

RELEASE AND UPGRADE NOTES

LabVIEW™ Real-Time Module

Version 2013

This document provides system requirements, installation instructions, descriptions of new features, and information about upgrade and compatibility issues for the LabVIEW 2013 Real-Time Module.

Refer to the *Getting Started with the LabVIEW Real-Time Module* manual for exercises you can complete to familiarize yourself with the Real-Time Module.



Tip Refer to the **Real-Time Module Best Practices** book in the *LabVIEW Help* for programming recommendations on designing, developing, and deploying applications with the LabVIEW Real-Time Module. Select **Real-Time Module» Real-Time Module Best Practices** on the **Contents** tab of the *LabVIEW Help* to display this book.

Contents

System Requirements	2
Installing the LabVIEW 2013 Real-Time Module	2
Activating the Real-Time Module	3
Configuring Real-Time Targets.....	3
New Features	3
Support for NI Linux Real-Time Targets	3
Enhanced Example VIs	4
Performance Improvements for Advanced Format HDDs on ETS Targets	4
Ethernet Driver MSI Support	4
Networking Improvements on ETS Targets with Multiple Network Cards.....	4
NI Real-Time Execution Trace Toolkit.....	4
Activating the NI Real-Time Execution Trace Toolkit	5
Upgrade and Compatibility Issues.....	5
Known Issues with the Real-Time Module	5
Where to Go from Here	5
Related Documentation and Examples.....	5
NI Web Site	6
Support.....	6

System Requirements

The following section describes the system requirements to run the LabVIEW 2013 Real-Time Module. In addition to the LabVIEW system requirements listed in the *LabVIEW Readme*, the Real-Time Module has the following requirements:

- LabVIEW 2013 Full or Professional Development System (32-bit)
- At least 200 MB of disk space in addition to the LabVIEW-recommended minimum.
- RT target hardware and driver software.
- One of the following operating systems for application development:
 - Windows 8 (32-bit)
 - Windows 8 (64-bit with 32-bit LabVIEW installed)
 - Windows 7 (32-bit)
 - Windows 7 (64-bit with 32-bit LabVIEW installed)
 - Windows Server 2003 R2 (32-bit)
 - Windows Server 2008 R2 (64-bit with 32-bit LabVIEW installed)
 - Windows Vista (32-bit)
 - Windows Vista (64-bit with 32-bit LabVIEW installed)
 - Windows XP Pro (Service Pack 3)



Note You might need more memory than the LabVIEW-recommended minimum depending on the size of the application you design in LabVIEW on the host computer.

Installing the LabVIEW 2013 Real-Time Module

Complete the following steps to install LabVIEW and the Real-Time Module on a development computer:

1. Log in to the development computer as an administrator or as a user with administrative privileges.
2. Insert the LabVIEW 2013 Platform DVD 1.



Note To request additional LabVIEW 2013 Platform DVDs, refer to the National Instruments website. If you purchased this product with an NI Software Suite or NI Product Bundle, use the installation media that shipped with your purchase to install this product.

3. Follow the instructions on the screen to install and activate the following software:
 - LabVIEW
 - Real-Time Module
 - (Optional) PID and Fuzzy Logic Toolkit—Use the Real-Time Module serial number to activate this toolkit.
 - Device Drivers



Note Refer to your hardware-specific documentation for information about installing the appropriate device drivers.

Activating the Real-Time Module

The Real-Time Module relies on licensing activation. When the evaluation period expires, you must activate a valid Real-Time Module license to continue using the Real-Time Module. You must create an ni.com User Profile to activate your software.

You can use the NI License Manager, available by selecting **Start»All Programs»National Instruments»NI License Manager**, to activate National Instruments products. **(Windows 8)** Click **NI Launcher** and select **NI License Manager** in the window that appears.

Refer to the *National Instruments License Manager Help*, available by selecting **Help»Contents** in the NI License Manager, for information about activating NI products.

Configuring Real-Time Targets

Use Measurement & Automation Explorer (MAX) to configure RT targets and to install software and drivers on targets. You can install MAX from the LabVIEW Platform DVD.

- **Networked RT Targets**—Refer to the **MAX Remote Systems Help** book in the *Measurement & Automation Explorer Help*, available by selecting **Help»MAX Help** from MAX, for information about configuring networked RT targets.
- **Desktop PC Targets**—Refer to the *Using Desktop PCs as RT Targets with the LabVIEW Real-Time Module* document for information about configuring a desktop PC as a networked RT target. Open the `labview\manuals` directory and double-click `RT_Using_PC_as_RT_Target.pdf` to open the document.



Note When NI Web-based Configuration & Monitoring is installed on an RT target, you can use a web browser to perform common monitoring and configuration tasks on the target. Refer to the **Fundamentals»Working with Projects and Targets»How-To»Monitoring and Configuring a Remote Device from a Web Browser** topic on the **Contents** tab in the *LabVIEW Help* for information about NI Web-based Configuration & Monitoring.

New Features

The LabVIEW 2013 Real-Time Module includes the following new features. Refer to the *LabVIEW Help*, available by selecting **Help»LabVIEW Help**, for more information about these features.

Support for NI Linux Real-Time Targets

The LabVIEW 2013 Real-Time Module adds support for targets running the NI Linux Real-Time operating system. Refer to the **Real-Time Module»Real-Time Operating Systems»Real-Time Module on NI Linux Real-Time Targets** topic on the **Contents** tab in the *LabVIEW Help* for information about NI Linux Real-Time targets.

