

# TESTSTAND™ RELEASE NOTES

## Version 2.0.1

These release notes contain system requirements, installation instructions, new features, and updated information to help you begin using TestStand 2.0.1.

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# TestStand Installation

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The TestStand setup program installs TestStand on your computer in approximately 10 minutes.

## Minimum System Requirements

To run TestStand, you must have the following:

- Windows 2000/NT/XP/Me/9x. For Windows NT 4.0, National Instruments recommends Service Pack 3 or later.
- 266 MHz Pentium class or higher microprocessor.
- SVGA resolution or higher video adapter, with a minimum 800 × 600 video resolution.
- Minimum of 64 MB of memory.
- 100 MB free hard disk space (250 MB recommended).
- Microsoft-compatible mouse.

## Installing TestStand



**Note** National Instruments recommends that you close all open applications before you install TestStand.



**Caution** If you have LabVIEW VIs that you saved with a version of LabVIEW older than 5.1 that call the TestStand API, you *must* mass compile them in LabVIEW 5.1 or later before installing TestStand. If you do not mass compile your VIs, you will have to manually update all ActiveX diagram node that uses the TestStand API. The TestStand installer displays a message box that prompts you to mass compile your VIs if it detects an existing LabVIEW installation.

Follow these instructions to install TestStand:

1. Insert your TestStand Installation CD into your CD-ROM drive.
2. Choose **Run** from the **Start** menu.
3. Type `x:\tssetup.exe` in the input box, where *x* is your CD-ROM drive, and click **OK**.
4. Follow the instructions that appear in the dialog boxes.

National Instruments recommends that you install the complete TestStand program to take full advantage of all the TestStand capabilities. If you choose to install with options, select the options you want to install and follow the directions on the screen. If necessary, you can run the setup program again later and install additional files.

For any known compatibility issues, refer to the <TestStand>\Doc\Readme.txt file.

## Upgrade Notes

This section contains information on how to upgrade from a previous version of TestStand.

### Preserving Your Changes to TestStand Components

TestStand includes several components that users may change, such as the process model, operator interfaces, and certain step types. If you have made changes to one of these components and placed the changes in the appropriate user directory, TestStand will not overwrite your changes. Your modified component will continue to function correctly with TestStand.

However, if you want both the changes you have made to a component and the changes that TestStand 2.0.1 provides, you must do one of the following:

- Use a file-differencing tool to determine the changes between the TestStand 2.0.1 version of the component and the original version of the component that you modified. Apply the TestStand 2.0.1 improvements to your version of the component.
- Use a file-differencing tool to determine the changes you made to the component. Reapply your improvements to a copy you make of the TestStand 2.0.1 version of the component.

Which option you choose depends on whether you or TestStand 2.0.1 made the larger number of changes to the component.

To compare sequence files, use the sequence file diff/merge tool in the TestStand 2.0.1 sequence editor. To compare text files, use a source code differencing tool such as Microsoft Windiff, or the file diff/merge tool in the LabWindows/CVI editor.



**Note** Subsets of different versions of the same component are not necessarily interoperable without modifications. For example, you cannot replace a single sequence in the 2.0.1 process model with the corresponding sequence from the 1.0.x process model without making further modifications. If you customized the 1.0.x process model, you must

ensure that all subordinate components that the process model uses are found and possibly registered. The main process model sequence for 1.0.x uses separate sequences, DLLs, and ActiveX servers to support database and report features.

## Installing Multiple TestStand Versions on the Same Machine

National Instruments recommends that you install only one version of TestStand on a particular machine. Although TestStand will install on a machine that contains a previous TestStand version, only one version of TestStand can be active at a time. If you must install TestStand 2.0.1 on the same machine as an earlier TestStand version, you can use TestStand Version Selector to select which TestStand version is active. You can find the TestStand Version Selector in the following directory, `C:\Program Files\National Instruments\Shared\TestStandVerSelect\TSVerSelect.exe`.

If you activate TestStand 2.0.1 and run an operator interface from your 1.0.x installation, the operator interface uses the 2.0.1 engine, step types, and components. If you activate TestStand 1.0.x and run a TestStand 2.0.1 operator interface or the sequence editor, the application you run will not function correctly.

TestStand 2.0 and 2.0.1 install shortcut items to the **Start»Programs»National Instruments»TestStand** menu. Previous versions of TestStand installed shortcut items to the **Start»Programs»National Instruments»TestStand** menu. When you install TestStand 2.0 or 2.0.1 without uninstalling a previous version of TestStand, your start menu contains both groups of shortcut items. The TestStand Version Selector does not alter start menu items or other application shortcuts. When you run the sequence editor or operator interface, you must be sure to select the version of TestStand that you intend to use.

## Changes Between TestStand 2.0 and 2.0.1

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### New Features

TestStand 2.0.1 contains the following new features:

- Translation to Japanese.
- Integration with National Instruments Switch Executive through the Switching tab on the Step Properties dialog box.

- IVI Switch step type. For more information, refer to `IVISwitchTypes.pdf` in the `<TestStand>\Doc\` directory.
- Documentation updates. For more information, refer to `DocumentationUpdates.pdf` in the `<TestStand>\Doc\` directory.



**Note** For a complete list of changes in TestStand 2.0.1, refer to the `<TestStand>\Doc\WhatsNew.txt` file.

## Switch Executive and Integration with TestStand

The Switching tab on the Step Properties dialog box specifies a switching action that TestStand performs for a step. This feature is available only if you install National Instruments Switch Executive. For more information about the Switching tab options, refer to the *Chapter 5—Step Properties Dialog Box* section in the `<TestStand>\Doc\` directory.

