



Cisco WAN Automation Engine Release Notes, Release 6.2.1

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This document describes the features, limitations, and bugs for Cisco WAN Automation Engine (WAE) Release 6.2.1. Use this document in combination with documents listed in [Related Documentation](#), [page 10](#).

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Introduction

The Cisco WAE product suite consists of WAE Design, WAE Live, WAE Collector and platform software to deliver a total solution from WAE planning to automated network modeling, deployment, and control. For more information on Cisco WAE, visit <http://www.cisco.com/go/wae>.



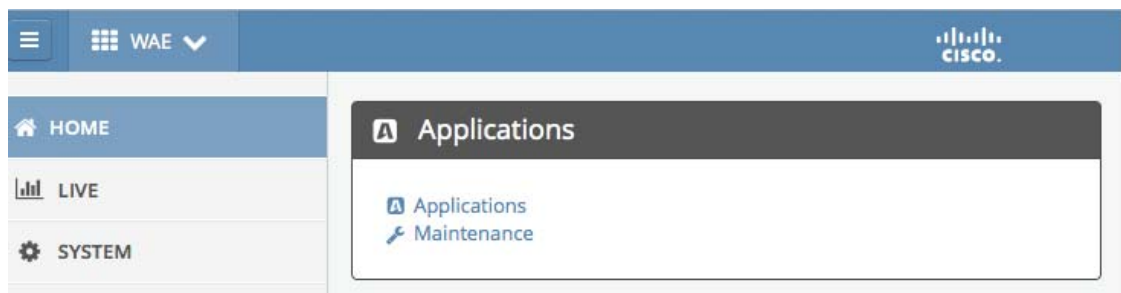
New Features

Dual-Server Installation for WAE Planning and Automation Software

To install WAE Automation software, you must install it on a second server and run the `wae-automation-deploy` script. For more information, see the [Cisco WAE 6.2.1 Server Installation Guide](#).

Application Launcher

A new Applications window is available from the WAE web UI Home page:



This feature allows you to easily add applications and launch them directly from the Home > Applications window or the Applications page. The following sections document the steps to install and add applications to the WAE web UI.

Installing the Application

Step 1 If a WAE application is available as an `<application-name>.zip` file, download the file to the applications folder in `$WAE_ROOT`; for example, `opt/cariden/applications/maintenance.zip`.

Step 2 Restart the web server:

```
service wae-web-server start
```

The application is now available to add from the WAE web UI.

Adding the Application to the WAE Web UI

Step 1 After the application is installed, launch the WAE web UI.

Step 2 From the Home > Applications window, click the **Applications** link.

Step 3 Click **Apps Management** or the gear (Settings) icon located in the top-right corner of the window. The Apps Management window appears with a list of installed applications.

The following options for each application are available:

- **Enable**—Adds the application to the Applications window or page so that it can be easily launched.

- **Disable**—Removes the application from the Applications window or page, but does not uninstall it. This button appears if the application is currently enabled.
- **Delete**—Uninstalls the application software and removes it from the Apps Management window.

Step 4 Click **Enable** to add the application to the Applications window.



Note If the application does not appear in the Applications window, refresh the window.

Step 5 Close the window and confirm that the application is listed in the Applications window.

Open Source

This product includes the following open source software:

- Software developed by MetaStuff (<http://www.dom4j.org>)
- Cryptographic software written by Eric Young (eay@cryptsoft.com)
- Software developed by the OpenSSL project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)
- Software written by Tim Hudson (tjh@cryptsoft.com)
- Software developed by the University of California, Berkeley and its contributors

Bugs

The following are descriptions of the open and resolved bugs in Cisco WAE Release 6.2.1. The bug ID links you to the Cisco Bug Search tool.

