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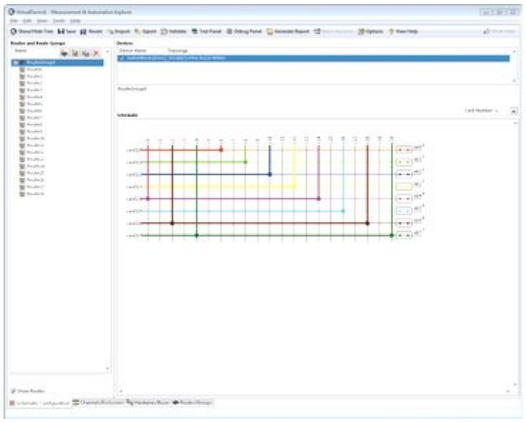
Find the *National Instruments NI Switch Executive* at our website: *Click HERE*

Requirements and Compatibility

*For user manuals and dimensional drawings, visit the product page resources tab on ni.com.*

*Last Revised: 2014-11-06 07:15:21.0*

# NI Switch Executive - Intelligent Switch Management Software



- Graphical Route Configuration Utility
- Intuitive channel and route naming
- Integration with Microsoft Excel
- Cross-module routing features
- Switch hardware simulation
- Automatic configuration of routes
- Modular architecture that facilitates code reuse

## Overview

NI Switch Executive is an intelligent switch management and routing application you can use to accelerate the development of your switch system. Add abstraction and intuitiveness to your programming by interactively configuring and naming switch modules, external connections, and signal routes. Also reuse existing code when scaling your system. In addition, NI Switch Executive simplifies your switch code maintenance through interactive debugging, validation, and reporting tools. You can deploy your NI Switch Executive configuration with NI TestStand test management software, the NI LabVIEW and LabWindows/CVI development environments, as well as Microsoft Visual Basic and ANSI C/C++. Ultimately, NI Switch Executive helps lower your cost of test by reducing development time and minimizing maintenance effort.

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## Requirements and Compatibility

### OS Information

- Windows 2000/XP
- Windows 7
- Windows Vista

### Software Compatibility

- LabVIEW
- LabWindows/CVI
- NI TestStand Development System
- Visual Basic
- Visual C#
- Visual C++

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## Application and Technology

### Simplify Maintenance

- Ability to export configurations to file for backup
- Validation and reporting tools
- Interactive test panels for debugging code

### Switch Hardware

- Control PXI, SCXI, GPIB, and VXI switch modules
- Use any IVI-C-compliant switch driver
- Configure NI and third-party switch modules

### Accelerate Switch System Development

**Graphically Configure Routes**

The NI Switch Executive application programming interface is designed for rapid system-level programming. The Graphical Route Configuration Utility for NI switches makes switch configuration a simple point-and-click operation. Switch illustrations are used instead of text fields to create individual routes or route groups as shown in Figure 1. After you define a route, it remains constant to ensure calibration accuracy. Customizing the channel names and defining hardwired channels are also possible from this interactive utility.

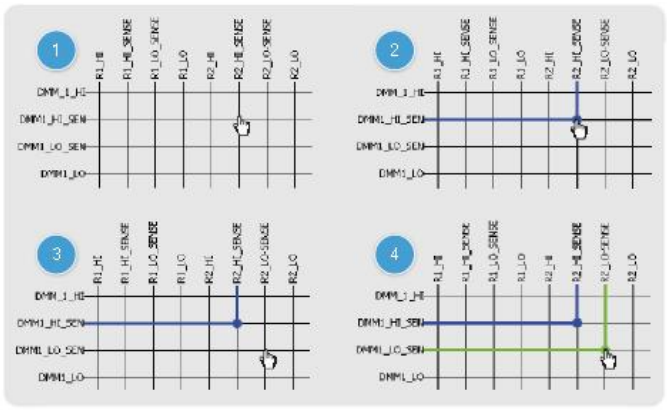


*Figure 1. Configuring a Route Group Using the Graphical Route Configuration Utility*

**Rapidly Scale Systems**

With NI Switch Executive, scaling your switch system from a few channels to many thousands is a breeze. Using the import/export feature, you can export your virtual device to file and open it in Microsoft Excel. From there, you can edit your configuration and expand your channel count using the simple text editing features and advanced formulas. When you are satisfied with your changes, you can import your configuration back to a new or existing virtual device.

