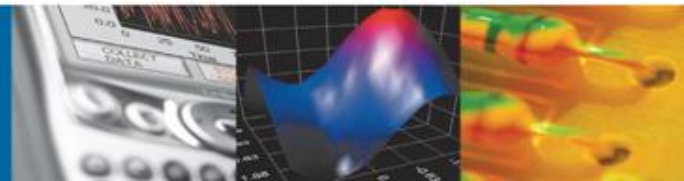


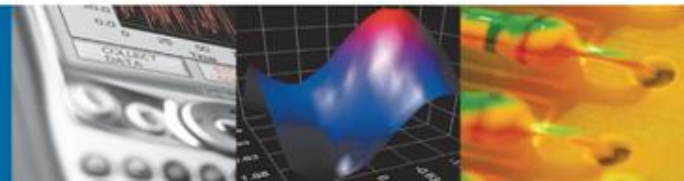
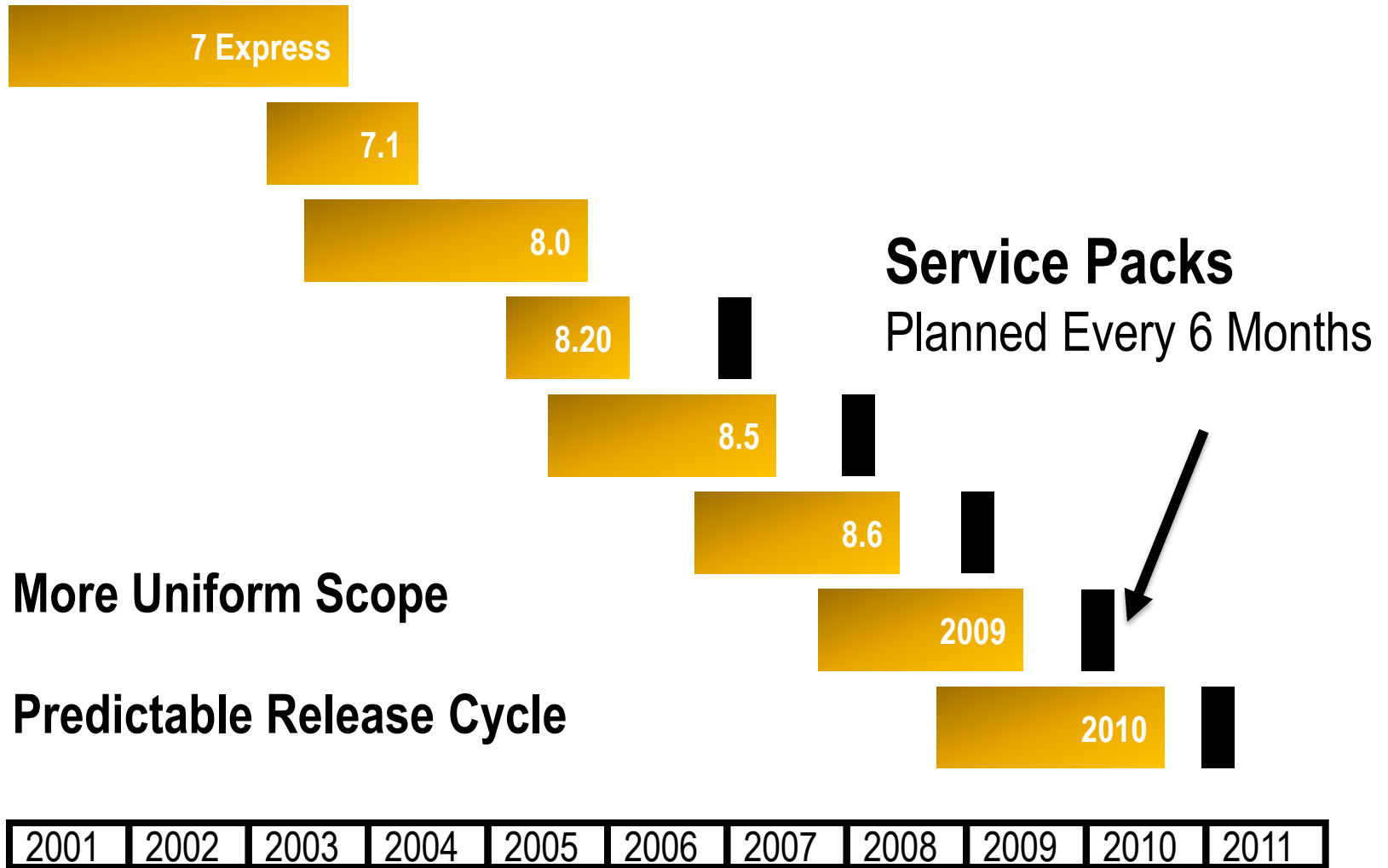
# New Development and Productivity Features for LabVIEW 2009

