IEEE instrumentation & measurement society®

LabVIEW User Group Meeting

Long Island Chapter

September 11th 2008

What's New in LabVIEW 8.6

Robert Berger

National Instruments

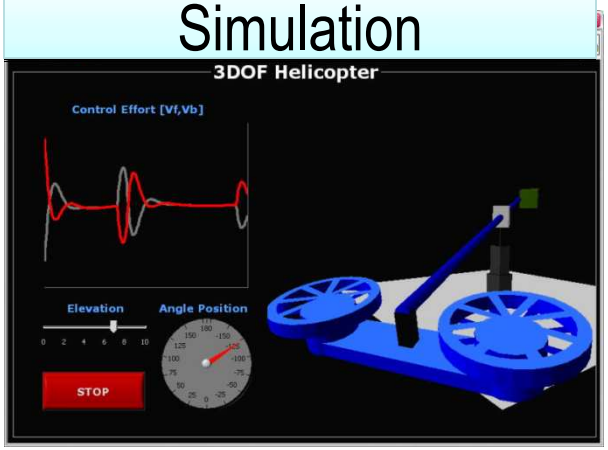
NI LabVIEW 8.6 Release Goals

- 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

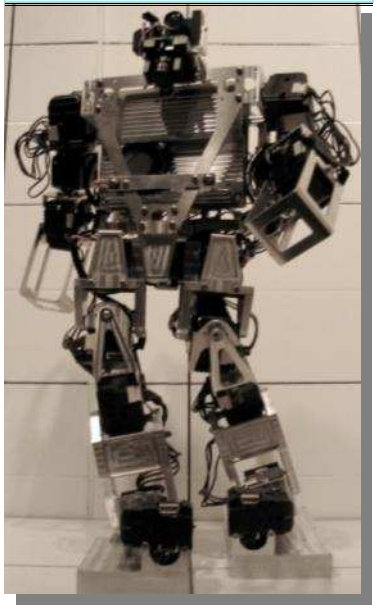
Engineering Solutions Require Performance

