



Cisco Telemetry Broker

Release Notes 2.1.3



Table of Contents

Introduction	4
Upgrade Your Cisco Telemetry Broker Deployment	4
Download the Update File	4
Upload the Update File	5
What's New	6
Version 2.1.3	6
Version 2.0.1	6
Version 1.4.4	6
Version 1.3.2	7
Version 1.3.1	8
Version 1.2.2	8
Version 1.1.2	9
What's Been Fixed	11
Version 2.1.3	11
Version 2.0.1	11
Version 1.4.4	11
Version 1.3.2	11
Version 1.3.1	12
Version 1.2.2	12
Version 1.1.3	12
Version 1.1.2	13
Version 1.0.3	13
Version 1.0.2	13
Known Issues	14
Version 2.1.3	14
Version 2.0.1	18
Version 1.4.4	18
Version 1.3.2	19
Contact Support	20

Change History	21
Release Support Information	22

Introduction

Cisco Telemetry Broker v2.1.3 is a feature release that includes both new features and bug fixes.

Upgrade Your Cisco Telemetry Broker Deployment

The Software Update page in your Cisco Telemetry Broker manager web interface shows the current Cisco Telemetry Broker version of your manager node and broker nodes, and it allows you to upgrade to the current released version.

The update upgrades your manager and all of your managed broker nodes to the newest version. Before performing the update, we recommend that you take a VM snapshot of your Cisco Telemetry Broker VMs. You can use this snapshot to revert to the current state in case you receive an unexpected error.

The system is unresponsive during update, and updates your manager first, then the broker nodes. While your manager updates, you may not see the proper state of your Cisco Telemetry Broker deployment. While your broker nodes update, they may not properly pass sent traffic to destinations.



- Upgrading an existing deployment to v2.1.3 requires enough free space on the Manager node to perform data migration: up to 45 percent of the amount of disk space that is currently being used. For instance, if the `/var/lib/titan/` partition on the Manager is using 60 GB, you will need up to 27 GB of free disk space (or at least 87 GB of total disk size).
- The upgrade process may take longer depending on your system's existing data size (possibly 2-3 hours to complete a database migration on the Manager node).

Download the Update File

1. Go to [Cisco Software Central](#).
2. In the Download and Upgrade section, choose **Access Download**.
3. Type **Cisco Telemetry Broker** in the search field.
4. Choose the **Manager Node Software**.
5. Download the CTB Update Bundle file: **ctb-update-bundle-v2.1.3-0-g0116daa.prod.secured.tar**



You can install the v2.1.3 bundle file in Cisco Telemetry Broker v1.2.2 and later.

Upload the Update File

1. In the Cisco Telemetry Broker manager, click the ⚙️ (**Settings**) icon.

The Application Settings page opens.

2. Click the **Software Update** tab.
3. In the upper right corner of the page, click **Upload an Update File**.
4. Choose the file you downloaded.

You may need to wait several minutes for the upload to finish, based on the time estimates displayed. After the file is uploaded, you will receive a message informing you that a software update is now available.

5. Click **Update Cisco Telemetry Broker**.

You will not be able to navigate within Cisco Telemetry Broker while the Manager node is updated to the latest version. The update process takes about 10 minutes.

6. When the update has completed, you will be prompted to log back in to Cisco Telemetry Broker.


A loading indicator will appear next to each broker node that is being updated.

What's New

Version 2.1.3

- You can now generate NetFlow telemetry from raw traffic and share it with any destination, including Cisco Secure Cloud Analytics and Cisco Secure Network Analytics.
- Because customers frequently run out of disk space, we have decreased disk usage by using our database more efficiently.
- We have generalized the way we handle input types to allow for a more diverse set in the future, so it will now be easier to add new and different input types.

