



Cisco WAE Live 6.4 Administration Guide

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Overview

This guide is for administrators who configure and manage the WAE Live application. WAE Live is a web-based application that provides visibility into the network infrastructure, state, and traffic utilization captured by the Collector. It includes the following components:

- Explore—Lets you view interfaces, interface queues, nodes, LSPs, demands, and reports.
- Inventory—Displays your current network hardware in various formats.
- Analytics—Lets you run reports and analyze data.
- Map—Displays your network weathermap.

WAE Live depends on data collected by the Collector server and other collection mechanisms to store network data in data stores for processing and displaying in the web UI.

To configure WAE Live, it is assumed that you already have:

- An admin role—You know that you have admin privileges when you see the admin icon in the upper-right corner of the WAE platform Home page after logging in.
- Installed the Cisco WAE server, including the mld data store. For more information on installing the WAE Live mld data store, see the *Cisco WAE Server Installation Guide*.
- Collected WAE Live data from plan files, SNMP, or other collection methods, such as a snapshot.
- The appropriate license.

This guide assumes that you are familiar with the CLI commands to configure the WAE Live server and to troubleshoot operations on your WAE server installation.



Note

`$WAE_ROOT` is the directory in which the software is installed. On Linux, the default `$WAE_ROOT` is `/opt/cariden`. (`$WAE_ROOT` and `$CARIDEN_ROOT` are the same.) `$CARIDEN_HOME` is the directory in which the WAE Design, WAE Live, and WAE Collector executables and binaries are installed. On Linux, the default is `/opt/cariden/software/mate/current`.

About Network Data

WAE Live collects data from WAE Collector, which can include the creation and addition of a simulated demand traffic matrix. The data is stored in *plan files*. WAE Live uses two internal mechanisms, a time-series optimized data store and an internal Map archive, to store this data and make it available for use in the application. The Map component accesses the Map archive and shows the visualization of these plan files in a weathermap layout. The Explore and Analytics components access the data store.

If a newly discovered node cannot be assigned to an existing site, WAE Live creates an ExtraNodes site and places the unassigned node there.

To enhance the visualization of these plan files, you can create and edit multiple plan file *layouts* using the WAE Design GUI. After saving the plan file as a template back to WAE Live, it is applied to the most recently collected plan file and stored for use in the Map. For information on how to assign nodes to sites, how to create and edit layouts, and how to save these layouts to WAE Live as templates, see the *Cisco WAE Network Visualization Guide*.

About Advanced Configuration Settings

Access: WAE Live > Settings > General tab

The General tab includes an advanced configuration (Advanced Config) link. Clicking this link displays data configuration details (*config.xml*) for your WAE server. While you can edit this file, be advised that any changes you make could adversely impact your WAE Live setup. We recommend that you consult with your support representative for assistance before changing any properties or parameters in this file.

Troubleshooting

Relevant log files are located in `$WAE_ROOT/logs/wae-live` and `$WAE_ROOT/logs/wae-web-server`. You can also access `wae-web-server` log files from the Statistics UI.

- Data collection is the process of getting the plan files from WAE Collector. WAE Live then inserts this data to internal locations for use in the WAE Live application. If the data insertion process is halted, a message appears at the top of each page alerting you to this issue. To verify the issue, click the **Check Status** button on this page. To troubleshoot the source of the issue, use the `m1_insert_ctl` tool. For information, see `m1_insert_ctl -help`. If this does not reveal the issue, troubleshoot the actual collection process of WAE Collector.
- If you need to contact a support representative, use the `mate_tech_support` tool to create a tar file of support information. The output is stored in the `/tmp/MATE_TS` directory by default. To change the directory in which the results are stored, use the `-tar-path` option.

Example: This creates a tar file of support information and stores the output in the `/troubleshooting` directory.

```
mate_tech_support -tar-path /troubleshooting
```

Next Steps

The next sections describe how to use the web UI to set up and configure WAE Live:

- [Multi-Network Management](#)—Describes how to add, edit, and delete networks, as well as how to set their status to active or offline.
- Settings pages
 - [Data Source Settings](#)—Describes how to configure WAE Live to get plan files from the Collector server, WAE Network Interface (NI) server, or an external archive.
 - [Explore and Analytics Settings](#)—Describes how to specify default interface types and how to create user-defined properties for use on Explore and Analytics pages.
 - [Map Settings](#)—Describes how to configure the Map page, including its panels.