Unmanned Vehicles

Simulation



Robotics



Green Engineering

Wireless

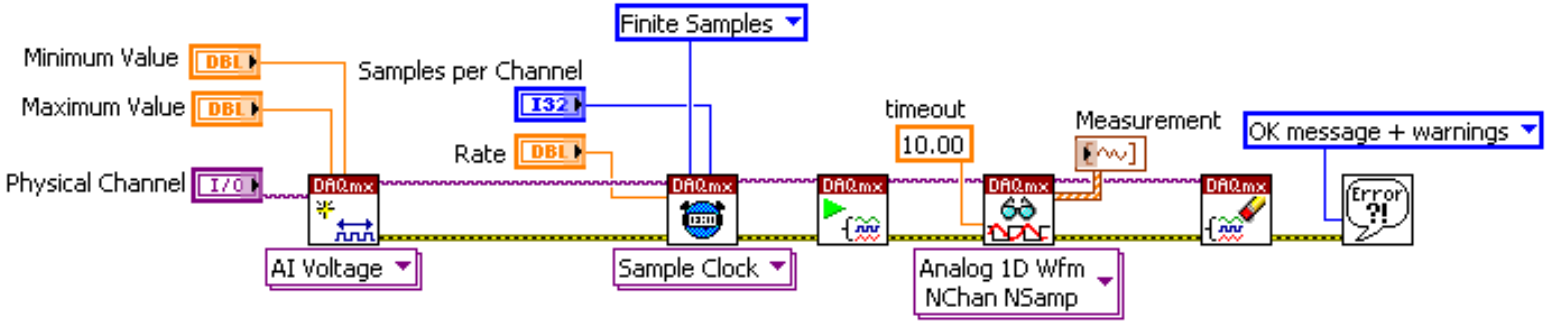
Go Parallel with LabVIEW 8.6

- 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

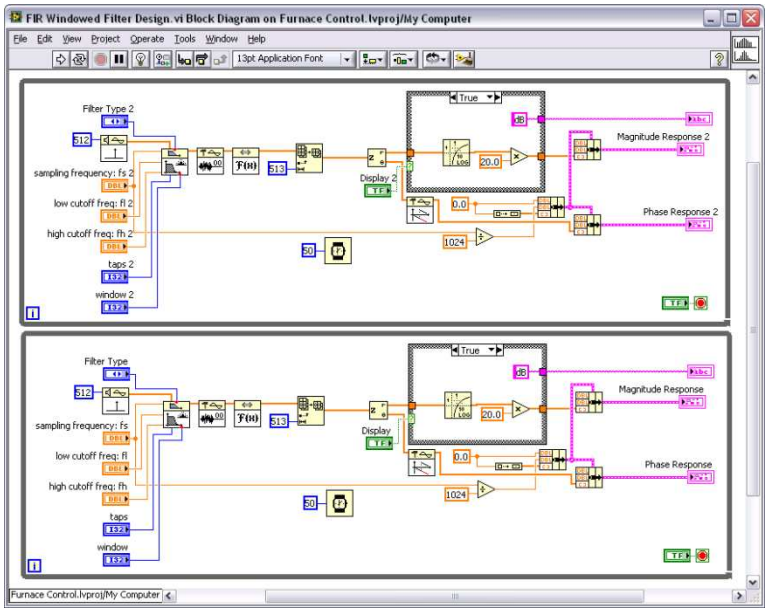
- Predictive machine maintenance
- Structural health diagnostics
- Environmental quality monitoring
- Industrial remote monitoring

NI Wi-Fi Hardware



Improved Analysis with Multicore Performance

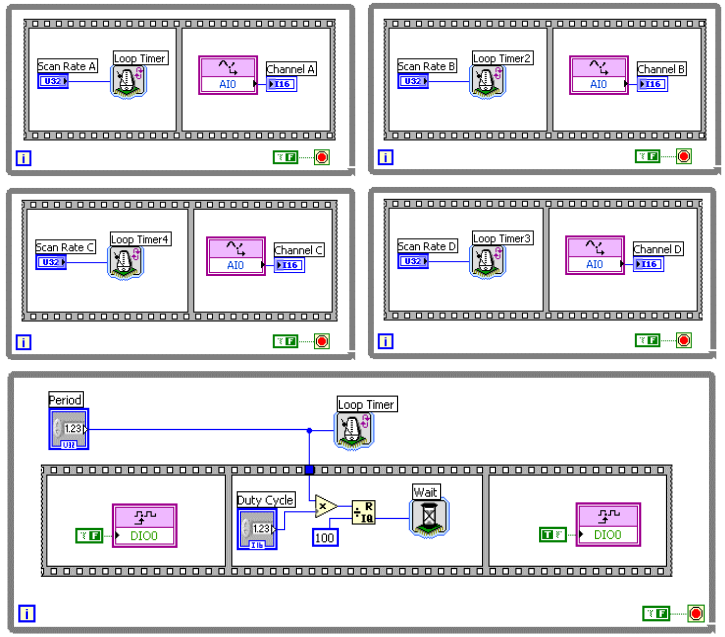
- Over 1,200 multicore-optimized analysis and signal processing functions
- Over 100 NI Modulation Toolkit multicore-optimzed functions for RF test
- New multicore-optimized vision algorithms



Innovative Ease-of-Use for FPGA Programming

FPGAs are:

- Truly parallel
- High performance
- Software configurable
- Flexible
- Reliable



