RTI Monitoring Library

Release Notes

Version 5.1.0

Your systems. Working as one.

Printed in U.S.A. First printing.
December 2013.

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Release Notes

1 Supported Platforms

RTI® Monitoring Library is supported on all the platforms listed in the *RTI Connext™ Core Libraries and Utilities Release Notes* for 5.1.0 (exception: the VxWorks 6.7 and 6.8 custom platforms that use JamaicaVM 6.2.1 are not supported).

2 Compatibility

Monitoring Library is compatible with *RTI Monitor*, *RTI Connext*, and *RTI Shapes Demo* with the same version number.

3 What's New in 5.1.0

3.1 New Platforms

This release adds support for all the new platforms in *Connext* 5.1.0 (exception: the VxWorks 6.7 and 6.8 custom platforms that use JamaicaVM 6.2.1 are not supported). For the list of new platforms, please see the *RTI Core Libraries and Utilities What's New* document.

3.2 Monitoring Library Consumes Less Memory

The default QoS settings for *Monitoring Library's* DataWriters have been modified to reduce the baseline memory footprint.

In an application creating one *DomainParticipant* and one *DataReader*, *Monitoring Library* consumes approximately 50% less memory. The reduction is even greater for applications that create more than one monitoring-enabled *DomainParticipant*.

3.3 Ability to Publish More Properties in PropertyQosPolicy

Previously, *Monitoring Library* could only publish a maximum of 32 properties in an entity's PropertyQosPolicy. This limit has been changed to 64. Beyond that limit, *Monitoring Library* will fail to publish the entity description topic.

4 What's Fixed in 5.1.0

4.1 Possible Segmentation Fault from Connext Applications using Monitoring Library

A *Connext DDS* application using the monitoring library may have issued a segmentation fault. Although this error could have occurred on any platform, it has only been observed on Windows 64-bit platforms when using the debug version of the *Connext DDS* libraries. This problem also affected infrastructure services (such as *RTI Routing Service*, *RTI Persistence Service*, or *RTI Recording Service*) when monitoring was enabled.

[RTI Issue ID MONITOR-130]

4.2 Negative Values Reported for total_memory_bytes and physical_memory_bytes

The **total_memory_bytes** and **physical_memory_bytes** for large applications may have been reported as negative values. This problem has been resolved; the type of these fields has been changed from an unsigned long to an unsigned long long in order to accommodate large applications.

[RTI Issue ID MONITOR-137]

4.3 Monitoring Library Topics are Interoperable with Future Versions

Before this release, changes to the monitoring topics broke previous subscribing applications, such as *RTI Monitor*. Newer applications could not receive monitoring data from older versions of *Monitoring Library*.

From this version forward, changes to these topics maintain interoperability: existing subscribers receive the monitoring information they understand and new subscribers receive old monitoring data (new fields get a default value).

Note: Compatibility with 5.0.0 is not preserved. However, this change ensures backwards compatibility of future versions with 5.1.0.

[RTI Issue ID MONITOR-140]

5 Known Issues

5.1 Problems with NDDS_Transport_Support_set_builtin_transport_property() if Participant Sends Monitoring Data

If a *Connext* application uses the **NDDS_Transport_Support-_set_builtin_transport_property()** API (instead of using the PropertyQosPolicy) to set built-in transport properties, it will not work with *Monitoring Library* if the user participant is used for sending all the monitoring data (the default settings). As a workaround, you can configure *Monitoring Library* to use another participant to publish monitoring data (using the property name **rti.monitor.config.new_participant_domain_id** in the PropertyQosPolicy).

5.2 Participant's CPU and Memory Statistics are Per Application

The CPU and memory usage statistics published in the *DomainParticipant* entity statistics topic are per application instead of per *DomainParticipant*.

5.3 XML-Based Entity Creation Nominally Incompatible with Static Monitoring Library

If setting the DomainParticipant QoS programmatically in the application is not possible (i.e., when using XML-based Application Creation), the monitoring **create** function pointer may still be provided via an XML profile by using the environment variable expansion functionality. The monitoring property within the DomainParticipant QoS profile in XML must be set as follows:

```
<participant_qos>
    <property>
        <value>
            <element>
                <name>rti.monitor.library</name>
                <value>timonitoring</value>
            </element>
            <element>
                <name>rti.monitor.create_function_ptr</name>
                <value>$(MONITORFUNC)</value>
            </element>
        </value>
    </property>
</participant_qos>
```

Then in the application, before retrieving the DomainParticipantFactory, the environment variable must be set programmatically as follows:

```
...
sprintf(varString, "MONITORFUNC=%p", RTIDefaultMonitor_create);
int retVal = putenv(varString);
...
//DomainParticipantFactory must be created after env. variable setting
```

[RTI Issue ID CORE-5540]