

MARTe2-core - User story #607

Support more than 32 CPU cores (from FAT tools)

02.09.2020 09:47 - André Neto

| | | | |
|-------------------------------------|--------|----------------------------------|------------|
| Status: | Closed | Start date: | 02.09.2020 |
| Priority: | Normal | Due date: | |
| Assignee: | | % Done: | 0% |
| Category: | | Estimated time: | 0.00 hour |
| Target version: | | Spent time: | 0.00 hour |
| Git branch (link): | | SVN commit (link/?p=rev): | |
| Git merge to develop (link): | | | |

Description

DESCRIBE CHANGES TODO

General

Information

The following files were detected as changed between branches develop and master

.gitignore

AUTHORS

Docs/User/source/_static/examples/Core/ThreadsExample1.cpp

EclipseLcov.sh

MakeDefaults/Lint/marte_flint_files.lnt

Resources/QA/qahelpers.py

Resources/QA/qareporters.py

Resources/QA/qautils.py

Source/Core/BareMetal/L0Types/BitRange.h

Source/Core/BareMetal/L0Types/BitSet.cpp

Source/Core/BareMetal/L0Types/BitSet.h

Source/Core/BareMetal/L0Types/CompilerTypes.h

Source/Core/BareMetal/L0Types/Makefile.inc

Source/Core/BareMetal/L0Types/TypeCharacteristics.h

Source/Core/BareMetal/L1Portability/ProcessorType.cpp

Source/Core/BareMetal/L1Portability/ProcessorType.h

Source/Core/BareMetal/L5GAMs/DataSourceI.cpp

Source/Core/BareMetal/L5GAMs/DataSourceI.h

Source/Core/BareMetal/L5GAMs/GAMSchedulerI.cpp

Source/Core/BareMetal/L5GAMs/GAMSchedulerI.h

Source/Core/BareMetal/L5GAMs/MemoryMapSynchronisedInputBroker.cpp

Source/Core/BareMetal/L5GAMs/RealTimeThread.cpp

Source/Core/BareMetal/L5GAMs/RealTimeThread.h

Source/Core/Scheduler/L1Portability/Environment/Linux/MutexSem.cpp

Source/Core/Scheduler/L1Portability/Environment/Linux/Threads.cpp

Source/Core/Scheduler/L1Portability/Environment/Windows/Threads.cpp

Source/Core/Scheduler/L3Services/EmbeddedThread.cpp

Source/Core/Scheduler/L3Services/EmbeddedThreadI.cpp

Source/Core/Scheduler/L3Services/EmbeddedThreadI.h

Source/Core/Scheduler/L3Services/ThreadsInformationQuery.cpp

Source/Core/Scheduler/L5GAMs/MemoryMapAsyncOutputBroker.cpp

Source/Core/Scheduler/L5GAMs/MemoryMapAsyncTriggerOutputBroker.cpp

Test/Core/BareMetal/L0Types/BitSetTest.cpp

Test/Core/BareMetal/L0Types/BitSetTest.h

Test/Core/BareMetal/L0Types/Makefile.inc

Test/Core/BareMetal/L1Portability/ProcessorTypeTest.cpp

Test/Core/BareMetal/L1Portability/ProcessorTypeTest.h

Test/Core/BareMetal/L3Streams/IOBufferTest.cpp

Test/Core/BareMetal/L5GAMs/DataSourceITest.cpp

Test/Core/BareMetal/L5GAMs/DataSourceITest.h
Test/Core/BareMetal/L5GAMs/RealTimeThreadTest.cpp
Test/Core/BareMetal/L6App/LoaderTest.cpp
Test/GTest/BareMetal/L0Types/BitSetGTest.cpp
Test/GTest/BareMetal/L0Types/Makefile.inc
Test/GTest/BareMetal/L5GAMs/DataSourceIGTest.cpp

OK: no errors found.