Version 2.0.1

- A physical broker node (TB2300-K9) that runs on M6 hardware is now available for you to use with Cisco Telemetry Broker. For more information, see the [Broker Node TB2300 Specification Sheet](#).
- You can now set the the MTU without having to log in to the broker node. On the Broker Nodes page, in the Broker Nodes table, click the applicable broker node name in the Broker Node Name column. In the Telemetry Interface section, click the  (Edit) icon and complete the **Interface MTU (bytes)** field.

Version 1.4.4

- **Management Layer Support for IPv6** The Cisco Telemetry Broker management/admin interface can now be configured with an IPv6 address. Communication to the following entities can now be done over IPv6:
 - Syslog server
 - Email server
 - Proxy server
 - SCA server
 - VPC s3 bucket
 - NSG SAS bucket
- **New alerts**
 - **Insufficient CPU Allocated alert** This alert indicates the recommended number of CPUs has not been allocated to a node.

- **Insufficient Memory Allocated alert** This alert indicates the recommended amount of memory has not been allocated to the appliance.

For a list of Cisco Telemetry Broker alerts, see "Appendix C" in the Cisco Telemetry Broker User Guide.

- **Brokering in Adaptive Mode** Cisco Telemetry Broker now offers brokering in adaptive mode (this requires kernel 5.x and the vfiopci kernel module). Enabling adaptive mode decreases CPU usage when traffic is expected to be light (less than 500K pps). However, when traffic is expected to be heavy (greater than 500K pps) or bursty, we recommend that you don't enable adaptive mode.

For more information, see "Appendix B" in the Cisco Telemetry Broker User Guide.

- **Data Flow page** We have added a Data Flow page to enable you to easily see which inputs and destinations are connected to each other. On this page you can also view alerts, data flow information, and other details related to your configured inputs and destinations.

For more information, see the "Data Flow" section in the Cisco Telemetry Broker User Guide.

- **Upgrade to Kernel 5.x and Debian 11** Cisco Telemetry Broker has upgraded to Kernel 5.x and Debian 11 to allow you to use adaptive mode and to include the latest upstream security fixes.
- **System Parameters Configurable** Individual system parameters (including hostname) are now configurable using the `sudo ctb-install --config` command.

For more information, see the "VMWare Setup" section in the Cisco Telemetry Broker Virtual Appliance Deployment and Configuration Guide.

Version 1.3.2

- **Overview Page** We have simplified the Metrics component. It now displays only the Total Received Rate and the Total Sent Rate (for the last 24 hours).
- **Separating Subnets in Rules** You can now use New Line to separate your list of subnets when creating or editing a rule.
- **Performance Enhancements** We have made performance enhancements to the Overview and Destinations pages.
- **TLS Certificate Expiry** You will now receive a warning every day for the 30 days that precede the expiration of a TLS certificate.

Version 1.3.1

- **Input Concept** We have introduced the concept of inputs in v1.3.1. In v1.2.x and earlier, exporters/sources send data to a port that is specified in a rule. Cisco Telemetry Broker then tracks metrics for all exporters.

In v1.3.x, Cisco Telemetry Broker introduces the concept of inputs. The three input types are UDP, VPC (AWS flow logs), and NSG (Azure flow logs). A UDP input consists of a port number and a name. Each input receives telemetry from multiple exporters. You can track metrics at the input level by disabling exporter tracking, which will prevent exporters (for example, IP addresses) from being tracked. If you want to track metrics per exporter, then you need to enable exporter tracking.

For more information, refer to the "Inputs" chapter in the Cisco Telemetry Broker User Guide.

- **Support a Maximum of 100k Exporters** Cisco Telemetry Broker supports a maximum of 100k exporters per broker node (if you don't enable exporter tracking). If you enable exporter tracking, Cisco Telemetry Broker will continue to support a maximum of 1000 exporters.
- **Inputs Without Destinations** A newly created input can start receiving data without having to be attached to a destination by a rule. This allows for configuration debugging before data is forwarded to any destination.
- **Independent Rule per Node** You can assign inputs to specific nodes or clusters. This enables you to create different rules for different nodes or clusters.
- **UDP Inputs Can Re-use Port Numbers** More than one input can have the same port number as long as the inputs are not assigned to the same node or cluster.
- **SCA Destinations** Cisco Telemetry Broker transforms and sends NetFlowV9 and NetFlowV5 data to Secure Cloud Analytics. In v1.2.x, only IPFIX data is sent to Secure Cloud Analytics.