Multi-Network Management

Access: WAE Live > Network icon (default) > Network Manager

WAE Live supports multiple networks. If only one network exists, the Network menu shows “default” as the name of the default network. If there are multiple networks, the name of the network that is in use shows.

To configure collections for a specific network, you must first create the network. After creating the network, WAE Live automatically creates a map archive. These map archives are stored in `$WAE_ROOT/data/mldata/archives` as `<network_name>-archive`.

After you create a network, all users have access to its data through the Explore, Analytics, and Map components.

You must have an admin role to create and manage networks.

Adding a Local Network

If you have not already run collections for a network, any newly added networks have no data to display. For information on running collections, see the *Cisco WAE Platform Configuration Guide*.

When you add a network, it is assumed that you want to add local network, which is your current WAE server.

-
- Step 1** Click the default Network icon at the top of the WAE Live Settings page. Initially, this says “default”; choose the Network Manager.

On a fresh installation with no networks added, there are empty sections for Active Networks, Inactive Networks, and Remote Network Links. If you already added networks, this page displays all active, inactive, and network links.
 - Step 2** In the upper-right corner of the Network Manager page, click **Add**.
By default, the Add Network dialog box automatically selects the Local Network option.
 - Step 3** Enter a unique network name to identify the network from which you are collecting, such as `testnetwork1`.
 - Step 4** (Optional) Enter a description of the network or other useful notes about the network.
 - Step 5** Set the status, and then click **Save**.

After successfully creating a network, the network name becomes available from the default network drop-down list and appears on the Network Manager page.

Adding a Remote Network Link

The network can reside on a separate WAE Live server. A remote network link lets you access another WAE Live server without having to remember its name.

- Step 1** Click the default Network icon at the top of the WAE Live Settings page. Initially, this says “default”; choose the Network Manager.
- Step 2** Click **Add**.
- Step 3** Click the **Remote Network Link** radio button.
- Step 4** Enter a hostname.
- Step 5** Enter a network name.

After adding the remote network link, it appears under the Remote Network Links section on the Network Manager page.

Setting Networks to Active/Offline

For *local networks* only, you can set their state to either Active or Offline.

- **Active**—Data can be collected for this network, and the network is visible to all users.
- **Offline**—Data cannot be collected for this network, and the network is not visible to users.

If you configure collection for an active network, set it to offline, and then later change it back to active, the collection restarts automatically.

Viewing/Editing Networks

- Step 1** From the upper-left network link, choose **Network Manager** from the list of available networks. A list of active and non-active networks appears.
 - Step 2** Click the network name that you want to edit.
 - Step 3** Enter your changes, and click **Update**.
-

Deleting Networks

If you delete a network and then add it back at a later time, you must reconfigure its collection.

-
- Step 1** From the upper-left network link, choose **Network Manager** from the list of available networks. A list of active and non-active networks appears.
 - Step 2** Click the network name that you want to delete.
 - Step 3** Click **Delete**, and then click **OK** to confirm the deletion.
-



Data Source Settings

Access: WAE Live > Settings > Data Source tab

The Data Source tab enables you to configure how often to collect network data, to specify the network source for the data, and to check the status of the latest data collected.

Multi-Network Collection

All WAE Live settings and application data, including the Data Source tab, apply on a per-network basis. Before configuring or making changes to any of these pages, choose the appropriate network from the Network list (top left toolbar).

Multi-network collection is only supported in the following cases:

- The Collection Source is the external archive wherein a snapshot was configured to use `archive_insert` to insert data into that external archive.
- The Collection Source is None wherein a snapshot was configured to use `ml_insert_plan` to insert data into the data store and to use `archive_insert` to insert plan files into the Map archive. For information on configuring multiple networks, see [Multi-Network Management](#).

