

# **SystemTest Release Notes**



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## Summary by Version

This table provides quick access to what's new in each version. For clarification, see "About Release Notes" on page 1.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
<b>Latest Version V2.0 (R2007b)</b>	Yes Details	Yes Summary	Bug Reports Includes fixes	Printable Release Notes: PDF  Current product documentation
V1.1 (R2007a)	Yes Details	Yes Summary	Bug Reports Includes fixes	No
V1.0.1 (R2006b)	No	No	Yes Details	No
V1.0 (R2006a+)	Yes Details	No	No	No

### About Release Notes

Use release notes when upgrading to a newer version to learn about new features and changes, and the potential impact on your existing files and practices. Release notes are also beneficial if you use or support multiple versions.

If you are not upgrading from the most recent previous version, review release notes for all interim versions, not just for the version you are installing. For example, when upgrading from V1.0 to V1.2, review the New Features and Changes, Version Compatibility Considerations, and Bug Reports for V1.1 and V1.2.

### New Features and Changes

These include

- New functionality

- Changes to existing functionality
- Changes to system requirements (complete system requirements for the current version are at the MathWorks Web site)
- Any version compatibility considerations associated with each new feature or change

### **Version Compatibility Considerations**

When a new feature or change introduces a reported incompatibility between versions, its description includes a **Compatibility Considerations** subsection that details the impact. For a list of all new features and changes that have reported compatibility impact, see the “Compatibility Summary for SystemTest” on page 11.

Compatibility issues that are reported after the product has been released are added to Bug Reports at the MathWorks Web site. Because bug fixes can sometimes result in incompatibilities, also review fixed bugs in Bug Reports for any compatibility impact.

### **Fixed Bugs and Known Problems**

MathWorks Bug Reports is a user-searchable database of known problems, workarounds, and fixes. The MathWorks updates the Bug Reports database as new problems and resolutions become known, so check it as needed for the latest information.

Access Bug Reports at the MathWorks Web site using your MathWorks Account. If you are not logged in to your MathWorks Account when you link to Bug Reports, you are prompted to log in or create an account. You then can view bug fixes and known problems for R14SP2 and more recent releases.

### **Related Documentation at Web Site**

**Printable Release Notes (PDF).** You can print release notes from the PDF version, located at the MathWorks Web site. The PDF version does not support links to other documents or to the Web site, such as to Bug Reports. Use the browser-based version of release notes for access to all information.

**Product Documentation.** At the MathWorks Web site, you can access complete product documentation for the current version and some previous versions, as noted in the summary table.

## Version 2.0 (R2007b) SystemTest

This table summarizes what's new in Version 2.0 (R2007b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes Summary	Bug Reports Includes fixes	Printable Release Notes: PDF  Current product documentation

New features and changes introduced in this version are:

- “Distributed Testing” on page 4
- “Randomized Test Vectors” on page 4
- “Grouped Test Vector Support in the Test Results Viewer” on page 5
- “Run SystemTest Tests from the MATLAB Command Line” on page 5
- “Platforms No Longer Supported” on page 5
- “Invalid Characters in Element Names” on page 5

### Distributed Testing

You can now distribute SystemTest tests across multiple computers or processors for faster performance. You must have a license for Distributed Computing Toolbox to use this feature.

You can set up a test and then distribute the test iterations as tasks, which are performed by different workers. No changes to the test setup are required. This can speed up the total time the test takes to execute.

### Randomized Test Vectors

SystemTest now provides an easy way to generate randomized test vector values for your test. Probability distribution functions can be used to set up test vectors, which is useful for performing Monte Carlo analyses.



If you have Statistics Toolbox, SystemTest integrates with it to provide use of some of its probability distribution functions, such as Exponential, Gamma, Lognormal, T, and Weibull. If you don't have Statistics Toolbox, you have access to MATLAB probability distribution functions such as Normal (Gaussian) and Uniform.

## **Grouped Test Vector Support in the Test Results Viewer**

The Test Results Viewer now lets you use grouped test vectors in plot configurations.

You can also show grouped test vectors as dependent variables in scatter plots. If a dependent variable is a grouped test vector, you can now explore the relationship it has with the other vectors in the group.

## **Run SystemTest Tests from the MATLAB Command Line**

You can now run tests that you set up in SystemTest from the MATLAB command line. This is useful for running multiple tests as a batch or calling a test file as part of an M-file.

## **Platforms No Longer Supported**

The following platforms are no longer supported for use with SystemTest:

- Solaris 64
- PowerPC Mac

Note that since these platforms are not supported, you cannot have any worker machines in a distributed testing cluster that use these platforms.

## **Invalid Characters in Element Names**

The following characters are now considered invalid to include within element names:

- ' ,

- <
- >

You cannot use these three characters in element names. If you create a new test element with one or more of these characters in the element name, then SystemTest throws an error dialog and the element name is reset to the default value, which is the name of the element type.

### **Compatibility Considerations**

If you try to load an existing test with an invalid element name (containing one or more of the three characters listed above), SystemTest displays an error dialog indicating that the element name is invalid. The test will load successfully, but the element with an invalid name is reset to use the default name for the element.