**Build Complex Switch Systems Quickly**

With NI Switch Executive, you can configure all of the switch modules in your system as one virtual device. You can assign alias names—usually instrument names, test points, or other signals—to each of your terminals so that they are easier to remember and manage. You can also configure hardwires and buses to describe the physical connections between each module, so you can automatically route signals to any endpoint in your system. In addition, NI Switch Executive is built on top of the IVI switch class driver and works with any IVI-C-compliant switch driver. You can integrate and control PXI, SCXI, GPIB, and VXI switch modules from National Instruments and many third-party switch vendors.

**Reuse Code When Expanding Your System**

NI Switch Executive facilitates code reuse by separating switch configuration from the test code. With traditional driver software, your test code requires significant modifications each time your switch hardware changes. With NI Switch Executive, your switch code dynamically calls a configuration file, so changes in your configuration are automatically reflected in your code. This means you can reuse code even when hardware changes occur.

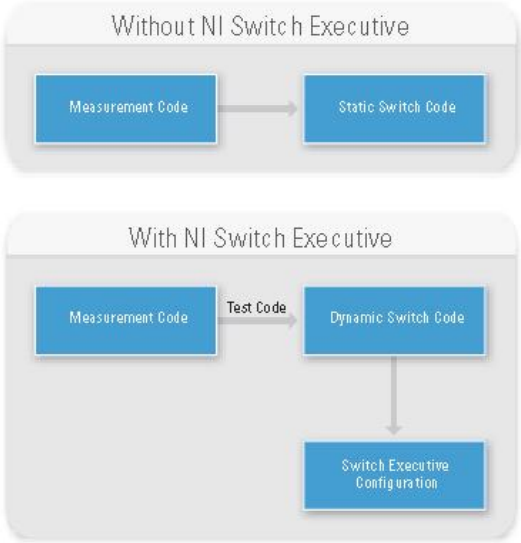



*Figure 2. NI Switch Executive Separates Switch Configuration From Test Code*

**Debug Using Interactive Test Panels**

With graphical debugging tools such as the built-in test panel and the NI-SWITCH Soft Front Panel, NI Switch Executive makes the process of debugging elementary. The graphical NI-SWITCH Soft Front Panel updates in real time while your code executes, so you can quickly identify errors in your switch code.

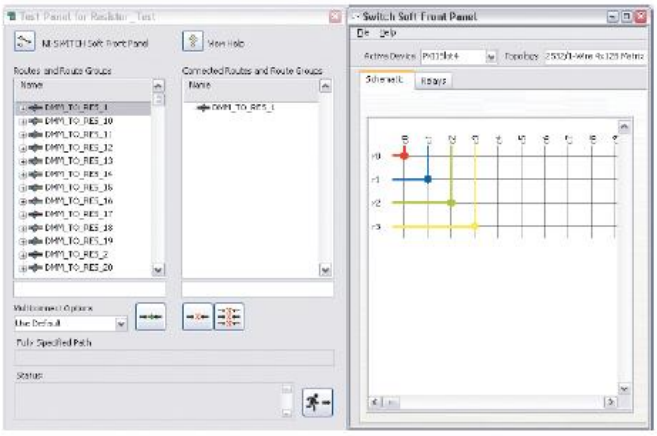


*Figure 3. Graphical Debugging in NI Switch Executive*

**Save Time With Assisted Routing**

You can also save time with assisted routing. With NI Switch Executive, you interactively define and name switch routes that you later use in your test application. You simply choose your named endpoints, and the built-in intelligence in NI Switch Executive finds an available route. You can also input your signal characteristics and define sophisticated channel exclusions for finer control of automatic routing. The interactive interface displays the full signal path of the route. After you define a route, it remains constant to ensure calibration accuracy.

### Simplify Switch System Maintenance

**Easily Validate and Deploy Your Configuration**

With the simple click of a button, NI Switch Executive validates the IVI switch devices, routes, and route groups in your application, returning any errors that need correction. Next, you can export the completed switch configurations to a single file for deployment. On your target computer, you use the NI Switch Executive deployment engine to import and view any NI Switch Executive configuration from a file or the network, validate the deployment setup, and programmatically control a switch device.

**Export Configurations for Backup**

NI Switch Executive gives you the flexibility to save your configuration. With this feature, you can create backups of your configuration for future modifications and avoid loss of information.

### Integrate With NI TestStand

In addition to programmatic control, you have the ability to route NI Switch Executive virtual devices from any NI TestStand step by configuring the step properties. NI TestStand is leading commercial off-the-shelf test management software for organizing, controlling, and executing your automated test systems. The powerful combination of NI Switch Executive and NI TestStand removes the complexity and maintenance of switch programming from your test development, which speeds your development and system deployment. For more information on NI TestStand, visit ni.com/teststand.

