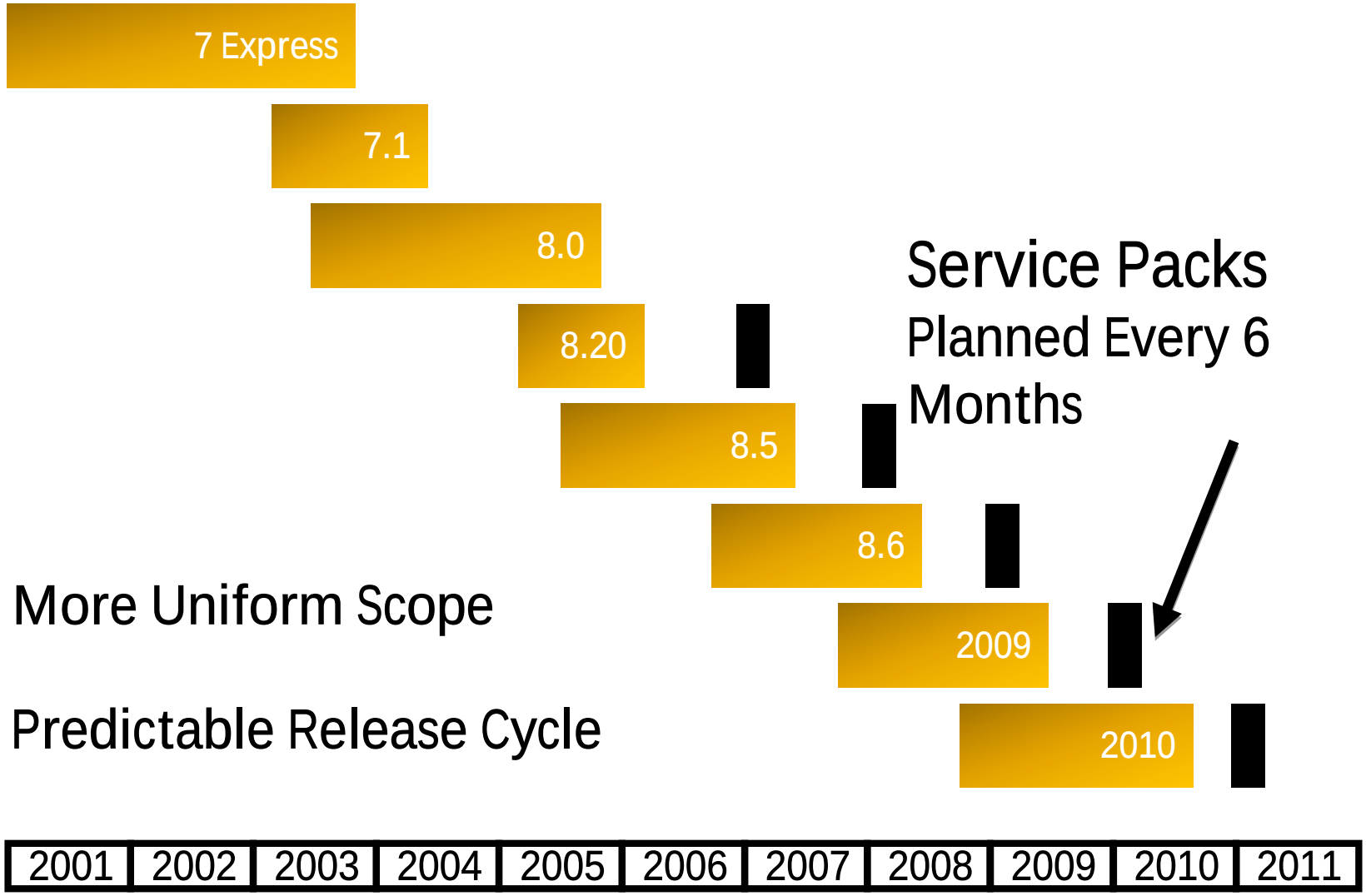
What's New in LabVIEW 2009

Robert Berger
National Instruments

Transition to Uniform Releases



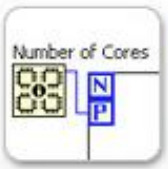
Features in LabVIEW 2009

- Development Environment Enhancements
- Language and Performance Improvements
- LabVIEW MathScript RT Module
- Data Management and Visualization
- Software Engineering Tools
- LabVIEW Community

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

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Probe Watch Window

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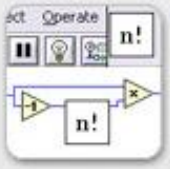