About Data Collection

Data collection is the process of getting plan files; WAE Live then inserts this data to internal locations for use in the WAE Live application.

The WAE Live > Settings > Data Source tab identifies the source and status of data collection. For the WAE Network Interface (NI) server, it also identifies the frequency of collection.

By default, WAE Live checks for a plan file every 30 seconds. The `Insertplan.Source.Pollfrequency` property in the Advanced Config feature sets this default. If none is defined, the default applies.

Data Collection Sources

There are several ways to collect data and insert plan files for use in WAE Live. You can collect data from the Collector server or WAE NI server as well as from a local or remote external archive.

Collecting Data

-
- Step 1** At the top of the WAE Live Settings page, click the default Network icon. Initially, this says “default”; choose the Network Manager.
- Step 2** Navigate to **WAE Live > Settings > Data Source**.
- Step 3** For the collection source, click the **Server** radio button.
- The server name can be a hostname (for example, server1.company.com) or the server IP address. The format for the server IP is `https://<server_IP>:<port>`.
- The default port for the Collector server is 8443.
 - The default port for the WAE NI server is 8086.
- Step 4** Enter a username. This is the administrative username for the server.
- Step 5** Enter a password. This is the password for the administrative user.
- The Collector server username and password are set in the System > User Management page and require an admin role. For information, see the *Cisco WAE System Administration Guide*.
- Step 6** Set the Continuous radio button to one of the following:
- **No**—WAE Live receives interval-based collections from the Collector server.
If you have multiple networks defined, choose a network from the Network drop-down list.
 - **Yes**—WAE Live receives continuous-based collections from the WAE NI server based on the frequency that you enter in the Frequency field. The frequency value must be a factor of 60 (1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60). The recommended value is 15 minutes.
- Step 7** Click **Save**.
-

Collecting Plan Files from External Archives

You can collect plan file data from an external archive. The external archive can be either:

- **Local**—The archive is located on the same server where you installed WAE.
- **Remote**—The archive is located on a remote server.

Creating the External Archive and Inserting Archive Files

Before you can collect plan files from an external archive, the external archive directory and the plan file must exist. After creating the external archive, you can insert plan files into the archive. Use the CLI to perform these tasks.

-
- Step 1** Log into your local server.
- Step 2** From the CLI, enter the `archive_init -archive` command to create the archive. For example, enter:
- ```
archive_init -archive /opt/cariden/archives/local-archive
archive_config -action add -name LocalArchive -path /opt/cariden/archives/local-archive
```
- Step 3** Insert the plan file:

```
archive_insert -archive /opt/cariden/archives/local-archive -plan-file
/path/to/your/planfile.pln
```

---

## Collecting Plan Files from Local External Archives

To collect plan files from local external archives, make sure that you enter the absolute path to the archive directory. The archive path name in your WAE installation and the one you enter on the Data Source tab must be the same.

- 
- Step 1** Navigate to **WAE Live > Settings > Data Source**.
  - Step 2** Click the **External Archive** radio button, and then click the **Local** radio button to pull the plan file from the local external archive.
  - Step 3** Enter the absolute path name to the local external archive.  
  
For example, assuming your local plan file is located in `/opt/cariden/archives/data`, you would enter this as the absolute path name.  
  
After a few seconds or minutes, you should see the data inserted from the plan file in Explore, or Inventory, in the menu on the left side of your screen. You can also see the changes by clicking **Check Status**.
  - Step 4** Click **Save**.
- 

## Collecting Plan Files from Remote External Archives

To collect plan files from remote external archives, make sure that you enter the appropriate external archive name, the URL, and credentials to access the remote external archive directory plan files.

If you are using external archives for multiple networks, each network must have a unique archive location.

