



Telemetry Configuration

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Telemetry Overview



Note This is a Beta feature and has not been thoroughly tested.

Streaming model-driven telemetry (MDT) provides a mechanism to select data of interest from IOS XR routers and to transmit it in a structured format to a collector such as WAE that can use the data for near real-time monitoring and optimization of the network. For more information on MDT, see the “Configure Model-driven Telemetry” chapter in the [Cisco IOS XR Telemetry Configuration Guide](#).

WAE understands IOS XR operational YANG models and can receive streamed telemetry from IOS XR routers, then parse and store the data. After the data is in WAE, the sr-traffic-matrix NIMO can read the data and use it to create a network model with demands.

Configure Telemetry in WAE

Before you begin

Step 1 Configure the WAE Telemetry Agent.

```
admin@wae(config)# wae agents telemetry-agent ports <port-number1> <port-number2> <port-numberxx>
admin@wae(config)# commit
```

Note The ports that the agent will use to receive telemetry information must be available on the WAE machine.

Step 2 Configure telemetry on devices to send Key-Value Google Protocol Buffers (KV-GPB) encoded telemetry on ports using TCP that will be used for WAE. Three attributes must be defined on the router: sensor-group, destination-group, and the

subscription. For information on how to do this, see the “Configure Model-driven Telemetry” chapter in the [Cisco IOS XR Telemetry Configuration Guide](#). Examples are provided at the end of this procedure.

Step 3 Configure the sr-traffic-matrix-nimo. For more information, see [Segment Routing Traffic Matrix Collection](#).

```
admin@wae(config)# networks network <network-model-name> nimo sr-traffic-matrix-nimo source-network
<source-network>
```

Step 4 Run the sr-traffic-matrix-nimo collection to generate demands.

```
admin@wae# networks network <network-model-name> nimo sr-traffic-matrix-nimo source-network
<source-network>
run-collection
```

By default, demands are generated by using locally cached information. However, if you want demands to be generated using the raw telemetry data from the WAE Telemetry agent, you must set the **use-cache** option to false. For example:

```
admin@wae# networks network <network-model-name> nimo sr-traffic-matrix-nimo source-network
<source-network>
run-collection use-cache false
```

Example

1. Configure the WAE Telemetry Agent

```
admin@wae# config terminal
Entering configuration mode terminal
admin@wae(config)# wae agents telemetry-agent ports 1624
admin@wae(config)# commit
```

2. Configure the router to send telemetry data to WAE:

a. Define sensor-group

```
telemetry model-driven
 sensor-group SRTM
   sensor-path Cisco-IOS-XR-infra-tc-oper:traffic-collector/afs/af/counters/tunnels
   sensor-path
Cisco-IOS-XR-infra-tc-oper:traffic-collector/vrf-table/default-vrf/afs/af/counters
!
!
```

b. Define destination-group

```
telemetry model-driven
 destination-group my_workstation
   address-family ipv4 10.152.130.41 port 1624
   encoding self-describing-gpb
   protocol tcp
!
```



Note The ip-address and port from the above example must be the same as the one configured previously in WAE telemetry agent.

c. Define subscription

```
telemetry model-driven
subscription ABC
  sensor-group-id SRTM sample-interval 5000
  destination-id my_workstation
!
```

3. Configure the SR LSP Traffic Matrix NIMO (sr-traffic-matrix-nimo)

```
admin@wae# config terminal
Entering configuration mode terminal
admin@wae(config)# networks network srtm nimo sr-traffic-matrix-nimo source-network igp
admin@wae(config)# commit
```

To view connections between WAE and the router, use the shell CLI netstat command. For example:

```
# netstat -an | grep :1624 | grep ESTABLISHED
tcp        0      28 10.10.10.10:1624          10.152.130.41:61092      ESTABLISHED
```

where 10.10.10.10 is the address of the WAE machine and 10.152.130.41 is the address of the connected router.

4. Run the sr-traffic-matrix-nimo collection to generate demands.

```
admin@wae# networks network srtm nimo sr-traffic-matrix-nimo run-collection
status true
message Succeeded: Retrieved 12 SR demands from network srtm
admin@wae# show running-config networks network srtm model demands | nomore
networks network igp
model demands demand "PE1|PE2|default"
source node node-name PE1
destination node node-name PE2
service-class-name default
traffic 22.203833
!
.....
!
model demands demand "PE4|PE3|default"
source node node-name PE4
destination node node-name PE3
service-class-name default
traffic 22.202989
!
!
admin@wae#
```