Version 1.2.2



When you upgrade to v1.2.2 from v1.1.x or earlier, the process may take up to an hour due to data migration that must occur; the exact time will depend on the disk speed of the manager and the size of the database. During this time, the manager UI may not respond.

- **Overview Page** Cisco Telemetry Broker has added a new home page that provides an overview of your system's health and the telemetry being transmitted through your system.

- **Email Notifications** You can direct Cisco Telemetry Broker to send email notifications when any of the following alerts are generated:
 - Broker Node No Data
 - Broker Node Dropping Packets
 - Destination Unreachable
 - Appliance Disk Full

 Currently you cannot configure custom alert types.

- **SCA Destinations** You can add a Secure Cloud Analytics (SCA) destination.
 - In Cisco Telemetry Broker, you can add only 1 SCA Destination per system.
 - Cisco Telemetry Broker sends only IPFIX packets to Secure Cloud Analytics.
 - If your Cisco Telemetry Broker deployment contains light traffic, it may take up to 20 minutes for data to appear on the Destinations page after you add an SCA destination.
- **Destination Rules** You cannot add IPv6 subnets when adding a rule for an SCA destination.
- **Broker Node Deployment** You can deploy a broker node using a Transformation Capable performance profile to achieve telemetry transformation (for example, sending IPFIX data to Secure Cloud Analytics).
 - This requires 8 CPUs and 12G of memory. For more information, refer to the "Virtual Machine Requirements" section in the [Cisco Telemetry Broker Virtual Appliance Deployment and Configuration Guide](#).
 - The Cisco Telemetry Broker node disk size has increased from 40G to 70G. Therefore, if you intend to send data to SCA, upgrade your VMs to have an additional 30G of disk space after you upgrade to v1.2.2. For directions, refer to Step 3 in the "Expand Cisco Telemetry Broker Manager Disk Size" section in the [Cisco Telemetry Broker User Guide](#).

Version 1.1.2

- **Azure NSG Flow Logs to IPFIX Transformation** You can transform Azure NSG Flow Logs into IPFIX and then send this information to Cisco Telemetry Broker destinations.
- **KVM Deployment** Cisco Telemetry Broker images are distributed as qcow2 image files for deployment into a KVM hypervisor.

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- **Smart Licensing Features** We've added support for smart licensing registration renewal, authorization renewal, force re-registration, and transport gateway connections through the use of an on-prem Smart Software Manager.



Cisco Telemetry Broker requires Smart Software Manager version 8-202010 or higher.

- **Syslog Notifications** Cisco Telemetry Broker sends notifications to the customer's syslog server for alerts that are occurring inside your system. Previously we have supported alerts that indicate the node dropping packets, the node not sending data, and the destination being unreachable.
- **Telemetry Classification** You can classify incoming UDP telemetry based on pre-defined types inside Cisco Telemetry Broker (e.g., NetFlow V9, IPFIX, Syslog) and display the classification on the user interface (UI).

What's Been Fixed

Version 2.1.3

CDETS ID	Description
CSCwe97770	Fixed an issue where our Certificate Expiration Alerts were not being sent to the configured Syslog server.

Version 2.0.1

CDETS ID	Description
No associated ID	Fixed an issue where users could experience a lag in response time on the Destinations page as more destinations are added.

Version 1.4.4

CDETS ID	Description
CSCwc86227	For both the Received Rate graph on the Input Details page and the Sent Rate graph on the Destination Details page, when you change views from a longer time frame to a shorter time frame (for example, switch from 4h to 1h), the graph now switches to the appropriate aggregation interval for the newly selected time frame.
CSCwc79707	The loading ellipsis no longer persists on both the Add NSG Flow Log dialog and the Add VPC Flow Log dialog.

