87.5%	8	-	0
L2Objects/Introspection.cpp	73.3%	15	85.7%	7	-	0
L2Objects/IntrospectionEntry.cpp	88.3%	111	93.3%	15	-	0
L2Objects/Object.cpp	88.8%	250	96.8%	31	-	0
L5GAMs/GAM.cpp	98.0%	349	94.6%	37	-	0
ExceptionHandler.h	0.0%	2	0.0%	2	-	0

LCOV report (files containing functions with coverage < 90%):

Filename	Lines		Functions		Branches	
	Rate	Num	Rate	Num	Rate	Num
L1Portability/Environm...Linux/BasicConsole.cpp	79.4%	223	76.2%	42	-	0
L1Portability/Environment/Linux/Sleep.cpp	76.3%	93	100%	8	-	0
L1Portability/FastResourceContainer.cpp	83.5%	97	71.4%	7	-	0
L2Objects/ClassRegistryDatabase.cpp	81.9%	127	100%	15	-	0
L2Objects/Introspection.cpp	73.3%	15	85.7%	7	-	0
L2Objects/IntrospectionEntry.cpp	88.3%	111	93.3%	15	-	0
L2Objects/Object.cpp	88.8%	250	96.8%	31	-	0
L2Objects/ReferenceCon...erFilterReferences.cpp	84.6%	13	100%	5	-	0
L3Streams/BufferedStreamIOBuffer.cpp	86.0%	50	100%	8	-	0
L3Streams/DoubleBufferedStream.cpp	82.7%	110	84.0%	25	-	0
L3Streams/IOBufferFloatPrint.cpp	84.5%	464	100%	29	-	0
L3Streams/IOBufferIntegerPrint.cpp	85.2%	460	93.5%	93	-	0
L3Streams/SingleBufferedStream.cpp	84.1%	176	83.3%	24	-	0
L3Streams/StreamString.cpp	89.9%	149	88.9%	36	-	0
[/home/aneto/Projects/MARTE2-dev/Source/Core/FileSystem/L1Portability/Environment/Linux/]						
BasicFile.cpp	87.8%	278	93.9%	33	-	0
BasicTCPSocket.cpp	85.5%	234	100%	25	-	0
BasicUDPSocket.cpp	88.1%	118	95.7%	23	-	0
Directory.cpp	86.2%	80	100%	15	-	0
DirectoryScanner.cpp	88.0%	92	90.0%	10	-	0
[/home/aneto/Projects/MARTE2-dev/Source/Core/FileSystem/L6App/Environment/Linux/]						
Bootstrap.cpp	41.9%	31	60.0%	5	-	0
[/home/aneto/Projects/MARTE2-dev/Source/Core/Scheduler/L1Portability/]						
ExceptionHandler.h	0.0%	2	0.0%	2	-	0
[/home/aneto/Projects/MARTE2-dev/Source/Core/Scheduler/L5GAMs/]						
GAMScheduler.cpp	87.1%	132	100%	15	-	0
=====						
Total:		94.0%	19608	88.1%	7k	- 0

GTest report

```
[-----] Global test environment tear-down
[=====] 3960 tests from 151 test cases ran. (208611 ms total)
[ PASSED ] 3959 tests.
[ FAILED ] 1 tests, listed below:
[ FAILED ] IOBufferGTest.TestPrintStructuredDataInterface
```

Integration test review

Date of the review: 31/05/2018

Person who did the review: André Neto

Version of integration tests: 0.17

Result of review: N/A

List of non-conformities: N/A

Comments: Not performed.

Acceptance test review

Date of the review: 31/05/2018

Person who did the review: André Neto

Version of acceptance tests: 0.17

Result of review: N/A

List of non-conformities: N/A

Comments: Not performed.

Related issues:

copied to Meeting #347: MARTe2 QA-audit (v0.18)

Closed

31.05.2018

History

#1 - 31.05.2018 12:23 - André Neto

- *Description updated*

- *Status changed from New to Closed*

#2 - 05.09.2018 12:11 - André Neto

- *copied to Meeting #347: MARTe2 QA-audit (v0.18) added*