

## MARTe2-core - User story #114

### MARTe-EX-D-1.3.1: The framework shall allow developers to protect shared resources using mutex semaphores.

29.05.2015 14:18 - André Neto

<b>Status:</b> Closed	<b>Start date:</b>
<b>Priority:</b> Normal	<b>Due date:</b>
<b>Assignee:</b>	<b>% Done:</b> 0%
<b>Category:</b>	<b>Estimated time:</b> 4.00 hours
<b>Target version:</b> 0.2	<b>Spent time:</b> 0.00 hour
<b>Git branch (link):</b>	<b>SVN commit (link/?p=rev):</b>
<b>Git merge to develop (link):</b>	

#### Description

Implement requirement MARTe-EX-D-1.3.1 based on the original MARTe implementation

Note: The development of multi-thread real-time applications usually requires the controlled and unique access to shared resources.

### Source code files modified

- Source/Core/L0Portability/MutexSem.cpp
- Source/Core/L0Portability/MutexSem.h
- Source/Core/L0Portability/OperatingSystem/Linux/MutexSemOS.h
- Source/Core/L0Portability/OperatingSystem/Windows/MutexSemOS.h
- Source/Core/L0Portability/SemCore.h
- Test/Core/L0Portability/MutexTest.cpp
- Test/Core/L0Portability/MutexTest.h
- Test/GTest/MutexGTest.cpp

### Architecture & design review

**Date of the review:** 12/06/2015

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

**Version of architecture & design document:** N/A. As per the original MARTe implementation, this is a support function and does not require formal design in UML.

**Result of review:** N/A

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

### Code and documentation review

**Date of the review:** 01/07/2015

**Person who did the review:** Ivan Herrero

**Result of review:** PASS

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

### Unit test review

**Date of the review:** 23/07/2015

**Person who did the review:** Ivan Herrero

**Result of coverage tests review:** PASS

**Result of functional tests review:** PASS

**Result of review:** PASS

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

Unit testing coverage note: Error paths not exercised

## Associated revisions

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### Revision d10f7c3c - 18.06.2015 10:32 - Giuseppe Ferrò

Added MutexSem implementation.  
#115 #117 #114

### Revision 16238ec2 - 22.06.2015 14:00 - Giuseppe Ferrò

Fixed semaphore files accordingly with revision.  
#115 #117 #119 #118 #114

### Revision cd81fb26 - 22.06.2015 14:02 - Giuseppe Ferrò

- Fixed semaphore files accordingly with revision.  
#115 #117 #119 #118 #114

### Revision 04e5ad39 - 26.06.2015 11:49 - Giuseppe Ferrò

Corrected code accordingly with revision.  
Added the possibility to get and set the recursive mutex.  
#114

### Revision 192c81cf - 26.06.2015 12:01 - Giuseppe Ferrò

Added MutexSem unit tests.  
Renamed previous tests as integration tests.  
#116 #115 #117 #114

### Revision b5bf0092 - 26.06.2015 12:07 - Giuseppe Ferrò

Added MutexSem integration GTest.  
#114

### Revision 1fe7f3c8 - 01.07.2015 08:53 - Giuseppe Ferrò

Fixed issues on mutex semaphores.  
#114

### Revision d85e9073 - 01.07.2015 12:19 - Giuseppe Ferro

Put PrivateSem classes inside the main classes.  
#114 #118

### Revision 84dcd972 - 01.07.2015 18:26 - André Neto

Corrected bug in MutexSemOS::Create() method. #114

The Linux implementation of MutexSemOS::Create() was returning false even when it was successfully created.

### Revision 08bae2b9 - 01.07.2015 18:27 - André Neto

MutexSem unit testing implementation ready for review #114.

Implemented the MutexSem unit testing accordingly to the agreed unit testing strategy.

### Revision ed690475 - 01.07.2015 18:44 - André Neto

Removed the MutexSemIntegration test from the Makefile. #114

### Revision bdae23d2 - 01.07.2015 18:46 - André Neto

Removed the MutexIntegrationTest from the Makefile. #114

**Revision cae1fc5c - 01.07.2015 18:50 - André Neto**

Removed MutexIntegrationGTest. #114

**Revision dd952031 - 01.07.2015 23:55 - André Neto**

Implementation of coding style. #114

**Revision c9bcd107 - 02.07.2015 10:21 - André Neto**

Addition of two new unit tests. #114

Two new unit tests were added to the MutexSem: Create and Close. These consider all the different possibilities of creating a semaphore.

**Revision 484e8ad6 - 10.07.2015 13:10 - Llorenc Capella**

US #114 MutexSemTests

List of changes: \* Improvement of the documentation and format the MutexSemTest.h  
MutexSemTest.cpp \* MutexSemGTest.cpp template addes.