Enhanced Example VIs

Use the NI Example Finder, available by selecting **Help»Find Examples** from LabVIEW, to find new or enhanced RT examples in the **Toolkits and Modules»Real-Time** directory.

Performance Improvements for Advanced Format HDDs on ETS Targets

The LabVIEW 2013 Real-Time Module includes performance improvements for Advanced Format HDDs on ETS targets. To take advantage of these improvements, such as increased write speed, you must reformat your hard drive partition.

Ethernet Driver MSI Support

The LabVIEW 2013 Real-Time Module includes support for message signaled interrupt (MSI) on Intel 1000e Ethernet drivers and on Intel 8254 Ethernet drivers for Intel 8257 devices.

Networking Improvements on ETS Targets with Multiple Network Cards

The LabVIEW 2013 Real-Time Module adds the following features to ETS targets:

- DHCP/AutoIP on secondary network cards
- Support for multiple network cards on the same network subnet
- Dynamic network reconfiguration based on network card link state
- Extended feedback of network device status on target screens and consoles

NI Real-Time Execution Trace Toolkit

The LabVIEW Real-Time Module includes a 30-day evaluation of the Real-Time Execution Trace Toolkit. The Real-Time Execution Trace Toolkit includes the Real-Time Execution Trace Tool and the Execution Trace Tool VIs. You can use the Execution Trace Tool VIs to capture the timing and execution data of VI and thread events for applications running on an RT target. The Real-Time Execution Trace Tool displays the timing and event data, or trace session, on the host computer. In LabVIEW, select **Tools»Real-Time Module»Execution Trace Toolkit** to display the Real-Time Execution Trace Tool.

Refer to the **Real-Time Execution Trace Toolkit** book in the *LabVIEW Help* for information about using the Real-Time Execution Trace Toolkit to debug real-time applications. Select **Help»LabVIEW Help** to display the *LabVIEW Help*. In the *LabVIEW Help*, browse to **Toolkits»Real-Time Execution Trace Toolkit** to view the **Real-Time Execution Trace Toolkit** book.

Activating the NI Real-Time Execution Trace Toolkit

The Real-Time Execution Trace Toolkit relies on licensing activation. You have a temporary license for a 30-day evaluation period. When the evaluation period expires, you must activate a valid Real-Time Execution Trace Toolkit license to continue using the Real-Time Execution Trace Toolkit. You can use the NI License Manager to activate the Real-Time Execution Trace Toolkit.

Upgrade and Compatibility Issues

You might encounter compatibility issues when upgrading to the LabVIEW 2013 Real-Time Module from the LabVIEW 2012 Real-Time Module. Refer to previous versions of the *LabVIEW Real-Time Module Release and Upgrade Notes*, available on ni.com/manuals, for changes in previous versions of the Real-Time Module.

NI Linux Real-Time Targets

Certain conventions on ETS and VxWorks targets, such as the file transfer mechanism and directory structure, do not apply on NI Linux Real-Time targets.

Refer to the **Real-Time Module»Real-Time Operating Systems»Real-Time Module on NI Linux Real-Time Targets** topic on the **Contents** tab in the *LabVIEW Help* for information about NI Linux Real-Time targets.

Known Issues with the Real-Time Module

Refer to the National Instruments website at ni.com/info and enter the Info Code LVRT2013KIL to access the known issues for the LabVIEW 2013 Real-Time Module.

Where to Go from Here

National Instruments provides many resources to help you succeed with your NI products. Use the following resources as you start exploring LabVIEW and the Real-Time Module.

Related Documentation and Examples

Use the following resources to learn more about using LabVIEW and the Real-Time Module:

- **LabVIEW Help**—Available by selecting **Help»LabVIEW Help** in LabVIEW. Browse the **Real-Time Module** book in the **Contents** tab for an overview of the Real-Time Module.
- **Context Help Window**—Available by selecting **Help»Show Context Help**. Context help provides brief descriptions of VIs, functions, and dialog boxes. Context help for most VIs and functions include a link to the complete reference for a VI or function.

- **Hardware-Specific Documentation**—Some RT targets provide printed documentation as well as content in the *LabVIEW Help*. Use the hardware documentation for information about using the RT target with LabVIEW and for information about hardware specifications.
- **Examples**—Use the NI Example Finder, available by selecting **Help»Find Examples** from LabVIEW, to browse or search for RT example VIs. You also can access example VIs from the `labview\examples\Real-Time Module` directory.

NI Web Site

Refer to ni.com/info and enter the Info Code `rtinfo` for the latest NI Developer Zone articles, examples, and support information for the Real-Time Module.

Refer to ni.com/info and enter the Info Code `rttrn` to access online training for the Real-Time Module.

Support

The National Instruments website is your complete resource for technical support. At ni.com/support you have access to everything from troubleshooting and application development self-help resources to email and phone assistance from NI Application Engineers.

National Instruments corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504. National Instruments also has offices located around the world to help address your support needs. For telephone support in the United States, create your service request at ni.com/support and follow the calling instructions or dial 512 795 8248. For telephone support outside the United States, visit the Worldwide Offices section of ni.com/niglobal to access the branch office websites, which provide up-to-date contact information, support phone numbers, email addresses, and current events.

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