



Configuring Evaluations

Access: WAE Coordinated Maintenance > Settings > Evaluations tab



Note

Since there are multiple users who have equal permissions, be considerate and cautious when making changes to any Settings page.

Workflow	See
1. Configure the shortest amount of time (in minutes) that can be scheduled for an event.	Set Minimum Evaluation Interval section
2. Optional: Configure evaluations to run automatically as the event date draws near.	Automatically Re-Evaluate Events section
3. Optional: Create custom tests to use in the evaluation.	Creating User-Defined Tests chapter
4. If you want to modify the default evaluation, which consists of a single congestion test, configure which tests are run in the evaluation and in what sequence. You can also configure which tests must pass for the evaluation to pass, and whether to continue the evaluation if a test fails.	Configure Evaluations and Tests section

Set Minimum Evaluation Interval

The Minimum Evaluation Interval is the amount of time (in minutes) that an evaluation occurs.



Note

The Minimum Evaluation Interval must be no less than the minimum gap between plan files stored in the traffic model repository. For example, if there is a cron job running to execute a snapshot every 30 minutes, then the Minimum Evaluation Interval must be at least 30. Setting this interval smaller is possible, but doing so potentially results in evaluations using the same plan file when the application is searching for available event time slots.

This consistent interval, which cannot be changed elsewhere in the application, ensures that networks can be completely modeled for the evaluation process. If you change this value, the scheduled events that are in progress finish their evaluation. The status of scheduled events remains the same.

This value is also used in last-minute re-evaluations. See the [Last-Minute Re-Evaluations](#) section.

Automatically Re-Evaluate Events

Since network topology and traffic changes, while an event may have passed its initial evaluation, it might prove beneficial to re-evaluate it as close to its scheduled time as possible. The Automatic Re-evaluation option enables you to create automatic re-evaluations for such purposes. If the scheduled event fails the re-evaluation, its state changes to Pending.

To enable or disable, select the Enable Automatic Re-evaluation option. If enabled, the re-evaluations apply in the following order.

- Counting backwards from the start date, the evaluation automatically executes each week prior to the event's start time.
- Once the above time frame completes, the re-evaluation occurs every day until one day before the schedule event time.
- Once the above time frame completes, the re-evaluation occurs every 8 hours up until 2 hours prior to the scheduled event, at which time the final evaluation is scheduled.

Example: For example, if today were April 7 and you scheduled an event to start April 29 at 8:00 PM, automatic re-evaluations would occur weekly on April 8, 15, and 22, daily April 23-28, and again on April 29 at 8:00 AM and 4 PM.

Last-Minute Re-Evaluations

If you are performing automatic evaluations, you can optionally perform last-minute re-evaluations on imminent events. An *imminent event* is an event whose scheduled start time is less than two times the Minimum Evaluation Interval value (in minutes).

Example: If the current time is 7:00 PM, the event start time is 7:30 PM and the Minimum Evaluation Interval is 20 minutes, then the event is imminent since $2 \times 20 > 30$ (difference between 7:00 and 7:30).

Imminent events are re-evaluated using the most recent traffic matrix available. Provided all automatic evaluations have completed and there is still sufficient time to run an evaluation, imminent events are evaluated twice: once at $2 \times M$, where M is the Minimum Evaluation Interval value, and again at M .

Example: If the event start time is 7:30 PM and the Minimum Evaluation Interval is 20 minutes, the imminent event is automatically evaluated at 6:50 PM and again at 7:10 PM.

$2 \times 20 \text{ minutes} = 40 \text{ minutes}$

$7:30 \text{ PM} - 40 \text{ minutes} = 6:50 \text{ PM}$

$7:30 \text{ PM} - 20 \text{ minutes} = 7:10 \text{ PM}$

Configure Evaluations and Tests

Evaluation Structure

The Settings > Evaluations page is where you configure the default evaluation. However, you can modify the evaluation when adding an event.



Note

This information pertains both to this Settings > Evaluations page, as well as when adding an event.

Each evaluation consists of one or more groups, and each group contains one or more tests.

- A test cannot belong to more than one group.
- By default, there are three built-in tests, and each of them resides in a separate group. You cannot delete these built-in tests or the groups in which they reside. Nor can you edit their name or description. For a description of these tests, see the [Built-In Tests](#) section.
- You can create and include custom tests as described throughout this section. You can edit and delete these tests once added. For information on creating custom tests, see the [Creating User-Defined Tests](#) chapter.
- Each group can contain up to three tests maximum. Therefore, the default groups can additionally have two custom tests, while any newly added group can have up to three custom tests.
- All tests within a group run concurrently. The order in which they are listed does not matter.
- Groups of tests are executed in the sequential order in which they appear in the list. You can drag and drop each group to the desired location. As you do, the step number for it automatically changes so you can easily identify the order in which groups of tests are evaluated.

Built-In Tests

WAE Coordinated Maintenance has the following built-in tests.



Note

Built-in tests execute as described here. Changing their operators results in inaccurate evaluations and therefore, is not recommended.

- **Congestion Test**—Returns a list of interfaces that each have a maximum utilization that is greater than the specified value (threshold).
- **Resiliency Test**—Considers unscheduled outages during the proposed event time by executing a worst-case failure analysis, which is a simulation of all single-circuit failures in the network. The test returns a list of interfaces that each have a maximum utilization that is greater than the specified threshold.
- **Dropped Demands Test**—A *demand* represents the source and destination of a potential traffic flow across a network. A route simulation determines the route that this traffic takes from the source to the destination, which is determined by the topology, the routing protocols, and the failure state of the network. This test returns a list of traffic demands that would be unroutable as a result of the event. For instance, including a PE (provider edge) node in an event could render all paths to it as unavailable. The failure condition can be set to greater than, equal to, or less than a specified number of dropped demands.

Test Parameters

All tests have these configurable parameters.

- **Enable**—Enable or disable the test from running, but keep it within the group.
- **Must Pass**—If selected, this test must pass in order for the entire evaluation to pass. Note that if no tests in the evaluation must pass, the evaluation will always pass even if all tests within it fail. Therefore, it is best practice to set at least one test to Must Pass.

- **Stop on Failure**—If selected and the tests fails, this evaluation stops and no further tests in any group are run.

Enable	Must Pass	Stop on Failure
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- **Failure Condition**—While failure conditions differ depending on the test, you can change the operator and the value used in meeting the criteria. Operators include criteria such as “greater than” and “equal to” the specified value.



Note Do not change the operator of built-in tests.

Failure Condition:
Maximum utilization <input type="text" value="greater than"/> <input type="text" value="75"/>

UI Tips

To ...	Do This ...
Expand or collapse groups.	Click the arrow icon next to the [Step #].
Execute groups in a preferred sequential order.	Drag and drop the tile to the desired location. You can grab anywhere in the tile or use the four-arrow icon.
Add a group.	Click the plus sign at the bottom of the list of groups.
Add an existing user-defined test to a group.	Expand the group, and then click the plus sign at the bottom of the list of tests.
Delete a group containing only user-defined tests, or to delete a user-defined test within a group.	Click the associated trash can icon.