## What's New in NI LabVIEW 2009

Robert Berger  
National Instruments



# Transition to Uniform Releases

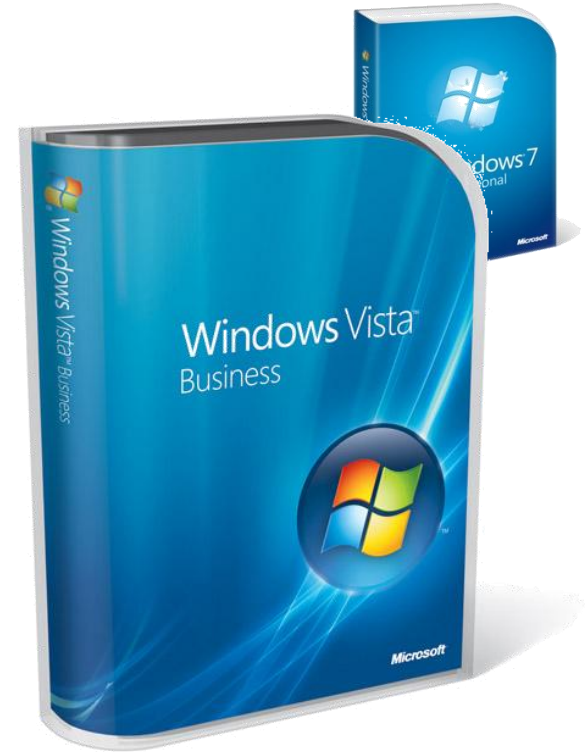


# Announcing LabVIEW 2009 (64-bit)

*Native 64-bit*

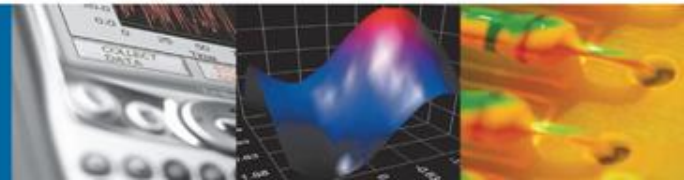


**Support for Latest  
64-bit Processors**



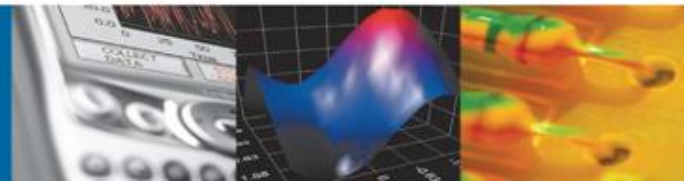
**Support for Latest 64-bit  
Operating Systems**

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# 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

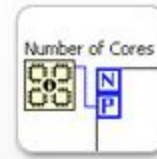


# LabVIEW 2009 New Features Demo



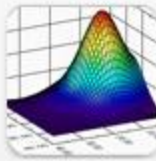
## VI Snippets Tool

Drag and drop graphical code as images to create working block diagrams.



## Parallel For Loops

Improve performance through automatic multithreading of for loops.



## 3D Math Plots

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



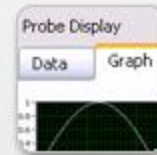
## Enhanced Icon Editor

Develop layered VI icons with integrated templates, glyphs, and text editing.



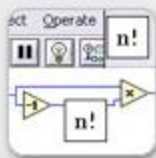
## Partial Diagram Cleanup

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.



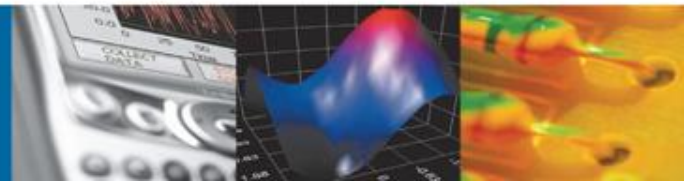
## VI Recursion

Develop in LabVIEW using native recursion.



## LabVIEW MathScript RT Module

Deploy your custom .m files to real-time hardware.



