New Development and Productivity Features for LabVIEW 2009

What’s New in NI LabVIEW 2009

Robert Berger
National Instruments
Transition to Uniform Releases

More Uniform Scope
Predictable Release Cycle

Service Packs
Planned Every 6 Months

Announcing LabVIEW 2009 (64-bit)

Native 64-bit

Support for Latest 64-bit Processors

Support for Latest 64-bit Operating Systems
Features in LabVIEW 2009

- Development Environment Enhancements
- Language and Performance Improvements
- LabVIEW MathScript RT Module
- Data Management and Visualization
- LabVIEW Community
- LabVIEW 64-bit
- LabVIEW 2009 User Resources
LabVIEW 2009 New Features Demo

**VI Snippets Tool**
Drag and drop graphical code as images to create working block diagrams.

**3D Math Plots**
Take advantage of 11 new 3D graphs for visualizing data.

**Partial Diagram Cleanup**
Automatically arrange portions of code with improved block diagram cleanup tool.

**VI Recursion**
Develop in LabVIEW using native recursion.

**Parallel For Loops**
Improve performance through automatic multithreading of for loops.

**Enhanced Icon Editor**
Develop layered VI icons with integrated templates, glyphs, and text editing.

**Probe Watch Window**
Simplify debugging by managing all LabVIEW probes in one global window.

**LabVIEW MathScript RT Module**
Deploy your custom .m files to real-time hardware.
Math Plots and Properties

New 3D Plots
- Contour
- Mesh
- Quiver
- Stem
- Surface
- Comet

New 2D Plots
- Compass
- Feather
- Errorbar
- Plotmatrix
• 4X speed improvement using TDMS API
• No **EASIER** or **FASTER** way to write data in NI-DAQmx
  - Direct integration with NI-DAQmx driver
5 Other Cool Features

1. SSL for Web Services
2. Generate .NET Interop Assemblies
3. Object-Oriented Programming Enhancements
4. Improvements to Curve-Fitting VIs
5. New Partial Differential Equation Palette
New Features

LabVIEW Community
Simplified Code Sharing

NI Code Exchange
Download and share example programs, instrument drivers and other software IP for LabVIEW, LabWindows/CVI, and Measurement Studio for Visual Studio.

Example Programs
1-10 of 26154 Show 10 20 30 results per page

ni.com/code
LabVIEW Idea Exchange

Allow the Distribute Tool to work on Wires

Why is there no function to reverse "Index & Bundle Cluster Array"

Allow a quick "Timing Probe" for Timing Metrics

Default Option: Do NOT Place Front Panel Terminal as Icon

Labels: Installation & Upgrade  UI & Usability  Status: New

by mechelecengr  06-15

The default LabVIEW environment option should not show terminals as an icon.

Vote on a Future LabVIEW Feature

ni.com/ideas
LabVIEW Scripting

LabVIEW Scripting (VI Scripting) enables you to write a LabVIEW program that can generate and inspect LabVIEW code. It allows you to create new VIs, Front Panel controls, Block Diagram objects and wires as well as traverse diagram object hierarchies and modify code.

Visit ni.com/labs to download

- Automate repetitive programming tasks
- Develop new features
Try the Entire LabVIEW Platform

Evaluate fully functional 30-day trials of LabVIEW and more than 25 add-ons

- LabVIEW Development System
- LabVIEW SignalExpress
- LabVIEW Adaptive Filter Toolkit
- LabVIEW Advanced Signal Processing Toolkit
- LabVIEW Control Design and Simulation Module
- LabVIEW Database Connectivity Toolkit
- LabVIEW DataFinder Toolkit
- LabVIEW Datalogging and Supervisory Control Module
- LabVIEW Desktop Execution Trace Toolkit
- LabVIEW Digital Filter Design Toolkit
- LabVIEW FPGA Module
- NI Internet Toolkit
- LabVIEW MathScript RT Module
- LabVIEW Microprocessor SDK
- LabVIEW Mobile Module
- NI Motion Assistant
- LabVIEW PID Control Toolkit
- NI Real-Time Execution Trace Toolkit
- LabVIEW Real-Time Module
- LabVIEW Report Generation Toolkit for Microsoft Office
- LabVIEW Simulation Interface Toolkit
- LabVIEW NI SoftMotion Module
- NI Sound and Vibration Suite
- LabVIEW Statechart Module
- LabVIEW System Identification Toolkit
- LabVIEW Touch Panel Module
- LabVIEW Unit Test Framework Toolkit
- LabVIEW VI Analyzer Toolkit
- NI Vision Development Module

Also includes NI Device Drivers

ni.com/trylabview
New Features

LabVIEW 64-bit
64-bit LabVIEW on Windows Vista x64

Executes in User Mode

- 32-bit Windows Vista
  - 32-Bit LabVIEW

Executes in Kernel Mode

- 32-bit Windows Vista
  - 32-Bit Drivers and Services

- 64-bit Windows Vista
  - 32-Bit LabVIEW
  - 64-Bit Drivers and Services

- 64-bit Windows Vista
  - 64-Bit LabVIEW
  - 64-Bit Drivers and Services
LabVIEW 2009
Customer Resources
Do More with NI LabVIEW 2009

Designed to enhance the productivity of new and long-time users, LabVIEW 2009 gives you the ability to create code from VI Snippet images, globally manage probes, visualize data on new 3D graphs, parallelize individual iterations of for loops, reduce memory usage with data value references, and more.

