



Easy Performance Monitor

The Easy Performance Monitor chapter describes how to configure Easy Performance Monitor (ezPM) for Application Visibility and Control (AVC).

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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see [Bug Search Tool](#) and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Information About Easy Performance Monitor

Easy Performance Monitor

The Easy Performance Monitor (Easy perf-mon or ezPM) feature provides an express method of provisioning monitors. This new mechanism adds functionality and does not affect the existing methods for provisioning monitors.

EzPM does not provide the full flexibility of the traditional perf-mon configuration model but provides 'profiles' that represent typical deployment scenarios. On selecting a profile and specifying a few parameters, ezPM provides the remaining provisioning information.

Profile

A profile is a pre-defined set of traffic monitors that contains default traffic monitor, and the traffic monitors can be enabled or disabled for a context. A profile also includes an exporter template. The following profiles are available for configuration:

- Application Experience
- Application Statistics

Traffic Monitor

A traffic monitor is a built-in definition of a perf-mon policy (that includes flow record, flow monitor, sampler, and monitor metrics) along with traffic classification on which it is activated.

Each traffic monitor defines the parameters that can be modified. While configuring the traffic monitor, the CLI displays the keywords based on the parameters that can be modified.

Traffic Monitors for Application Experience Profile

For an application experience profile, you can configure the following metrics:

- Application response time (ART) metrics and counters for TCP traffic
- Application level counters for DNS and DHT protocols
- Conversational level counters for IP traffic
- Media metrics and counters for rtp and telepresence media traffic
- URL information, ART metrics, and counters for sampled HTTP traffic.

For each of the metrics for a traffic monitor, you can configure the number of flow entries per cache, reduce the default traffic classification, and activate traffic monitor for IPv4 and IPv6 traffic. For media metrics, you can also activate the traffic monitor in ingress and egress directions.

Traffic Monitors for Application Statistics Profile

For an Application Statistics profile, the following traffic monitors are available for configuration:

- application-client-server-stats
- application-stats

The application statistics profile provides only application statistics and not performance statistics. The monitors operate on both IPv4 and IPv6 traffic. You can monitor either **application-client-server-stats** or **application-stats** as the **application-client-server-stats** monitor provides the same information as that of **application-stats** along with additional information.

Context

A context represents a performance monitor policy map that is attached to an interface in ingress and egress directions. A context contains the information about the traffic-monitor that has to be enabled. When a context is attached to an interface, two policy-maps are created, one each in ingress and egress directions. Depending on the direction specified in the traffic monitor, the policy-maps are attached in that direction and the traffic is monitored. You can modify the context to override pre-defined directions.

You can create multiple contexts based on a single profile with different traffic monitors, different exporters, and different parameters for every selected traffic monitor.

An ezPM context can be attached to multiple interfaces.

A maximum of one (1) application experience profile context and three (3) application statistics profile contexts, for a total of four (4) contexts can be attached to a single interface.

You can modify the ezPM context only when the context is not attached to an interface. To detach the context from an interface, use the **no performance monitor context** *context-name* command.

How to Configure Easy Performance Monitor

Configuring Easy Performance Monitor

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **performance monitor context** *context-name* **profile** *profile-name*
4. **exporter destination** {*hostname* | *ipaddress*} **source interface** *interface-type number* [**port** *port-value* **transport udp** *vrf vrf-name*]
5. (Optional) Repeat Step 4 to configure additional exporters.
6. **traffic monitor** {**application-response-time** | **application-traffic-stats** | **conversation-traffic-stats** | **media** [*egress* | *ingress*] | *url*} [**cache-size** *max-entries*] [**cache-type** [*normal* | *synchronized*]] [[**class-and** | **class-replace**] *class-name*] [*ipv4* | *ipv6*] [**sampling-rate** *number*]
7. Repeat Step 6 to configure additional traffic monitor parameters.
8. **exit**
9. **interface** *interface-type number*
10. **performance monitor context** *context-name*
11. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	Enables privileged EXEC mode.