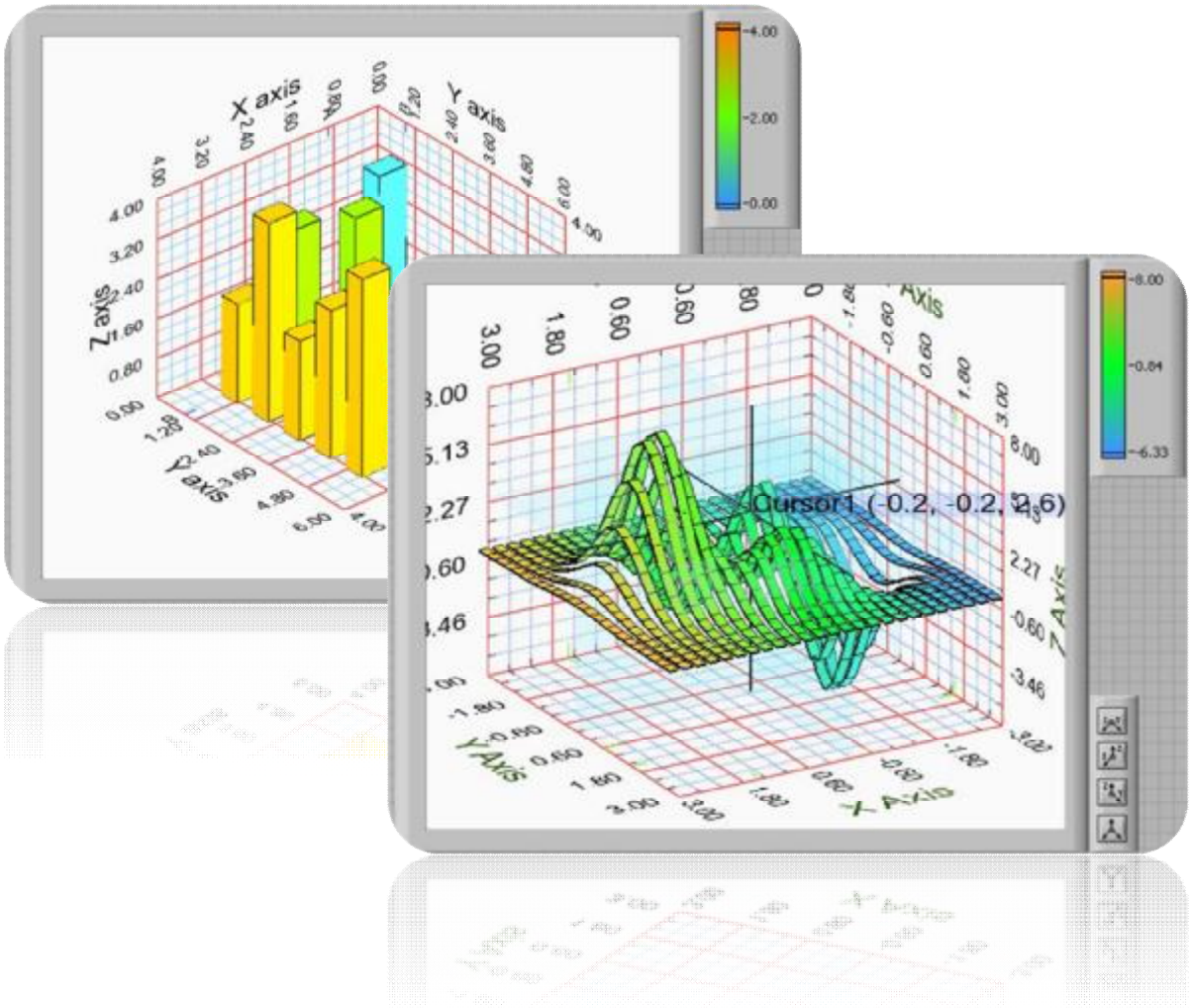
VI Recursion

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

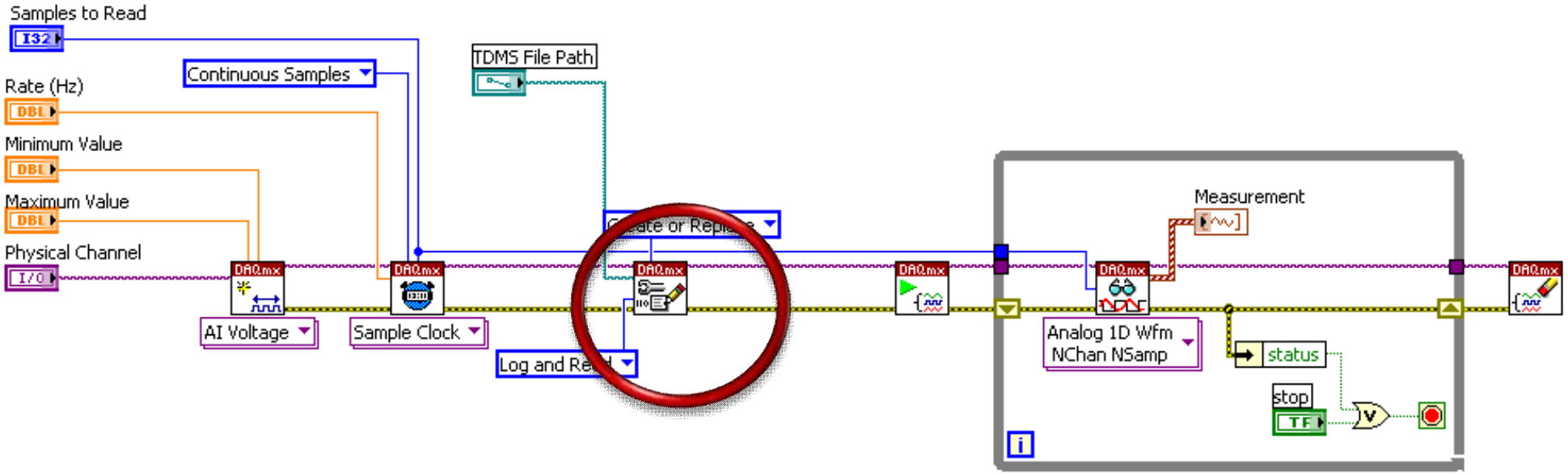
- Contour
- Mesh
- Quiver
- Stem
- Surface
- Comet
- Pie
- Scatter
- Ribbon
- Waterfall
- Bar