- 
- Step 1** Navigate to **WAE Live > Settings > Data Source**.
  - Step 2** Click the **External Archive** radio button, and then click the **Remote** radio button to pull the plan file from the remote external archive.
  - Step 3** In the Archive Name field, enter the name of the remote archive; for example, RemoteArchive.
  - Step 4** In the Server URL field, enter the server URL to the remote archive. This can be the hostname or IP address where the external archive exists.
  - Step 5** Enter the username and password for the remote external archive.
  - Step 6** Click **Save**.
-

## Checking the Data Collection Status

When you insert plan files into your local or remote archive, you can check the status of the plan file.

- 
- Step 1** Navigate to **WAE Live > Settings > Data Source**.
  - Step 2** At the top of the Data Source tab, click **Check Status**.

The Data Collection Status dialog box shows the last collected filename, the time the plan file was collected, and any source archives for the plan files.

---

## Disabling Data Collection

- 
- Step 1** Navigate to **WAE Live > Settings > Data Source**.
  - Step 2** At the bottom of the Data Source tab, click **None** and then **Save**.

This disables data collection and stops the scheduler for the current WAE Live network.

---

## Related Configurations

### Inventory

This page must be configured to collect the plan files containing topology and statistics for the same network used in the inventory collection process. WAE Live must get these plan files from the same server as does the inventory collection process.

Given the inventory collection process gets this same plan file (`collector_getplan`) and inserts the inventory into the same network (`ml_insert_ctl -network`), there are no required inventory configurations on the WAE Live > Settings > Data Source tab.

**Note**

---

These networks must be the same: the network for which WAE Live is configured to get plan files and the network into which the inventory is inserted.

---

### Map Archive and Templates

A unique map archive name is automatically created and configured for a network when it is added. These map archives are stored in `$WAE_ROOT/data/mldata/archives` as `<network_name>-archive`. For more information, see [Map Settings](#).





## Explore and Analytics Settings

---

Access: WAE Live > Settings > Explore and Analytics tab

WAE Live supports multiple interface types that you can view on the Explore page and are used when creating reports from the Analytics pages. The Settings > Explore and Analytics tab lets you specify the default interface type used. You can override the default for the Explore pages, but not for the Analytics pages.

WAE Live acts on objects (network elements) that are discovered or created prior to WAE Live accessing the plan file. For example, interfaces might be discovered by WAE Collector while demands thereafter can be added to the plan file. Each object has a set of default properties (attributes) that are tracked in and retrieved from the data store. For example, an LSP's Shortest TE Path, a node's CPU, or an interface's Traffic In are all properties that are collected and stored by default. In addition to these default objects, from the Settings > Explore and Analytics tab you can create user-defined properties to fit your specific needs.



**Note**

---

These settings are configured for all networks; that is, they are not configurable on a per-network basis.

---

## Default Interface Types Displayed

You can specify the default interface types to show in Explore and use in Analytics (reporting):

- Individual logical interface—An interface with an IP address that is not in a LAG. These names might have a decimal.  
Example: et-0/1/2.0, g2/0/0
- Individual physical interface—An interface that is not in a LAG and does not have an IP address. These interface names do not have a decimal.  
Example: so-0/2/2, g2/0/0
- LAG logical interface—An interface with an IP address that contains member interfaces.  
Examples: ae0.0, Bundle-Ether1, Port-Channel7
- LAG physical interface—The physical representation of an aggregated interface to which a LAG logical interface (such as ae0.0) is assigned.  
Example: ae0 for Juniper interfaces
- LAG member interface—An interface that is in a LAG.  
Example: g2/0/0

- Unknown—None of the preceding interface types.

## User-Defined Properties

You can define your own properties to use when creating reports. User-defined properties derive their values from other properties. For example, rather than tracking incoming traffic (Traffic In) and outgoing traffic (Traffic Out), you might need to track the ratio of incoming to outgoing traffic (Figure 4-1).



Note

For two-word properties, use one word in the definition. For example, for the Remote Node property, use “remotenode.” For Traffic In and Traffic Out properties, use “traffin” and “traffout” in the definition.