	Command or Action	Purpose
	<p>Example:</p> <pre>Device> enable</pre>	<ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<p>configure terminal</p> <p>Example:</p> <pre>Device# configure terminal</pre>	Enters global configuration mode.
Step 3	<p>performance monitor context <i>context-name</i> profile <i>profile-name</i></p> <p>Example:</p> <pre>Device(config)# performance monitor context perf-mon-test profile application-experience</pre>	Enters performance monitor configuration mode, creates a context with application-experience profile.
Step 4	<p>exporter destination {<i>hostname</i> <i>ipaddress</i>} source interface <i>interface-type number</i> [port <i>port-value</i> transport udp vrf <i>vrf-name</i>]</p> <p>Example:</p> <pre>Device(config-perf-mon)# exporter destination 10.1.1.1 source interface GigabitEthernet0/0/0 port 1 transport udp vrf vpn1</pre>	Attaches the exporter to the context and configures exporter parameters.
Step 5	(Optional) Repeat Step 4 to configure additional exporters.	—
Step 6	<p>traffic monitor {application-response-time application-traffic-stats conversation-traffic-stats media [egress ingress] url} [cache-size <i>max-entries</i>] [cache-type [normal synchronized]] [[class-and class-replace] <i>class-name</i>] [ipv4 ipv6] [sampling-rate <i>number</i>]</p> <p>Example:</p> <pre>Device(config-perf-mon)# traffic monitor media egress cache-size 70 class-and cln ipv6</pre>	<p>Configures the traffic monitor to monitor the specified metrics.</p> <p>Note The class-and and class-replace keywords are not available for application-statistics profile.</p>
Step 7	Repeat Step 6 to configure additional traffic monitor parameters.	—
Step 8	<p>exit</p> <p>Example:</p> <pre>Device(config-perf-mon)# exit</pre>	Exits performance monitor configuration mode and enters global configuration mode.

	Command or Action	Purpose
Step 9	interface <i>interface-type number</i> Example: Device(config)# interface gigabitethernet 0/1/0	Enters interface configuration mode.
Step 10	performance monitor context <i>context-name</i> Example: Device(config-if)# performance monitor context perf-mon-test	Configures the specified performance monitor context on the interface.
Step 11	exit Example: Device(config-if)# exit	Exits interface configuration mode and enters global configuration mode.

Configuration Examples for Configuring Easy Performance Monitor

Example: Configuring a Performance Monitor Context with Default ART, Media, and URL Traffic Monitors

The following example shows how to configure a performance monitor context to monitor the traffic metrics for ART, media, and URL:

```
Device# configure terminal
Device(config)# performance monitor context perf-mon-test profile application-experience
Device(config-perf-mon)# exporter destination 10.10.1.1 source interface GigabitEthernet0/0/0
port 15 transport udp vrf in-vrf
Device(config-perf-mon)# traffic-monitor application-response-time
Device (config-perf-mon)# traffic-monitor media
Device(config-perf-mon)# traffic-monitor url
Device(config-perf-mon)# exit
```

Example: Configuring a Performance Monitor Context With Traffic Monitor Enabling the Media Metrics for Ipv6 Traffic in Ingress and Egress Directions

The following example shows how to configure a performance monitor context with traffic monitor enabling the media metrics for ipv6 traffic in ingress and egress directions:

```
Device# configure terminal
Device(config)# performance monitor context perf-mon-test profile application-experience
Device(config-perf-mon)# exporter destination 10.10.1.1 source interface GigabitEthernet0/0/0
port 15 transport udp vrf in-vrf
Device(config-perf-mon)# traffic-monitor media ingress ipv6
Device(config-perf-mon)# traffic-monitor media egress ipv6
Device(config-perf-mon)# exit
```

Example: Configuring a Performance Monitor Context on Multiple Interfaces

The following example shows how to configure a performance monitor context on multiple interfaces:

```
Device# configure terminal
Device(config)# interface gigabitethernet 0/1/0
Device(config-if)# performance monitor context perf-mon-test
Device(config-if)# exit
Device(config)# interface gigabitethernet 0/2/0
Device(config-if)# performance monitor context perf-mon-test
Device(config-if)# exit
```