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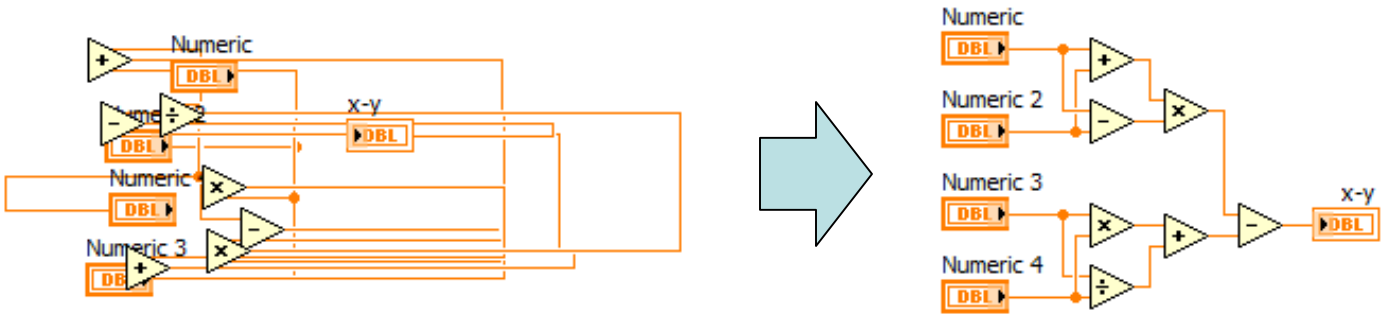
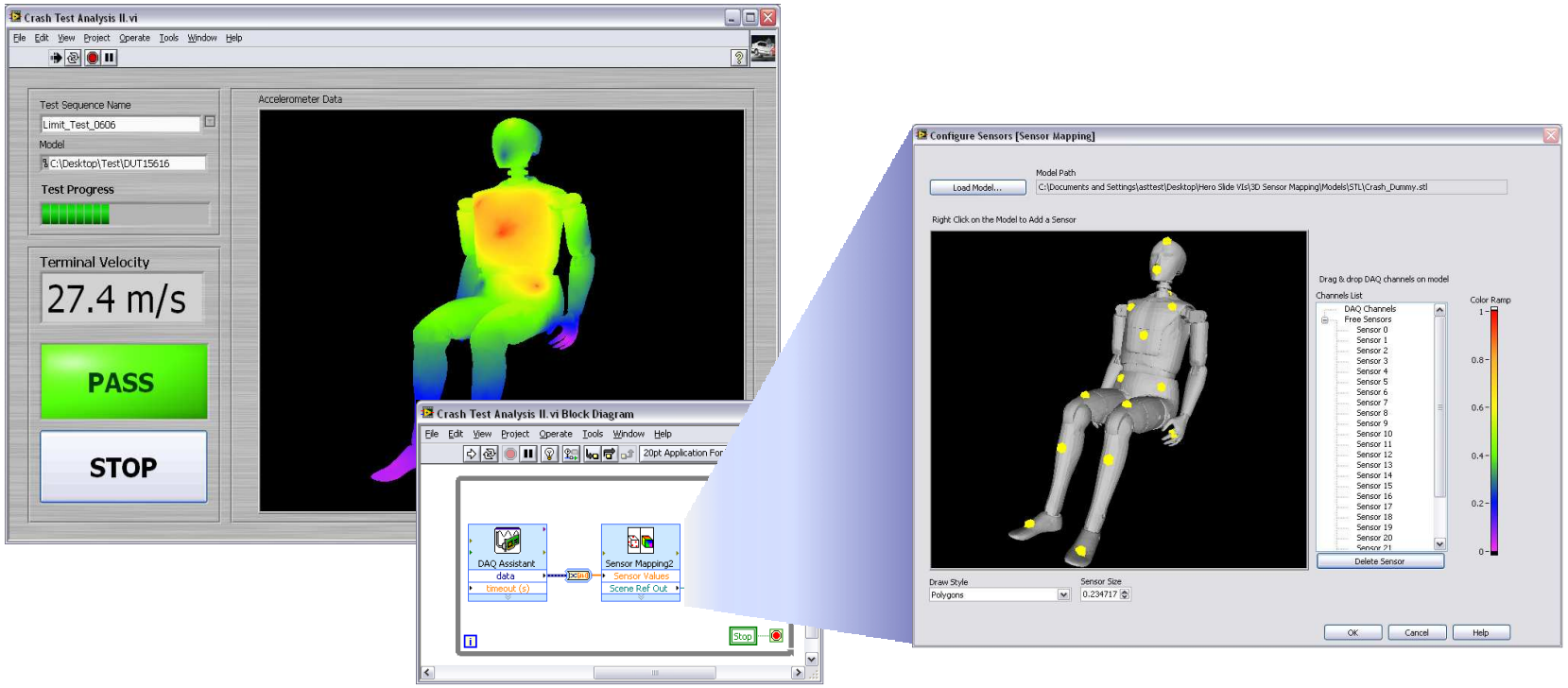
Responding to User Requests

