

netdevsim devlink support

This document describes the devlink features supported by the netdevsim device driver.

Parameters

Generic parameters implemented

| Name | Mode |
|----------|------------|
| max_macs | driverinit |

The netdevsim driver also implements the following driver-specific parameters.

Driver-specific parameters implemented

| Name | Type | Mode | Description |
|-------|---------|------------|---|
| test1 | Boolean | driverinit | Test parameter used to show how a driver-specific devlink parameter can be implemented. |

The netdevsim driver supports reloading via DEVLINK_CMD_RELOAD

Regions

The netdevsim driver exposes a dummy region as an example of how the devlink-region interfaces work. A snapshot is taken whenever the take_snapshot debugfs file is written to.

Resources

The netdevsim driver exposes resources to control the number of FIB entries, FIB rule entries and nexthops that the driver will allow.

```
$ devlink resource set netdevsim/netdevsim0 path /IPv4/fib size 96
$ devlink resource set netdevsim/netdevsim0 path /IPv4/fib-rules size 16
$ devlink resource set netdevsim/netdevsim0 path /IPv6/fib size 64
$ devlink resource set netdevsim/netdevsim0 path /IPv6/fib-rules size 16
$ devlink resource set netdevsim/netdevsim0 path /nexthops size 16
$ devlink dev reload netdevsim/netdevsim0
```

Rate objects

The netdevsim driver supports rate objects management, which includes:

- registering/unregistering leaf rate objects per VF devlink port;
- creation/deletion node rate objects;
- setting tx_share and tx_max rate values for any rate object type;
- setting parent node for any rate object type.

Rate nodes and it's parameters are exposed in netdevsim debugfs in RO mode. For example created rate node with name some_group:

```
$ ls /sys/kernel/debug/netdevsim/netdevsim0/rate_groups/some_group
rate_parent tx_max tx_share
```

Same parameters are exposed for leaf objects in corresponding ports directories. For ex.:

```
$ ls /sys/kernel/debug/netdevsim/netdevsim0/ports/1
dev ethtool rate_parent tx_max tx_share
```

Driver-specific Traps

List of Driver-specific Traps Registered by netdevsim

| Name | Type | Description |
|----------|-----------|---|
| fid_miss | exception | When a packet enters the device it is classified to a filtering identifier (FID) based on the ingress port and VLAN. This trap is used to trap packets for which a FID could not be found |