Example: Verifying the Complete Configuration for a Performance Monitor Context

The following example shows the complete underlying configuration of a performance monitor context that uses all traffic monitors. This configuration demonstrates how ezPM builds the configuration by applying the Application Experience profile definition to the context.

```
Device# show running-config performance monitor context reference
!
performance monitor context reference profile application-experience
exporter destination 5.4.3.2 source Ethernet0/0.1
traffic-monitor all
!
Device# show performance monitor context reference configuration
!
!=====  
! Equivalent Configuration of Context reference !  
!=====  
!Exporters  
!=====  
!  
flow exporter reference-1  
description performance monitor context reference exporter  
destination 5.4.3.2  
source Ethernet0/0.1  
transport udp 4739  
export-protocol ipfix  
template data timeout 300  
option c3pl-class-table timeout 300  
option c3pl-policy-table timeout 300
```

```

option interface-table timeout 300
option vrf-table timeout 300
option sampler-table timeout 300
option application-table timeout 300
option application-attributes timeout 300
option sub-application-table timeout 300
!
!Access Lists
!=====
ip access-list extended reference-conv_ipv4_tcp
permit tcp any any
!
ipv6 access-list reference-conv_ipv6_tcp
permit tcp any any
!
ip access-list extended reference-conv_ipv4_udp
permit udp any any
!
ipv6 access-list reference-conv_ipv6_udp
permit udp any any
!
ip access-list extended reference-art_ipv4_tcp
permit tcp any any
!
ipv6 access-list reference-art_ipv6_tcp
permit tcp any any
!
ip access-list extended reference-media_ipv4_udp
permit udp any any
!
ipv6 access-list reference-media_ipv6_udp
permit udp any any
!
ip access-list extended reference-url_ipv4_tcp
permit tcp any any
!
ipv6 access-list reference-url_ipv6_tcp
permit tcp any any
!
!Class-maps
!=====
class-map match-any reference-app_ts
match protocol dns
match protocol dht
!
class-map match-any reference-conv_ts_ipv4
match access-group name reference-conv_ipv4_tcp
match access-group name reference-conv_ipv4_udp
!
class-map match-any reference-conv_ts_ipv6
match access-group name reference-conv_ipv6_tcp
match access-group name reference-conv_ipv6_udp
!
class-map match-all reference-art_ipv4
match access-group name reference-art_ipv4_tcp
!
class-map match-all reference-art_ipv6
match access-group name reference-art_ipv6_tcp
!
class-map match-any reference-media_app
match protocol telepresence-media
match protocol rtp
!
class-map match-all reference-media_ipv4_in
match access-group name reference-media_ipv4_udp
match class-map reference-media_app
!
class-map match-all reference-media_ipv4_out
match access-group name reference-media_ipv4_udp
match class-map reference-media_app
!
class-map match-all reference-media_ipv6_in
match access-group name reference-media_ipv6_udp

```

```

match class-map reference-media_app
!
class-map match-all reference-media_ipv6_out
match access-group name reference-media_ipv6_udp
match class-map reference-media_app
!
class-map match-any reference-url_app
match protocol napster
match protocol gotomypc
match protocol yahoo-messenger
match protocol tunnel-http
match protocol baidu-movie
match protocol flashmyspace
match protocol directconnect
match protocol audio-over-http
match protocol skype
match protocol video-over-http
match protocol pando
match protocol flashyahoo
match protocol msn-messenger
match protocol flash-video
match protocol webthunder
match protocol vnc-http
match protocol activesync
match protocol irc
match protocol realmedia
match protocol gmail
match protocol google-earth
match protocol gnutella
match protocol rtmpt
match protocol http
match protocol ms-update
match protocol rtsp
match protocol http-alt
match protocol share-point
match protocol binary-over-http
match protocol ms-sms
match protocol megavideo
!
class-map match-all reference-url_ipv4
match access-group name reference-url_ipv4_tcp
match class-map reference-url_app
!
class-map match-all reference-url_ipv6
match access-group name reference-url_ipv6_tcp
match class-map reference-url_app
!
class-map match-all reference-art_url_ipv4
match class-map reference-art_ipv4
match class-map reference-url_ipv4
!
class-map match-all reference-art_url_ipv6
match class-map reference-art_ipv6
match class-map reference-url_ipv6
!
!Samplers
!=====
!Records and Monitors
!=====
!
flow record type performance-monitor reference-app_ts_in
description ezPM record
match routing vrf input
match ipv4 version
match ipv4 protocol
match interface input
match flow direction
match application name account-on-resolution
collect ipv4 dscp
collect interface output
collect counter bytes long
collect counter packets
collect timestamp sys-uptime first

