Change-Based Testing

Parasoft can help you optimize your testing efforts by automatically identifying the test cases directly related to your most recent source code modifications. You can then rerun only the impacted test cases rather than retest the entire system after each modification. Parasoft's change-based testing solution is enabled through Parasoft Development Testing Platform (DTP), which collects and correlates development and testing data. You can process the data with DTP extensions that execute custom calculations, trigger workflows, and perform other intelligent analytic processes.

In this section:

- Correlating Code via Test Case Execution
- Correlating Tests
- Determining Where Retesting is Needed

Correlating Code via Test Case Execution

Parasoft DTP can monitor which source code is exercised when a test executes, then correlate that source code with the appropriate task, requirement, or defect.

To do this, you need to:

1. Enable reporting to Parasoft DTP - see Connecting to Parasoft Development Testing Platform.
2. Mark which task, requirement, or defect each test is related to - see Indicating Code and Test Correlations.

You can also review Parasoft's Application Coverage workflow for additional information.

Correlating Tests

If you are correlating code via test case execution (as described above) no additional configuration is necessary.

Determining Where Retesting is Needed

You can extend DTP with custom tools from the Parasoft Marketplace, such as the Change Based Testing DTP Workflow, to help you determine when retesting is required. The high-level process is:

1. DTP collects data from SOAtest
2. DTP correlates the SOAtest data with additional observations collected throughout the application development and testing lifecycle
3. Change Based Testing and other DTP Workflows further refine and process the data according to your policies
4. Prioritized, actionable findings are returned to the developer or tester for immediate implementation

Using Project Center

1. Open DTP and choose **Project Center** from the applications drop-down menu.
2. Choose your project from the projects drop-down menu and click the Requirements tab.
3. Click on a requirement ID and click the **Tasks** tab. Tasks that require retesting will have a retest icon in the Re-test column.

A RETEST REQUIRED flag will also appear in the Automated Tests tab if retesting is necessary.

> **ⓘ Learning More**
>
> For more information, see the Parasoft Concerto User's Guide.