New 2D Plots

- Compass
- Feather
- Errorbar
- Plotmatrix

TDMS

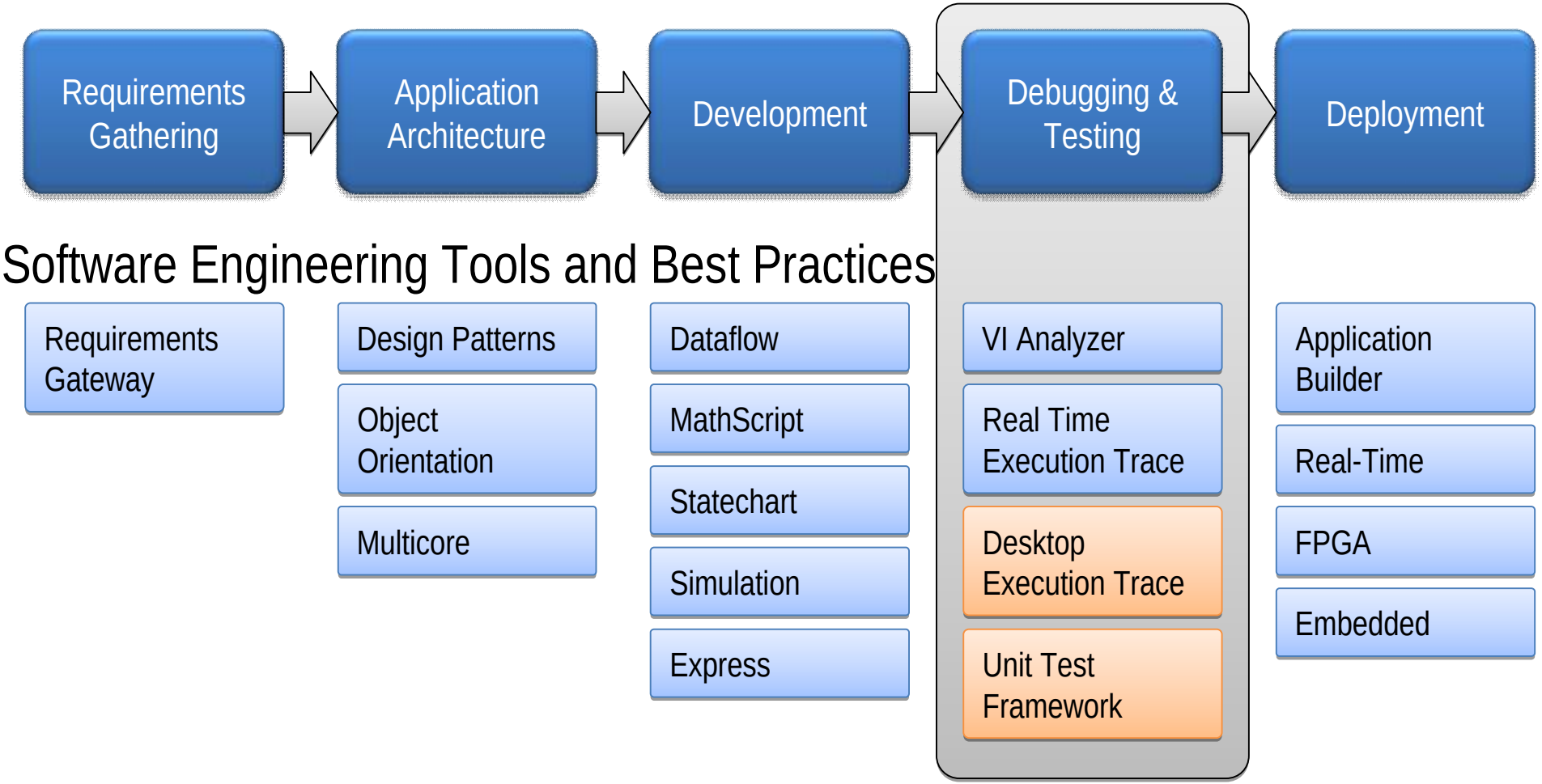
- 4X speed improvement using TDMS API
- No *EASIER* or *FASTER* way to write data in DAQmx
  - Direct integration with NI-DAQmx driver