Requirements review

Date of the review: 03/03/2021

Person who did the review: Andre Neto

Version of requirements:TODO

Result of review:TODO

List of non-conformities:TODO

Comments:TODO

Architecture & design review

Date of the review: 03/03/2021

Person who did the review: Andre Neto

Version of architecture & design document:TODO

Result of review:TODO

List of non-conformities:TODO

Comments:TODO

Code and documentation review

Date of the review: 03/03/2021

Person who did the review: Andre Neto

Version of source code: 2f3c6a7474cc8265a70e220717c9bfaec6181d1e

Result of review:TODO

List of non-conformities:

Run flexelint and reportTODO

Headers

ERR: Invalid #includes sorted in file Docs/User/source/_static/examples/Core/ThreadsExample1.cpp
ERR: Invalid #includes sorted in file Source/Core/BareMetal/L0Types/BitRange.h
ERR: Invalid #includes sorted in file Source/Core/BareMetal/L0Types/TypeCharacteristics.h
ERR: Invalid @author in file Source/Core/BareMetal/L1Portability/ProcessorType.cpp
ERR: Invalid #includes sorted in file Source/Core/BareMetal/L1Portability/ProcessorType.h
ERR: Invalid #includes sorted in file Source/Core/BareMetal/L5GAMs/GAMSchedulerr.h
ERR: Invalid #includes sorted in file Source/Core/BareMetal/L5GAMs/RealTimeThread.cpp
ERR: Invalid #includes sorted in file Source/Core/BareMetal/L5GAMs/RealTimeThread.h
ERR: Invalid #includes sorted in file Source/Core/Scheduler/L1Portability/Environment/Linux/MutexSem.cpp
ERR: Invalid @brief in file Source/Core/Scheduler/L1Portability/Environment/Linux/Threads.cpp
ERR: Invalid @brief in file Source/Core/Scheduler/L1Portability/Environment/Windows/Threads.cpp
ERR: Invalid @date in file Source/Core/Scheduler/L1Portability/Environment/Windows/Threads.cpp

ERR: Invalid @author in file Source/Core/Scheduler/L1Portability/Environment/Windows/Threads.cpp
ERR: Invalid #includes sorted in file Source/Core/Scheduler/L1Portability/Environment/Windows/Threads.cpp
ERR: Invalid #includes sorted in file Source/Core/Scheduler/L5GAMs/MemoryMapAsyncTriggerOutputBroker.cpp
ERR: Invalid #includes sorted in file Test/Core/BareMetal/L0Types/BitSetTest.h
ERR: Invalid #includes sorted in file Test/Core/BareMetal/L1Portability/ProcessorTypeTest.cpp
ERR: Invalid #includes sorted in file Test/Core/BareMetal/L3Streams/IOBufferTest.cpp
ERR: Invalid @brief in file Test/Core/BareMetal/L5GAMs/DataSourceTest.cpp
ERR: Invalid #includes sorted in file Test/GTest/BareMetal/L0Types/BitSetGTest.cpp
ERR: Invalid #includes sorted in file Test/GTest/BareMetal/L5GAMs/DataSourceIGTest.cpp

Lint includes

OK: All files are being included for linting
OK: no errors found.

Linter

ERR: 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]

Doxygen

ERR: warning: Tag `XML_SCHEMA' at line 1788 of file `Doxyfile' has become obsolete.
ERR: warning: Tag `XML_DTD' at line 1794 of file `Doxyfile' has become obsolete.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:52: warning: Unsupported xml/html tag <limits> found
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L4Configuration/RuntimeEvaluatorFunction.h:249: warning: explicit link request to 'functionRecord' could not be resolved
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:52: warning: Unsupported xml/html tag <limits> found
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/FastMath.h:472: warning: Member SquareRoot(const float32 x) (function) of namespace MARTe::FastMath is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/SafeMath.h:217: warning: Member IsEqual(float32 a1, float32 a2) (function) of namespace MARTe::SafeMath is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/SafeMath.h:225: warning: Member IsEqual(float64 a1, float64 a2) (function) of namespace MARTe::SafeMath is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/SafeMath.h:123: warning: explicit link request to 'Overflow' could not be resolved
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/SafeMath.h:123: warning: explicit link request to 'Underflow' could not be resolved
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/SafeMath.h:143: warning: explicit link request to 'Overflow' could not be resolved
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/SafeMath.h:143: warning: explicit link request to 'Underflow' could not be resolved
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/SafeMath.h:133: warning: explicit link request to 'Overflow' could not be resolved
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/SafeMath.h:133: warning: explicit link request to 'Underflow' could not be resolved
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:215: warning: Member Type2TypeDescriptor< int8 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:216: warning: Member Type2TypeDescriptor< int16 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:217: warning: Member Type2TypeDescriptor< int32 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:218: warning: Member Type2TypeDescriptor< int64 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:219: warning: Member Type2TypeDescriptor< uint8 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:220: warning: Member Type2TypeDescriptor< uint16 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:221: warning: Member Type2TypeDescriptor< uint32 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:222: warning: Member Type2TypeDescriptor< uint64 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:223: warning: Member Type2TypeDescriptor< float32 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTe2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:224: warning: Member

