

Product Release Notice

RTX 2016

General Availability Release Date

March 11, 2016

Product Overview

IntervalZero announces RTX 2016, our 32-bit market-leading hard real-time software. This release provides a number of new features and resolves a number of issues. This release can be downloaded [here](#).

Release Highlights

- Added support for smaller form factor dongles that can hold license files. With this new dongle, it is no longer a requirement to import a license. This is done automatically.
- Added Visual Studio 2015 and Visual Studio 2013 build and debug support.
- Removed support for Windows XP and Vista Operating Systems along with Shared configuration support.

Key Features

Activation and Configuration

- Added support for smaller form factor dongles that can hold license files.
- Added a *-silent* switch to RtxActivationGUI.exe, which prevents all dialogs from being displayed. (2390)

Subsystem

- Added support for running the RTSS Subsystem on a Virtual Hard Drive (VHD). (1975)

Tools and Utilities

- Added an optional `/info` switch to StampTool, which can be specified before a file path to display information about the binary.

SDK

- Added Visual Studio 2015 and Visual Studio 2013 build and debug support, including:
 - Visual Studio templates for creating a RTX Application and RTDLL.
 - Support for statically linked Debug and Release versions of the Microsoft Visual Studio C Runtime.
 - Added Snippets for some key RTAPI function calls.
 - Added debugging support through launch.
 - Added support for Start Without Debugging within the Visual Studio debugger.
 - Added support for launching a RTSS process on a remote target system for debugging.
 - Added new debugging properties to application Property Pages in Visual Studio. You can:
 - Choose to override default subsystem behavior to allocate memory from the RTX local memory pool, which uses deterministically allocated memory.
 - Set the ideal processor on which the main thread of the debugged process will run.
 - Set the affinity mask that specifies the processor(s) on which the debugged process will run.
- Added support for SetFilePointerEx. (2449)
- Added new API functions that:
 - List the serial number for each dongle connected to the machine. (2081)
 - Retrieve information about licenses installed on the system. (2081)
 - Verify whether a specified RTX Runtime or RT-TCP/IP Stack version is installed and licensed. (2081)
 - Return whether the provided RTSS application binary can be run, which means it has been built to run with the provided license feature and that there is a valid license for the feature on the system.
- Added custom error codes that can be returned by Real-Time APIs.
- Added support for these C-Runtime functions:
 - `_beginthread`, `_beginthreadex`
 - `_endthread`, `_endthreadex`

Resolved Issues

RTX 2016 includes the following updates:

Installation

- Resolved an issue where the RTX installer would display an error and roll back following installation of .NET 4.0. (2003)
- Resolved an issue which required RTX to be re-activated following a modify of the install or following a full re-install. (1859)

Activation and Configuration

- Resolved an issue where the RTX licensing system would not start on RAID systems, which prohibited the Subsystem from starting. (2289)
- Ensured that an appropriate error message appears when RTX is licensed to an IntervalZero-provided dongle and that dongle is removed from the machine. (1956)
- Resolved various display issues with the Activation and Configuration dialog. (1865, 1933)
- Resolved an issue where a license key included an extra space when it was copied and then pasted into the Activation and Configuration dialog. (1897)
- Resolved an issue where the Activation and Configuration dialog was truncated on Japanese versions of Windows 7. (1889)
- Improved the error messages returned by RtxActivationGUI.exe and RtxActivationUtil.exe to be more accurate. (1704)
- Resolved an issue where the serial number of the connected dongle did not appear when the cursor hovered over the dongle icon in the Activation and Configuration dialog. (1697)
- Resolved an issue where a license was erroneously reported as *expired* when its corresponding dongle was disconnected from the machine. (1667)
- Ensured that RTXActivationGUI.exe provides positive confirmation when processors are configured successfully. (2344)

Subsystem

- Resolved an issue where the RtssRun affinity mask setting did not override the default Ideal Processor. (2286)
- Resolved inconsistent behavior with shutdown handling on systems using non-VGA video drivers. (1848)
- Resolved a significant time difference between GetSystemTimeAsFileTime and RtGetRtssTimeAsFileTime. (2532)

RT-TCP/IP Stack and Drivers

- Resolved an issue where freeaddrinfo crashed when getaddrinfo was called with the AI_CANONNAME flag. (2188)
- Ensured Jumbo packet support for the Rt82580 and Rt8257x Network Interface Cards (NICs). (1947, 1948)
- Resolved an issue where an inconsequential message appeared when the RT-TCP/IP Stack was initialized for the RtIGB driver. (1941)
- Resolved an issue where the RT-TCP/IP Stack produced error output when in non-Verbose mode. (1281)

Tools and Utilities

- Ensured that RtssRun does not allow the `/y` parameter to be used with the parameter `/b` (create boot-time process), since a boot-time process cannot be a dynamic process. (1001)
- Removed support for the RtssRun parameter `/t`, which could previously be used to test registration by loading and unloading a RTDLL. This is no longer needed. (1043)
- Resolved an issue where the RT-TCP/IP Stack would start at boot time when the Subsystem was configured to do the same, even when the Stack was disabled in the RTX Properties control panel. (2181)
- Resolved an issue where the RTSS Object Viewer displayed a Stack size of 0 (zero) while in compact view. (1959)
- Resolved an issue where RtssRun would not find RTSS files if the pathname included a "." and the .rtss extension was not included. (1854)

Application Development

- Resolved an issue where if the RTX Application Wizards for both RTX and RTX64 were installed on the system, the wizard that was installed first would be the one launched. (2177)
- Resolved an issue where if a binary contained a `tls-dir` that was not NULL, RTX dereferenced it, which caused an exception. (2101)

Debugging

- Resolved an issue where the Subsystem could not be stopped after an active debug session ended. (2198)

SDK

- Resolved an issue where a crash occurred when RegCreateKeyEx was called in a RTSS application with parameter *lpdwDisposition* set to NULL. (2111)
- Resolved an issue where RtCreateProcess could sometimes cause a system hang. (2107)
- Resolved an issue where RtkCreateEvent failed intermittently. (1890)
- Resolved an issue where calls to RtAttachInterrupt intermittently resulted in a crash. (1634)
- Resolved an issue where the function Select would return an incorrect error or cause an exception when it was passed an empty *fd* set, or an *fd* set with invalid sockets. (1355)
- Resolved an issue where the Managed Code library displayed an invalid error code upon license failure. (1224)
- Added support for SetFilePointerEx, which resolved an issue where the function ftell was not working properly. (2380)

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, refer to the *RTX Deployment Guide* located on the [IntervalZero Website](#).

Availability

RTX 2016 is available beginning March 11, 2016 through Partners and by contacting Sales: sales@intervalzero.com or (781) 996-4481. Downloads can also be found [here](#).

This release is provided as an updated version of the full product. It will remove any previous RTX versions found on the system.

Feedback

We look forward to comments and feedback. If you have any recommendations or wish to suggest any product enhancements, please contact Product Management at: productmanagement@intervalzero.com.