IntervalZero

Product Release Notice

RTX64 3.6

General Availability Release Date

February 8, 2019

Product Overview

RTX64 3.6 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. Once it has been released RTX64 3.6 can be downloaded from here.

Key Features

RTX64 3.6 contains a number of key new features described below. To see a full list of all new features, and a detailed list of issues resolved, please refer to the product release notes.

General

- Adds support for Windows 10 October Feature Update version 1809 and Long Term Servicing Channel (LTSC) version 2019. (7507)

Configuration

- Adds a Subsystem validation feature that validates the RTSS boot configuration and warns when changes to the RTSS boot configuration will cause conflicts with existing ideal processor and affinity mask assignments. (7250)

Tools and Utilities

- Includes the latest Percepio Tracealyzer diagnostic tool version 4, which includes:

    o Redesigned UI with added docking support for windows/views.

    o A welcome page with a list of recent sessions.

- Improvements to Trace View to support common functionality in both vertical and horizontal views.

  - Support for intervals and state machines.

  - Query-based Finder window.

  - The ability for Tracealyzer to display application pathnames for Windows proxy processes. (5414)

- Makes usability improvements to Subsystem monitoring and the Monitor utility:

  - Adds support for monitor session files (.monx). (5465)

  - Changes the open session dialog to open a file (.monx, .mev) rather than a folder. (7492)

  - Adds functionality to the Monitor utility and Control Panel that allows you to check all or clear all events. (6275, 7575)

  - Adds functionality to the Monitor utility that allows you to pause a monitoring session. The Control Panel displays a *Monitoring paused* status when the current session is in a paused state. (7479, 7480)

- Adds new monitoring events:

  - Watchdog Reset – represents an instance where a watchdog timer reset occurs on certain cores. (6967)

  - Heap Re-Allocate – represents a successful call to real-time API HeapReAlloc. (6552)

  - Thread Open – represents the instance a real-time thread is opened. (5914)

  - CLOS Set – represents a change in Class of Service (CLOS) of a thread. (6807)

- Adds functionality that allows you to toggle inclusion of network-related events in a monitoring session. This can either be done on a persistent level, through the Control Panel, or on a transient (per session) level, through the Monitor utility. (2798,7567)

Application Development

- Added support for Visual Studio 2017 version 15.9. (7652)

SDK Headers and Libraries

- Increases the maximum number of objects supported by RtWaitForMultipleObjects from 16 to 64. (7371)

- Adds new Real-Time functions and enumerations to support enabling/disabling of monitor event generation by product component (2798).

- Adds new Real-Time functions and structures to support setting event types and custom event types as triggers to start monitoring.

- Adds new Real-Time function, RtMonitorChangeState, which allows you to transition between monitoring states.

- Adds a new Real-Time function RtMonitorSetEvents, which enables or disables a collection of events during a monitoring session.

- Adds constants to Real-Time enumeration RTX64_MONITOR_CONTROL_OP:

  - MONITOR_CONTROL_ENABLE_COMPONENTS – transiently toggles generation of monitoring events by one or more RTX64 product components.

  - MONITOR_CONTROL_GET_ENABLED_COMPONENTS – retrieves the transient configuration of RTX64 product components that currently have monitoring event generation enabled.

  - MONITOR_CONTROL_PAUSE – pauses collection of monitoring events during the current session without having to create a new session file.

  - MONITOR_CONTROL_RESUME – resumes the monitoring session from a Paused state.

- Adds support for new monitoring events and features added in this release. (5914, 6552, 6967, 6807, 5465, 2798)

- Adds a new method SetWindowsAndRtssProcessorsRequested to class IntervalZero.RTX64.Config.Subsystem, which atomically sets the requested number of Windows and RTSS processors. (7573)

Issues Resolved

Installation

- Resolves an issue where some RTX64 services were missing after an upgrade. (7295)

- Resolves an issue where the RTX64 Merge Module driver binaries were not attestation signed. (7635)

- Resolves an issue where the RTX64 Task Manager would not open following an upgrade. (7675)

Activation and Configuration

- Resolves an issue were the RTX64 services would sometimes fail to start on a reboot when unable to properly query Windows Management Instrumentation (WMI). (7116)

RT-TCP/IP Stack and Drivers

- Resolves an issue where the RT-TCP/IP Stack timed-out when enabling third party drivers that had been built with older versions of RTX64. (7568)

Tools and Utilities

- Resolves an issue where the Monitor Utility and Control Panel would incorrectly display Monitoring Status as *Disabled* when Monitoring was enabled but the Subsystem was stopped. (5374)

- Resolves an issue where the Restart option was enabled on Subsystem-specific and RT-TCP/IP Stack-specific Control Panel pages when those components were in the process of restarting. (7350)

- Resolves an issue where pressing the Enter key during a search in the Control Panel would open the first page in the list of search results. (7377)

- Resolves an issue where the Activation and Configuration utility did not work correctly with previous versions of RTX64, reporting error *unable to load DLL RtUtility.dll*. (7472)

- Resolves an issue where the RTX64ActivationUtil.exe command line utility did not validate affinity mask or ideal processor assignments when RTSS processors were changed. (7736)

- Resolves an issue where the Activation and Configuration utility displayed third party applications that were no longer installed. (7204)

- Resolves an issue where RTX64Server sometimes crashed due to licensing issues. (6544)

Application Development

- Resolves an issue where threads that didn't support Thread-Local Storage (TLS) were being added to the list of TLS threads. In some instances, this resulted in a Green Screen on shutdown. (7579)

- Resolves an issue where a Thread Local Storage (TLS) handle could lock an RT-TCP/IP Stack or Network Abstraction Layer (NAL) process. (7563)

SDK

- Resolves an issue where Real-Time function RtEnumProcessModules didn't set a last error value. (7237)

- Resolves an issue where RtfwSetProcessorConfiguration did not validate the requested number of RTSS processors didn't exceed the number of licensed RTSS processors. (6703)

Samples

- Resolves an issue where running the MulticoreResponseTimeMeasurements (mSRTM) Sample with /p resulted in an access violation error. (6782)

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 3.6 is available beginning February 8, 2019 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.