IntervalZero

Product Release Notice

RTX64 3.1

General Availability Release Date

March 17, 2017

Product Overview

RTX64 3.1 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 3.1 can be downloaded here.

Release Highlights

- Improves Subsystem performance by a range of 16%-33%, depending on a system's cache architecture.
- Adds Visual Studio 2017 Support.
- Local Debugger Attach Support for Real-time applications in Visual Studio 2015 and 2017.

Features and Resolved Issues

RTX64 3.1 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 an issue regarding the RTX64 loader not loading the RT-TCP/IP Stack modules when the calls into rttcpip.lib are done in an RTDLL and not the main process. (5328)
- Resolves issues regarding the Subsystem sometimes hanging on machines with more than 32 cores. (5300)

- Resolves performance issues resulting when context switching between threads was done in a multi-core environment. (5206)
- Resolves intermittent memory allocation errors that occur when the Subsystem is installed on NUMA-enabled systems running Windows 10. (5426)
- Resolves an issue regarding real-time function RtWaitForSingleObject returning *Unknown error 259*. (5447)

Tools and Utilities

- Improves and resolves these issues with monitoring and Tracealyzer:
    - Improves monitoring event capture to gather information about processes running before monitoring starts. (5043)
    - Resolves issues regarding Tracealyzer incorrectly displaying time gaps in some monitoring session output. (5263, 5311)
    - Resolves an issue regarding an exception occurring when a shared filter was used in the Tracealyzer's User Event Signal Plot view. (5178)
    - Resolves an issue regarding Tracealyzer's Event Log view erroneously displaying Thread Context Switch events that are not included in the session data. (5040)
    - Resolves a color mismatch in Tracealyzer's Kernel Service Call Intensity view. (5002)
    - Resolves an issue regarding non-selected custom event triggers being deleted when the Monitor utility was closed. (4196)
- Improvements in the RTX64 Analyzer:
    - Output now contains a listing of the installed versions of .NET. (5284)
    - Output now contains a listing of the RTX64 Managed Code DLLs in the Global Assembly Cache (GAC). (5284)
    - Output now contains the contents of internal Registry keys and values. (5285)
    - Resolves an issue regarding the output file not including a file extension on German language Operating Systems. (5057)
- Resolves an issue regarding Ksrtm.exe not working when the total number of Windows and RTSS cores are greater than 32. (5241)
- Resolves an issue with the Control Panel regarding the *Location* and *Device* properties for a network interface not being editable. (5209)

RT-TCP/IP Stack and Drivers

- Resolves an issue regarding the RT-TCP/IP Stack sending out a fragmented IP packet with the wrong length in the UDP header when sendto or send was called on a UDP socket with data length larger than 65,527 bytes (the maximum allowed data payload over UDP). (5401)
- Resolves an issue regarding the Rt10GB NIC driver not reporting link speed and duplex correctly when RtndRequest was called. (5342)

SDK

- Adds new Real-Time Network functions:
    - RtnAttachProcessExitHandler registers an application's networking exit handler to allow an RTSS application to perform custom code cleanup when an application exits.
    - RtnReleaseProcessExitHandler removes an application's networking exit handler registered by the function RtnAttachProcessExitHandler. (5355)
- Adds support for additional synchronization Interlocked functions in real-time applications.
- Adds a new Real-Time API, RtIsDebuggerPresent, which determines whether a local real-time process is attached to the IntervalZero Real-Time Debugger. (5417)
- Adds support for C Runtime functions required by currently-supported functions such as errno and ferror.

Application Development and Debugging

- Allows the Visual Studio 2015 and 2017 debuggers to attach to a running RTSS process on the local machine.
- Adds support for Intel Compiler 17.0.1 (as shipped with Intel Parallel Studio XE 2017 Update 1). (5317)
- Adds a new debugging property in Visual Studio 2015 an 2017 that allows you to allocate memory from the Windows memory pool, which uses non-deterministically allocated memory. (4257)
- Resolves an issue regarding attempts to debug a RTDLL that fail with an error on a breakpoint. (5402)
- Resolves a blue screen issue that occurs when repeatedly loading and freeing multiple RTDLLs in parallel while debugging. (5266)

Installation

- Resolves an issue regarding the RTX64 Visual Studio project wizards VSIX packages not being installed if Visual Studio was not already installed on the machine. (5192)
- Resolves an issue regarding .swidtag files being installed in two different locations. (5128)
- Resolves an issue regarding cached IntervalZero MSI files not being removed during uninstall. (5126)
- Adds support for installing and activating RTX64 on machines running Windows 10 IoT Enterprise with a Windows IoT deferred activation. (5344)

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 3.1 is available beginning March 17, 2017 through Partners and by contacting Sales: 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.