```



```

collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
!
!
flow monitor type performance-monitor reference-app_ts_in
record reference-app_ts_in
exporter reference-1
cache entries 1000
cache timeout synchronized 60
!
!
flow record type performance-monitor reference-app_ts_out
description ezPM record
match routing vrf input
match ipv4 version
match ipv4 protocol
match interface output
match flow direction
match application name account-on-resolution
collect ipv4 dscp
collect interface input
collect counter bytes long
collect counter packets
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
!
!
flow monitor type performance-monitor reference-app_ts_out
record reference-app_ts_out
exporter reference-1
cache entries 1000
cache timeout synchronized 60
!
!
flow record type performance-monitor reference-conv_ts_ipv4
description ezPM record
match routing vrf input
match ipv4 protocol
match application name account-on-resolution
match connection client ipv4 address
match connection server ipv4 address
match connection server transport port
collect ipv4 dscp
collect ipv4 ttl
collect interface input
collect interface output
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
collect connection server counter bytes long
collect connection server counter packets long
collect connection client counter bytes long
collect connection client counter packets long
!
!
flow monitor type performance-monitor reference-conv_ts_ipv4
record reference-conv_ts_ipv4
exporter reference-1
cache entries 6250
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-conv_ts_ipv6
description ezPM record
match routing vrf input
match ipv6 protocol
match application name account-on-resolution
match connection client ipv6 address
match connection server transport port

```

```

match connection server ipv6 address
collect ipv6 dscp
collect ipv6 hop-limit
collect interface input
collect interface output
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
collect connection server counter bytes long
collect connection server counter packets long
collect connection client counter bytes long
collect connection client counter packets long
!
!
flow monitor type performance-monitor reference-conv_ts_ipv6
record reference-conv_ts_ipv6
exporter reference-1
cache entries 6250
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-art_ipv4
description ezPM record
match routing vrf input
match ipv4 protocol
match application name account-on-resolution
match connection client ipv4 address
match connection server ipv4 address
match connection server transport port
collect ipv4 dscp
collect ipv4 ttl
collect interface input
collect interface output
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
collect connection delay response to-server sum
collect connection server counter responses
collect connection delay response to-server histogram late
collect connection delay network to-server sum
collect connection delay network to-client sum
collect connection client counter packets retransmitted
collect connection delay network client-to-server sum
collect connection delay application sum
collect connection delay application max
collect connection delay response client-to-server sum
collect connection transaction duration sum
collect connection transaction counter complete
collect connection server counter bytes long
collect connection server counter packets long
collect connection client counter bytes long
collect connection client counter packets long
!
!
flow monitor type performance-monitor reference-art_ipv4
record reference-art_ipv4
exporter reference-1
cache entries 2250
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-art_ipv6
description ezPM record
match routing vrf input
match ipv6 protocol
match application name account-on-resolution
match connection client ipv6 address
match connection server transport port
match connection server ipv6 address
collect ipv6 dscp
collect ipv6 hop-limit