Type2TypeDescriptor< float64 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L4Configuration/RuntimeEvaluatorFunction.h:249: warning: explicit link request to 'functionRecord' could not be resolved
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:52: warning: Unsupported xml/html tag <limits> found
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:215: warning: Member Type2TypeDescriptor< int8 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:216: warning: Member Type2TypeDescriptor< int16 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:217: warning: Member Type2TypeDescriptor< int32 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:218: warning: Member Type2TypeDescriptor< int64 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:219: warning: Member Type2TypeDescriptor< uint8 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:220: warning: Member Type2TypeDescriptor< uint16 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:221: warning: Member Type2TypeDescriptor< uint32 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:222: warning: Member Type2TypeDescriptor< uint64 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:223: warning: Member Type2TypeDescriptor< float32 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/TypeDescriptor.h:224: warning: Member Type2TypeDescriptor< float64 >() (function) of namespace MARTe is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L4Configuration/RuntimeEvaluatorFunction.h:249: warning: explicit link request to 'functionRecord' could not be resolved
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L4Configuration/RuntimeEvaluatorFunction.h:249: warning: explicit link request to 'functionRecord' could not be resolved
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L4Configuration/RuntimeEvaluatorFunction.h:253: warning: explicit link request to 'functionRecord' could not be resolved
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L3Streams/GrammarInfo.h:130: warning: Member spare⁶⁴ (variable) of class MARTe::GrammarInfo is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L4Configuration/LexicalAnalyzer.h:102: warning: Member LexicalAnalyzer(Streaml &stream, const char8 *const terminalsIn, const char8 *const separatorsIn, const char8 *const oneLineCommentBeginIn, const char8 *const multipleLineCommentBeginIn, const char8 *const multipleLineCommentEndIn, const char8 *const keywordsIn) (function) of class MARTe::LexicalAnalyzer is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L4Configuration/MathExpressionParser.h:291: warning: explicit link request to 'stackMachineExpression' could not be resolved
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L4Configuration/RuntimeEvaluator.h:391: warning: argument 'RPNCode' of command @param is not found in the argument list of MARTe::RuntimeEvaluator::RuntimeEvaluator(StreamString RPNCodeIn)
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L4Configuration/RuntimeEvaluator.h:394: warning: The following parameters of MARTe::RuntimeEvaluator::RuntimeEvaluator(StreamString RPNCodeIn) are not documented:
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:52: warning: Unsupported xml/html tag <limits> found
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:215: warning: Member MinValue() (function) of class MARTe::TypeCharacteristics is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:220: warning: Member MinValue() (function) of class MARTe::TypeCharacteristics is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:52: warning: Unsupported xml/html tag <limits> found
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L1Portability/FastMath.h:472: warning: Member SquareRoot(const float32 x) (function) of namespace MARTe::FastMath is not documented.
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:52: warning: Unsupported xml/html tag <limits> found
ERR: /home/aneto/Projects/MARTE2-dev/Source/Core/BareMetal/L0Types/TypeCharacteristics.h:52: warning: Unsupported xml/html tag <limits> found

Unit test review

Date of the review: 03/03/2021

Person who did the review: Andre Neto

Version of source code: 2f3c6a7474cc8265a70e220717c9bfaec6181d1e

Result of coverage tests review:TODO

Result of functional tests review:TODO

Result of review:TODO

Comments:TODO

List of non-conformities:

Functional tests

ERR: BitRange:GetNumberOfBits is not tested
ERR: TypeCharacteristics:One is not tested
ERR: ProcessorType:CPUEnabled is not tested
ERR: ProcessorType:GetCPUsNumber is not tested
ERR: ProcessorType:GetLegacyUint32Mask is not tested
ERR: ProcessorType:SetDefaultCPUs is not tested
ERR: DataSource:AllocateMemory is not tested
ERR: DataSource:GetBrokerName is not tested
ERR: DataSource:GetFunctionSignalName is not tested
ERR: DataSource:GetSignalMemoryBuffer is not tested
ERR: DataSource:Purge is not tested
ERR: GAMScheduler!:Initialise is not tested
ERR: GAMScheduler!:Purge is not tested
ERR: GAMScheduler!:StartNextStateExecution is not tested
ERR: GAMScheduler!:StopCurrentStateExecution is not tested
ERR: RealTimeThread:Purge is not tested
ERR: EmbeddedThread!:States is not tested
ERR: EmbeddedThread!:ThreadLoop is not tested

