

NAME

sample - packet sampling tc action

SYNOPSIS

tc ... action sample rate *RATE* **group** *GROUP* [**trunc** *SIZE*] [**index** *INDEX*]

tc ... action sample index *INDEX*

DESCRIPTION

The **sample** action allows sampling packets matching classifier.

The packets are chosen randomly according to the **rate** parameter, and are sampled using the **psample** generic netlink channel. The user can also specify packet truncation to save user-kernel traffic. Each sample includes some informative metadata about the original packet, which is sent using netlink attributes, alongside the original packet data.

The user can either specify the sample action parameters as presented in the first form above, or use an existing sample action using its index, as presented in the second form.

SAMPLED PACKETS METADATA FIELDS

The metadata are delivered to userspace applications using the **psample** generic netlink channel, where each sample includes the following netlink attributes:

PSAMPLE_ATTR_IIFINDEX

The input interface index of the packet, if there is one.

PSAMPLE_ATTR_OIFINDEX

The output interface index of the packet. This field is not relevant on ingress sampling

PSAMPLE_ATTR_ORIGSIZE

The size of the original packet (before truncation)

PSAMPLE_ATTR_SAMPLE_GROUP

The **psample** group the packet was sent to

PSAMPLE_ATTR_GROUP_SEQ

A sequence number of the sampled packet. This number is incremented with each sampled packet of the current **psample** group

PSAMPLE_ATTR_SAMPLE_RATE

The rate the packet was sampled with

OPTIONS**rate** *RATE*

The packet sample rate. *RATE* is the expected ratio between observed packets and sampled packets. For example, *RATE* of 100 will lead to an average of one sampled packet out of every 100 observed.

trunc *SIZE*

Upon set, defines the maximum size of the sampled packets, and causes truncation if needed

group *GROUP*

The **psample** group the packet will be sent to. The **psample** module defines the concept of groups, which allows the user to match specific sampled packets in the case of multiple sampling rules, thus identify only the packets that came from a specific rule.

index *INDEX*

Is a unique ID for an action. When creating new action instance, this parameter allows to set the new action index. When using existing action, this parameter allows to specify the existing action

index. The index must 32bit unsigned integer greater than zero.

EXAMPLES

Sample one of every 100 packets flowing into interface eth0 to psample group 12:

```
tc qdisc add dev eth0 handle ffff: ingress
tc filter add dev eth0 parent ffff: matchall \
    action sample rate 100 group 12 index 19
```

Use the same action instance to sample eth1 too:

```
tc qdisc add dev eth1 handle ffff: ingress
tc filter add dev eth1 parent ffff: matchall \
    action sample index 19
```

SEE ALSO

tc(8), **tc-matchall(8)** **psample(1)**