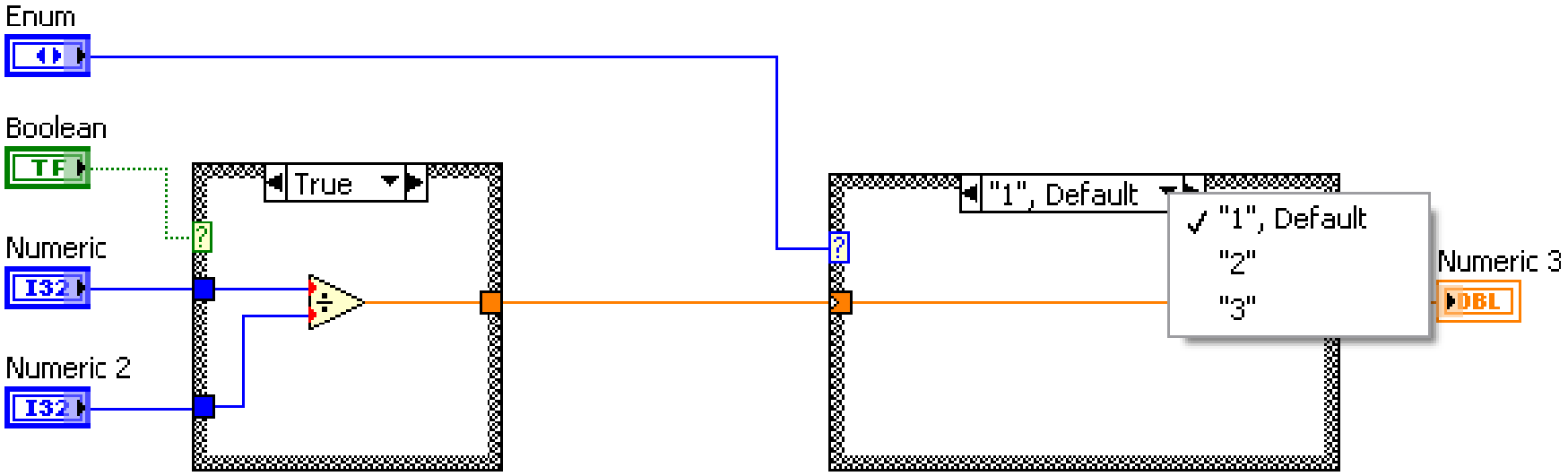
New Features

SOFTWARE ENGINEERING TOOLS

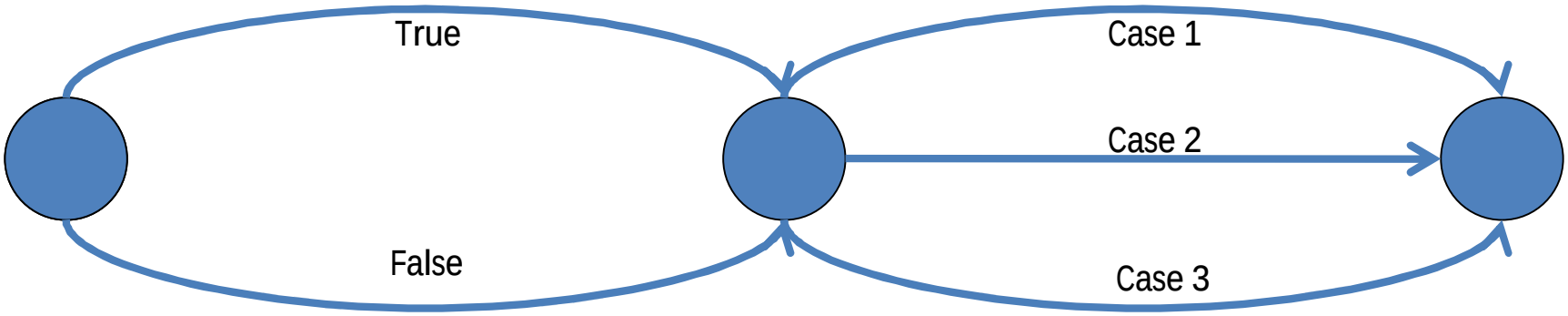
The Software Engineering Process



VI Analyzer Code Complexity Metrics

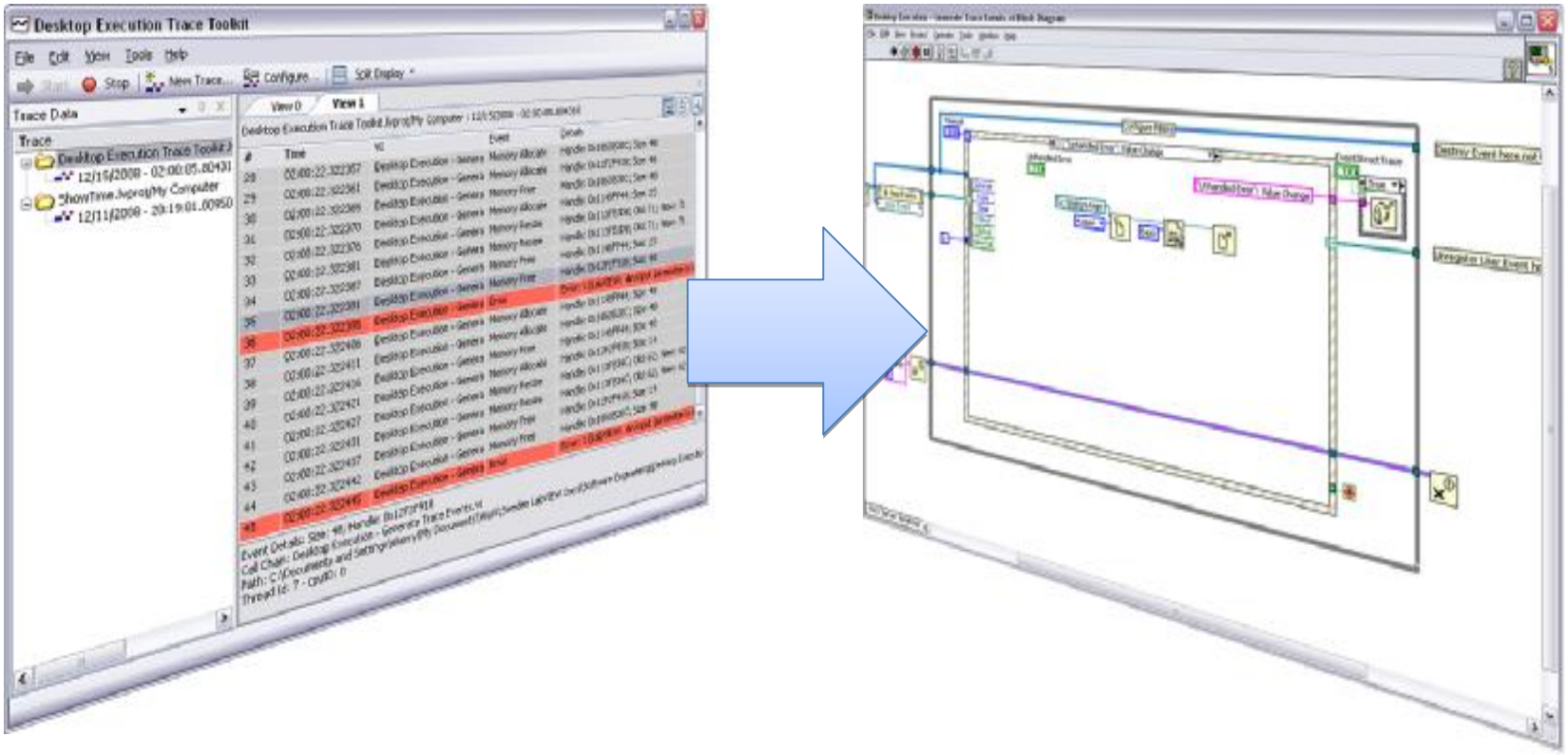


Edges = 5 Nodes = 3 Paths = 1



Cyclomatic complexity: 5 – 3 + 2 (1) = 4

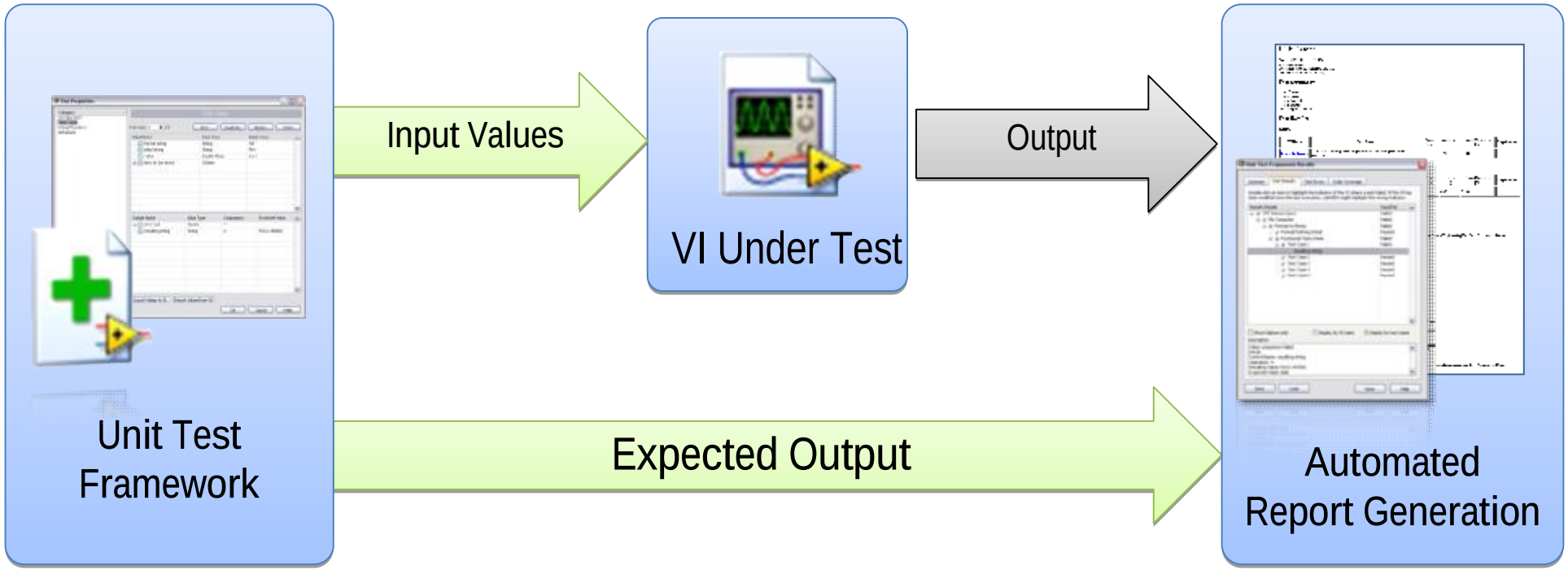
LabVIEW Desktop Execution Trace Toolkit



Profile LabVIEW applications at run time with