If this occurs, simply rename the element to a name that does not contain any of the invalid characters. You rename an element by double-clicking its name in the **Test Browser**.

## Version 1.1 (R2007a) SystemTest

This table summarizes what's new in Version 1.1 (R2007a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes Summary	Bug Reports Includes fixes	No

New features and changes introduced in this version are:

- “Enhanced Limit and Tolerance Checking” on page 7
- “Undo/Redo Support” on page 7
- “Flexible Test Iteration Definition Using Grouped Test Vectors” on page 8
- “Enhanced Reporting of Test Execution” on page 8
- “Test Results Viewer Save and Load Capabilities” on page 8
- “Remove Test Vectors from the Limit Check Element” on page 8

### Enhanced Limit and Tolerance Checking

The Limit Check element has new functionality that creates many more options for defining the pass/fail criteria for a test. In addition to scalar versus scalar comparisons, other comparison types are now supported: scalar versus vector, vector versus vector, and matrix versus matrix. You can now perform tolerance checking as well. This feature allows you to check absolute tolerance or relative tolerance of variables used throughout SystemTest.

### Undo/Redo Support

Undo/redo support is now available in the SystemTest desktop.

## Flexible Test Iteration Definition Using Grouped Test Vectors

Test vectors can now be grouped, in order to affect the way iterations are run. By grouping test vectors, they will be combined sequentially with the other grouped vectors, and then permuted with all the ungrouped test vectors. This gives you more control over the flow of your tests and is useful for Monte Carlo or Design of Experiments (DOE) based testing as well as defining signal groups, similar to those defined in the Simulink® Signal Builder block.

## Enhanced Reporting of Test Execution

Reports generated for the test execution now contain more information. For example, the new report includes test description text, snapshots of the plots generated by Plot elements, and snapshots of the models used in Simulink elements.

## Test Results Viewer Save and Load Capabilities

Users can now save the plotting and analysis work done in the Test Results Viewer. Data, constraints, and plots created in the Test Results Viewer can be saved and then reloaded in order to continue working on or viewing the data, or to share it with others.

## Remove Test Vectors from the Limit Check Element

Test vectors are no longer available in the **Test Variable** column of the Limit Check element since there is no rationale for that use case. The “Test Vector” choice has been removed from the drop down in the Limit Check table.

## Compatibility Considerations

Any existing tests using Test Vectors will have their Limit Check tables now launch in an error state. Tests cannot have Test Vectors in the **Test Variable** column. To correct the problem, choose an available variable for the limit check or create a new variable.

## Version 1.0.1 (R2006b) SystemTest

This table summarizes what's new in Version 1.0.1 (R2006b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Yes Details	No

SystemTest was introduced in R2006a+. See “Version 1.0 (R2006a+) SystemTest” on page 10 for details about this product.

This release includes bug fixes or enhancements, which are listed below.

### Bug Fixes or Enhancements

The following enhancements were made in Version 1.0.1:

- The Stop element can now be used in Pre Test. In Version 1.0, it could be used only in Main Test. It is now available in both Main Test and Pre Test.
- The Stop element now generates a hyperlink in the **Run Status** pane that gives the name of the Stop element that terminated the test and shows the element in the SystemTest desktop.

## Version 1.0 (R2006a+) SystemTest

This table summarizes what's new in Version 1.0 (R2006a+):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	No	No

Version 1.0 was released in Web-downloadable form after R2006a, and includes the features listed below.

SystemTest provides a software framework for developing tests that exercise MATLAB® algorithms and Simulink models. It includes predefined test elements that let you build and maintain standard test routines. You can save and share tests throughout a development project, ensuring standard and repeatable test verification from research and development through preproduction. You can map test variables into a result set for analysis.

SystemTest is integrated with MATLAB, enabling you to use the MATLAB scripting language and analysis tools to explore large data sets and gain further insight into the behavior of the system. Key features include:

- Develops, manages, and edits test structures
- Uses predefined test elements to test MATLAB algorithms and Simulink models
- Incorporates MATLAB scripts directly into a test
- Maps MATLAB and Simulink workspace variables to test variables
- Offers reusability, so that after you design a test, you can save it for later use by you or others
- Visualizes and analyzes multidimensional test results

## Compatibility Summary for SystemTest

This table summarizes new features and changes that might cause incompatibilities when you upgrade from an earlier version, or when you use files on multiple versions. Details are provided in the description of the new feature or change.

Version (Release)	New Features and Changes with Version Compatibility Impact
<b>Latest Version V2.0 (R2007b)</b>	See the <b>Compatibility Considerations</b> subheading for this change: <ul style="list-style-type: none"> <li>• Invalid Characters in Element Names</li> </ul>
V1.1 (R2007a)	See the <b>Compatibility Considerations</b> subheading for this change: <ul style="list-style-type: none"> <li>• “Remove Test Vectors from the Limit Check Element” on page 8</li> </ul>
V1.0.1 (R2006b)	None
V1.0 (R2006a+)	None