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 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 pre-defined performance monitor configuration that is used for collecting a set of metrics on a specific traffic. This is based on typical configuration that is recommended.

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

Traffic Monitors for Application Experience Profile

For the application experience profile, the following objects are defined for both IPv4 and IPv6, and optionally for ingress/egress traffic:

• Perf-mon flow record
  Match fields (including AOR indication if/where applicable)
  Collect fields

• Perf-mon flow monitor
  Cache type
  Cache size (factor that is adjusted per platform and configured by using the traffic-monitor application-response-time cache-size command)
  Cache timeout (synchronized)
  History size
• Classification - definition of traffic that is monitored by the perf-mon flow monitor

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. Only one context can be attached to an interface. The context can be from any currently available profile, such as Application Experience or Application Statistics.

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 up to 3 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]
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

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>enable</td>
</tr>
<tr>
<td>Example:</td>
<td>Device&gt; enable</td>
</tr>
<tr>
<td>Enables privileged EXEC mode.</td>
<td></td>
</tr>
<tr>
<td>• Enter your password if prompted.</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>configure terminal</td>
</tr>
<tr>
<td>Example:</td>
<td>Device# configure terminal</td>
</tr>
<tr>
<td>Enters global configuration mode.</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>performance monitor context context-name profile profile-name</td>
</tr>
<tr>
<td>Example:</td>
<td>Device(config)# performance monitor context perf-mon-test profile application-experience</td>
</tr>
<tr>
<td>Enters performance monitor configuration mode, creates a context with application-experience profile.</td>
<td></td>
</tr>
<tr>
<td>Command or Action</td>
<td>Purpose</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Step 4</strong> exporter destination {hostname</td>
<td>ipaddress} source interface interface-type number {port port-value transport udp vrf vrf-name}</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-perf-mon)# exporter destination 10.1.1.1 source interface GigabitEthernet0/0 port 1 transport udp vrf vpn1</td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong> (Optional) Repeat Step 4 to configure upto 3 exporters.</td>
<td>—</td>
</tr>
<tr>
<td><strong>Step 6</strong> traffic monitor {application-response-time</td>
<td>application-traffic-stats</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-perf-mon)# traffic monitor media egress cache-size 70 class-and cln ipv6</td>
<td></td>
</tr>
<tr>
<td><strong>Step 7</strong> Repeat Step 6 to configure additional traffic monitor parameters.</td>
<td>—</td>
</tr>
<tr>
<td><strong>Step 8</strong> exit</td>
<td>Exits performance monitor configuration mode and enters global configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-perf-mon)# exit</td>
<td></td>
</tr>
<tr>
<td><strong>Step 9</strong> interface interface-type number</td>
<td>Enters interface configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config)# interface gigabitethernet 0/1</td>
<td></td>
</tr>
<tr>
<td><strong>Step 10</strong> performance monitor context context-name</td>
<td>Configures the specified performance monitor context on the interface.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-if)# performance monitor context perf-mon-test</td>
<td></td>
</tr>
<tr>
<td><strong>Step 11</strong> exit</td>
<td>Exits interface configuration mode and enters global configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-if)# exit</td>
<td></td>
</tr>
</tbody>
</table>
Verifying Easy Performance Monitor Configuration

Table 1: Verifying Easy Performance Monitor Configuration

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>show running-configuration performance-monitor context</code></td>
<td>Displays ezPM configuration of the specified context. If a context name is not specified, all contexts are displayed.</td>
</tr>
</tbody>
</table>

Verifying Easy Performance Monitor Profile

Table 2: Verifying Easy Performance Monitor Profile

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>show performance monitor profile profile-name</code></td>
<td>Displays profile information of all traffic monitors available and the active status of traffic monitors.</td>
</tr>
<tr>
<td><code>show performance monitor profile profile-name traffic-monitor traffic-monitor-name</code></td>
<td>Displays profile information such as records, monitors, and default classification for a specific traffic monitor.</td>
</tr>
</tbody>
</table>

Verifying Easy Performance Monitor Context

Table 3: Verifying Easy Performance Monitor Context

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>show performance-monitor context context-name configuration</code></td>
<td>Displays all configuration of the specified context. This command can be used to convert the auto configuration to the traditional configuration.</td>
</tr>
<tr>
<td><code>show performance-monitor context context-name summary</code></td>
<td>Displays the information about the enabled traffic monitors and the interfaces to which they are attached.</td>
</tr>
</tbody>
</table>
show performance-monitor context context-name interface interface-name

Displays the information about the performance monitor interface. The output is the same as the `show policy-map type performance-monitor interface` command.

show performance-monitor context context-name traffic-monitor traffic-monitor-name cache

Displays performance monitor cache information. The output is similar to performance-monitor cache.

show performance-monitor context context-name traffic-monitor traffic-monitor-name history

Displays performance monitor history information. The output is similar to performance-monitor history.

show performance-monitor context context-name traffic-monitor traffic-monitor-name aggregate

Displays performance monitor aggregate information. The output is similar to performance-monitor aggregate.

show performance-monitor context context-name exporter

Displays the operational information about the exporters attached to the specified context.