GTest

WARN: Number of errors has not changed (but there are still errors). Number of tests: 4766. Current branch: 3. Reference branch: 3

OK: Number of tests increased. Current branch: 4766. Reference branch: 4751

Unsolved Failing Tests

ERR: TestGetThreadInfoCopy
ERR: TestPriority
ERR: TestHttpExchange_Authorization_FalseTimeout

New Failing Tests

Solved Failing Tests

Coverage

ERR: MutexSem.cpp: insufficient line coverage: (85.8 % < 90.0 %). Reference branch (86.8 % < 90.0 %)
WARN: L3Streams/BufferedStreamIOBuffer.cpp: was modified. line coverage is still OK (but has decreased). This branch (96.8 % >= 90.0 %). Reference branch (98.4 % >= 90.0 %)
WARN: LoggerService.cpp: was modified. line coverage is still OK (but has decreased). This branch (96.4 % >= 90.0 %). Reference branch (97.6 % >= 90.0 %)
WARN: MemoryMapAsyncOutputBroker.cpp: was modified. line coverage is still OK (but has decreased). This branch (93.9 % >= 90.0 %). Reference branch (95.7 % >= 90.0 %)
OK: L0Types/BitSet.cpp: is new. Line coverage is OK: (98.0 % >= 90.0 %)
OK: L5GAMs/GAMScheduler!.h: is new. Line coverage is OK: (100.0 % >= 90.0 %)
OK: L5GAMs/RealTimeThread.cpp: was modified. line coverage is still OK. This branch (92.9 % >= 90.0 %). Reference branch (92.8 % >= 90.0 %)
OK: EmbeddedThread!.cpp: was modified. line coverage is still OK. This branch (98.1 % >= 90.0 %). Reference branch (98.0 % >= 90.0 %)

Integration test review

Date of the review: 03/03/2021

Person who did the review: Andre Neto

Version of source code: 2f3c6a7474cc8265a70e220717c9bfaec6181d1e

Result of review: N/A

List of non-conformities: N/A

Comments: N/A

Acceptance test review

Date of the review: 03/03/2021

Person who did the review: Andre Neto

Version of source code: 2f3c6a7474cc8265a70e220717c9bfaec6181d1e

Result of review: N/A

List of non-conformities: N/A

Comments: N/A

History

#1 - 02.09.2020 09:59 - André Neto

- Subject changed from *Support more than 32 CPU cores (ECH driven)* to *Support more than 32 CPU cores (from FAT tools)*

#2 - 03.02.2021 08:28 - André Neto

- Status changed from *New* to *Code: Impl*

#3 - 03.02.2021 08:29 - André Neto

- Assignee set to *Martino Ferrari*

#4 - 03.02.2021 16:57 - Martino Ferrari

The current implementation uses a 32bit bitmask limiting the max number of processors to 32, should we increase the size of the bitmask or change completely the philosophy?

#5 - 04.02.2021 09:50 - Martino Ferrari

The solution chose by Giuseppe F. is to use a UINT64 instead of UINT32 to increase the max number of Processors to 64.

#6 - 18.02.2021 18:39 - André Neto

- Status changed from *Code: Impl* to *Blocked*

#7 - 18.02.2021 18:40 - André Neto

- Description updated

- Assignee changed from *Martino Ferrari* to *André Neto*

#8 - 18.02.2021 18:40 - André Neto

- Assignee deleted (*André Neto*)

#9 - 24.02.2021 09:35 - André Neto

- Status changed from *Blocked* to *Code: Impl*

#10 - 24.02.2021 09:35 - André Neto

- Assignee set to *Martino Ferrari*

#11 - 03.03.2021 09:18 - André Neto

- Status changed from *Code: Impl* to *Unit: Impl*

#12 - 03.03.2021 09:18 - André Neto

- Assignee changed from *Martino Ferrari* to *André Neto*

#13 - 03.03.2021 12:55 - André Neto

- Description updated

#14 - 03.03.2021 12:56 - André Neto

Merged in commint 2f3c6a7

#15 - 03.03.2021 12:56 - André Neto

- Assignee deleted (*André Neto*)

- Status changed from *Unit: Impl* to *Closed*