Open Bugs

Table 1 **Open Bugs**

Bug ID	Description
CSCuW27167	<p>An HTTP ERROR 404 appears in the WAE UI. This is because the /tmp/jetty* files have been deleted by a default CentOS cron job behavior that purges /tmp files that are more than 7 days old. The workaround is to restart the web server by entering the following command:</p> <pre>service wae-svcs-ui restart</pre>
CSCuW18194	<p>Sometimes, PCEP LSPs cannot be received from WAE-NI because the collector-pcep-impl wae-ni service bundle does not work (remains stuck in Grace Period). To work around this problem, do the following:</p> <ol style="list-style-type: none"> 1. Stop the wae-ni service. <pre>service wae-ni stop</pre> 2. Remove \$CARIDEN_ROOT/software/wae-ni/data. <pre>rm -rf \$CARIDEN_ROOT/software/wae-ni/data</pre> 3. Start the wae-ni service. <pre>service wae-ni start</pre> 4. Navigate to \$CARIDEN_ROOT/software/wae-ni/bin and verify that the collector-pcep-impl bundle is Active. <pre>./client -u karaf</pre>

Resolved Bugs

The following bugs have been resolved since Cisco WAE Release 6.2.

Table 2 **Resolved Bugs**

Bug ID	Description
WAE Collector	
CSCuV74465	A snapshot fails to connect to the flume server.
CSCuV89832	The get_inventory task does not work with Juniper devices.
CSCuW01323	The snmp_find_interfaces task does not differentiate ALU interfaces that have the same name.
WAE Live	
CSCuV88077	The ml_insert_plan task runs out of memory.
WAE System	
CSCuW03277	The WAE Statistics page displays incorrect information.

Using the Bug Search Tool

Use the Bug Search tool to search for a specific bug or to search for all bugs in a release.

-
- Step 1** Go to <http://tools.cisco.com/bugsearch>.
- Step 2** At the Log In screen, enter your registered Cisco.com user name and password; then, click **Log In**. The Bug Search page opens.



Note If you do not have a Cisco.com user name and password, you can register for them at <http://tools.cisco.com/RPF/register/register.do>.

- Step 3** To search for a specific bug, enter the bug ID in the Search For field and press **Return**.
- Step 4** To search for bugs in the current release:
- In the Search For field, enter a problem, feature, or a product name and press **Return**. (Leave the other fields empty.)
 - When the search results are displayed, use the filter tools to find the types of bugs you are looking for. You can search for bugs by modified date, status, severity, and so forth.



Tip To export the results to a spreadsheet, click the **Export Results to Excel** link.

Known Limitations

This section describes the limitations and restrictions for Cisco WAE.

- [Cisco WAE Design, page 5](#)
- [Cisco WAE Live, page 6](#)
- [Cisco WAE Collector, page 6](#)
- [WAE Network Interface \(NI\) Server, page 6](#)
- [WAE System, page 8](#)

Cisco WAE Design

In some Linux installations with Xfce desktop installed, the documentation does not open from the WAE Design GUI Help menu. The workaround is to do one of the following:

- Open the help files from a terminal in the \$CARIDEN_HOME/docs directory.
- Install a default browser.
- Install the following packages.

```
yum install evince
yum groupinstall "X Window System"
yum groupinstall "Desktop"
yum groupinstall "General Purpose Desktop"
```

Cisco WAE Live

- L2 interface types are categorized incorrectly as “individual physical interfaces” on the Explore Interfaces page.
- The “Unknown” interface type is not used.

Cisco WAE Collector

- Due to vendor MIB limitations, Collector cannot represent QoS traffic on interfaces that have more than one VLAN configured. If a network contains such interfaces, their queue traffic statistics are omitted from the collection. The total traffic on these interfaces is still measured. As a result, per class-of-service demands estimated through Demand Deduction are less accurate. Estimates of traffic totals over all classes of services, however, are not affected.
- Due to lack of MIB support, SR tunnel type is not collected for IOS XR routers through SNMP.

Collector Server

- If upgrading the Collector server from release 5.6x to 6.1x or 6.2, the `$CARIDEN_ROOT/etc/collector/server/db-persistence/DiscoveryEngineImplementation.db` file must be removed prior to starting the web server. Since installation automatically starts the web server, the recommendation is to remove this prior to installation.
- OSPFv3 and IPv6 IS-IS databases cannot be collected. The workaround is to use a manual snapshot.
- SNMPv3 device access is not supported. The workaround is to use a manual snapshot and `mate_auth_init`.

WAE Network Interface (NI) Server

Continuous PCEP LSP collection does not support SR tunnels. Note that you can collect SR tunnels through PCEP using the Collector server or snapshots.