### Debugging Easy Performance Monitor Configuration

#### Debugging Context

Table 4: Debugging Context

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>debug performance monitor context info</td>
<td>Debug context information.</td>
</tr>
<tr>
<td>debug performance monitor context error</td>
<td>Debug context error.</td>
</tr>
</tbody>
</table>

#### Debugging Profile

Table 5: Debugging Profile

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>debug performance monitor profile info</td>
<td>Debug profile information.</td>
</tr>
<tr>
<td>debug performance monitor profile error</td>
<td>Debug profile error.</td>
</tr>
</tbody>
</table>
Troubleshooting Easy Performance Monitor

If no records are exported:

For application-traffic-stats and media monitors, use the `show performance monitor context context-name traffic-monitor traffic-monitor-name cache` command to check if any records exist in the cache after the traffic is sent. The output displays any records that changed from current entries to flow-aged status on reaching the cache timeout. To see the records in the cache, use the show performance monitor cache detail command.

For application-response-time, conversation-traffic-stats, and url monitors, use the `show performance monitor context context-name traffic-monitor traffic-monitor-name history` command to view the list of entries.

If no records are added to the cache, you can use the `show performance monitor context context-name interface interface-name` command to check if the class-maps that originated automatically by ezPM are receiving the packets.

Use the `show performance monitor context context-name configuration` command to verify the configuration that originated from ezPM. See Example: Verifying the Complete Configuration for a Performance Monitor Context.

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 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
Device(config-if)# interface gigabitethernet 0/1
Device(config-if)# performance monitor context perf-mon-test
Device(config-if)# exit
```
Example: Configuring a Performance Monitor Context With Media Traffic Monitor for IPv6 Ingress and IPv4 Egress

The following example shows how to configure a performance monitor context with traffic monitor enabling the media metrics for ipv6 traffic in ingress and ipv4 traffic in egress:

```
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
Device(config-perf-mon)# traffic-monitor media ingress ipv6
Device(config-perf-mon)# traffic-monitor media egress ipv4
Device(config-perf-mon)# exit
Device(config)# interface gigabitethernet 0/1
Device(config-if)# performance monitor context perf-mon-test
Device(config-if)# exit
Device(config)# interface gigabitethernet 0/2
Device(config-if)# performance monitor context perf-mon-test
Device(config-if)# 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
Device(config-if)# performance monitor context perf-mon-test
Device(config-if)# exit
Device(config)# interface gigabitethernet 0/2
Device(config-if)# performance monitor context perf-mon-test
Device(config-if)# exit
```

Example: Modifying Cache Size Entries for a Traffic Monitor

The following example shows how to modifying cache size entries for a traffic monitor:

```
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
Device(config-perf-mon)# traffic-monitor application-response-time cache-size 1000
Device(config-perf-mon)# 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 performance monitor context reference configuration
!---------------------------------------------------------------------
! Equivalent Configuration of Context reference
!---------------------------------------------------------------------
!Exporters
```
flow exporter reference-1
description performance monitor context reference exporter
destination 1.1.1.1
source GigabitEthernet0/1
transport udp 3333
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 rtmp
match protocol http
match protocol ms-update
match protocol rtp
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
Example: Verifying the Complete Configuration for a Performance Monitor Context

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 sysuptime first
collect timestamp sysuptime 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
history size 0 timeout 0
!
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 sysuptime first
collect timestamp sysuptime 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
history size 0 timeout 0
!
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 sysuptime first
collect timestamp sysuptime 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

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

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
Example: Verifying the Complete Configuration for a Performance Monitor Context

```
record reference-art_ipv4
exporter reference-1
cache entries 10750
cache timeout synchronized 60 export-spread 15
history size 1

!
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 10750
cache timeout synchronized 60 export-spread 15
history size 1
!
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
```

Application Visibility and Control Configuration Guide, Cisco IOS Release 15M&T
! 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
history size 10
!
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 sysuptime first
collect timestamp sysuptime 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
history size 10
!
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 sysuptime first
collect timestamp sysuptime 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
history size 10
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 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
history size 10

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 5125  
cache timeout synchronized 60 export-spread 15  
history size 1  
!  
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  
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 5125  
cache timeout synchronized 60 export-spread 15  
history size 1  
!  
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
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
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

<table>
<thead>
<tr>
<th>Related Topic</th>
<th>Document Title</th>
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</thead>
<tbody>
<tr>
<td>Cisco IOS commands</td>
<td>Cisco IOS Master Commands List, All Releases</td>
</tr>
</tbody>
</table>
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 . An account on Cisco.com is not required.

Table 6: Feature Information for Easy Performance Monitor

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>Releases</th>
<th>Feature Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy Performance Monitor</td>
<td>15.4(1)T</td>
<td>The Easy Performance Monitor chapter describes how to configure Easy Performance Monitor (ezPM) for Application Visibility and Control (AVC). This feature was introduced.</td>
</tr>
<tr>
<td>Feature Name</td>
<td>Releases</td>
<td>Feature Information</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Adaptive AVC Reporting</td>
<td>15.4(3)T</td>
<td>The support for Application Statistics profile was added.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The following command was modified: <code>performance monitor</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The <code>application-statistics</code> keyword was added.</td>
</tr>
</tbody>
</table>