Version 1.3.2

CDETS ID	Description
No associated ID	Cisco Telemetry Broker can now process NSG flow logs that are larger than 50,000 bytes.
No associated ID	The correct label for Smart Account is now correctly displayed on the Smart Licensing page.

CDETS ID	Description
No associated ID	Cisco Telemetry Broker now handles vflow scope fields correctly.
CSCwc58607	The Total Sent Rate metrics on the Overview page display the sum of each destination's Sent Rate metrics (which are displayed on each destination's page).

Version 1.3.1

No fixes for this release.

Version 1.2.2

CDETS ID	Description
CSCwa10327	Fixed an issue where replacing the manager TLS certificate with a PEM chain certificate that contained a CA hierarchy greater than 3 certificates would break connectivity with the nodes. Cisco Telemetry Broker now works with a Cisco Telemetry Broker hierarchy greater than 3 certificates.
CSCvz89441	Fixed an issue where importing a Cisco UDPD xml configuration during the installation of the broker would fail, and the server would receive a 415 Unsupported Media Type error response code.

Version 1.1.3

CDETS ID	Description
CSCvz01135	Fixed a rare issue where Cisco Telemetry Broker could fill up the disk by writing too many logs at once. Now logs are rotated off the disk when necessary.
CSCvz46626	Fixed an issue where Cisco Telemetry Broker would display incorrect data rates for graphs when the selected time range was greater than 4 hours.
No associated ID	Fixed an issue where Cisco Telemetry Broker configuration backup would fail if an Azure Flow Log was present.

CDETS ID	Description
No associated ID	Fixed an issue where Cisco Telemetry Broker would not allow VPC Flow Logs to be created when uppercase characters were entered in the S3 Bucket Path field.
No associated ID	Fixed an issue where Cisco Telemetry Broker would incorrectly display a "Never Seen" status for an Azure Flow Log source even when it was healthy.

Version 1.1.2

No fixes for this release.

Version 1.0.3

CDETS ID	Description
CSCvy44789	Fixed an issue where Cisco Telemetry Broker failed on v5 AWS VPC Flow Log fields. Cisco Telemetry Broker now ignores unsupported fields and does not fail.

Version 1.0.2

CDETS ID	Description
No associated ID	Fixed an issue where the data retention job for metrics was not cleaning up all data, which can result in the manager's disk filling up.
No associated ID	Added extra validation to Cisco Telemetry Broker upgrade processing to ensure untrusted files are never processed.
No associated ID	Added more diagnostic reports to Cisco Telemetry Broker mayday packs to assist with debugging.
No associated ID	Patched third party libraries to bring in security fixes.

Known Issues

This section summarizes issues (bugs) that are known to exist in Cisco Telemetry Broker. Where possible, workarounds are included.

Version 2.1.3

CDETS ID	Description and Workaround
No associated ID	<p>Description</p> <p>Upgrading an existing deployment to v2.1.3 requires enough free space on the Manager node to perform data migration: up to 45 percent of the amount of disk space that is currently being used. For instance, if the /var/lib/titan/ partition on the Manager is using 60 GB, you will need up to 27 GB of free disk space (or at least 87 GB of total disk size). Also note that this data migration will take time, potentially 2-3 hours for long-running deployments.</p> <p>Workaround</p> <p>Ensure you have enough free disk space before upgrading.</p>
No associated ID	<p>Description</p> <p>An issue may occur when uploading the 2.1.3 update bundle to existing CTB deployments, causing the following error:</p> <pre>Server rejected update file:<html> <head><title>504 Gateway Time-out</title></head> <body> <center><h1>504 Gateway Time-out</h1></center> <hr><center>nginx</center> </body> </html></pre> <p>Workaround</p> <p>Reboot the Manager node and retry uploading the update bundle.</p>
No associated ID	<p>Description</p> <p>If you have already placed the Telemetry Network interface in Adaptive mode, you need to complete the following step before upgrading to v2.1.3, regardless of whether you are setting up in VMWare or KVM.</p> <p>Workaround</p> <p>Log in to to the broker node shell and add this command:</p>

