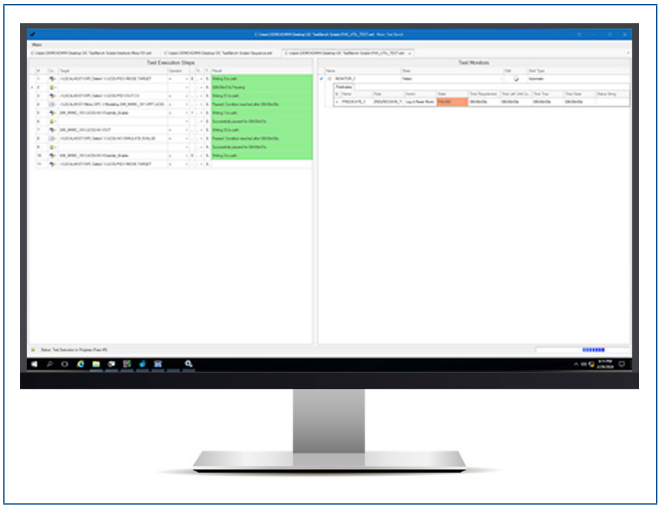
DeltaV™ Mimic Test Bench

- Automate control system testing
- Improve testing consistency
- Automatically generate testing documentation
- Reduce control system testing time and cost
- Identify configuration regression errors



Introduction

DeltaV™ Mimic Test Bench provides users a way to automate Instrument, Control, and Safety System (ICSS) configuration testing and document the testing of these systems. Users can create a test to set, examine, and verify values in both their Mimic simulation and any OPC compliant offline control system. These tests can be executed any number of times automatically and can even be launched via the command-line or by Windows as a scheduled task.

Benefits

- **Automate control system testing –** Tests are easy to build, supporting an automated approach to offline control system testing and testing documentation development.
- **Improve testing consistency –** Once a test is developed, it can be run on all control modules, enforcing complete and consistent offline control system testing. Tests can be rerun as often as needed to reduce configuration regression errors, resulting in ICSS configuration with less errors.
- **Automatically document testing –** Test logs for each test are automatically saved providing a permanent record of the testing.
- **Reduce control system testing time and costs –** Tests can be started from the user interface, via a command line, or as a regularly scheduled task. Tests can be repeated for all control modules without user intervention.
- **Identify configuration regression errors –** Tests can be repeated after any control system configuration change, as an effective means of identifying and eliminating regression errors introduced in offline control system configuration changes.

Product Description

DeltaV Mimic Test Bench enables users to test ICSS configuration, integrated to Mimic and any ICSS offline control system that has an OPC Server. These tests can be executed either from the Test Bench application, using a command-line, or by scheduling an automated task in the Microsoft Windows operating system. After executing tests, log reports can be saved providing a permanent record of the system test.

Test Commands

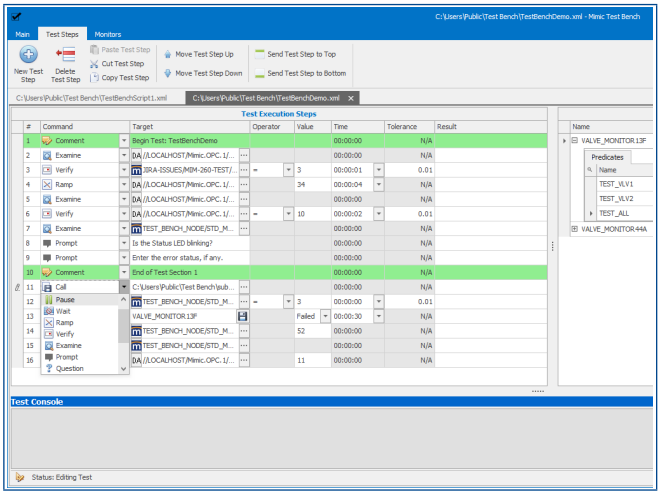
Tests consist of a series of commands that are executed in order. The test commands are read/write requests to Mimic simulation models or any OPC-compliant offline control system control modules.

- **Set –** Write a specific value to a Mimic or OPC tag.
- **Ramp –** Transition a Mimic or OPC tag from its initial value to a target value over a set period.
- **Pause –** Delay test execution for a set period before continuing.
- **Wait –** Delay test execution until a condition is met or a time-out elapses.
- **Verify –** Write a message to the log indicating whether a specific condition is true at that point in the test.
- **Examine –** Write the value of a Mimic or OPC tag to the log.
- **Prompt –** Display a message box and wait for the user to dismiss it before continuing execution of the test.
- **Start Monitor –** Initialize a Test Monitor and begin assessing its Predicates.
- **Wait for –** Pause test execution until the Target Test.
- **Monitor –** Monitor reaches a desired state (e.g. Failed, Inactive, Running) or the period configured in the Time field elapses.

