



Troubleshooting Tips and Debug Commands for IOS Platform

First Published: March 29, 2013
Revised: March 26, 2015

Troubleshooting Tips

The following tips are for IOS platform. For troubleshooting information on IOS XE platform, see [Cisco Application Visibility and Control User Guide](#).

- Whenever there is an issue, turn on the relative debugs and search for keywords such as *Error* or *Fail*. Such a search will usually provide useful information about further debugging.
- Use the **show policy-map type mace interface** command if you want to know the number of Layer 4 flows that match the MACE policy. This is commonly used to check the basic statistics because MACE is a flow-based feature.
- Occasionally the user may observe zero values in the metrics. These are as expected if the flow is still active. Check whether the flow is terminated or not.
- Some of the metrics are only available after certain protocol stages. For example, the HTTP Host and URI metrics are only available after the flow is terminated.
- Some of the metrics support only IPFIX export protocol. These include the HTTP and URI metrics. Be sure to choose the right export protocol under the flow exporter configuration.
- Use the **show flow export template** command to get the properties of the exported flow data.
- Use MACE show commands to view the current export data on the router. These commands are very useful for basic debugging.
- If you encounter issues on the collector, the user can get the hex dump of the packets on the collector side and manually check if there is anything that does not conform to the NetFlow v9 or IPFIX protocol.

Debug and Show Commands

Table 4-1 lists the debug and show commands supported on PA.

Table 4-1 *Debug and Show Commands Supported on PA*

Command	Description
debug mace cp	PA Control-Plane debugging.
debug mace dp	PA Data-Plane debugging.
debug mace art	PA ART Engine debugging.
debug flow monitor type performance-monitor <i>[name [cache[raw]]]</i>	Turn on flow monitor debugging.
debug flow record type performance-monitor	Turn on flow record debugging.
debug policy-map type performance-monitor <i>[name interface]</i>	Turn on policy-map debugging.
debug ip nbar trace detail <i>access-list name</i>	Turn on NBAR debugging.
show ip nbar trace detail	Show NBAR debugging.
clear ip nbar trace detail	Clear NBAR debugging.
show policy-map type mace	Shows mace policy-map configuration.
show flow exporter <i>name</i>	Shows flow exporter configuration.
show flow record type mace <i>name</i>	Shows flow record configuration.
show flow monitor type mace <i>name</i>	Shows flow monitor configuration.
show flow exporter template	Shows the size, ID , and so on of the flow data that is exported to collector.
show cef interface <i>name</i>	Shows whether the PA or NBAR is enabled on the interface or not.
show policy-map type mace interface <i>name</i>	Shows whether the traffic flow matches the class-map or not.
show mace metrics <i>[src ip dest ip dest port protocol flow-mon [art waas]]</i>	Shows the metrics that are collected at the last export timeout. If you do not specify any argument (src ip, dest ip, and so on), the command output will show metrics for all flows. Not all configured flows are shown in the output. Only a fixed subset of the metrics is shown.
show mace metrics 1.1.1.1	Shows metrics for flows only from source IP 1.1.1.1.
show mace metrics any 2.2.2.2	Shows metrics from any source IP, and destination IP with IP address 2.2.2.2.
show mace metrics any any 80	Shows metrics from any source IP, any destination IP, and destination port with port number 80.
show mace metrics any any any 6	Shows metrics from any source IP, any destination IP, any destination port, and protocol with protocol ID 6.

Command	Description
show mace metrics flow-mon1	Shows those metrics on which flow-mon1 action is taken. Note that the metrics shown will not have a one-to-one correspondence with those configured in the record used inside flow-mon1.
show mace metrics art	Shows only ART metrics.
show mace metrics waas	Shows only WAAS metrics.
show mace metrics summary	Shows summary of metrics.
show flow exporter statistics	Shows the number of records, bytes, and packets exported.
show flow exporter option application table	Shows all the application ID and the name mapping.
show ip nbar parameter extraction	Shows the NBAR field extraction format which concatenates the App ID, Sub-classification ID, and Value.