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



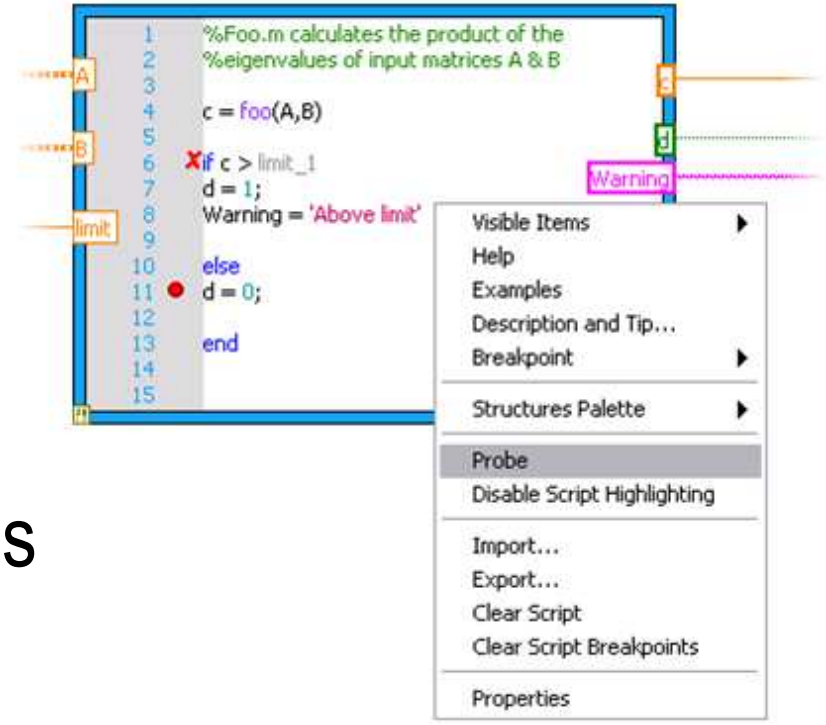
Express Visualization on 3D Models



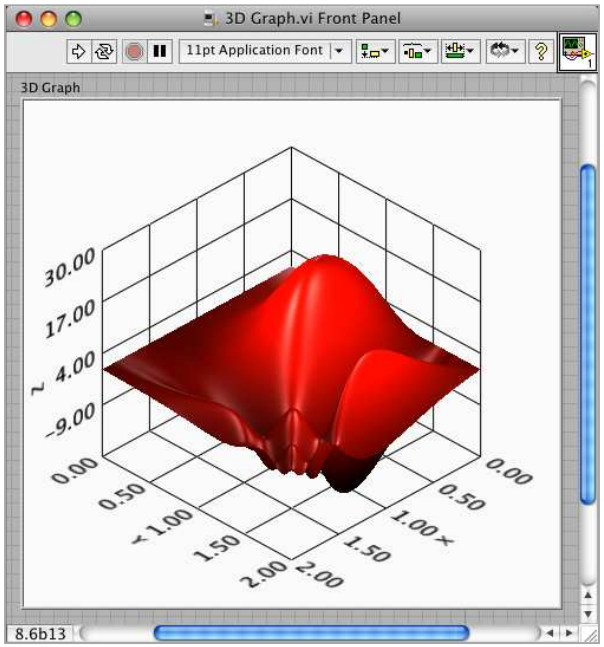
- Import user-defined 3D CAD models
- Map live measurements for advanced visualization

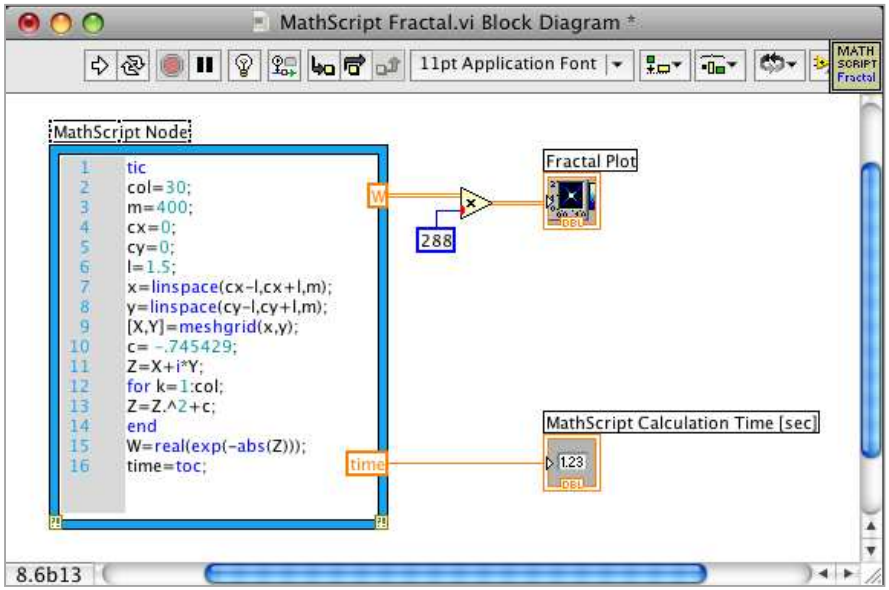
Algorithm Engineering with MathScript

- Advanced LabVIEW MathScript Node debugging
  - Edit-time error checking
  - Breakpoints
  - Probing
  - Single stepping
  - Syntax highlighting
- 39 new supported functions



