

# LabVIEW™ Real-Time Module Release and Upgrade Notes

## Version 2011

This document provides system requirements, installation instructions, descriptions of new features, and information about upgrade and compatibility issues for the LabVIEW 2011 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 Real-Time Module 2011 .....	2
Activating the Real-Time Module .....	3
Configuring Real-Time Targets.....	3
Real-Time Module 2011 Features .....	3
Deploying Stand-Alone Applications from outside of the LabVIEW Development Environment .....	3
Enhancements to Configuring EPICS Server I/O Servers.....	4
EPICS Client I/O Servers Support.....	4
New VIs .....	4
Real-Time Execution Trace Toolkit .....	4
Activating the Real-Time Execution Trace Toolkit .....	4
Upgrade and Compatibility Issues.....	5
Known Issues with the Real-Time Module 2011 .....	5
Where to Go from Here .....	5
Related Documentation and Examples .....	5
NI Web Site .....	6
Support.....	6

# System Requirements

Table 1 describes the system requirements to run the LabVIEW 2011 Real-Time Module. The Real-Time Module system requirements are in addition to the LabVIEW system requirements listed in the *LabVIEW Release Notes*.

**Table 1.** System Requirements for the Real-Time Module 2011

Supported Platform	Media and System Requirements	Important Notes
<ul style="list-style-type: none"><li>Windows 7</li><li>Windows Server 2003 R2 (32-bit)</li><li>Windows Server 2008 R2 (64-bit with 32-bit LabVIEW installed)</li><li>Windows Vista (32-bit)</li><li>Windows Vista (64-bit with 32-bit LabVIEW installed)</li><li>Windows XP Pro (Service Pack 2 or 3)</li></ul>	<ul style="list-style-type: none"><li>LabVIEW 2011 Full or Professional Development System (32-bit)</li><li>At least 200 MB of disk space in addition to the LabVIEW-recommended minimum.</li><li>RT target hardware and driver software</li></ul>	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 Real-Time Module 2011

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 Platform DVD 1.



**Note** To request additional LabVIEW 2011 Platform DVDs, refer to the National Instruments Web site. 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
  - PID and Fuzzy Logic 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. You have a temporary license for a 30-day evaluation period. When the evaluation period expires, you must activate a valid Real-Time Module license to continue using the Real-Time Module.

You can use the NI License Manager, available by selecting **Start»All Programs»National Instruments»NI License Manager**, to activate National Instruments products. 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. Select **Start»All Programs»National Instruments»LabVIEW 2011»LabVIEW Manuals** and then double-click `RT_Using_PC_as_RT_Target.pdf` to open the document.



**Note** When NI Web-Based Monitoring and Configuration 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 web-based monitoring and configuration.

## Real-Time Module 2011 Features

---

The Real-Time Module 2011 includes the following new features. Refer to the *LabVIEW Help*, available by selecting **Help»LabVIEW Help**, for information about these features.

### Deploying Stand-Alone Applications from outside of the LabVIEW Development Environment

In previous versions of the Real-Time Module, you could deploy stand-alone applications to RT targets from the Project Explorer window only. In the Real-Time Module 2011, you also can deploy stand-alone real-time applications from outside of the LabVIEW development environment using Measurement and Automation Explorer (MAX) or the NI System Configuration VIs. Refer to the **Real-Time Module»Real-Time Module How-To»Building, Deploying, and Debugging Stand-Alone Applications** topic on the **Contents** tab of the *LabVIEW Help* for information about choosing the appropriate deployment method for your application.

## Enhancements to Configuring EPICS Server I/O Servers

The **Configure EPICS Server I/O Server** dialog box includes the new **Array Length** column. Use this column to specify the initial array length of an EPICS process variable (PV) whose data type is an array. If you do not specify **Array Length**, the EPICS Server I/O server sets the array length as 1 at run time. If **Array Length** is different from the length of the bound shared variable whose data type is an array, the array length changes to the length of the bound shared variable at run time.

## EPICS Client I/O Servers Support

The Real-Time Module 2011 includes support for EPICS Client I/O servers. Use the EPICS Client I/O servers to monitor and update process variables (PVs) that an input/output controller (IOC) or Channel Access server (CAS) publishes using the CA network protocol.

## New VIs

The Real-Time Module 2011 includes the following new VIs:

### EPICS Client VIs

The **EPICS** palette includes the new **EPICS Client** palette and the new **EPICS Server** palette. The **EPICS Server** palette includes the EPICS Server VIs. The **EPICS Client** palette includes the new EPICS Client VIs.

Use the EPICS Client VIs to create, deploy, and undeploy an EPICS Client I/O server. You can add, remove, and list records on an EPICS Client I/O server. You also can add, remove, list, and get attributes of fields on an EPICS Client I/O server.

## 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 Tool** 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 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, available by selecting **Start»All Programs»National Instruments»NI License Manager**, to activate National Instruments products. Refer to the *National Instruments License Manager Help*, available by selecting **Help»Contents** in the NI License Manager, for information about activating NI products.

## Upgrade and Compatibility Issues

---

You might encounter the following compatibility issue when upgrading to the Real-Time Module 2011 from the Real-Time Module 2010. Refer to previous versions of the *LabVIEW Real-Time Module Release and Upgrade Notes*, available on [ni.com](http://ni.com), for changes in previous versions of the Real-Time Module.

### Separate Installer for PID and Fuzzy Logic Toolkit

The PID and Fuzzy Logic Toolkit is required to run the Real-Time Module. However, the PID and Fuzzy Logic Toolkit no longer installs with the Real-Time Module. You can install this toolkit using the LabVIEW Platform DVD.

## Known Issues with the Real-Time Module 2011

---

Refer to the National Instruments Web site at [ni.com/info](http://ni.com/info) and enter the Info Code LVRT2011KI to access the known issues for the RT 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 RT 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 RT 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` directory.

## NI Web Site

Refer to [ni.com/info](http://ni.com/info) and enter the Info Code `rtinfo` for the latest NI Developer Zone articles, examples, and support information for the RT Module.

Refer to [ni.com/info](http://ni.com/info) and enter the Info Code `rttrn` to access online training for the RT Module.

## Support

The National Instruments Web site is your complete resource for technical support. At [ni.com/support](http://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](http://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](http://ni.com/niglobal) to access the branch office Web sites, which provide up-to-date contact information, support phone numbers, email addresses, and current events.

LabVIEW, National Instruments, NI, ni.com, the National Instruments corporate logo, and the Eagle logo are trademarks of National Instruments Corporation. Refer to the *Trademark Information* at [ni.com/trademarks](http://ni.com/trademarks) for other National Instruments trademarks. Other product and company names mentioned herein are trademarks or trade names of their respective companies. For patents covering National Instruments products/technology, refer to the appropriate location: **Help»Patents** in your software, the `patents.txt` file on your media, or the *National Instruments Patents Notice* at [ni.com/patents](http://ni.com/patents). Refer to the *Export Compliance Information* at [ni.com/legal/export-compliance](http://ni.com/legal/export-compliance) for the National Instruments global trade compliance policy and how to obtain relevant HTS codes, ECCNs, and other import/export data.

© 2000–2011 National Instruments Corporation. All rights reserved.