RELEASE NOTES

LabWindows™/CVI™

Version 2017

These release notes introduce LabWindows™/CVI™ 2017. Refer to this document for system requirements, installation and activation instructions, and information about new features in LabWindows/CVI.

Contents

LabWindows/CVI System Requirements

LabWindows/CVI has the following requirements:

- Personal computer using a Pentium 4/M or equivalent processor
- 1024 × 768 resolution (or higher) video adapter
- Minimum of 1 GB 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 4.6.2; additional space needed for National Instruments Device Drivers

LabWindows/CVI supports the following operating systems:

- Windows 10/8.1[1]/7 SP1[2]Windows Embedded Standard 7 SP1[2]
- Windows Server 2012 R2[1]
- Windows Server 2008 R2 SP1[2]

> **Note** Support for Windows 32-bit operating systems may require disabling physical address extension (PAE). To learn how this might affect your system and what actions you might need to take, visit `ni.com/info` and enter the Info Code `PAESupport`.

Installing LabWindows/CVI

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.

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[1] NI software installs Microsoft Visual C++ 2015 Runtime and .NET 4.6.2. Windows 8.1 and Windows Server 2012 R2 require Microsoft updates to support these items. Refer to Microsoft KB2919442 and KB2919355 for more information about how to install these updates.

[2] NI software is signed with a SHA-256 certificate. Windows 7 SP1, Windows Embedded Standard 7 SP1, and Windows Server 2008 R2 SP1 require Microsoft updates to support SHA-256. Refer to Microsoft KB3033929 for more information about how to install this security update.

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 2017 in a different directory. If you want to install to an existing directory, uninstall the other version before installing LabWindows/CVI 2017.
- 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 2017 replaces any previous version of the LabWindows/CVI Shared Runtime with the LabWindows/CVI 2017 Shared Runtime. To restore the previous runtime, uninstall LabWindows/CVI 2017, the LabWindows/CVI 2017 Shared Runtime, and any previous versions of LabWindows/CVI and LabWindows/CVI Shared 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 2017 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` 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`. 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` and enter the Info `CVI_Windows81SDK`.

   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`—Visit `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 *Activating LabWindows/CVI* section of this document.

Activating LabWindows/CVI

The NI Licensing Wizard guides you through the activation process. If you installed your NI software for the first time, the installer may automatically launch the NI Licensing Wizard. Otherwise, launch your software and choose to activate when prompted. If you are not prompted, perform the following steps:

1. Launch NI License Manager by selecting **Start»All Programs»National Instruments» NI License Manager**.

2. Click **Activate Software** on the ribbon.

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`.

What's New in LabWindows/CVI?

This section includes information about changes and enhancements in LabWindows/CVI 2017.

Tracepoints

LabWindows/CVI updated automatic debugging capabilities by adding tracepoints. Tracepoints are breakpoints associated with user-specified actions. This update allows you to set automatic debug logging when a particular source code location is executed and allows you to alter the execution flow of the application. Tracepoints can answer the following questions:

*   Which function does my program execute?
*   What values does my variable have at that source location?
*   What is my current call stack, thread ID, and so on at that source location?
*   How did the value of my variable change over time at that source location?

Thread-specific Breakpoints

In addition to tracepoints, thread-specific breakpoints also enhance debugging capabilities for multithreaded applications. This feature allows you to stop your applications on a desired thread. Set the breakpoint on the preferred code line in the **Edit Breakpoint** dialog box. The thread-specific breakpoint will be hit only by the selected thread(s).

Highlight All Instances of Selected Word in Source Window

Semantic highlighting and word highlighting simplify writing code. When you select a partial word or whole word, LabWindows/CVI highlights every occurrence of that symbol or string. You can customize the highlight color by selecting **Options»Colors**.

UI Events Logger

You can use the User Interface Events Logger to track your exact steps when you test a user interface file in Operate mode. You can specify which events to record and which to swallow when troubleshooting. A log panel displays relevant event information and allows you to save the events log to a file.

Close Button on Tabs

This feature allows you to add a close button to each tab in LabWindows/CVI applications. You can enable this button in the **Edit Tab** dialog box for tabs in user applications.

Note   You can also close workspace tabs and runtime tab controls using the mouse middle click.

Change Source Code Editor Font Size Using Mouse Wheel

You can now change source code font size using the mouse wheel. To increase or decrease font size, press <Ctrl> and scroll the mouse wheel up or down.

Comment/Uncomment Selected Lines in Source Code Editor

You can select a block of lines to comment and uncomment in the Source window. You can comment or uncomment using the toolbar, the **Edit** menu, or the **Source Editor Context** menu.

Highlight Matching Parentheses

Matching parentheses now highlight when the cursor is before an open or close parentheses.

LabWindows/CVI Resources

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 2017»LabWindows CVI 2017 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\CVI2017\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` for the most up-to-date information about LabWindows/CVI.