```

```

collect interface input
collect interface output
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
collect connection delay response to-server sum
collect connection server counter responses
collect connection delay response to-server histogram late
collect connection delay network to-server sum
collect connection delay network to-client sum
collect connection client counter packets retransmitted
collect connection delay network client-to-server sum
collect connection delay application sum
collect connection delay application max
collect connection delay response client-to-server sum
collect connection transaction duration sum
collect connection transaction counter complete
collect connection server counter bytes long
collect connection server counter packets long
collect connection client counter bytes long
collect connection client counter packets long
!
!
flow monitor type performance-monitor reference-art_ipv6
record reference-art_ipv6
exporter reference-1
cache entries 2250
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-media_ipv4_in
description ezPM record
match routing vrf input
match ipv4 protocol
match ipv4 source address
match ipv4 destination address
match transport source-port
match transport destination-port
match transport rtp ssrc
match interface input
collect ipv4 dscp
collect ipv4 ttl
collect transport packets lost counter
collect transport rtp jitter maximum
collect interface output
collect counter bytes long
collect counter packets
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect application name
collect connection new-connections
collect transport rtp payload-type
collect transport rtp jitter mean sum
!
!
flow monitor type performance-monitor reference-media_ipv4_in
record reference-media_ipv4_in
exporter reference-1
cache entries 4000
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-media_ipv6_in
description ezPM record
match routing vrf input
match ipv6 protocol
match ipv6 source address
match ipv6 destination address
match transport source-port
match transport destination-port
match transport rtp ssrc
match interface input

```

```

collect ipv6 dscp
collect ipv6 hop-limit
collect transport packets lost counter
collect transport rtp jitter maximum
collect interface output
collect counter bytes long
collect counter packets
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect application name
collect connection new-connections
collect transport rtp payload-type
collect transport rtp jitter mean sum
!
!
flow monitor type performance-monitor reference-media_ipv6_in
record reference-media_ipv6_in
exporter reference-1
cache entries 4000
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-media_ipv4_out
description ezPM record
match routing vrf input
match ipv4 protocol
match ipv4 source address
match ipv4 destination address
match transport source-port
match transport destination-port
match transport rtp ssrc
match interface output
collect ipv4 dscp
collect ipv4 ttl
collect transport packets lost counter
collect transport rtp jitter maximum
collect interface input
collect counter bytes long
collect counter packets
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect application name
collect connection new-connections
collect transport rtp payload-type
collect transport rtp jitter mean sum
!
!
flow monitor type performance-monitor reference-media_ipv4_out
record reference-media_ipv4_out
exporter reference-1
cache entries 4000
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-media_ipv6_out
description ezPM record
match routing vrf input
match ipv6 protocol
match ipv6 source address
match ipv6 destination address
match transport source-port
match transport destination-port
match transport rtp ssrc
match interface output
collect ipv6 dscp
collect ipv6 hop-limit
collect transport packets lost counter
collect transport rtp jitter maximum
collect interface input
collect counter bytes long
collect counter packets
collect timestamp sys-uptime first
collect timestamp sys-uptime last

```

```

collect application name
collect connection new-connections
collect transport rtp payload-type
collect transport rtp jitter mean sum
!
!
flow monitor type performance-monitor reference-media_ipv6_out
record reference-media_ipv6_out
exporter reference-1
cache entries 4000
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-url_ipv4
description ezPM record
match routing vrf input
match ipv4 protocol
match application name account-on-resolution
match connection client ipv4 address
match connection server ipv4 address
match connection server transport port
collect ipv4 dscp
collect ipv4 ttl
collect interface input
collect interface output
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
collect application http uri statistics
collect connection delay response to-server sum
collect connection server counter responses
collect connection delay response to-server histogram late
collect connection delay network to-server sum
collect connection delay network to-client sum
collect connection client counter packets retransmitted
collect connection delay network client-to-server sum
collect connection delay application sum
collect connection delay application max
collect connection delay response client-to-server sum
collect connection transaction duration sum
collect connection transaction counter complete
collect connection server counter bytes long
collect connection server counter packets long
collect connection client counter bytes long
collect connection client counter packets long
collect application http host
!
!
flow monitor type performance-monitor reference-url_ipv4
record reference-url_ipv4
exporter reference-1
cache entries 1000
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor reference-url_ipv6
description ezPM record
match routing vrf input
match ipv6 protocol
match application name account-on-resolution
match connection client ipv6 address
match connection server transport port
match connection server ipv6 address
collect ipv6 dscp
collect ipv6 hop-limit
collect interface input
collect interface output
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
collect application http uri statistics