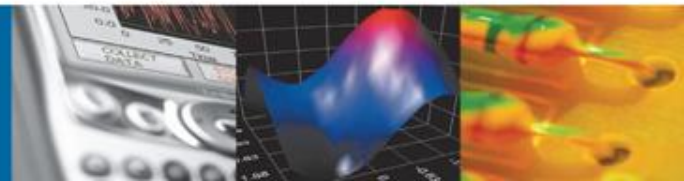
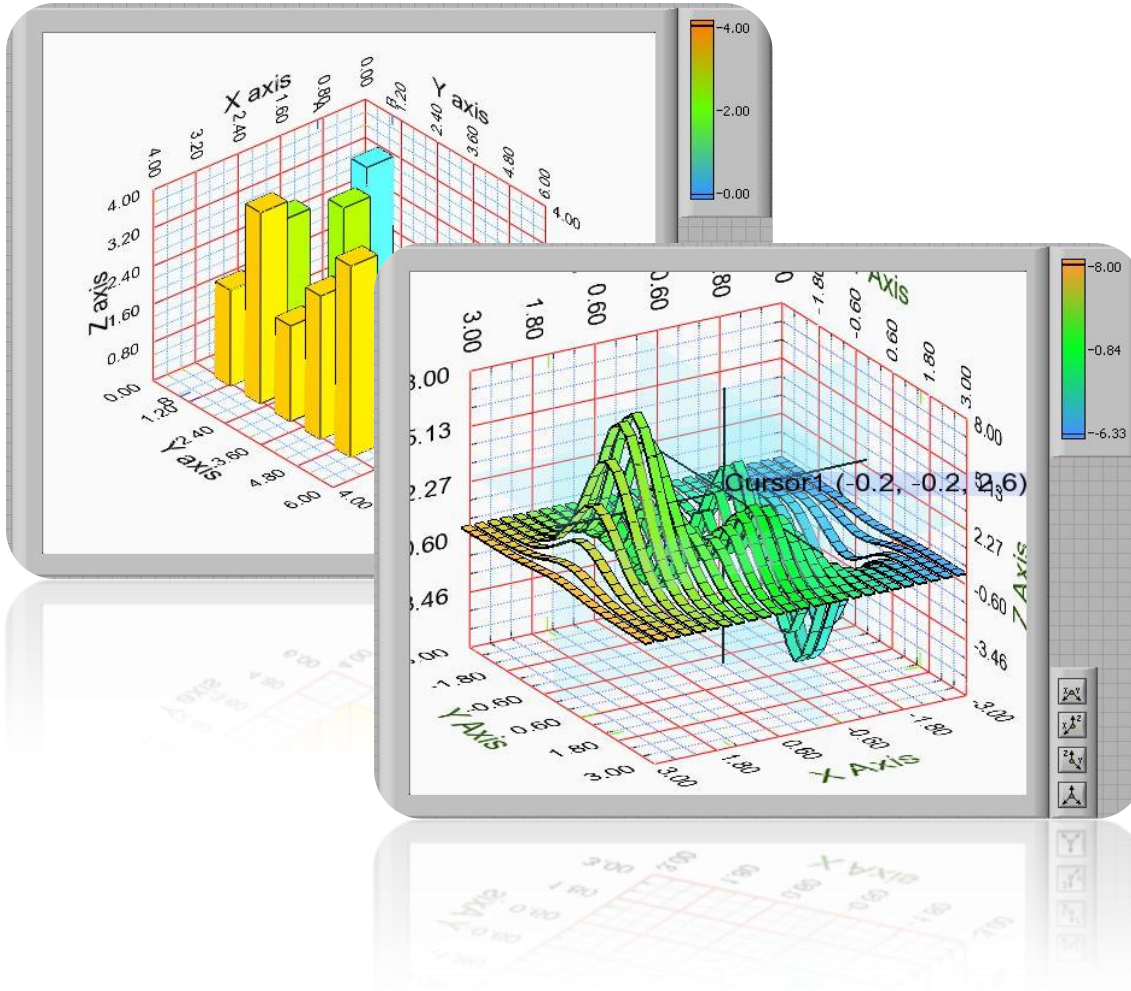
# Math Plots and Properties

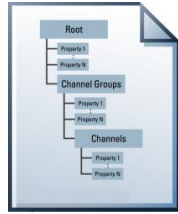
## New 3D Plots

- Contour
- Mesh
- Quiver
- Stem
- Surface
- Comet
- Pie
- Scatter
- Ribbon
- Waterfall
- Bar