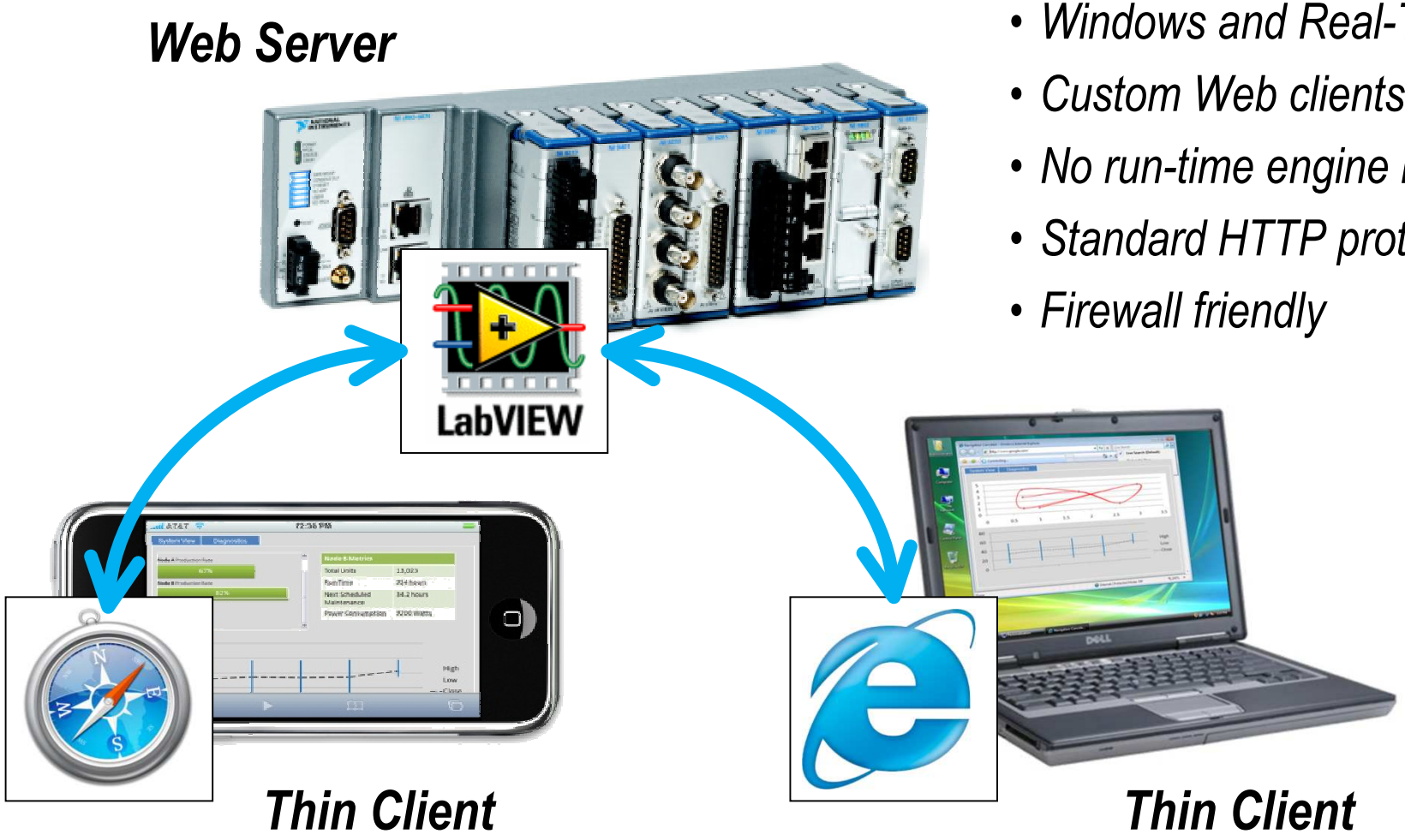
Multiplatform Support for Mac OS X and Linux®





