

## MARTe2-core - Meeting #331

### MARTe2 QA-audit (v0.14)

13.06.2017 10:30 - André Neto

<b>Status:</b>	Closed	<b>Start date:</b>	13.06.2017
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>		<b>% Done:</b>	0%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	0.14	<b>Spent time:</b>	0.00 hour

#### Description

With respect to v0.13 this version contains minor bug fixes and the addition of the CircularStaticList class.

## Requirements review

**Date of the review:** 13/06/2017

**Person who did the review:** André Neto

**Version of requirements:** 0.14

**Result of review:** N/A

**List of non-conformities:** N/A

**Comments:** This version only provides minor updates w.r.t. to v0.12.

## Architecture & design review

**Date of the review:** 13/06/2017

**Person who did the review:** André Neto

**Version of architecture & design document:** 0.14

**Result of review:** N/A

**List of non-conformities:** N/A

**Comments:** This version only provides minor updates w.r.t. to v0.12.

## Code and documentation review

**Date of the review:** 13/06/2017

**Person who did the review:** André Neto

**Version of source code:** 0.14

**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:**

```
/home/aneto/Projects/MARTE2-dev/Source/Core/FileSystem/L1Portability/Environment/Windows/BasicFile
Properties.h:44: Warning: Compound MARTE::BasicFileProperties is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/FileSystem/L1Portability/Environment/Linux/BasicFilePr
operties.h:42: Warning: Compound MARTE::BasicFileProperties is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/Scheduler/L4LoggerService/LoggerConsumerI.h:113: Warni
ng: Compound MARTE::LoggerConsumerI::FormatPreferences is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/FileSystem/L1Portability/Environment/Windows/InternetH
ost.cpp:50: Warning: Compound MARTE::LocalHostInfo is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/FileSystem/L1Portability/Environment/Linux/InternetHos
t.cpp:53: Warning: Compound MARTE::LocalHostInfo is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/Scheduler/L1Portability/Environment/Windows/MutexSem.c
pp:42: Warning: Compound MARTE::MutexSemProperties is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/Scheduler/L1Portability/Environment/Linux/MutexSem.c
pp:45: Warning: Compound MARTE::MutexSemProperties is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/FileSystem/L1Portability/Environment/Windows/SelectPro
perties.h:42: Warning: Compound MARTE::SetIdentifier is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/Scheduler/L1Portability/Environment/Windows/EventSem.c
pp:45: Warning: Compound MARTE::EventSemProperties is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/Scheduler/L1Portability/Environment/Linux/EventSem.c
pp:46: Warning: Compound MARTE::EventSemProperties is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L0Types/TemplateParametersVerificator.h:47:
Warning: Compound TemplateParametersVerificator< true > is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/Environment/Windows/BasicConso
le.cpp:43: Warning: Compound MARTE::BasicConsoleProperties is not documented.
/home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/Environment/Linux/BasicConso
le.cpp:49: Warning: Compound MARTE::BasicConsoleProperties is not documented.
```

*Disclaimer: These warnings are due a bug of Doxygen ([https://bugzilla.gnome.org/show\\_bug.cgi?id=406027](https://bugzilla.gnome.org/show_bug.cgi?id=406027)), fixed on version 1.8.10 (we use 1.6.1 on vcis-jenkins.f4e.europa.eu).*

#### **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:** 13/06/2017

**Person who did the review:** André Neto

Version of unit tests: 0.14

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  Rate	Num	Functions  Rate	Num	Branches  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
QueuedMessageI.cpp	95.9%	49	90.0%	10	-	0

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

Filename	Lines  Rate	Num	Functions  Rate	Num	Branches  Rate	Num
L1Portability/Environm...Linux/BasicConsole.cpp	79.4%	223	76.2%	42	-	0
L1Portability/Environment/Linux/Sleep.cpp	76.1%	92	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
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
File.cpp	71.4%	7	57.1%	7	-	0
EventSem.cpp	87.2%	141	100%	15	-	0
MutexSem.cpp	86.8%	121	100%	13	-	0
ExceptionHandler.h	0.0%	2	0.0%	2	-	0

GTest report

```
[-----] Global test environment tear-down
[=====] 3865 tests from 143 test cases ran. (211109 ms total)
[ PASSED ] 3864 tests.
[ FAILED ] 1 tests, listed below:
[ FAILED ] IOBufferGTest.TestPrintStructuredDataInterface
```

## Integration test review

**Date of the review:** 13/06/2017

**Person who did the review:** André Neto

**Version of integration tests:** 0.14

**Result of review:** N/A

**List of non-conformities:** N/A

**Comments:** Not performed.

## Acceptance test review

**Date of the review:** 13/06/2017

**Person who did the review:** André Neto

**Version of acceptance tests:** 0.14

**Result of review:** N/A

**List of non-conformities:** N/A

**Comments:** Not performed.

## History

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### #1 - 13.06.2017 12:20 - André Neto

- *Tracker changed from Design to Meeting*
- *Description updated*
- *Target version set to 0.14*

### #2 - 13.06.2017 14:37 - André Neto

- *Description updated*