## New 2D Plots

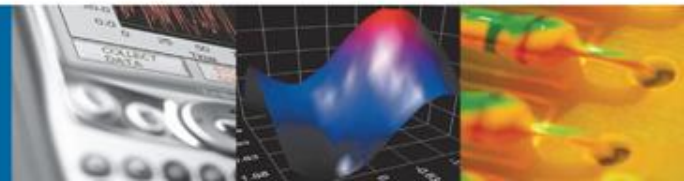
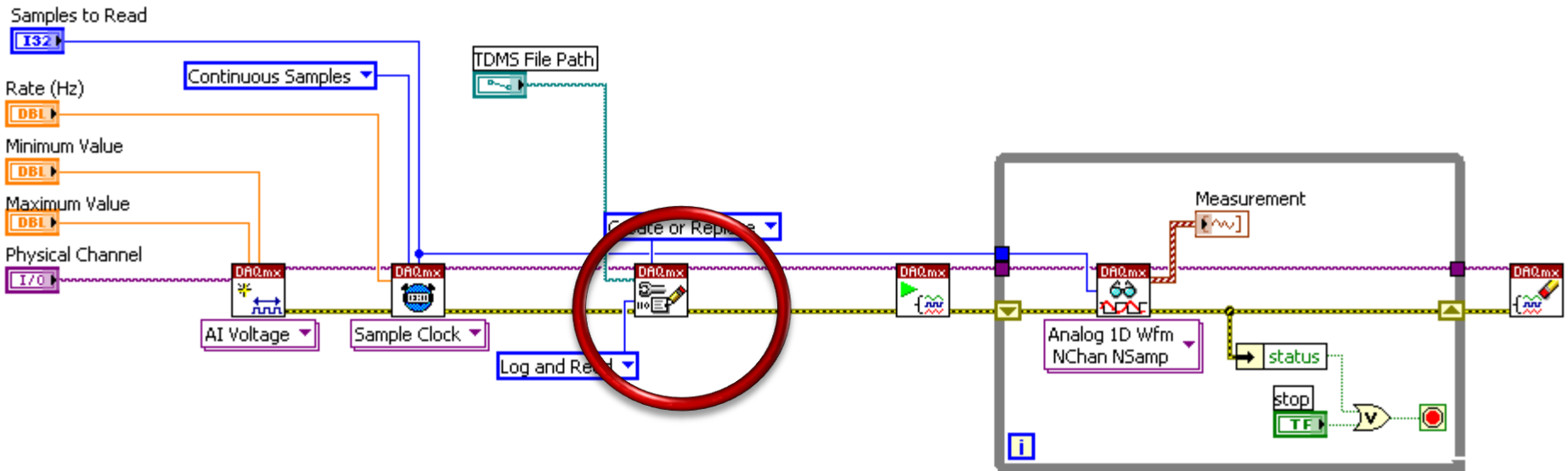
- Compass
- Feather
- Errorbar
- Plotmatrix





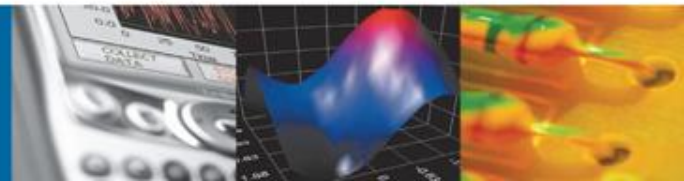
# TDMS

- 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

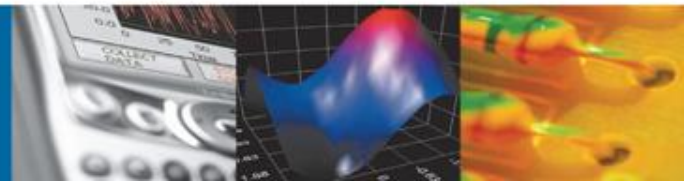




New Features

# LabVIEW Community

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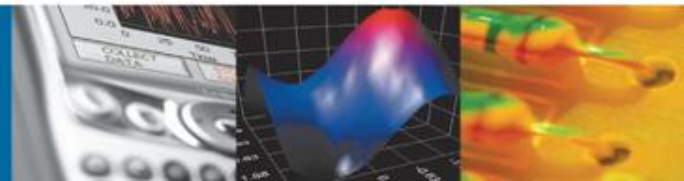


# Simplified Code Sharing

The screenshot shows the NI Code Exchange website. At the top left is the National Instruments logo and a red 'NIWeek 09' badge. The top right contains a search bar, a 'Cart | Help' link, and a 'Help' link. Below the logo is a navigation menu with links for 'MyNI', 'Contact NI', 'Products & Services', 'Solutions', 'Support', 'NI Developer Zone', 'Academic', 'Events', and 'Company'. A 'United States' location selector is on the far right. The main content area features a large banner for 'NI Code Exchange' with the text: 'Download and share example programs, instrument drivers and other software IP for LabVIEW, LabWindows/CVI, and Measurement Studio for Visual Studio.' Below the banner are two columns: 'Search Example Programs' with a search input field and a 'Search' button, and 'Add Your Program' with an 'Upload Program' button. On the left side, there are two sections: 'Content Type' with links for 'Examples (6939)', 'Drivers and Updates (2560)', and 'Instrument Drivers (4324)'; and 'Product' with a list of software products and their counts, including NI Circuit Design Software (43), DIAdem (32), NI Developer Suite (269), LabVIEW (490), LabVIEW SignalExpress (9), LabWindows/CVI (107), License Manager (24), MATRIXx (78), Measurement Studio (54), NI Requirements Gateway (18), Other Software (59), NI Switch Executive (7), NI TestStand (50), VI Logger (6), and Volume License Manager (15). At the bottom of the main content area, it says 'Example Programs' and '1-10 of 26154 Show 10 20 30 results per page'. On the far right, there are page navigation numbers '1 2 3 4 5 6 7 8 9 10' and a 'Next' button with a right arrow.

ni.com/code

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# LabVIEW Idea Exchange

41

Allow the Distribute Tool to work on Wires



Kudos!