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

Call VIs as Standard Web Services



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

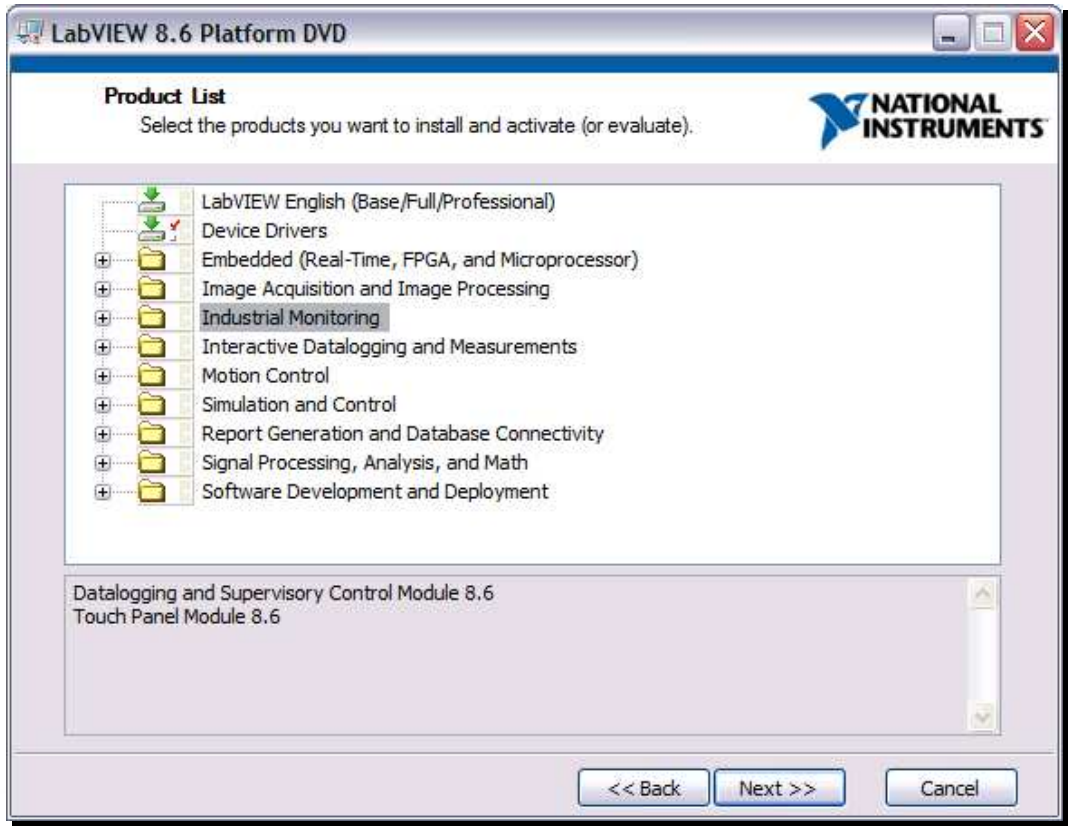
Upgrading Your Application

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



LabVIEW

Real-Time Module

FPGA Module

DSC Module

Statechart Module

Touch Panel Module

Microprocessor SDK

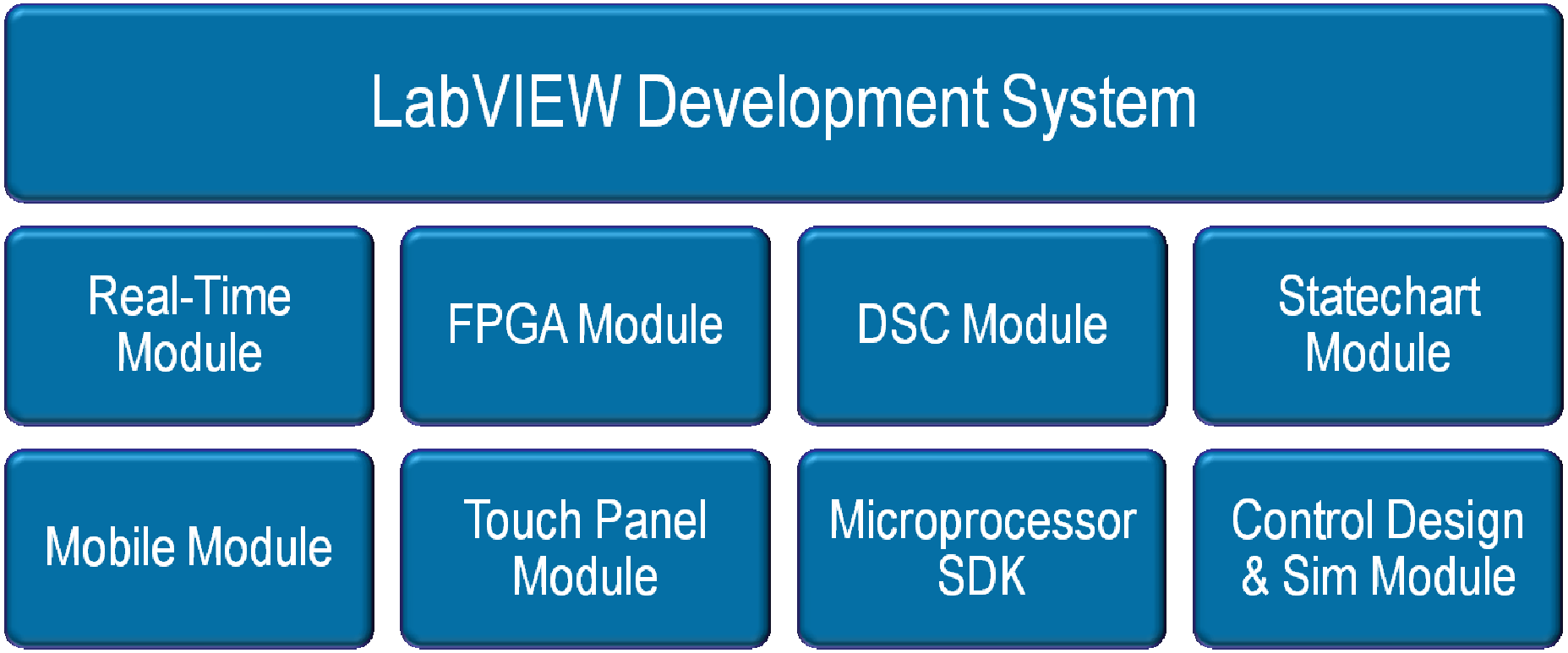
NI Motion Assistant

PID Control Toolkit