Dynamic Code Analysis

LabVIEW Unit Test Framework

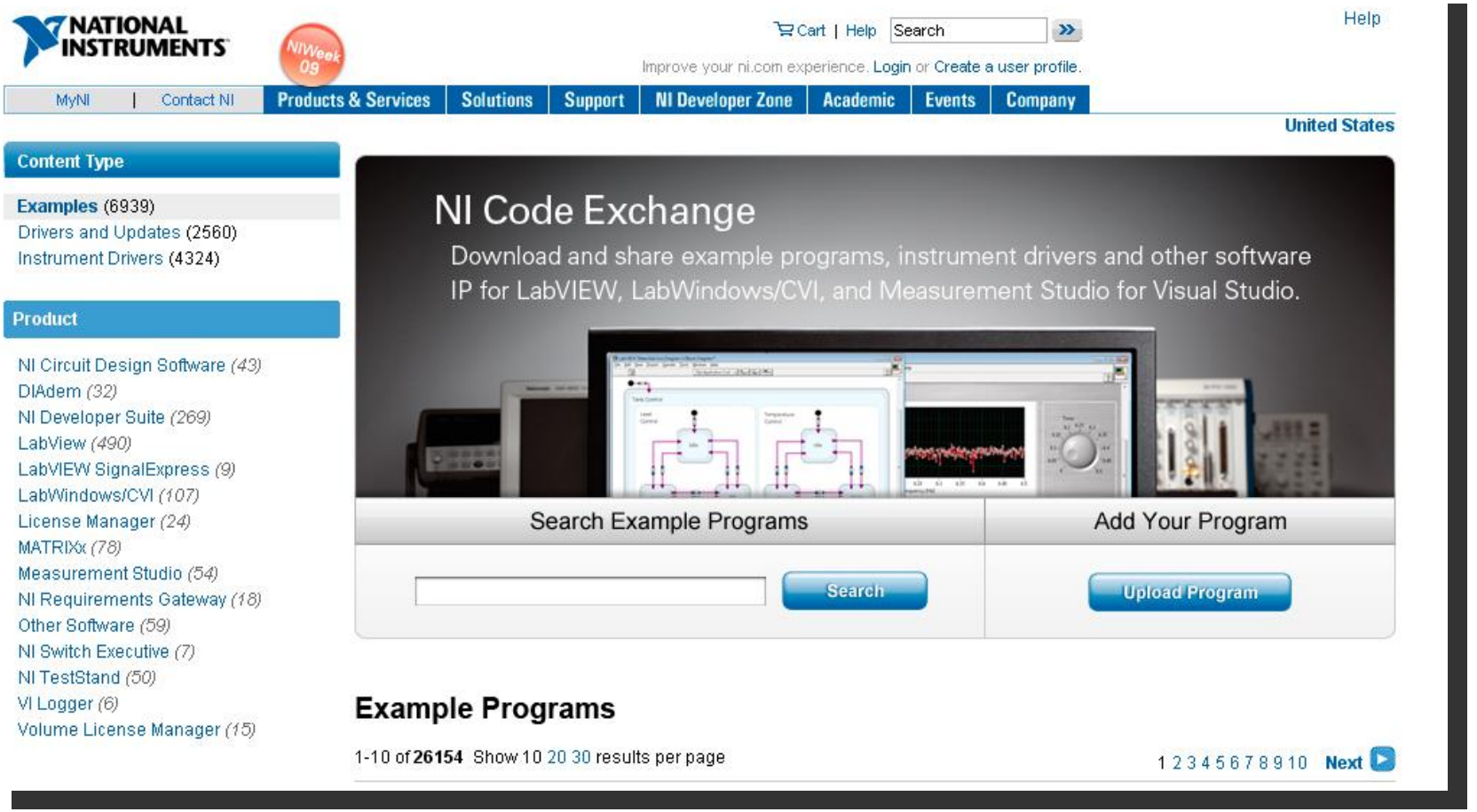


Test vector = Input value(s) + Expected output(s)

New Features

LABVIEW COMMUNITY

Simplified Code Sharing



ni.com/code

LabVIEW Idea Exchange

41 Kudos! **Allow the Distribute Tool to work on Wires**

19 Kudos! **Why is there no function to reverse "Index & Bundle Cluster Array"**

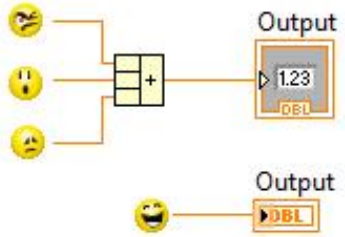