19

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



Kudos!

32

Allow a quick "Timing Probe" for Timing Metrics



Kudos!

23

Default Option: Do NOT Place Front Panel Terminal as Icon

Labels: Installation & Upgrade UI & Usability Status: New

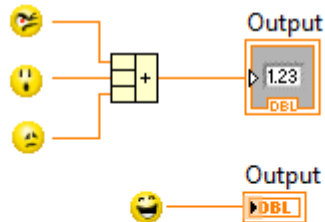


Kudos!

by mechelecengr

06-15

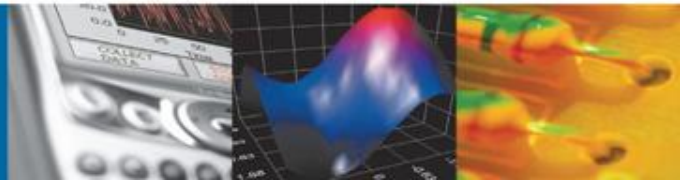
The default LabVIEW environment option should not show terminals as an icon.



Vote on a Future LabVIEW Feature

[ni.com/ideas](http://ni.com/ideas)

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# LabVIEW Scripting



## LabVIEW Scripting

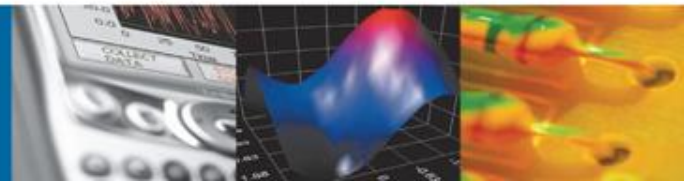
LabVIEW Scripting (VI Scripting) enables you to write a LabVIEW program that can generate and inspect LabVIEW code. It allows you to create new VIs, Front Panel controls, Block Diagram objects and wires as well as traverse diagram object hierarchies and modify code.

Download

Discuss

Visit [ni.com/labs](http://ni.com/labs) to download

- Automate repetitive programming tasks
- Develop new features



# Try the Entire LabVIEW Platform

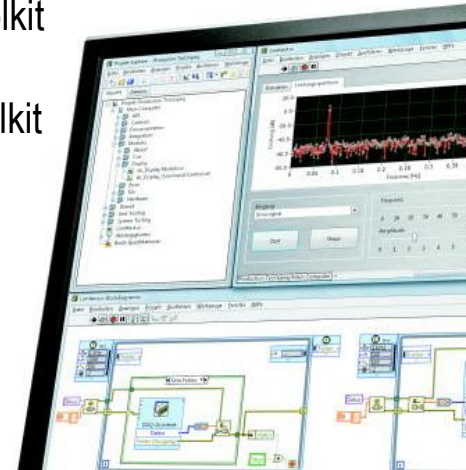
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Evaluate fully functional 30-day trials of LabVIEW and more than 25 add-ons

- 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

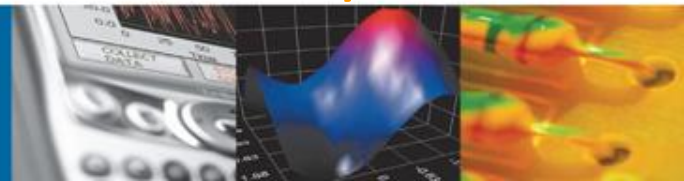
Also includes NI Device Drivers



[ni.com/trylabview](http://ni.com/trylabview)

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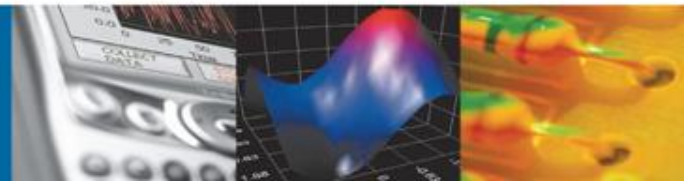
2009 NI Technical Symposium