Editing Tests

Mimic Test Bench allows multiple tests to be loaded, edited, and run at the same time. The name of the test is displayed in the banner of the individual test window.

Tests steps are displayed in the test execution steps grid. Commands or parameters can be modified directly in the grid, and new test steps are appended to the test script using the new test step button.



Editing a Test Step using the Test Execution Steps grid.

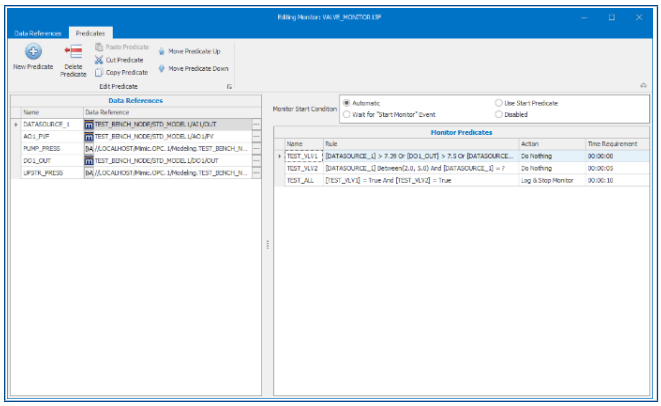
Standard clipboard commands (cut, copy and paste), a delete command, and commands to move steps up and down the script are available, allowing easier test creation or modification.

Executing Tests

Once the tests are built, they can be executed via the execute command on the test menu or the toolbar. The execute command will launch a dialog allowing you to specify the parameters for the test.

Test Monitors

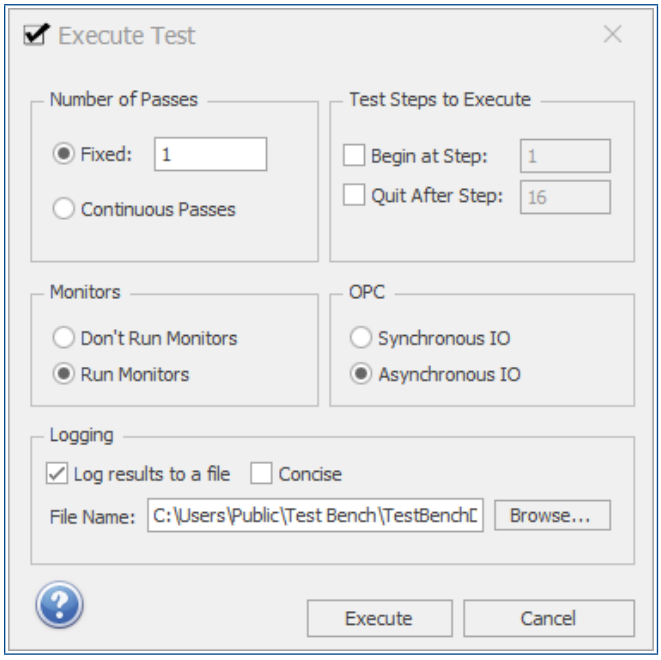
Test monitors allow the user to define data relationships in the ICSS configuration that are continually evaluated during a test. Test monitors contain a list of user-defined predicates. Each predicate contains a rule that represents a data condition that the user would like to verify and an action that will be taken if that rule has been violated. Monitors are evaluated constantly, in parallel with the test execution steps. The state of the predicate (Passing, Pending Failure, Failure) updates in real time, triggering various Actions.



Configuring a Test Monitor by creating OPC and Mimic Data References and declaring Predicates which will continuously examine runtime conditions and perform various Actions if their Rules have been violated.

Monitors and predicates can govern the execution of a test, providing flexibility in test execution. Examples of this flexibility:

- Monitors set to run only during a specific part of the test.
- Test is paused until a Monitor reaches a certain state.
- Fail a test if a Predicate fails.



Configuring the conditions under which we will execute a test. Choose where to log results, elect to run Test Monitors, and more.

Product Support

Mimic Product Support is delivered through Guardian™. Guardian is Emerson's digital platform for addressing the end-to-end lifecycle needs of automation & control software and asset performance management solutions. The Guardian digital experience enables users to quickly connect to product support; securely manage subscriptions; get intuitive views into system health; and explore additional software and services that propel performance.

Ordering Information

DeltaV Mimic is licensed on a Flexible Subscription Unit (FSU) basis. An FSU is a currency that can be used to access any Mimic feature licensed on an FSU basis, with each feature requiring its own number of FSUs. The FSU subscription is offered in one-year, three-year, and five-year terms. To purchase, extend, or expand a license, please contact your Emerson Sales Representative.

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