

## RELEASE NOTES

# LabWindows™/CVI™

Version 2015

These release notes introduce LabWindows™/CVI™ 2015. Refer to this document for system requirements, installation and activation instructions, and information about new features in LabWindows/CVI.

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## LabWindows/CVI System Requirements

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To run LabWindows/CVI, you must have the following:

- Personal computer using a Pentium 4/M or equivalent processor
- Microsoft operating systems:
  - Windows 8.1 (32-bit and 64-bit)
  - Windows 8.0 (32-bit and 64-bit)
  - Windows 7 (32-bit and 64-bit), including Starter Edition
  - Windows Server 2012 R2 (64-bit)
  - Windows Server 2008 R2 Service Pack 2 (64-bit)



**Note** LabWindows/CVI supports only R2 editions of Windows Server.

- 1024 × 768 resolution (or higher) video adapter
- Minimum of 512 MB of RAM, 2 GB recommended

- 7 GB free hard disk space for full installation, which includes the Windows SDK 8.1 and the Microsoft .NET Framework 4.5.2; additional space needed for National Instruments Device Drivers
- Microsoft-compatible mouse

## Installing LabWindows/CVI

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The LabWindows/CVI Platform DVD includes LabWindows/CVI and the following modules and toolkits:

### Modules

- Real-Time Module
- Vision Development Module

### Toolkits

- Real-Time Execution Trace Toolkit
- SQL Toolkit
- Signal Processing Toolkit
- PID Toolkit
- Execution Profiler Toolkit
- ECU Measurement and Calibration Toolkit
- Automotive Diagnostic Command Set

If you purchased any of these modules or toolkits, you can install them using the LabWindows/CVI Platform DVD. If you want to evaluate any of these modules or toolkits before purchasing them, you can install these add-ons from the LabWindows/CVI Platform DVD.

## Before Installation

Keep the following points in mind before you install LabWindows/CVI:

- If you already have a different version of LabWindows/CVI installed on your computer, be sure to install version 2015 in a different directory. If you want to install to an existing directory, uninstall the other version before installing LabWindows/CVI 2015.
- You must have administrator privileges to install LabWindows/CVI.
- If your software is part of a Volume License Agreement (VLA), contact your VLA administrator for installation instructions.

## Running the Installation

Complete the following steps to install LabWindows/CVI:



**Caution** Installing LabWindows/CVI 2015 replaces any previous version of the LabWindows/CVI Runtime with the LabWindows/CVI 2015 Runtime. To restore the previous runtime, uninstall LabWindows/CVI 2015, the LabWindows/CVI 2015

Runtime, and any previous versions of LabWindows/CVI and LabWindows/CVI Runtimes on the computer. Then reinstall the LabWindows/CVI version you want to use, along with any additional National Instruments software you might have installed.

1. Insert the LabWindows/CVI media into the disk drive. If the media does not run automatically, open Windows Explorer, right-click the disk drive icon, and select **AutoPlay**.
2. On installation startup, the National Instruments LabWindows/CVI 2015 screen appears. Click **Install LabWindows/CVI, Modules, and Toolkits**.
3. Continue to follow the instructions on the screen.



**Note** If you have a serial number for the product you want to install, enter the number during installation when you are prompted. You also can activate the product after installation. For more information about finding serial numbers, refer to [ni.com/info](http://ni.com/info) and enter `SerialNumbers_en` as the Info Code.

Each product on the LabWindows/CVI Platform DVD has a different serial number, with the possible exception of the LabWindows/CVI Execution Profiler Toolkit. The Execution Profiler Toolkit does not require a separate license if you have a LabWindows/CVI Full Development System license. If you have the LabWindows/CVI Base Package, you can install the Execution Profiler Toolkit for evaluation.

4. If you select **Device Drivers** in the **Features** panel, the LabWindows/CVI installer prompts you to insert the National Instruments Device Drivers media, which is available on [ni.com](http://ni.com). The NI Device Drivers media is required only if you want to upgrade existing driver software to the latest version. Otherwise, you can ignore this prompt.
5. If you have an active Internet connection, the installer prompts you to select Windows SDK components to install. The components you select are downloaded and installed from the Microsoft website. For more information about the components, refer to [ni.com/info](http://ni.com/info) and enter the Info Code `CVI2015_WindowsSDK`.

If you do not have an active Internet connection, LabWindows/CVI installs all Windows SDK components, which might not be the latest components available on the Microsoft website.



**Note** If you cancel the Windows SDK installation, LabWindows/CVI will not function properly. You can download the Windows SDK from one of the following places:

- The Microsoft website
- [ni.com](http://ni.com)—Visit [ni.com/info](http://ni.com/info) and enter the Info Code `DownloadMSDTWindowsSDK`

6. Install hardware. Refer to your device documentation, such as printed manuals or PDFs, for information about installing your NI hardware.
7. To activate a National Instruments product, refer to the [What's New in LabWindows/CVI?](#) section of this document.