```

Example: Verifying the Complete Configuration for a Performance Monitor Context

```

collect connection delay response to-server sum
collect connection server counter responses
collect connection delay response to-server histogram late
collect connection delay network to-server sum
collect connection delay network to-client sum
collect connection client counter packets retransmitted
collect connection delay network client-to-server sum
collect connection delay application sum
collect connection delay application max
collect connection delay response client-to-server sum
collect connection transaction duration sum
collect connection transaction counter complete
collect connection server counter bytes long
collect connection server counter packets long
collect connection client counter bytes long
collect connection client counter packets long
collect application http host
!
!
flow monitor type performance-monitor reference-url_ipv6
record reference-url_ipv6
exporter reference-1
cache entries 1000
cache timeout synchronized 60 export-spread 15
!
!Policy-maps
!=====
policy-map type performance-monitor reference-in
parameter default account-on-resolution
class reference-app_ts
flow monitor reference-app_ts_in
class reference-art_url_ipv4
flow monitor reference-url_ipv4
class reference-art_url_ipv6
flow monitor reference-url_ipv6
class reference-art_ipv4
flow monitor reference-art_ipv4
class reference-art_ipv6
flow monitor reference-art_ipv6
class reference-url_ipv4
flow monitor reference-url_ipv4
class reference-url_ipv6
flow monitor reference-url_ipv6
class reference-media_ipv4_in
flow monitor reference-media_ipv4_in
class reference-media_ipv6_in
flow monitor reference-media_ipv6_in
class reference-conv_ts_ipv4
flow monitor reference-conv_ts_ipv4
class reference-conv_ts_ipv6
flow monitor reference-conv_ts_ipv6
!
policy-map type performance-monitor reference-out
parameter default account-on-resolution
class reference-app_ts
flow monitor reference-app_ts_out
class reference-art_url_ipv4
flow monitor reference-url_ipv4
class reference-art_url_ipv6
flow monitor reference-url_ipv6
class reference-art_ipv4
flow monitor reference-art_ipv4
class reference-art_ipv6
flow monitor reference-art_ipv6
class reference-url_ipv4
flow monitor reference-url_ipv4
class reference-url_ipv6
flow monitor reference-url_ipv6
class reference-media_ipv4_out
flow monitor reference-media_ipv4_out
class reference-media_ipv6_out
flow monitor reference-media_ipv6_out
class reference-conv_ts_ipv4

```

```

flow monitor reference-conv_ts_ipv4
class reference-conv_ts_ipv6
flow monitor reference-conv_ts_ipv6
!
!Interface Attachments
!=====
interface Ethernet0/0
service-policy type performance-monitor input reference-in
service-policy type performance-monitor output reference-out
!

```

Example: Verifying the Configuration of a Conversation Level Traffic Monitor Metrics for a Performance Monitor Context

The following example from the `show running-configuration performance monitor context` command that displays the conversation level traffic monitor metrics configured on the performance monitor:

```

Device# show running-configuration performance monitor context conv

!=====
! Equivalent Configuration of Context conv !
!=====
!Exporters
!=====
!
flow exporter conv-1
description performance monitor context conv exporter
destination 5.4.3.2
source Ethernet0/0
transport udp 4739
export-protocol ipfix
template data timeout 300
option c3pl-class-table timeout 300
option c3pl-policy-table timeout 300
option interface-table timeout 300
option vrf-table timeout 300
option sampler-table timeout 300
option application-table timeout 300
option application-attributes timeout 300
option sub-application-table timeout 300
!
!Access Lists
!=====
ip access-list extended conv-conv_ipv4_tcp
permit tcp any any
!
ipv6 access-list conv-conv_ipv6_tcp
permit tcp any any
!
ip access-list extended conv-conv_ipv4_udp
permit udp any any
!
ipv6 access-list conv-conv_ipv6_udp
permit udp any any
!
!Class-maps
!=====
class-map match-any conv-conv_ts_ipv4
match access-group name conv-conv_ipv4_tcp
match access-group name conv-conv_ipv4_udp
!
class-map match-any conv-conv_ts_ipv6
match access-group name conv-conv_ipv6_tcp
match access-group name conv-conv_ipv6_udp
!