National Instruments Switch Executive enables you to configure a large portion of your switching system using a configuration tool. The Switch Executive configuration tool resides in National Instruments Measurement and Automation Explorer (MAX). From MAX, you can complete the following tasks:

- Define which National Instruments or third party switching devices your system uses.
- Assign alias names to channels/pins.
- Define hardwired connections.
- Predefine routes and route groups.

Once you configure your system, you can interact with your switching system at run time by configuring steps to connect and disconnect specific routes for a virtual device. For more information about the National Instruments Switch Executive product, refer to [ni.com/switchexecutive](http://ni.com/switchexecutive).

## Changes between TestStand 1.0.x and TestStand 2.0

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### New Features

If you are upgrading from TestStand 1.0.x, you will notice the following new features:

- Two new process models: Batch model and Parallel model
- Synchronization step types
- Built-in step synchronization properties

- Asynchronous sequence calls
- HTBasic Adapter
- API additions
- Workspaces, projects, and source code control
- Sequence file diff/merge tool
- IVI step types
- Instrument session manager
- Report enhancements
  - Automatic reporting
  - Batch reports
  - XML reports example
- Database logging
  - New database logger
  - TestStand 2.0 schema
  - Measurement logging
- Combined property loader
- Numeric Limit Test step enhancements
  - Units
  - Numeric Format
- Multiple Numeric Limit Test step
- Message Popup step enhancements
  - Timeouts
  - Positioning
  - Modality
- DLL Flexible Prototype Adapter enhancements
  - Structure passing
  - Enumeration parameters
  - Function call editing
- New engine callbacks
- Declare variable in the Expression Browser
- Save as version 1.0.x
- Step type enhancements
  - Multiple type palettes
  - Unlimited substeps
  - Combining step types

- Step type menu editor
- Version properties
- Apply changes to all step instances
- Update sequence files tool
- Various performance improvements
- Variable propagation
- Localized decimal point support
- Special floating point numbers: NAN, IND, INF
- New examples
- List view tip strips
- Installable tool menu items
- Operator interface manual source
- Failure chain in reports
- Documentation generator options
- File dialog box directory history list
- Improvements to the Assemble Test VIs tool

## Behavior Changes

If you are upgrading from TestStand 1.0.x, you will notice the following behavior changes.

### Numeric Limit Step

In TestStand 1.0.x, the Numeric Limit step provides a radix selection ring control that specifies the numeric format of limit values in the Edit Numeric Limit Test dialog box. In TestStand 2.0, these radix selections are a subset of a more general set of numeric formatting options available in the Numeric Format dialog box. Unlike TestStand 1.0.x, the Numeric Format option now applies to the limit and measurement values for the step in the test report.

### Creating Subproperties

TestStand no longer allows you to create subproperties under a property that is not a container. To conform to this change, TestStand has adjusted the structure of the User data type as follows:

- Each privilege group is a container property instead of a Boolean.
- Each privilege group has a Boolean subproperty named `GrantAll`. Instead of setting the Boolean value of a privilege group, you now set the `GrantAll` property to specify whether a user has all privileges within a privilege group.

Applications that check privileges with the `CurrentUserHasPrivilege` function will continue to function correctly with no changes. If your application depends on the ability to create subproperties within noncontainer properties, you can set the `NoSubPropertiesAllowedInNonContainers` entry in `TestExec.ini` to `False`. However, to ensure compatibility with future versions of TestStand, National Instruments recommends that you contact TestStand support for assistance in restructuring your application to avoid the use of this obsolete feature.

## Executing Steps

When an execution is terminating in TestStand 1.0.x and a step in the Cleanup step group calls a subsequence, the steps in the Main step group of the subsequence do not execute. TestStand 2.0 correctly executes the steps in the Main step group of the subsequence.

TestStand 1.0.x incorrectly checks the step run mode for `Force Pass` and `Force Fail` before evaluating the step precondition. TestStand 2.0 checks only the run mode for `Skip` before evaluating the step precondition and checks for `Force Pass` and `Force Fail` after evaluating the step precondition. For more information, refer to the *Order of Actions That a Step Performs* table in `<TestStand>\Doc\DocumentationUpdates.pdf`.

## LabVIEW Palette

In TestStand 2.0, the `TestStand API Enumerations.vi` is combined with `TestStand API Numeric Constants.vi`. TestStand 2.0 does not have the `VIs Get Property Value (Variant).vi` and `TestStand - Set Property Value (Variant).vi` because of a problem with LV variant indicators. For more information, refer to the *LabVIEW Related Problems* section in `<TestStand>\Doc\Readme.txt`. TestStand 2.0 has three new VIs: `GetSession.vi`, `TestStand - Start Modal Dialog.vi`, and `TestStand - End Modal Dialog.vi`.



# Additional Support Information

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For additional information on TestStand, refer to the following Web resources:

- **Support**—Visit [ni.com/support](http://ni.com/support) for access to the following:
  - KnowledgeBase—Search a database of tips, common questions, and more.
  - Troubleshooting Wizards.
  - Application notes and white papers.
- **Training**—Visit [ni.com/custed](http://ni.com/custed) for the following information:
  - Course schedules, descriptions, and registration information.
  - Self-paced training information.
- **Developer Resources**—Visit [zone.ni.com](http://zone.ni.com) for access to the following:
  - Resource Library—View example programs, technical presentations, and tutorials.
  - Developer Exchange—Participate in discussion forums and exchange code with measurement and automation developers around the world.
  - Product Advisor—Find the sensors, motors, cameras, and more to complete your next system. Explore detailed technical specifications from over 800 suppliers.
  - Measurement Encyclopedia—Find information about measurement principles, standards organizations, and a wide range of technology and measurement terms.