LabVIEW User Group Meeting

Long Island Chapter
September 11th 2008
What’s New in LabVIEW 8.6

Robert Berger
National Instruments
NI LabVIEW 8.6 Release Goals

• Provide access to the latest technologies
• Respond to user requests
  ▪ Usability and productivity
  ▪ Visualization
  ▪ Multiplatform support
  ▪ Open connectivity
• Simplify upgrading LabVIEW applications
• Provide increased access to the entire platform
Engineering Solutions Require Performance

Unmanned Vehicles

Simulation

Robotics

Green Engineering

Wireless

Next Generation Wireless Test

<table>
<thead>
<tr>
<th>Technology</th>
<th>Result</th>
<th>Time</th>
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<td>Bluetooth</td>
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Go Parallel with LabVIEW 8.6

- Take your measurements anywhere with Wi-Fi data acquisition
- Achieve advanced performance with multicore at your desktop
- Take advantage of innovative ease-of-use for FPGA programming
Measurements Anywhere with Wi-Fi DAQ

- Predictive machine maintenance
- Structural health diagnostics
- Environmental quality monitoring
- Industrial remote monitoring

NI Wi-Fi Hardware
Improved Analysis with Multicore Performance

• Over 1,200 multicore-optimized analysis and signal processing functions
• Over 100 NI Modulation Toolkit multicore-optimized functions for RF test
• New multicore-optimized vision algorithms
FPGAs are:
• Truly parallel
• High performance
• Software configurable
• Flexible
• Reliable
Responding to User Requests
Improved Usability and Productivity

• Block diagram cleanup tool
• Quick Drop
• Automated case structure tunnel linking
• Edit properties of multiple objects simultaneously
• Smaller VIs on disk
Express Visualization on 3D Models

- Import user-defined 3D CAD models
- Map live measurements for advanced visualization
Algorithm Engineering with MathScript

• Advanced LabVIEW MathScript Node debugging
  ▪ Edit-time error checking
  ▪ Breakpoints
  ▪ Probing
  ▪ Single stepping
  ▪ Syntax highlighting

• 39 new supported functions
Multiplatform Support for Mac OS X and Linux®

- LabVIEW MathScript support
- Platform-independent 3D graph
- LabVIEW Control Design and Simulation Module support

Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.
Call VIs as Standard Web Services

- Windows and Real-Time
- Custom Web clients
- No run-time engine needed
- Standard HTTP protocol
- Firewall friendly

Web Server

LabVIEW

Thin Client

Thin Client
Upgrading Your Application
Upgrade Resources

• LabVIEW Platform DVDs
• Upgrade Notes
• Release Notes
• How to Upgrade (white paper)
• How to Upgrade (webcast)
• Upgrade case studies
Access to the Entire LabVIEW Platform

Easily install LabVIEW and add-on software from DVDs

<table>
<thead>
<tr>
<th>Product</th>
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<tbody>
<tr>
<td>LabVIEW</td>
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<tr>
<td>Real-Time Module</td>
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<tr>
<td>FPGA Module</td>
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<tr>
<td>DSC Module</td>
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<tr>
<td>Statechart Module</td>
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<tr>
<td>Touch Panel Module</td>
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<tr>
<td>Microprocessor SDK</td>
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<tr>
<td>NI Motion Assistant</td>
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<tr>
<td>PID Control Toolkit</td>
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<tr>
<td>Report Generation Toolkit</td>
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<tr>
<td>More...</td>
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LabVIEW Development Platform

LabVIEW Development System

- Real-Time Module
- FPGA Module
- DSC Module
- Statechart Module
- Mobile Module
- Touch Panel Module
- Microprocessor SDK
- Control Design & Sim Module

English | French | German | Japanese | Korean | Simplified Chinese

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LabVIEW Real-Time Module

- Access NI CompactRIO I/O quickly with the new CompactRIO Scan Mode
- Choose LabVIEW FPGA Mode for advanced control and analysis
- Easily set up your system with NI Distributed System Manager
- Use industrial control functions based on the IEC 61131-3 standard
LabVIEW FPGA Module

- Decrease time spent compiling to VHDL with simulation on the desktop
- Implement complex algorithms with comprehensive fixed-point support
- Use new windowing and FFT IP
- Integrate external IP from any source with the CLIP Node
LabVIEW Statechart Module

• Visualize statechart behavior with new front panel object

• Enhanced debugging on LabVIEW Real-Time targets

• Improved edit and run-time performance
Additional LabVIEW Module Features

• LabVIEW Control Design and Simulation Module
  ▪ Up to 5X loop rate performance improvements

• LabVIEW Microprocessor SDK
  ▪ Deploy to ARM microcontrollers and dual-core Blackfin processors

• LabVIEW Datalogging and Supervisory Control Module
  ▪ Improved edit-time performance of shared variables

• LabVIEW Touch Panel Module
  ▪ Program Windows XP Embedded targets
Questions?

• Visit [ni.com/labview/upgrade](ni.com/labview/upgrade) for more information on new LabVIEW 8.6 features
• Test-drive LabVIEW 8.6 at [ni.com/trylabview](ni.com/trylabview)