Report Generation Toolkit

More…

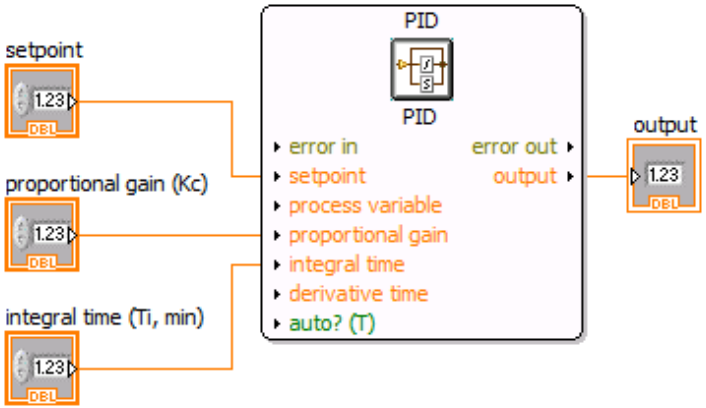
LabVIEW Development Platform

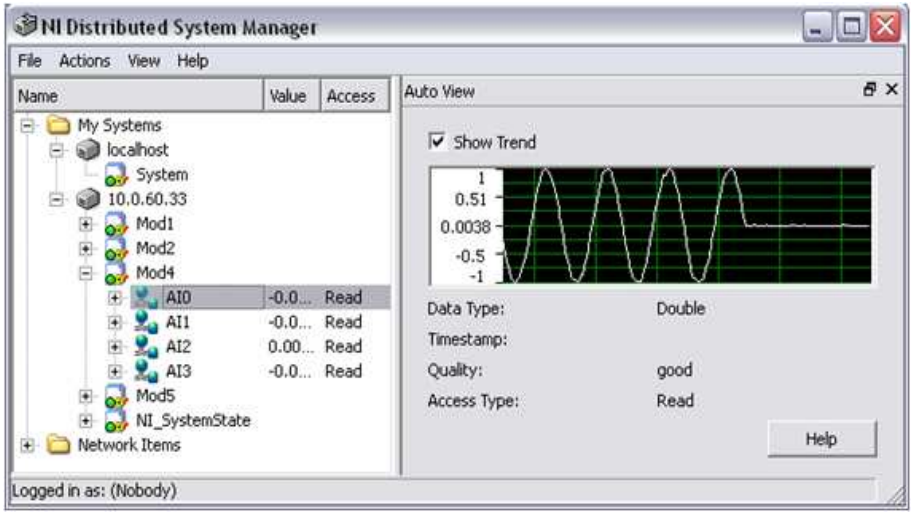


English | French | German | Japanese | Korean | Simplified Chinese

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





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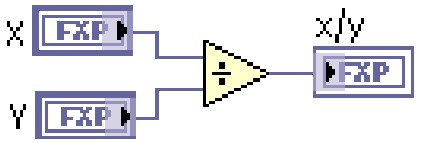
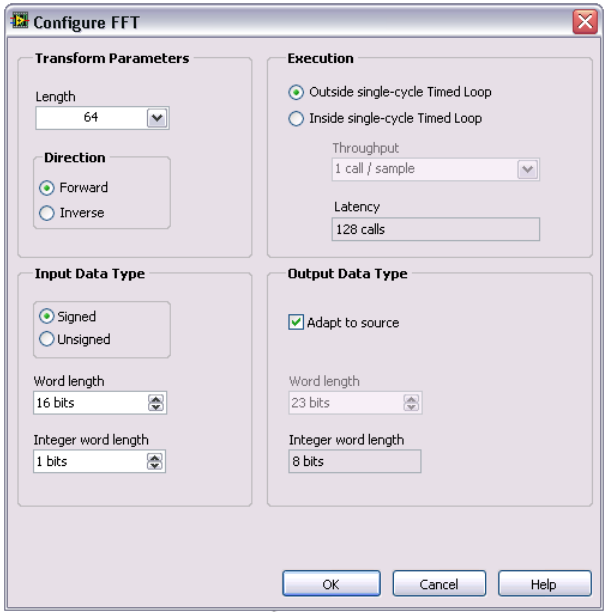
LabVIEW FPGA Module