CDETS ID	Description and Workaround
	<pre>set interface rx-mode eth1 adaptive</pre> <p>to this file:</p> <pre>/var/lib/titan/vppconfig/vpp_custom_cmds.txt</pre>
No associated ID	<p>Description</p> <p>The Manager certificate's common name (CN) must match the address (IP or DNS) that was used to register all broker nodes (via <code>ctb-manage</code>).</p> <p>Workaround</p> <p>None</p>
No associated ID	<p>Description</p> <p>If you have already configured Cisco Telemetry Broker v1.4.4 or v2.0.1 as an IPv6-only deployment (in other words, if the Manager node's admin interface was given an IPv6 address and no IPv4 address when <code>ctb-install --init</code> was run), you need to generate a new TLS certificate before upgrading to v2.1.3 or later. Specifically, if Subject Name or Issue Name in Settings > TLS Certificate > Certificate details has an IPv6 address in square brackets (for instance, <code>[2001:420:3044:2013:0:9:0:18]</code>), you need to create a new certificate without the brackets.</p> <p>Workaround</p> <ol style="list-style-type: none"> 1. Create a new certificate, replacing <code><ipv6 address></code> with the Manager node's admin interface without brackets. (Note that there is a space at the beginning of Line 2 and Line 3.) <pre>openssl req -x509 -newkey rsa:4096 -nodes -keyout key.pem -out cert.pem -sha256 -days 365 -subj /CN=<ipv6 address> -addext 'subjectAltName=IP:<ipv6 address>'</pre> <ol style="list-style-type: none"> 2. Upload the certificate to the Manager (Settings > TLS Certificate > Upload TLS Certificate). 3. Run <code>sudo ctb-manage</code> and choose option c (re-fetch the manager's certificate but keep all other information).

CDETS ID	Description and Workaround
No associated ID	<p>Description</p> <p>Before you upgrade any node that utilizes IPv6 to v2.1.3, you must first change the Manager's certificate to include a SAN entry of the following form, or the broker will be unable to communicate with the Manager: <i>DNS:<Manager IPv6 address></i>.</p> <p>Workaround</p> <p>If using <i>openssl</i> to generate a certificate, use the following option: <i>-addext 'subjectAltName=IP:<Manager IPv4 address>, IP:<Manager IPv6 address>, DNS:<Manager IPv6 Address></i></p>
No associated ID	<p>Description</p> <p>In order for a Flow Generator input to function, you need to use a v2.1.3+ Manager and v2.1.3+ broker.</p> <p>Workaround</p> <p>None.</p>
No associated ID	<p>Description</p> <p>A broker node may complete the upgrade to v2.1.3 (you can verify this with ssh access to the node: <code>cat /etc/titanos_version</code>), but the Manager's Settings > Software Update page still shows 'Updating...'</p> <p>Workaround</p> <p>Run <code>sudo /opt/titan/bin/upload.sh</code> on the broker node.</p>
No associated ID	<p>Description</p> <p>vSphere users may see the error "The Guest operating system ... is not supported" after deploying our OVA.</p> <p>Workaround</p> <p>Follow the workaround instructions here: https://kb.vmware.com/s/article/87660.</p>
No associated ID	<p>Description</p>