Figure 4-1 Example of a User-Defined Property Definition Using Simple Arithmetic Expression

| Node ▲   | Name ▲   | TraffOut ▼ | Traffin ▼ | Traff Ratio ▼ |
|----------|----------|------------|-----------|---------------|
| <Filter> | <Filter> | <Filter>   | <Filter>  | <Filter>      |
| MIL-BB1  | ae2.0    | 1387.89    | 12817.79  | 9.24          |
| BCN-BB1  | ae0.0    | 1735.95    | 13477.29  | 7.76          |

As with default properties, these user-defined properties are available in the Explore and Analytics pages.

Each user-defined property consists of an object, a user-specified name, and a user-created definition.

## Adding a User-Defined Property

- Step 1 Navigate to **WAE Live > Settings > Explore and Analytics**.
- Step 2 Click **Add Property**.
- Step 3 From the Add New Property dialog box, choose the object type to which the newly created property applies (interfaces, interface queues, nodes, and so on).
- Step 4 Enter a property name. Once the property is saved, this name appears as a selectable property for the given object in Explore and Analytics pages.
- Step 5 Enter a definition value.
- Step 6 Click **Preview** to view the results that the object and definition return.
- Step 7 Click **Save**.

## Acceptable Definition Field Values

The definition field accepts alphanumeric characters and regular expressions. Each definition is an expression using one or more default properties. The following rules apply:

- Properties used in the definition must be default properties; that is, you cannot use user-defined properties in defining other user-defined properties.
- Property names in the Definition field are not case-sensitive.
- A user-defined property can be an integer, a double (floating point number), string, or boolean.
- You can use any combination of the following in the definition. You can group any of these with parenthesis, which are executed in the order in which they appear.
  - Arithmetic expressions: +, -, \*, /, and % (Figure 4-1)
  - Relational operators: >, <, =, <=, and >=
  - Logical operators: AND, OR, and NOT
  - [Regular Expression Functions](#)
  - [CASE Statements](#)
  - Edit (pencil icon)—Edit the user-defined property.
  - Delete (trash can icon)—Delete a user-defined property. There is no undo.

## Regular Expression Functions

In the Definition field for your user-defined property, you can use regular expressions to filter results using `regexp_extract` and `regexp` functions.

### `regexp_extract`

---

#### **regexp\_extract Syntax**

---

```
regexp_extract(formatted_result, identifier1, pattern1, identifier2, pattern2, ...)
```

---

This searches a string with a list of regular expressions to produce a formatted string result compiled from back references. Back references are the results of capturing groups from the regular expressions and referencing them in order by `$N`, where `N` is a number that is greater than or equal to 1. This `N` identifies the captured string returned by a back reference in the order it appears in the matching pattern. At a minimum, only three arguments are needed for `regexp_extract`. You can use any number of pairs of attributes and expressions.

Example: In this example, both captured groups (`$1` and `$2`) come from the regular expression for Description. The expression for Node does not have any capturing groups. It is used only as an additional filter. If any of the regular expressions fail to match, the overall `regexp_extract` fails to match.

```
"regexp_extract("$1 ($2)", Description, ";interconnect to ([^(\]*) \\.([^\)]*)\)", Name, "^(?!.*!o)")"
```

## regex

---

### boolean regex Syntax

---

regex(identifier1, pattern1)

---

This regex syntax returns true, false, or null.

Example: If Node starts with 'palt', then sum the Traffic In and Traffic Out values. If the Node starts with something else, or is null, no value is displayed.

```
case when regex(node, '.*PALT.*') then traffin + traffout else null end
```

Example: If your node names include site names, this regex syntax is useful for creating site properties for interfaces.

```
regex_extract('$1', node, '([^-]+)-(.*)')
```

## CASE Statements

The CASE statement allows conditional values based on a set of expressions. All result-expressions must be of the same type. That is, they can all be numeric or all be string, but they cannot be a mixture of both string and numeric.

---

### CASE Statement Syntax

---

CASE WHEN <boolean-expression> THEN <result-expression>

---

[WHEN ...]