## Activating LabWindows/CVI

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If you did not enter a serial number during installation, click **Activate Products** in the License Status dialog box to launch the NI Activation Wizard.

Once you choose your activation method and launch the NI Activation Wizard, follow the instructions on the screen to activate LabWindows/CVI. For more information about activation, refer to the *Activating Your Software* topic in the *LabWindows/CVI Help*.



**Note** If you are unable to activate LabWindows/CVI, refer to the web page at [ni.com/activate](http://ni.com/activate).

## What's New in LabWindows/CVI?

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This section includes information about changes and enhancements in LabWindows/CVI 2015.

### Upgraded Version of Clang

LabWindows/CVI has updated the Clang 2.9 compiler to Clang 3.3. This upgrade provides the following features:

- New warning flags and warnings messages
- Improved detection of uninitialized local variables
- Improved stability when building large files
- Up to 21% faster execution speed for 64-bit binaries



**Note** The compiler backend is particularly suited for optimizing resources used in mathematical calculations, so you will see the highest performance gains if you perform complex computation, mathematics, or analysis.

### Improved Source Code Browsing

In addition to the updated compiler, source code browsing also has been improved. These improvements include the following features:

- Improved array support for the function prototype tooltip, Select Variable dialog box, and documentation generation from source code
- Improved preprocessor support with macros
- Improved stability due to various fixes

## Include Runtime Installers in Distributions

Select the **Only display runtime installers** option in the **Drivers & Components** tab of the Edit Installer dialog box to show which runtime installers are available for deployment. This option makes it easy to distinguish between full installers and runtime installers. Runtime installers are typically smaller in size, allowing you more control over the size of your distribution.

## Include Driver and Component Files in Patch Distributions

You now can include NI components and driver files in your patch distributions. You also can choose to include in your patch all products with upgrades or patches by selecting the **Include driver updates** option in the **Drivers & Components** tab of the Edit Installer dialog box.

## Updated Windows SDK

This version of LabWindows/CVI installs the Windows SDK 8.1. Refer to MSDN for a complete list of enhancements. Some of the features provided by the Windows SDK include the following items:

- Handle processes and threads—You can use functions such as `SetProcessInformation` to lower the priority of processes that perform background operations, `GetProcessInformation` to get the memory priority of a process, `SetThreadInformation` to lower the priority of a thread that does not need to run immediately, and `GetThreadInformation` to get the priority of a thread.
- Get the firmware type—Call `GetFirmwareType` to find the firmware type of your users' computers.
- Speed up operations that access the same file data repeatedly—Call `OperationStart` and `OperationEnd`.
- Take advantage of better virtual memory handling—Call functions such as `PrefetchVirtualMemory`, `OfferVirtualMemory`, `ReclaimVirtualMemory`, and `DiscardVirtualMemory`.
- Take advantage of better physical memory handling—Call functions such as `GetMemoryErrorHandlingCapabilities`, `RegisterBadMemoryNotification`, and `UnregisterBadMemoryNotification`.
- Call helpers for National Language Support functions—For example, you can call `IsValidNLSVersion` to determine whether a version is valid for a National Language Support function.

To use the Windows SDK 8.1, include the following in the Compiler Defines dialog box:

`_WIN32_WINNT=_WIN32_WINNT_WIN8` or `WINVER=_WIN32_WINNT_WIN8`.



**Note** The Windows SDK 8.1 requires Windows 7 (minimum).

# Improved Installer Messages and Errors

Errors and warning messages you receive when you create installers provide more useful information.

## Bug Fixes

For a list of bugs fixed in LabWindows/CVI 2015, refer to the NI web page at [ni.com/info](http://ni.com/info) and enter the Info Code `exmvwx`.

## LabWindows/CVI Resources

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### How do I get started?

Read the *Getting Started with LabWindows/CVI* manual, which provides a tutorial for learning basic LabWindows/CVI program development techniques.

### Are there known issues or late-breaking information?

Refer to the *LabWindows/CVI Readme*, which you can access from **Start»All Programs»National Instruments»LabWindows CVI 2015»LabWindows CVI 2015 Documentation**. The readme file contains information about known issues.

### Where can I find reference information?

The *LabWindows/CVI Help* contains complete reference information. Use the **Search** tab in the *LabWindows/CVI Help* to quickly locate specific information.

### Where can I find examples?

Find examples with the NI Example Finder, which you can access by selecting **Help»Find Examples**.

LabWindows/CVI example programs are located in the following location:

```
C:\Users\Public\Documents\National Instruments\CVI2015\samples.
```

### Is there a list of LabWindows/CVI documentation?

The *Guide to LabWindows/CVI Documentation* topic describes documentation available for new users and upgrade users. In addition, this topic provides links to LabWindows/CVI documentation, including manuals and web resources. You can access the *Guide to LabWindows/CVI Documentation* topic through the *LabWindows/CVI Help*.

### Where else can I go for LabWindows/CVI information?

Visit the LabWindows/CVI website at [ni.com](http://ni.com) for the most up-to-date information about LabWindows/CVI.

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