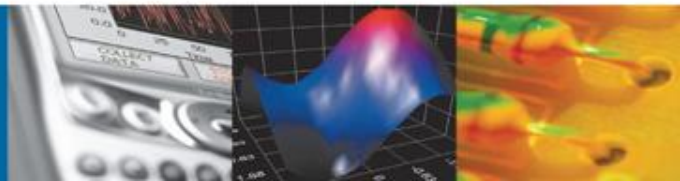
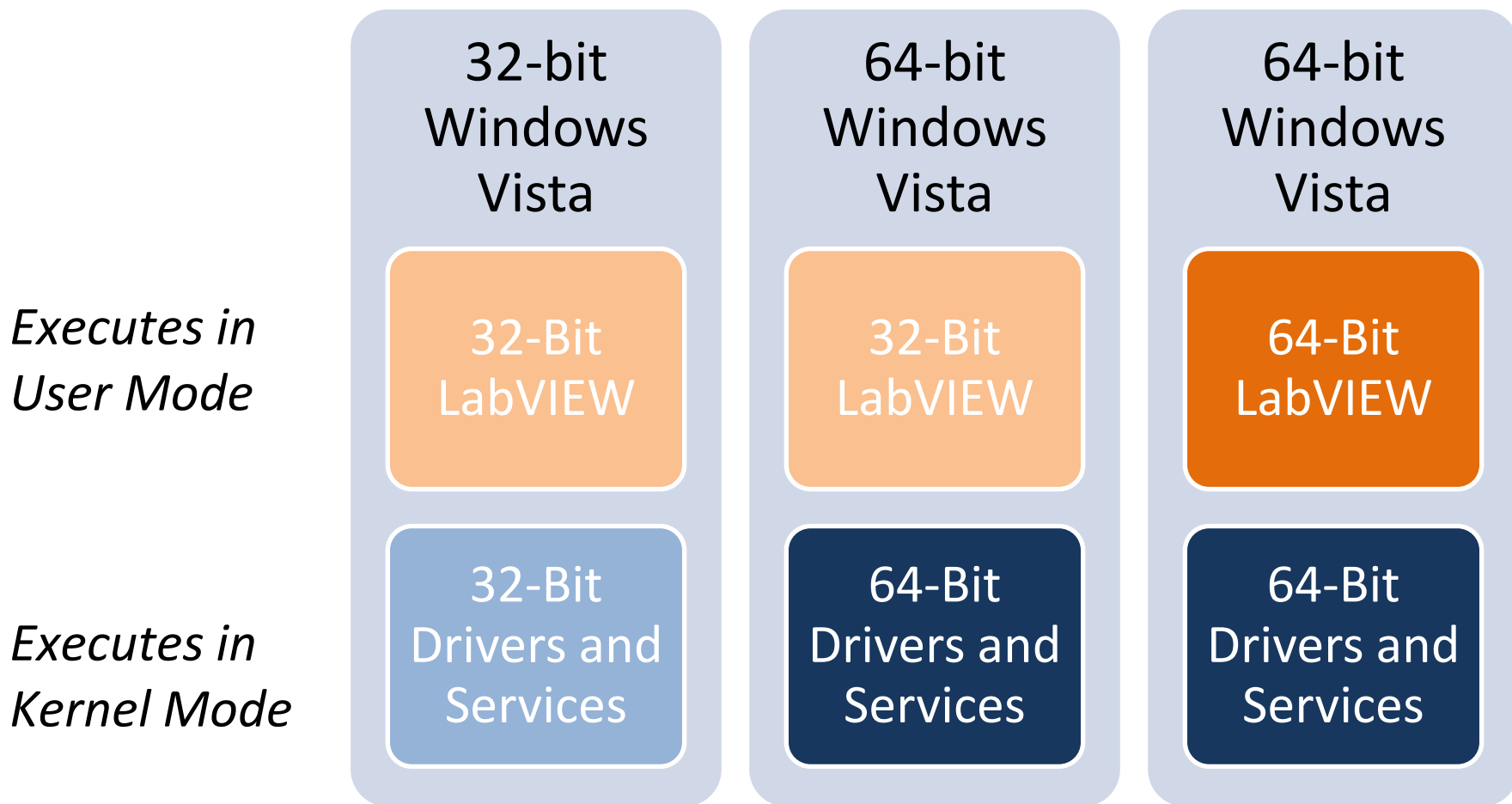
New Features

# LabVIEW 64-bit

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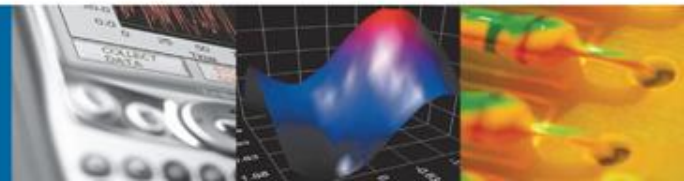
# 64-bit LabVIEW on Windows Vista x64