---

[ELSE <result-expression>]

---

END

---

Example: This example creates a user-defined property if a node name matches a remote node and if neither name is null.

```
case
```

```
when regex_extract('$1', node, '(....)*\.(..)*') isnull then null
```

```
when regex_extract('$1', remotenode, '(....)*\.(..)*') isnull then null
```

```
when regex_extract('$1', node, '(....)*\.(..)*') = regex_extract('$1', remotenode, '(....)*\.(..)*') then true else false end
```

## Expression Syntax

Two syntaxes are used for the supported expressions: EBNF (Extended Backus–Naur Form) and a simpler query. You can use one or multiple words for isNull and isNotNull.

- “isNull” can be represented by “is null”
- “isNotNull” can be represented by “is not null”

## Simple Query

A simple query has the following syntax:

### Simple Syntax

expression := value { +, -, \*, /, %, IN, is [not] null, case } [ expression ]

when-expression := expression [ { AND, OR, NOT } when-expression ]

case := CASE WHEN when-expression THEN expression [ ELSE expression ] END

value := { object-attribute, number, string, regexp(), regexp\_extract() }

## EBNF

Table 4-1 lists the grammar in EBNF format.

**Table 4-1** *SELECT Syntax in EBNF Format*

| SELECT Rule       | Syntax                                                                                                                        |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------|
| expression        | case  <br>logical                                                                                                             |
| logical :=        | relational { ( OR, AND, SEMICOLON, COMMA ) relational }                                                                       |
| relational :=     | additive { ( <, <=, >, >=, =, ==, != ) additive }                                                                             |
| additive :=       | multiplicative { ( +, -,    ) multiplicative }                                                                                |
| multiplicative := | unary { ( *, /, % ) unary }                                                                                                   |
| unary :=          | ( !, not, ~, +, - ) factor  <br>factor isnull  <br>factor                                                                     |
| factor :=         | NUMERIC  <br>STRING  <br>NULL  <br>TRUE  <br>FALSE  <br>ID  <br>regexp  <br>regexp_extract  <br>in_expr  <br>'( expression )' |
| regexp :=         | REGEXP '( literal COMMA STRING )'                                                                                             |
| regexp_extract := | REGEXP_EXTRACT '( STRING COMMA reg_arg_list )' opt-as                                                                         |
| reg_arg_list :=   | literal COMMA STRING                                                                                                          |
| in_expr :=        | IN '( string_list )'                                                                                                          |

Table 4-1 *SELECT Syntax in EBNF Format (continued)*

| <b>SELECT Rule</b> | <b>Syntax</b>                            |
|--------------------|------------------------------------------|
| string_list :=     | STRING COMMA string_list<br>STRING       |
| case :=            | CASE when when_list opt_else END         |
| when_list :=       | when when_list                           |
| when :=            | WHEN expression THEN expression<br>empty |
| opt_else :=        | ELSE expression  <br>empty               |
| opt_as :=          | AS ID                                    |
| literal :=         | ID   STRING                              |



## Map Settings

---

Access: WAE Live > Settings > Map tab

The Settings > Map tab lets you configure the WAE Live Map panels and set a default layout for the weathermap. These configurations apply to all networks and are not configurable for a specific network.

## Map Archives and Templates

WAE Live automatically creates the template (template.pln) file from the most recently collected plan file if no template exists. These templates and plan files are stored in map archives for use in the Map component. If visual elements have not been applied, the plan file is visualized in the default, unprocessed state. To create the visual elements of a template file and save it to a map archive, use the WAE Design GUI.

A unique map archive name and path are automatically created and configured for a network when the network is added. These map archives are stored in `$WAE_ROOT/data/mldata/archives` as `<network_name>-archive`.

## About Advanced Configuration Settings

Access: WAE Live > Settings > Map tab > Advanced Config (in lower-left corner)

As is the case with the WAE server, the Map tab includes an advanced configuration (Advanced Config) link. Clicking this link displays configuration details for the Map component. While you can edit this file, be advised that any changes you make could adversely impact your Map setup. We recommend that you consult with your support representative for assistance before changing any parameters.