```

Example: Verifying the Configuration of a Conversation Level Traffic Monitor Metrics for a Performance Monitor Context

```

!Samplers
!=====
!Records and Monitors
!=====
!
flow record type performance-monitor conv-conv_ts_ipv4
description ezPM record
match routing vrf input
match ipv4 protocol
match application name account-on-resolution
match connection client ipv4 address
match connection server ipv4 address
match connection server transport port
collect ipv4 dscp
collect ipv4 ttl
collect interface input
collect interface output
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
collect connection server counter bytes long
collect connection server counter packets long
collect connection client counter bytes long
collect connection client counter packets long
!
!
flow monitor type performance-monitor conv-conv_ts_ipv4
record conv-conv_ts_ipv4
exporter conv-1
cache entries 6250
cache timeout synchronized 60 export-spread 15
!
!
flow record type performance-monitor conv-conv_ts_ipv6
description ezPM record
match routing vrf input
match ipv6 protocol
match application name account-on-resolution
match connection client ipv6 address
match connection server transport port
match connection server ipv6 address
collect ipv6 dscp
collect ipv6 hop-limit
collect interface input
collect interface output
collect timestamp sys-uptime first
collect timestamp sys-uptime last
collect connection new-connections
collect connection sum-duration
collect connection server counter bytes long
collect connection server counter packets long
collect connection client counter bytes long
collect connection client counter packets long
!
!
flow monitor type performance-monitor conv-conv_ts_ipv6
record conv-conv_ts_ipv6
exporter conv-1
cache entries 6250
cache timeout synchronized 60 export-spread 15
!
!Policy-maps
!=====
policy-map type performance-monitor conv-in
parameter default account-on-resolution
class conv-conv_ts_ipv4
flow monitor conv-conv_ts_ipv4
class conv-conv_ts_ipv6
flow monitor conv-conv_ts_ipv6
!
policy-map type performance-monitor conv-out
parameter default account-on-resolution

```



```

class conv-conv_ts_ipv4
flow monitor conv-conv_ts_ipv4
class conv-conv_ts_ipv6
flow monitor conv-conv_ts_ipv6
!
!Interface Attachments
!=====
interface Ethernet0/1
service-policy type performance-monitor input conv-in
service-policy type performance-monitor output conv-out

```

Example: Configuring a Performance Monitor Context With Application Statistics Profile

The following example shows how to configure a performance monitor context with traffic monitor enabling per interface, application, client, and server statistics:

```

Device# configure terminal
Device(config)# performance monitor context perf-mon-test profile application-statistics
Device(config-perf-mon)# traffic-monitor application-client-server-stats cache-size 755
cache-type synchronized ipv6
Device(config-perf-mon)# exit
Device(config)# interface gigabitethernet 0/1
Device(config-if)# performance monitor context perf-mon-test
Device(config-if)# exit

```

Additional References

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Commands List, All Releases
Cisco Application Visibility and Control User Guide	Cisco Application Visibility and Control User Guide for Cisco IOS XE Release 3.11S and Cisco IOS Release15.4(1)T. Cisco Application Visibility and Control User Guide for Cisco IOS XE Release 3.12S and Cisco IOS Release15.4(2)T. Cisco Application Visibility and Control User Guide for Cisco IOS XE Release 3.13S and Cisco IOS Release15.4(3)T.

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Easy Performance Monitor

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for Easy Performance Monitor

Feature Name	Releases	Feature Information
Easy Performance Monitor	Cisco IOS XE Release 3.10S	The Easy Performance Monitor chapter describes how to configure Easy Performance Monitor (ezPM) for Application Visibility and Control (AVC). This feature was introduced.
Easy Performance Monitor Phase II	Cisco IOS XE Release 3.12S	The following command was modified: traffic monitor The sampler keyword was added.
Adaptive AVC Reporting	Cisco IOS XE Release 3.13S	The support for Application Statistics profile was added. The following command was modified: performance monitor The application-statistics keyword was added.