**Revision 29b8a4d5 - 22.07.2015 08:27 - Giuseppe Ferro**

Since linux can support recursive and not recursive mode for mutexes, the flag recursive must be initialized.  
#114

**Revision a14f57d7 - 23.07.2015 14:20 - Ivan Herrero**

#114 - Minor formatting corrections (following template rules)

## History

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**#1 - 03.06.2015 11:11 - Riccardo Vitelli**

- Target version changed from Backlog to 0.1
- Start date deleted (29.05.2015)
- Estimated time set to 4.00 h

**#2 - 12.06.2015 10:31 - Riccardo Vitelli**

- Status changed from New to Arch: Rev

**#3 - 12.06.2015 11:15 - Riccardo Vitelli**

- Assignee set to André Neto

**#4 - 12.06.2015 18:30 - André Neto**

- Description updated

**#5 - 18.06.2015 09:37 - Ivan Herrero**

- Status changed from Arch: Rev to Code: Impl

**#6 - 18.06.2015 09:47 - Ivan Herrero**

- Assignee changed from André Neto to Giuseppe Ferro

**#7 - 18.06.2015 12:41 - Ivan Herrero**

- Assignee changed from Giuseppe Ferro to Ivan Herrero

**#8 - 18.06.2015 12:42 - Ivan Herrero**

- Status changed from Code: Impl to Code: Rev

**#9 - 18.06.2015 17:30 - Ivan Herrero**

- Description updated

**#10 - 18.06.2015 18:11 - Ivan Herrero**

- Description updated

- Assignee deleted (Ivan Herrero)

**#11 - 18.06.2015 18:15 - Ivan Herrero**

Code and documentation review failed. Code correction pending.

**#12 - 22.06.2015 12:56 - Ivan Herrero**

- Status changed from Code: Rev to Code: Impl

**#13 - 22.06.2015 17:31 - Riccardo Vitelli**

- Assignee set to Giuseppe Ferro

**#14 - 22.06.2015 17:33 - Riccardo Vitelli**

- Status changed from Code: Impl to Code: Rev

**#15 - 22.06.2015 17:34 - Riccardo Vitelli**

- Assignee changed from Giuseppe Ferro to Ivan Herrero

**#16 - 23.06.2015 12:35 - Ivan Herrero**

- Description updated

Code and documentation review failed on revision b99ba9f. Code and documentation corrections pending.

**#17 - 23.06.2015 18:06 - André Neto**

- Status changed from Code: Rev to Code: Impl

**#18 - 23.06.2015 18:06 - André Neto**

- Assignee changed from Ivan Herrero to Giuseppe Ferro

**#19 - 25.06.2015 17:18 - Riccardo Vitelli**

- Status changed from Code: Impl to Code: Rev

**#20 - 25.06.2015 17:20 - Riccardo Vitelli**

- Assignee deleted (Giuseppe Ferro)

**#21 - 25.06.2015 19:19 - Ivan Herrero**

- Description updated

Source/Core/L0Portability/OperatingSystem/Linux/MutexSemOS.h not corrected, yet.

**#22 - 25.06.2015 19:19 - Ivan Herrero**

- Status changed from Code: Rev to Code: Impl

**#23 - 26.06.2015 11:44 - Giuseppe Ferro**

- Assignee set to Giuseppe Ferro

**#24 - 29.06.2015 09:52 - Riccardo Vitelli**

- Status changed from Code: Impl to Code: Rev

**#25 - 29.06.2015 09:53 - Riccardo Vitelli**

- Assignee deleted (Giuseppe Ferro)

**#26 - 01.07.2015 11:19 - Ivan Herrero**

- Assignee set to Ivan Herrero

**#27 - 01.07.2015 12:25 - Ivan Herrero**

- Description updated

Code and documentation review made on revision 8b64124 [PASS].

**#28 - 01.07.2015 13:07 - Riccardo Vitelli**

- Status changed from Code: Rev to Unit: Impl

**#29 - 01.07.2015 13:07 - Riccardo Vitelli**

- Assignee deleted (Ivan Herrero)

**#30 - 01.07.2015 17:50 - André Neto**

- Assignee set to André Neto

**#31 - 02.07.2015 10:25 - Riccardo Vitelli**

- Status changed from Unit: Impl to Unit: Rev

- Assignee deleted (André Neto)

**#32 - 02.07.2015 12:37 - Ivan Herrero**

- Description updated

- Assignee set to Ivan Herrero

Unit test review made on revision 7fb5f4b [FAIL].

**#33 - 02.07.2015 12:41 - Riccardo Vitelli**

- Status changed from Unit: Rev to Unit: Impl

- Assignee deleted (Ivan Herrero)

**#34 - 02.07.2015 18:06 - Riccardo Vitelli**

- Target version changed from 0.1 to 0.2

**#35 - 10.07.2015 11:25 - Llorenc Capella**

- Assignee set to Llorenc Capella

**#36 - 15.07.2015 11:00 - Llorenc Capella**

- Status changed from Unit: Impl to Unit: Rev

**#37 - 15.07.2015 11:01 - Llorenc Capella**

- Assignee deleted (Llorenc Capella)

**#38 - 23.07.2015 11:54 - Ivan Herrero**

- Assignee set to Ivan Herrero

**#39 - 23.07.2015 14:26 - Ivan Herrero**

- Description updated

- Status changed from Unit: Rev to Closed

- Assignee deleted (Ivan Herrero)

Unit test review made on revision a14f57d.