Snapshots

- `snmp_find_interfaces`
 - Does not support association of GRE tunnel with the physical interface it uses to reach the tunnel destination since the IP-Tunnel MIB lacks this information.
 - Does not update LAG port status if LAGs are discovered running both `parse_configs` and `snmp_find_interfaces`. The workaround is to run only `snmp_find_interfaces`.
- Juniper routers: Signaled standby LSP path option is not available from the standard MPLS-TE MIB for Juniper routers. Only the active path option name is collected.
- IOS XR routers
 - IGP topology collected through `parse_igp` and `login_find_igp_db`
 - IS-IS link-state database with TE extensions contains incorrect interface “admin-weights” (TE metric) on Intel-based routers.

- IPv6 IS-IS link-state database does not contain IPv6 interface addresses or parallel interfaces. This information is only available when IOS XR supports IS-IS IPv6 TE extensions. The `snmp_find_interfaces` tool collects this information.
- MAC Accounting is not supported.
- `snmp_find_rsvp`
- Does not set the Standby value in the <LSPPaths> table for signaled backup paths.
- Does not collect named affinities configured with affinity-maps.
- BGP peers
 - `find_bgp` does not build BGP pseudo-nodes among internal ASNs.
 - `find_bgp` does not collect BGP peers under PE-CE VRFs.
- `parse_configs`
 - Does not accurately detect the bandwidth of some Juniper 'ge' interfaces that have a capacity of 10 Gbps.
 - Collects POS bundles, but has limitations due to unavailability of the port OperStatus property.
- TE Extended Admin Groups (EAGs), also known as extended affinities, are not supported.
- Port circuits are not built for LAG/bundle members whose nodes are not within the same IGP instance as the AS.
- There is no support for building port circuits for LAG members that are not within the same IGP (inter-AS circuits)
- It is not possible to distinguish between physically connected and unconnected LAG ports that are down for LAG port matching.
- `snmp_find_ospf_db` cannot be used when routers have a large number of links that cannot fit into a single PDU.
- `find_bgpls` does not support multi-area OSPF or multi-level IS-IS, non-TE-enabled interfaces, and pseudo-nodes. The workaround is to use SNMP- or login-based discovery.
- `get_inventory` does not collect Juniper multi-chassis router hardware inventory.
- Segment routing
 - SR LAN adjacency SIDs and pseudo-node creation are not supported.
 - SR protected adjacency SIDs are not supported.
 - Concurrent RSVP-TE and SR-TE paths are not supported on the same LSP.

SAM-OSS Integration with Snapshots

- `sam_getplan` does not populate the <NodeTraffic> table. This table is derived and populated when `sam_getplan` and SNMP tools are used together.
- `sam_getplan` does not populate the NetIntActivePath column in the <LSPs> table.
- If `sam_getplan` and SNMP tools are used together in the snapshot process for multi-vendor network collection, then Alcatel-Lucent traffic measurements cannot be aligned with those collected from other router platforms.

Deployer Module

Cisco Open SDN Controller (OSC)

During detailed PCEP tunnel creation or when modifying PCEP tunnels, affinity values are misinterpreted if multiple affinities are specified. This limits you to specifying one affinity for IncludeAffinity, IncludeAnyAffinity, and ExcludeAffinity, and each of these values must be a number within [0,31].

Cisco Network Services Orchestrator (NSO) Controller

- LSPs that exist in the network by another controller cannot be updated.
- IOS XR: WAE client specifies the XR LSP signaled-name, while NSO service and device use tunnel-id. The workaround is to deploy all IOS XR LSPs using the tunnel-id and to make sure that existing LSPs are not redeployed.
- LSPs that have a named-path used by another LSP cannot be deleted.
- NEDs (NSO console)
 - IOS XR
 - No option to give the IP address of the LSP directly, you can only specify a loopback address.
 - No option to give tunnel affinity values directly; you can only specify an affinity-map name.
- Junos: Does not have the inter-domain keyword, which is used only when an inter-area LSP is created.