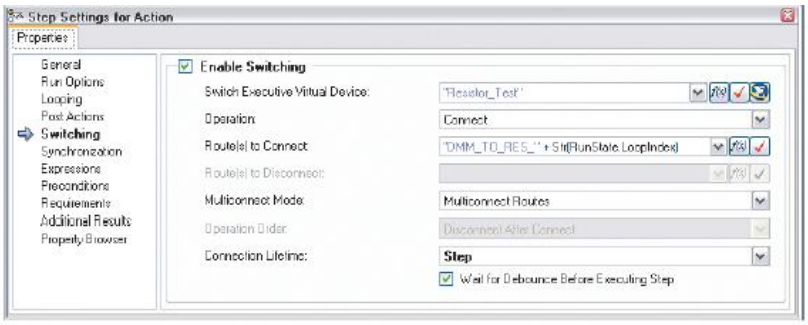



*Figure 4. Integrating Switching Into NI TestStand Steps*

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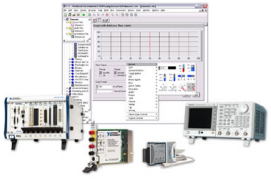
## Software Recommendations

**NI LabVIEW Full Development System for Windows**



- Fully integrated graphical system design software
- Support for a wide range of measurement hardware, I/O, and buses
- Custom, event-driven user interfaces for measurement and control
- Extensive signal processing, analysis, and math functionality
- Advanced compiler to ensure high-performance execution and code optimization
-

**NI LabWindows™/CVI for Windows**



- Real-time advanced 2D graphs and charts
- Complete hardware compatibility with IVI, VISA, DAQ, GPIB, and serial
- Analysis tools for array manipulation, signal processing statistics, and curve fitting
- Simplified cross-platform communication with network variables
- Measurement Studio .NET tools (included in LabWindows/CVI Full only)
- The mark LabWindows is used under a license from Microsoft Corporation.

| | |
|---|---|
| | Includes SSP for professional technical support, online training, and software upgrades |

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## Support and Services

### System Assurance Programs

NI system assurance programs are designed to make it even easier for you to own an NI system. These programs include configuration and deployment services for your NI PXI, CompactRIO, or Compact FieldPoint system. The NI Basic System Assurance Program provides a simple integration test and ensures that your system is delivered completely assembled in one box. When you configure your system with the NI Standard System Assurance Program, you can select from available NI system driver sets and application development environments to create customized, reorderable software configurations. Your system arrives fully assembled and tested in one box with your software preinstalled. When you order your system with the standard program, you also receive system-specific documentation including a bill of materials, an integration test report, a recommended maintenance plan, and frequently asked question documents. Finally, the standard program reduces the total cost of owning an NI system by providing three years of warranty coverage and calibration service. Use the online product advisors at ni.com/advisor to find a system assurance program to meet your needs.

### Technical Support

Get answers to your technical questions using the following National Instruments resources.

- **Support** - Visit ni.com/support to access the NI KnowledgeBase, example programs, and tutorials or to contact our applications engineers who are located in NI sales offices around the world and speak the local language.
- **Discussion Forums** - Visit forums.ni.com for a diverse set of discussion boards on topics you care about.
- **Online Community** - Visit community.ni.com to find, contribute, or collaborate on customer-contributed technical content with users like you.

### Repair

While you may never need your hardware repaired, NI understands that unexpected events may lead to necessary repairs. NI offers repair services performed by highly trained technicians who quickly return your device with the guarantee that it will perform to factory specifications. For more information, visit ni.com/repair.

### Training and Certifications

The NI training and certification program delivers the fastest, most certain route to increased proficiency and productivity using NI software and hardware. Training builds the skills to more efficiently develop robust, maintainable applications, while certification validates your knowledge and ability.

- **Classroom training in cities worldwide** - the most comprehensive hands-on training taught by engineers.
- **On-site training at your facility** - an excellent option to train multiple employees at the same time.
- **Online instructor-led training** - lower-cost, remote training if classroom or on-site courses are not possible.
- **Course kits** - lowest-cost, self-paced training that you can use as reference guides.
- **Training memberships** and training credits - to buy now and schedule training later.

Visit ni.com/training for more information.

### Extended Warranty

NI offers options for extending the standard product warranty to meet the life-cycle requirements of your project. In addition, because NI understands that your requirements may change, the extended warranty is flexible in length and easily renewed. For more information, visit ni.com/warranty.

### OEM

NI offers design-in consulting and product integration assistance if you need NI products for OEM applications. For information about special pricing and services for OEM customers, visit ni.com/oem.

### Alliance

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 700 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit ni.com/alliance.

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