32 Kudos! **Allow a quick "Timing Probe" for Timing Metrics**

23 Kudos! **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

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 to download

- Automate repetitive programming tasks
- Develop new features

5 Other Cool Features

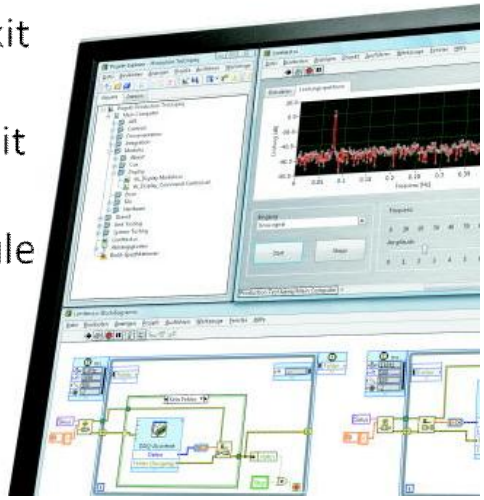
1. SSL for Web Services
2. Generate .NET Interop Assemblies
3. Object-Oriented Programming Enhancements
4. Improvements to Curve-Fitting VIs
5. New Partial Differential Equation Palette

Try the entire LabVIEW Platform

Evaluate fully-functional 30-day trials of LabVIEW and over 25 add-on products, including...

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

Also includes...
NI Device Drivers



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LabVIEW 2009
Customer Resources

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What is LabVIEW?

