IntervalZero

Product Release Notice

RTX 2012

Release Date

Product Released for General Availability on July 9, 2012.

Product Overview

IntervalZero announces the latest version of our market-leading hard real-time software – RTX 2012. Symmetric multiprocessing-enabled RTX transforms Windows into a real-time operating system (RTOS).

RTX 2012 is supported on Windows 7, up through SP1, including Windows Embedded Standard 7, up through SP1; Windows Vista, up through SP2; Windows XP SP3; and Windows Embedded Standard 2009.

Release highlights:

- A new product licensing system has been implemented for RTX 2012 and will be used for all subsequent RTX releases. The new licensing system allows for much greater flexibility with both license activation and system deployment.

  Please note that the existing product licensing system and license activation processes will remain in effect for all prior versions of RTX.

Two short videos on the RTX 2012 licensing system and the license activation processes can be viewed at www.intervalzero.com/rtx-product-activation.

- RTX 2012 includes a system-wide debugger that is more fully integrated into Visual Studio. Developers can set their debug context by launching and attaching to multiple RTSS and Windows processes within one Visual Studio instance. A debug context can consist of one or more processes, with multiple threads spread out across multiple processors, running locally or on a remote system.

- Use of the full debugging capability of Visual Studio gives developers more control of and visibility into their applications' behavior, allowing for complex applications to be more easily understood and debugged.

- Windows User Groups are provided in RTX 2012. This functionality allows for more security granularity regarding the functionality a Windows user is allowed to access or modify within the RTX Subsystem.

IntervalZero RTX is a key component of the RTX RTOS Platform that comprises x86 multicore multiprocessors, the Windows operating system, and real-time Ethernet (e.g. EtherCAT or PROFINET) to outperform real-time hardware such as DSPs and MCUs and radically reduce the development costs for systems that require determinism or hard real-time.

Leading OEMs worldwide use the RTX RTOS Platform to achieve system development cost reductions of 25 to 50%, as well as breakthroughs in throughput and yields, in production quality, and in a more compact physical footprint.

New Features and Updates

RTX 2012 includes the following new features and updates:

- Activation of the product has been separated from the installation, allowing for more flexibly with licensing and deployment
- Protection of the RTX 2012 Software Development Kit (SDK) through a post build stamping tool that stamps processes with RTX licensing information
- RTX Properties API RtcplGetLicenseInfo has been added to allow for the gathering of licensing information
- Support for an RT API function to get version information: RtGetVersionEx
- System-wide debugger that allows for:
    - launching a process for debugging in Visual Studio
    - attaching to multiple running RTSS or Windows process from Visual Studio
    - debugging locally and remotely, using Visual Studio Remote Debug Monitoring instead of custom transports
    - Support for the following types of breakpoints:
        - function breakpoints which cause the program to break when execution reaches a specified location within a specified function
        - file breakpoints which cause the program to break when execution reaches a specified location within a specified file
        - address breakpoints which cause the program to break when execution reaches a specified memory address
        - data breakpoints which cause the program to break when the value of a variable changes
- Windows User Groups are now used instead of the Account Control Override Service to allow for more control:

    - RTXDebuggers have *full* access to all RTX resources, and also have the ability to debug RTSS applications.
    - RTXAdministrators have *full* access to all RTX resources, but cannot debug RTSS applications.
    - RTXUsers have *read* access to all RTX resources and can perform the following operations:
        - Execute RTSS applications
        - Terminate RTSS processes
        - Register boot-time applications
        - Examine product configuration state
        - Enumerate and examine subsystem objects via the Object Viewer
- The function RtCreateProcess now supports the structure STARTUPINFOEXE, and three new API functions were added to support this new structure:
    - RtInitializeProcThreadAttributeList
    - RtUpdateProcThreadAttributeList
    - RtDeleteProcThreadAttributeList
- The Win32 API function OutputDebugString is now support
- RtssArp utility has been updated to support an infinite Time To Live (TTL) value (RTX-623)
- Added Real-time Network API to create permanent ARP entries, RtnAddArp and RtnDeleteArp
- SDK API Documentation has been updated to include required header and library information

Fixes

- Functionality Updates from RTX 2011 with Service Pack 1 Update 1 and Update 2
    - Link Status monitoring within the RT-TCP/IP Stack and RTX network drivers (RTX-1)
    - Select call can now monitors up to 64 sockets as required by Winsock 2.0(RTX-44)
    - Readfile now sets EOF correctly (RTX-20)
    - Added additional Real-Time Network API calls
        - RtnIsDeviceOnline
        - RtnIsStackOnline
- Silent installation now correctly handle DT_ICON and SM_ICON flags (RTX-18)
- Resolved issue of RTKWaitForSingleObject periodically returns WAIT_FAILED (RTX-94)
- Removed maximum socket limit of 255 within the RT-TCP/IP Stack (RTX-64)

- Added support for function lstrlen (RTX-43)
- TimeView now provides accurate profiling information (RTX-456, RTX-451, RTX-455)
- Resolved an issue within the RTX Properties control panel where changes to RtTcpip.ini file path were not updated correctly (RTX-36)
- Resolved a race condition with shared memory cleanup causing a Windows STOP message (RTX-98)

Activation & Licensing

The new licensing system introduced in RTX 2012 allows for more flexibility in how features are activated and deployed.

For an overview of the RTX 2012 licensing please see the following videos at www.intervalzero.com/rtx-product-activation. For additional information on deployment refer to our RTX deployment guide www.intervalzero.com/support/useful-documentation.

It is important to reiterate that the existing product licensing system will remain in effect for all prior versions of RTX.

Availability

RTX 2012 is available beginning July 9, 2012 through Partners and by contacting Sales: sales@intervalzero.com or (781) 996- 4481.

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