# LabVIEW 2009

## Customer Resources


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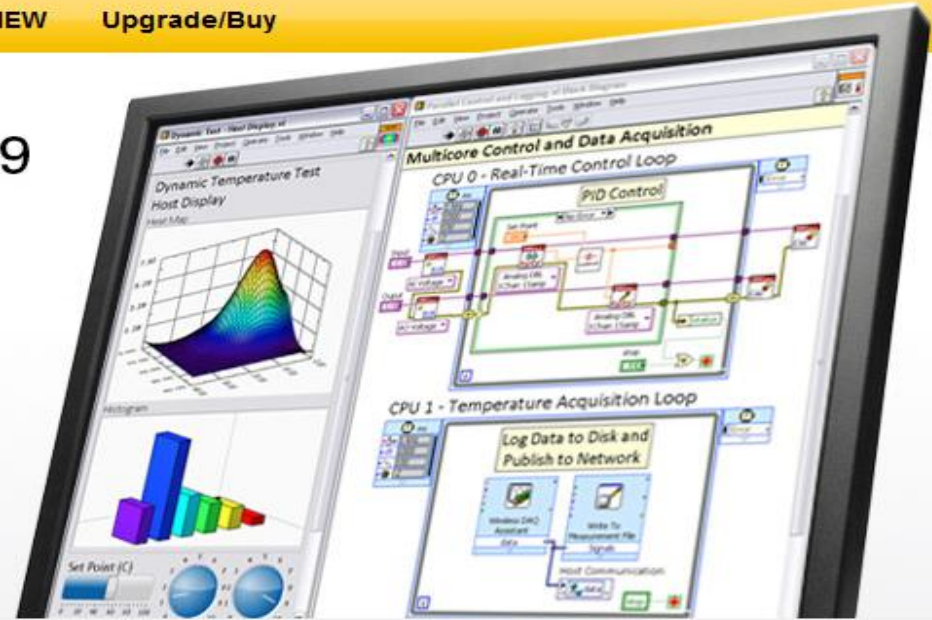




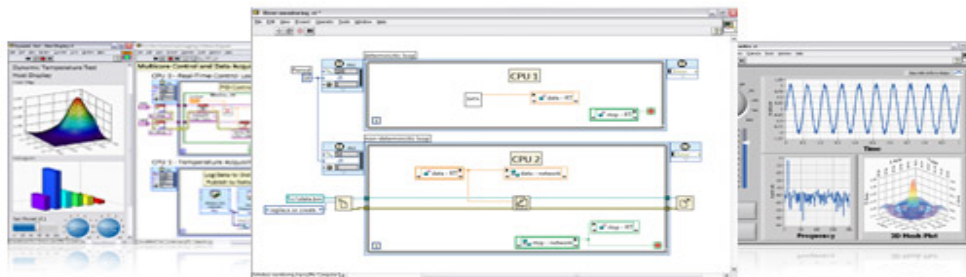
# Do More with NI LabVIEW 2009

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



## 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](#)

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

[ni.com/labview/whatsnew](http://ni.com/labview/whatsnew)

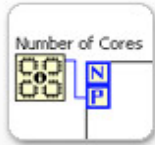
[See New Features](#)

[View all Applications](#)

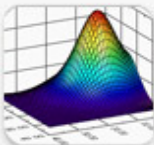
# New Features in LabVIEW 2009



**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.



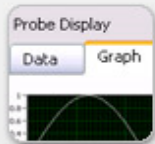
**3D Math Plots**  
 Take advantage of 11 new 3D graphs for visualizing data.



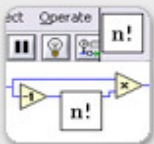
**Enhanced Icon Editor**  
 Develop layered VI icons with integrated templates, glyphs, and text editing.



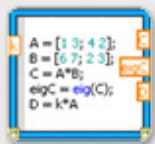
**Partial Diagram Cleanup**  
 Automatically arrange portions of code with improved block diagram cleanup tool.



**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.



See the Features in Action

Watch Webcast

Upgrade to LabVIEW 2009

Get It Now

[ni.com/labview/whatsnew/features](http://ni.com/labview/whatsnew/features)