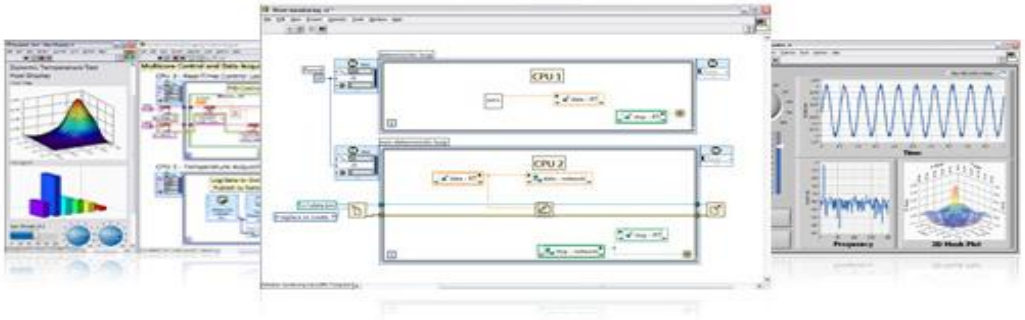
Home | New Features | LabVIEW Applications | Try LabVIEW | Upgrade/Buy

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 program and field-programmable gate arrays (FPGAs), LabVIEW 2009 provi technologies and simplifies real-time math by streamlining mathen deployment to deterministic hardware.

See New Features

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

View all Applications

ni.com/labview/whatsnew

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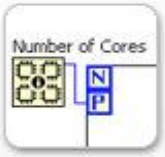

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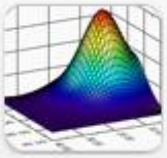

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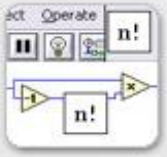

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Deploy your custom .m files to real-time hardware.

See the Features in Action

Watch Webcast

Upgrade to LabVIEW 2009

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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

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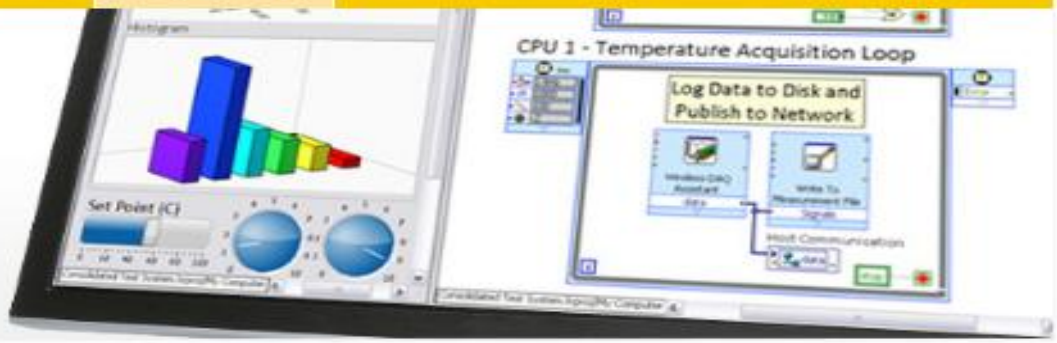
Upgrade to LabVIEW 2009

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**

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Buy LabVIEW 2009

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

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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.

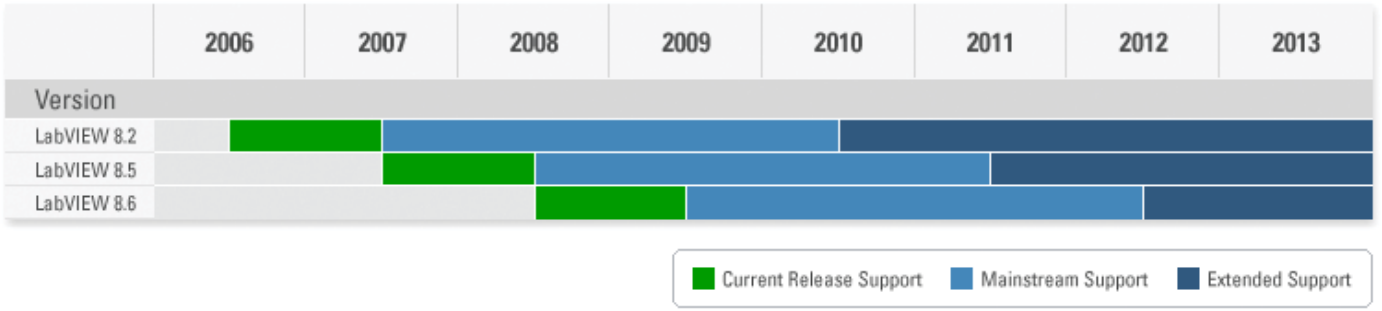
LabVIEW Release Notes
Review system requirements and installation instructions.

Note: NI Software Mair
South Amer

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
Technical Support			
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)	✓	✓	–[2]
Hardware Support[1]			
Current device driver distributions continue to install support	✓	✓	–[2]
LabVIEW service packs/maintenance releases (scheduled updates and fixes)	✓	–	–
Purchase			
Product Available for Purchase	✓	✓ (upon request)	–[2]

ni.com/labview/product_lifecycle.htm

LabVIEW Operating System Support

ni.com/labview/os_support.htm