WAE System

Installation and Startup

- The WAE NI server and the WAE Core server cannot reside on the same device or on the same VM. Note that the WAE Server Installation Guide assumes that they are on the same device. If needed, please contact your support representative for further installation details.
- If the OS is using an old CA certificate to verify the integrity of the EPEL repository, you might see this error from the OS vendor.

```
Error: Cannot retrieve metalink for repository: epel. Please verify its path and try again.
```

- One possible workaround is to perform an offline installation. For instructions, refer to the Offline Installation chapter in the WAE Server Installation Guide.
- Another possible workaround is to change https to http.



Note This is not a secure solution. For information on how to resolve OS security issues, contact your OS vendor.

1. In the `/etc/yum.repos.d/epel.repo` file, change the first instance of https to http.

```
sudo vim /etc/yum.repos.d/epel.repo
```

Change https to http in the following line.

```
mirrorlist=[https://mirrors.fedoraproject.org/metalink-repo=epel-6&arch=$basearch]
```


2. Execute yum to clean up makecache.

```
sudo yum clean all && yum makecache
```

3. Re-run the installer. For more detailed installation instructions, see the WAE Server Installation Guide.

```
sudo bash wae-k9-<version>.bin
```

- The `$CARIDEN_HOME` directory is not automatically added to `$PATH` (only `$CARIDEN_HOME/bin` is). If not in `$CARIDEN_HOME/bin`, to start the WAE Design GUI from the command line, you must specify its full path.

```
/opt/cariden/software/mate/current/mate
```

Web Server

The `embedded_web_server` tool is being deprecated. The recommendation is to use the `wae-web-server` service, which is constantly monitored to be brought up automatically.

By default, this web service starts upon installation completion. Therefore, if you stop the web server using the `embedded_web_server` tool (`embedded_web_server -action stop`), the web server does not stop. The workaround is the following.

```
service wae-svcs-mon stop
embedded_web_server -action stop
```

WAE Statistics UI

The WAE Statistics page does not open in all browsers. The workaround is the following.

1. Click the WAE Statistics link. The URL format is `https://<server_IP>:8443`.

```
Example: https://171.71.147.14:8443
```

2. Copy the URL of this page to another browser window.
3. In this new browser, change the URL port from 8443 to 8843.

```
Example: https://171.71.147.14:8843 Ex
```

4. Follow the browser messages to accept the connection and add it as an exception.

Web User Management

Both the System UI and the WAE Design Archive UI have local user management capabilities. If both are used to configure users, WAE uses the most recently updated information. The recommendation is to use only the System UI to manage local users.

License Check Failures on Newer Linux Distributions

Some newer Linux distributions have started using a new way (via `biosdevname`) of naming hardware devices, including the network interfaces. This causes some software that depends on the traditional naming (for example, `eth0`, `eth1`) to fail on license checks, including MATE.

The workaround is to append `biosdevname=0` to the kernel line of the grub configuration file and reboot. (Syntax varies among distributions.)

After reboot, you should be able use `ifconfig` to verify that the NIC are named `eth0` (or `eth1`, ...) instead of the `biosdevname` names (such as `p34p1`).

Java Memory

Certain tools (such as `sam_getplan` and `parse_configs`, for example) may require more memory to start than what is available. The symptom is an error message similar to the following.

```
Error occurred during initialization of VM.
Could not reserve enough space for object heap.
Error: Could not create the Java Virtual Machine.
Error: A fatal exception has occurred. Program will exit.
```

The workaround is to set the maximum memory to a low enough value in the `CARIDEN_JAVA_OPTIONS` variable before calling the tool. An example setting is as follows.

```
set CARIDEN_JAVA_OPTIONS=-Xmx1000m
```

Documentation

The WAE Design GUI Installation Guide does not identify WAE Design as being part of the WAE Planning software package.

WAE Collector inventory collection configuration is documented accurately, but it is not based on the use of the shipped default hardware inventory configuration files.

The documentation is missing the following. For information, contact your support representative.

- WAE Live 6.1 inventory features
- WAE Design RSVP TE Opt tool
- New or changed WAE Core configurations (.cfg file configurations) for OSC extensions, LSP deployment through NSO controller, wae-appenginecore (which exposes Design APIs through REST), WAE REST API credentials, and calendaring projections
- SR LSP collection
- NSO integration

Related Documentation

For related documentation, see the [Cisco WAE 6.2 Documentation Roadmap](#).

This document is to be used in conjunction with the documents listed in the “[Related Documentation](#)” section.

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