## Default Map Archive Setting

Assuming that you are using the default map archive path setting and the default installation directory `/opt/cariden`, the property that defines the path to the map file is:

```
"Map.ArchivePath": "/opt/cariden/data/mldata/archives/default-archive"
```

## Overriding the Default Map Archive Setting

You can override the default map archive setting. The `Map.ArchivePath` property controls the location and map archive name. It uses the following format:

```
"Map.ArchivePath": "<map_archive_path>/<network_name>-archive"
```

For example, if you want to change the name of the default archive to reflect the “Acme” network’s weathermap, change this property to:

```
"Map.ArchivePath": "/opt/cariden/data/mldata/archives/acme-archive"
```

Map archives are automatically created when you change the `Map.ArchivePath` property.

## Configuring the Traffic Panel

The Traffic Widget section lets you configure the Peering panel on the Map page. This panel shows the highest traffic utilization per peer and per site. The far left column lists the peers, while each top column lists the associated sites. The icons in the panel represent the traffic flowing between the two.

For this panel to have data, you must configure the collection of BGP.



## Traffic Widget Fields

- **Enabled**—If checked, the panel shows in the Map page.
- **Title**—The name of the panel to appear on the Map page.
- **Rows**—Configure the ASNs (external peers) used in the panel. Their names appear on the left side of the panel. Each ASN represents a row in the panel.



- Top \_\_\_ ASNs by Traffic Utilization—The ASNs with the highest traffic utilization. Enter a whole number from 1 to 20.
- Except—To exclude specific ASNs that would be captured by the highest utilization, enter one or more ASNs separated by commas.
- Only These—To use only a specific set of ASNs, regardless of their traffic utilization, enter one or more ASNs separated by commas.
- Columns—Configure the sites used in the panel. Their names appear across the top of the panel. Each site represents a column in the panel.
  - Top \_\_\_ Sites by Traffic Utilization—The sites with the highest traffic utilization. Enter a whole number from 1 to 20.
  - Only These—To use only a specific set of sites, regardless of their traffic utilization, enter one or more site names separated by commas.

## Configuring the Events Panel

The Events Widget lets you configure which events appear on the Map page. This panel tracks a set of current events and the number of changes since the last plan file was received.

| Events        | Count | Last Δ |
|---------------|-------|--------|
| Circuits down | 600   | +0 -0  |
| Nodes down    | 11    | +4/-3  |

Configuration of this panel is a combination of this UI and the `default_timeplot_summary_format.txt` file located in the `$CARIDEN_HOME/etc/matelive` directory.

For an event to appear, it must be configured in both locations. Combining the examples in this section would result in two events in the panel: Circuits down and Nodes down.

- `default_timeplot_summary_format.txt` file—Defines the metrics used for the events. Each metric is listed in the “Queries” section. For information on how to configure this file, see the comments at the end of the file.

Example: This is an excerpt from the default file.

```
-----Queries-----
Circuit Down
CircuitsDown SELECT Old_Name AS Details
CircuitsDown FROM Joined_Circuits
CircuitsDown WHERE ((Old_Name IS NOT NULL) AND (Name IS NULL)) OR ((Old_Active = 'T')
AND (Active = 'F'));

#Node Down
NodesDown SELECT Old_Name AS Details
NodesDown FROM Joined_Nodes
NodesDown WHERE ((Old_Name IS NOT NULL) AND (Name IS NULL)) OR ((Old_Active = 'T') AND
(Active = 'F'));
```

- Events Widget UI—This section lists the metrics and their display names. Each metric must match an event metric (query) that appears in the `default_timeplot_summary_format.txt` file.

Example:

| Metric       | Display Name  |
|--------------|---------------|
| CircuitsDown | Circuits down |
| NodesDown    | Nodes down    |

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## Events Widget Fields

- Enabled—If checked, the panel shows in the Map page.
- Title—The name of the panel to appear on the Map page.
- Add Metric—Click to add a new event for display on the Map page.
  - Metric—The name of the event metric that appears in the `default_timeplot_summary_format.txt` file.
  - Display Name—The event name that appears in the panel on the Map page.
- Edit (pencil icon)—Edit the event metric name or the display name.
- Delete (trash can icon)—Delete a metric from the UI so that it no longer appears in the Events panel. There is no undo.