CDETS ID	Description and Workaround
	<p>In cases where AWS flow logs and NSG flow logs contain a large amount of flow logs, you might observe a loss of telemetry.</p> <p>Workaround</p> <p>Split the buckets and dedicate brokers to cloud telemetry transfer.</p>
No associated ID	<p>Description</p> <p>When using the Flow Generator input, oversubscription of the SPAN port connected to the monitor interface on the broker node could cause packet loss. These monitor interface statistics are collected by the broker node and are available via the command line on the broker node. However, they are not reported to the Manager.</p> <p>Workaround</p> <p>Check the monitor interface statistics via the command line by running this command:</p> <pre>sudo docker exec -it vpp-fs vppctl show interface eth1</pre> <p>Verify that there is no <code>rx-miss</code> on the monitor interface. If there is packet loss, then resolve SPAN port oversubscription.</p>
No associated ID	<p>Description</p> <p>The CPU, memory, & disk storage statistics on the Manager Node and/or Broker Node details pages may not update after upgrading to v2.1.3. This can occur for upgrades with lengthy database migrations.</p> <p>Workaround</p> <p>If the statistics do not update 20 minutes after the upgrade has finished, ssh to the manager and/or broker node (whichever is affected) and run <code>sudo docker restart telegraf-collector</code>.</p>

Version 2.0.1

CDETS ID	Description and Workaround
No associated ID	<p>Description</p> <p>Occasionally, the Cisco Telemetry Broker interface can incorrectly display the capacity of the telemetry interface as 0 bps. However, note that the capacity of the telemetry interface for the Broker Node TB2300 is really 10Gbps.</p> <p>On a virtual broker node, refer to the hypervisor settings (for example, VMware or KVM) for the interface capacity.</p> <p>Workaround</p> <p>None at this time.</p>
CSCwe97770	<p>Description</p> <p>If the Manager node's TLS certificate has expired or will expire within 30 days, Cisco Telemetry Broker sends a notification, which displays as an alert on the Overview page.</p> <p>In v2.0.1, these alerts fail to send via Syslog, though the alert still displays on the Overview page.</p> <p>Workaround</p> <p>You can configure Cisco Telemetry Broker to send you these notifications via email. Even if you do not do this, however, alerts still display on the Overview page.</p>

Version 1.4.4

CDETS ID	Description and Workaround
CSCwd87094	<p>Description</p> <p>Cisco Telemetry Broker drops NetFlow and IPFIX packets larger than 1500 that are being sent to SCA destinations.</p> <p>Workaround</p> <p>None at this time.</p>

Version 1.3.2

CDETS ID	Description and Workaround
CSCwc79707	<p>Description</p> <p>The loading ellipsis (three horizontal dots) persists on both the Add NSG Flow Log dialog and the Add VPC Flow Log dialog. Please note that this does not impede the ability to add a Flow Log.</p> <p>Workaround</p> <p>None at this time.</p>
CSCwc86227	<p>Description</p> <p>For both the Received Rate graph on the Input Details page and the Sent Rate graph on the Destination Details page, when you change views from a longer time frame to a shorter time frame (for example, switch from 4h to 1h), the aggregation interval for the previously selected time frame is retained; it does not switch to the appropriate aggregation interval for the newly selected time frame.</p> <p>This causes the graph to display incorrectly, which may include the line displaying as a dotted line if you zoom in enough.</p> <p>Workaround</p> <p>None at this time.</p>

Contact Support

If you need technical support, please do one of the following:

- Contact your local Cisco Telemetry Broker Partner
- Contact Cisco Telemetry Broker Support
- To open a case by web: <http://www.cisco.com/c/en/us/support/index.html>
- To open a case by email: tac@cisco.com
- For phone support: 1-800-553-2447 (U.S.)
- For worldwide support numbers:
<https://www.cisco.com/c/en/us/support/web/tsd-cisco-worldwide-contacts.html>

Change History

Document Version	Published Date	Description
1_0	March 14, 2024	Initial version.
1_1	March 15, 2024	Updated Known Issues section.
1_2	March 22, 2024	Updated Known Issues section.
1_3	March 25, 2024	Documented the GA date in Release Support Information section.

Release Support Information

Official General Availability (GA) date for Release 2.1.3 is March 25, 2024.

For support timeline information regarding general software maintenance support, patches, general maintenance releases, or other information regarding Cisco Telemetry Broker Release Support lifecycle, please refer to the [Cisco Telemetry Broker Software Lifecycle Support Statement](#).

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