- Decrease time spent compiling to VHDL with simulation on the desktop



- Implement complex algorithms with comprehensive fixed-point support

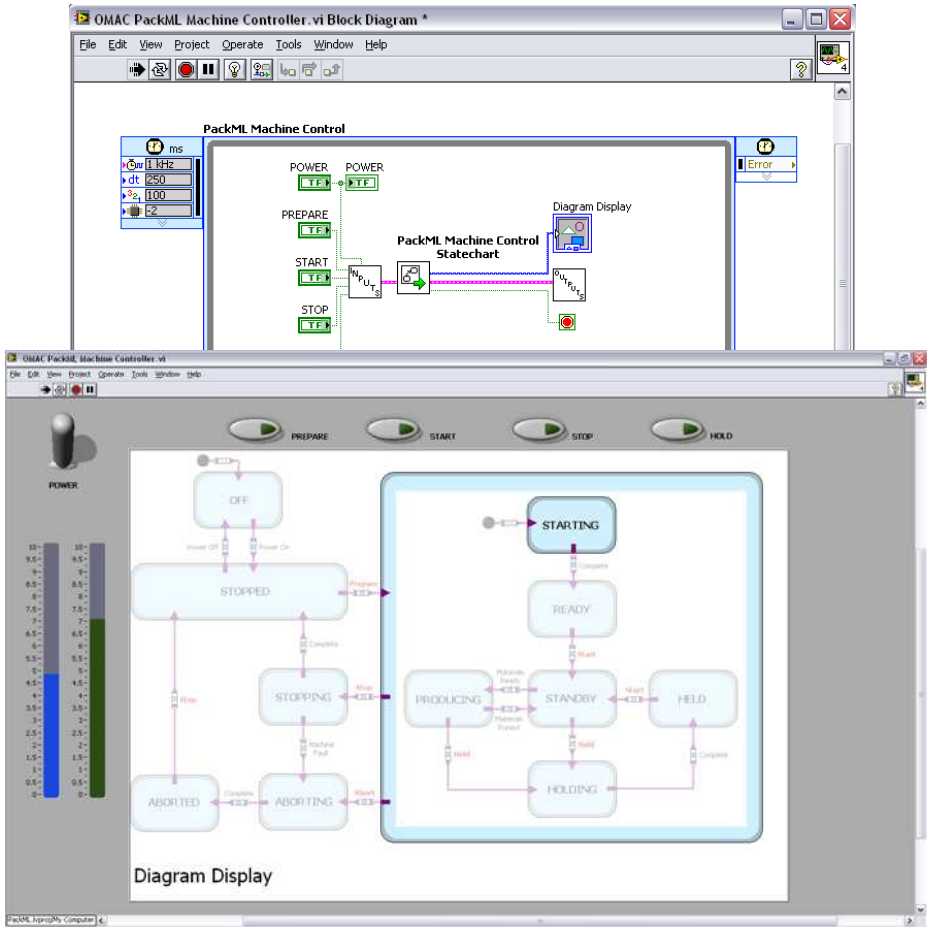


- Use new windowing and FFT IP

- 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



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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 for more information on new LabVIEW 8.6 features
- Test-drive LabVIEW 8.6 at ni.com/trylabview