

## Product Release Notice

### RTX64 3.3

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#### General Availability Release Date

October 26, 2017

#### Product Overview

RTX64 3.3 is the latest 64-bit version of IntervalZero's market-leading hard real-time software products. This release provides a number of new features, usability improvements and resolved issues. RTX64 3.3 can be downloaded [here](#).

#### Release Highlights

- Multiple Vector Interrupt support for MSI-X capable devices.
- The ability to adjust the number of counts that make up the HAL timer period.

#### Features and Resolved Issues

RTX64 3.3 includes new functionality and resolves a number of previously reported issues. See the product Release Notes for a full list of new features and resolved issues.

#### Subsystem

- Resolves issues regarding interrupt codes within the Subsystem: (5502)
  - Multiple vector types that were not unique could attach to the wrong interrupt object.
  - For sharing the same line-based IRQ, if the interrupt affinity mask of the 2nd call of RtAttachInterrupt was not the same as the first one, the second call will error out.
- Resolves an issue regarding Thread IDs (TIDs) not being logged in Windows Event Viewer following an application crash. (5541)

- Resolves an issue regarding the Subsystem crashing on reboot when a Thread Time Quantum was the same value as the HAL Timer Period. (5995)

## Tools and Utilities

- The Activation and Configuration utility now allows for activating product components using a fingerprint file even when the machine is connected to the Internet. (4441)
- Resolves an issue regarding RtssRun misrepresenting the processor affinity mask value in its error messaging. (5366)
- Resolves an issue regarding RtssRun not giving an error message when an invalid processor number is provided. (5367)
- Resolves an issue regarding RtssRun reporting "file not found" when provided a correct relative pathname to an RTSS application. (5369)

## SDK Headers and Libraries

- Expands existing and adds new Real-time functions to support Multiple Vector Interrupts (1575):
  - Adds a new AttachVersion type, ATTACH\_MESSAGE\_BASED\_MULTI\_VECTOR, to the structure ATTACH\_INTERRUPT\_PARAMETERS used by RtAttachInterrupt, which allows the user to attach to message-based multiple vector interrupts.
  - RtGetPciMsixFreeMessages returns a PCI device's MSI-X free messages (the MSI-X table entries available for attaching messages).
  - RtQueryProcessorVectorFreeCount queries the number of RTSS processor vectors (Interrupt Descriptor Table vectors) currently available for attaching interrupts.
- Adds a new Real-time function, RtOpenThread, which opens an existing thread object and returns a handle to that thread object. (4667)
- Adds new Real-time functions RtGetHalTimerPeriodCounts and RtSetHalTimerPeriodCounts for Clock Adjustment. Allowing the setting and retrieving of the APIC counts that make up the RTX64 HAL timer period. (5702)
- Adds a new Real-time function, RtGetThreadStack, that retrieves the thread stack parameters for an existing thread object. (1639)
- Adds support for the C Runtime library call strttime. (5424)
- Resolves an issue regarding file content being overwritten when fopen is used to open a file in append mode. (5951, 5745)

- Resolves an issue regarding RtWaitForSingleObject and RtWaitForMultipleObjects not working correctly when given timeout values above  $2^{32} / 10000$  (429496) milliseconds. (5346)
- Resolves an issue regarding the header file Rtapi.h contained an invalid ASCII character. (6072, 6036)

## SDK Sample and Driver Source

- Adds a new sample, MultiVectorI350, which provides an example of using Message Signaled Interrupts (MSI-X) with multiple vector attachment on Intel Ethernet Controller I350 with Dual or Quad ports. (1575)
- Resolves an issue regarding the source project for the RtRtl8168 driver missing several header files needed to build. (5627)

## Installation

- Improves the uninstall process to avoid scenarios where an uninstall could be recorded even when the uninstall attempt fails. (5582)
- Resolves an issue regarding renaming files in the RTX64/bin directory (commonly C:\Program Files\IntervalZero\RTX64\bin) causes Windows to attempt to repair the RTX64 installation. (4323)
- Resolves an issue regarding the RTX64 SDK installer not installing the Visual Studio 2017 extension RTX64VSSupport.vsix on machines where Visual Studio 2017 Community Edition was installed. (5606, 6095)

## Activation & Licensing

The IntervalZero product licensing system allows for flexibility in how features are activated and deployed. Please [click here](#) for an overview of IntervalZero product licensing.

For additional information on deployment, please refer to the *[RTX64 Deployment Guide](#)*.

## Availability

RTX64 3.3 is available beginning October 26, 2017 through Partners and by contacting Sales: [sales@intervalzero.com](mailto:sales@intervalzero.com) or (781) 996-4481. We look forward to any comments and feedback. If you have any recommendations, or wish to suggest any product enhancements, please contact Product Management at: [productmanagement@intervalzero.com](mailto:productmanagement@intervalzero.com).