IntervalZero

Product Release Notice

Update 4 for RTX64 3.7

General Availability Release Date

February 26, 2021

Product Overview

Update 4 for RTX64 3.7 is the latest update to the 64-bit version of IntervalZero's market-leading hard real-time RTX64 3.7 software product. This is a cumulative update that contains all of the fixes included in Update 1, Update 2 and Update 3 for RTX64 3.7.

As previously announced Microsoft is ending the ability to cross-sign drivers. Cross-signing of drivers is required by any Windows 64-bit OS prior to Windows 10. If a driver is not signed, Windows 7, 8 or 8.1 will not trust the driver and, as a result, will not load it. **This will effectively make Update 4 the last update to RTX64 3.7 for Windows 7, Windows 8, and Windows 8.1.**

New Features and Issues Resolved

- Improves the performance of RTSS-to-Windows communication on Windows 10 Feature Update Version 2004 and above. (9804)
- Resolves an issue where FPU/SSE/PT states on the Intel® Celeron G3900E processor were not properly saved and restored on a thread context switch. (9707)
- Resolves an issue where running RtTcpipServer, RtTcpipClient, and stopping server with another client would cause RT-TCP/IP Stack heap corruption. (9699)
- Resolves an issue where function RtGetProcessIdealProcessor failed with last error ERROR_ INVALID_HANDLE under the RTSS configuration when it contained an invalid process handle. (9672)
- Resolves an issue where RtIsAppRunnable returned an unexpected error when given invalid parameters in a Windows build configuration. (9669)

- Resolves an issue where HeapAlloc did not honor the HEAP_ZERO_MEMORY_FLAG. (9663)
- Resolves build errors with STL code in Visual Studio 2019 version 16.6.x (9662)
- Resolves an issue where RtGetDongle sometimes failed when used in a 32bit Windows binary. (9661)
- Resolves an issue where the Monitor utility incorrectly converted event timestamps. (9659)
- Resolves an issue where RegQueryValueEx returned garbage data when called within a MultiByte project. (9655)
- Resolves an issue where RtCreateSharedMemory crashed when the asking size was larger than the existing shared memory region size. (9654)
- Resolved an issue where multiple threads using TLS could cause the RTX64 Subsystem to hang. (9653)
- Resolves an issue where a Blue Screen resulted when parameter lpApplicationName in Realtime function RtCreateProcess was set to a path name that contained spaces surrounding double-quotation marks. (9650)
- Resolves an issue where Real-time API RtGetModuleFileNameEx did not return full path. (9649)
- Resolves an issue where RTX64 could not be run on VMware Workstation 15.x. (9648)
- Resolves an issue where attempts to start the RTX64 Subsystem on a VirtualBox 6.1.2 virtual machine would result in a Blue Screen. (9657)
- Resolves an issue where a NIC would sometimes fail to initialize properly after its IP addresses were added and removed. (9373)
- Resolves and issue where having more than 12 IP addresses for an interface would cause the Stack to throw an exception. (9372)

New Features and Issues Resolved from update 3

- Adds support for Windows 10 Feature Update Version 2004 (Windows 10 June 2020 Update). (9474, 9501)
- Improves interrupt latencies caused by too many concurrent SMIs (System Management Interrupts) generated by the UEFI BIOS and other software. (9495)

- Resolves EEPROM checksum errors with the RtI10GB driver.
- Resolves an issue where incorrect values were read from the PCI config space for the CheckForNetworkCard routine in the RtI10GB and RtIPCH drivers. (9497, 9447, 9448)
- Resolves an issue with the RtI10GB driver which contained an invalid check for receive events in the Interrupt Service Thread (IST). (9502)
- Resolves build errors that resulted when building applications containing C++ STL (Standard Template Library) classes in Visual Studio 2019 version 16.6. (9487)

Resolved Issues from update 2

- Upgrades the RT-TCP/IP Stack to Treck version 6.0.1.66 to resolve reported security vulnerabilities. (9208)

Resolved Issues from Update 1

- Resolves an issue where the Subsystem would sometimes hang on startup under stress conditions.
- Resolves an issue where attempts to start a process or create a thread with a Stack size greater than ~1 MB failed when using Windows memory. (8624)
- Resolves an issue where RTSS applications that include a call to the WriteFile API would crash. (8606)
- Resolves an issue where the Subsystem could cause a Blue Screen during a normal Windows shutdown when multiple real-time processes were active. (8524)
- Resolves an issue where the RTX64 Runtime caused a Blue Screen on VMware virtual machines running Windows 10 Update Version 1803 and later. (8276)
- Resolves an issue where RTSSDebug applications that contained WCHAR variables would sometimes cause Visual Studio 2019 and 2017 to crash. (8532)
- Resolves an issue where static 8-bit arrays caused the IntervalZero Real-Time Debugger to freeze in Visual Studio 2019. (8566)
- Resolves an issue where the Step Into feature in Visual Studio did not function correctly in certain scenarios. (8584)

Activation & Licensing

Update 3 for RTX64 3.7 requires RTX64 3.7 to already be installed and licensed. 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

Update 4 for RTX64 3.7 is available beginning February 26, 2021 through Partners and by contacting Sales: sales@intervalzero.com.

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