Browse Features

By Category

By Product

Since LabVIEW 7.1

Development Environment Enhancements

Enhanced Block Diagram Clean-Up Tool

Language and Performance Improvements

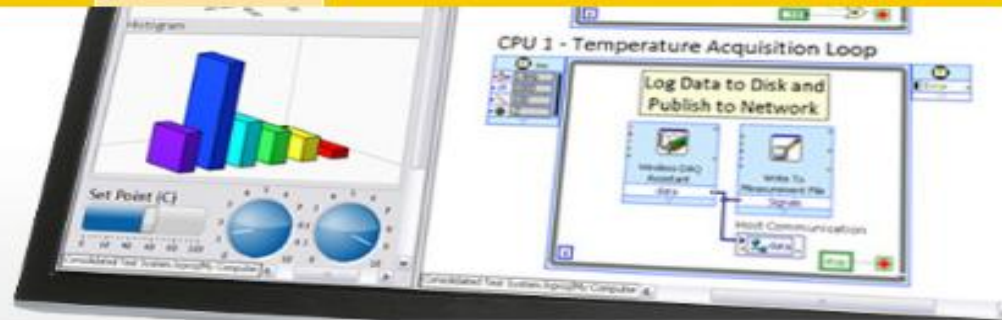
Friends of Libraries in Community Scope

Mathematics

Fixed-Point Casting Functions

# 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.

**Upgrade**

### Renew Expired SSP and Save 50%

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

**Renew**

### Buy LabVIEW 2009

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

**Purchase**

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

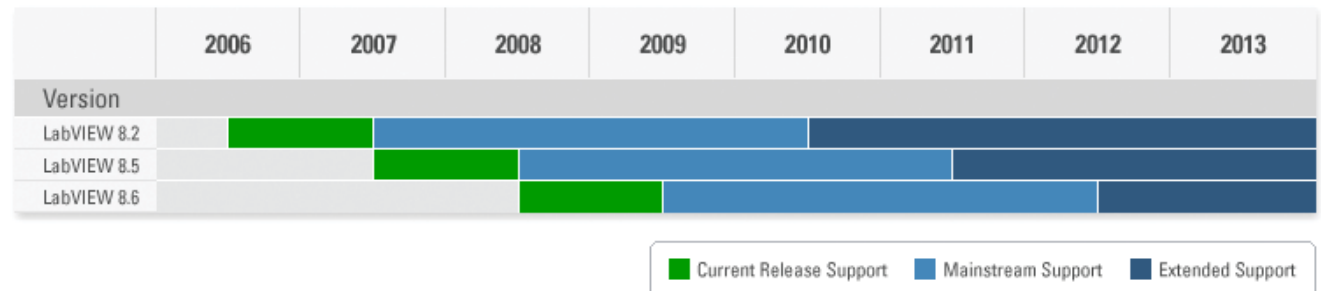
Review system requirements and installation instructions.

Note: NI Software Maintenance  
South America, W

[ni.com/labview/whatsnew/upgrade](http://ni.com/labview/whatsnew/upgrade)

# LabVIEW Life Cycle Policy

## LabVIEW Life Cycle Policy Phases



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

## LabVIEW Life Cycle Policy

	One Year from Product Release Date	Four Years from Product Release Date	Ongoing
<b>Technical Support</b>			
Online technical support, including: knowledge-base, online forums, white papers, NI Developer Zone, and more	✓	✓	✓
Access to paid technical support programs, including: Support-Only and Standard Service Program (SSP)	✓	✓	— <sup>2</sup>
<b>Hardware Support<sup>1</sup></b>			
Current device driver distributions continue to install	✓	✓	— <sup>2</sup>
<b>LabVIEW patches at NI discretion (smaller, off-cycle fixes)</b>			
LabVIEW patches at NI discretion (smaller, off-cycle fixes)	✓	✓	—
LabVIEW service packs/maintenance releases (scheduled updates and fixes)	✓	—	—
<b>Purchase</b>			
Product Available for Purchase	✓	✓ (upon request)	— <sup>2</sup>

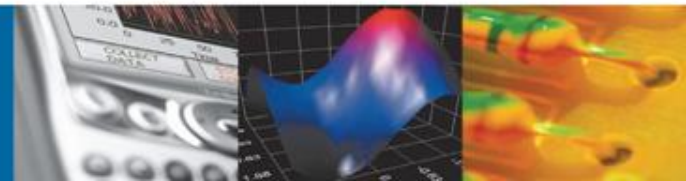
[ni.com/labview/product\\_lifecycle.htm](http://ni.com/labview/product_lifecycle.htm)

# LabVIEW OS Support

	2005 8.0	2006 8.0.1   8.2	2007 8.2.1   8.5	2008 8.5.1   8.6	2009 8.6.1	2010
<b>Windows</b>						
Windows NT	Full support		No support			
Windows 2000	Full support					No support
Windows XP (32-bit)	Full support					
Windows Vista 32	No support		Full support			
Windows Vista 64 <sup>1</sup>	No support		Full support			
Windows 7	No support					Full support
<b>Mac OS X</b>						
PowerPC Processors	Partial support			No support		
Intel Processors	No support		Partial support			
<b>Linux</b>						
Red Hat Enterprise Linux	Partial support					
SUSE Linux	Partial support					
Mandrake/Mandriva Linux	Partial support					No support
<b>Sun Solaris</b>						
SPARC 32-bit	Partial support		No support			

- Full support (includes all LabVIEW modules and toolkits as well as NI drivers)
- Partial support (not all LabVIEW modules and toolkits and NI drivers supported)
- No support

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# Questions?

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