See the new features video

Take Advantage of Next-Generation Technologies

In addition to providing increased performance for parallel programs and field-programmable gate arrays (FPGAs), LabVIEW 2009 provides technologies and simplifies real-time math by streamlining mathematization deployment to deterministic hardware.

LabVIEW 2009 for Your Application

From acquiring data with measurement hardware to deploying an embedded design to automating a production test system, LabVIEW provides a rapid and cost-effective solution. To learn about using LabVIEW to enhance your productivity and make your job easier, browse the LabVIEW applications below.

Acquiring Data and Processing Signals
Instrument Control
Automating Test and Validation Systems

ni.com/labview/whatsnew
New Features in LabVIEW 2009

- **VI Snippets Tool**: Drag and drop graphical code as images to create working block diagrams.
- **Parallel For Loops**: Improve performance through automatic multithreading of for loops.
- **3D Math Plots**: Take advantage of 11 new 3D graphs for visualizing data.
- **Enhanced Icon Editor**: Develop layered VI icons with integrated templates, glyphs, and text editing.
- **Partial Diagram Cleanup**: Automatically arrange portions of code with improved block diagram cleanup tool.
- **Probe Watch Window**: Simplify debugging by managing all LabVIEW probes in one global window.
- **VI Recursion**: Develop in LabVIEW using native recursion.
- **LabVIEW MathScript RT Module**: Deploy your custom .m files to real-time hardware.

Browse Features

- **ni.com/labview/whatsnew/features**

By Category

- Development Environment Enhancements
  - Enhanced Block Diagram Clean-Up Tool
- Language and Performance Improvements
  - Friends of Libraries in Community Scope
- Mathematics
  - Fixed-Point Casting Functions

By Product

- Since LabVIEW 7.1
Upgrade to LabVIEW 2009

Free for SSP Customers, See Your Options Below

The annual release cycle of NI LabVIEW ensures that you have access to all the latest features and improvements in LabVIEW when you are ready to upgrade. Membership in the Standard Service Program (SSP) entitles you to free upgrades and software updates as they become available. Find more information and resources below about upgrading to LabVIEW 2009.

Get Your Copy of LabVIEW 2009 Now

Upgrade for Free with SSP
Standard Service Program (SSP) members can upgrade to LabVIEW 2009 for free.

Renew Expired SSP and Save 50%
Re-activate your subscription to SSP and get 50% off the price of LabVIEW.

Buy LabVIEW 2009
Get everything you need to start developing applications right away, including a free SSP subscription.

Call NI at (800) 531-5066 or have NI call you.

Upgrade Resources

LabVIEW Upgrade Notes
Find details on all new features and changes in LabVIEW 2009.

Best-Practices for Upgrading
Read step-by-step instructions on how to upgrade your LabVIEW applications properly.

LabVIEW Life Cycle Policy
Learn when you can expect updates and newer versions of LabVIEW.

Support Resources
Find bug fixes, known issues, and compatible software.

LabVIEW Release Notes
Review system requirements and installation instructions.
## LabVIEW Life Cycle Policy

### LabVIEW Life Cycle Policy Phases

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LabVIEW 8.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LabVIEW 8.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LabVIEW 8.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Current Release Support*  | *Mainstream Support*  | *Extended Support*  
--- | --- | ---

The LabVIEW Life Cycle Policy encompasses three phases with varying support levels and timelines.

### LabVIEW Life Cycle Policy

<table>
<thead>
<tr>
<th>Technical Support</th>
<th>One Year from Product Release Date</th>
<th>Four Years from Product Release Date</th>
<th>Ongoing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online technical support, including: knowledge-base, online forums, white papers, NI Developer Zone, and more</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Access to paid technical support programs, including: Support-Only and Standard Service Program (SSP)</td>
<td>✓</td>
<td>✓</td>
<td>_²</td>
</tr>
</tbody>
</table>

#### Hardware Support

- **Current device driver distributions continue to install**
  - ✓
  - ✓
  - ✓

1. Hardware Support includes the following:
   - Current driver distributions continue to install.
   - LabVIEW patches at NI discretion (smaller, off-cycle fixes)
   - LabVIEW service packs/maintenance releases (scheduled updates and fixes)

### Additional Information

- LabVIEW patches at NI discretion (smaller, off-cycle fixes)
  - ✓
  - ✓
  - ✓

- LabVIEW service packs/maintenance releases (scheduled updates and fixes)
  - ✓
  - ✓
  - ✓

- **Purchase**
  - ✓
  - ✓ (upon request)

- **Product Available for Purchase**
  - ✓
  - ✓ (upon request)

---

Source: [ni.com/labview/product_lifecycle.htm](http://ni.com/labview/product_lifecycle.htm)
# LabVIEW OS Support

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.0</td>
<td>8.0.1</td>
<td>8.2</td>
<td>8.2.1</td>
<td>8.5</td>
<td>8.5.1</td>
</tr>
<tr>
<td>Windows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows XP (32-bit)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows Vista 32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows Vista 64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mac OS X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PowerPC Processors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intel Processors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linux</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Hat Enterprise Linux</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUSE Linux</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mandrake/Mandriva Linux</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun Solaris</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPARC 32-bit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Green**: Full support (includes all LabVIEW modules and toolkits as well as NI drivers)
- **Yellow**: Partial support (not all LabVIEW modules and toolkits and NI drivers supported)
- **Red**: No support

2009 NI Technical Symposium
Questions?