

NAME

`dcb-rewr` – show / manipulate the rewrite table of the DCB (Data Center Bridging) subsystem

SYNOPSIS

dcb [*OPTIONS*] **rewr** { *COMMAND* | *help* }

dcb rewr { **show** | **flush** } **dev** DEV [**prio-dscp**] [**prio-pcp**]

dcb rewr { **add** | **del** | **replace** } **dev** DEV [**prio-dscp** *DSCP-MAP*] [**prio-pcp** *PCP-MAP*]

DSCP-MAP := [*DSCP-MAP*] *DSCP-MAPPING*

DSCP-MAPPING := *Prio*:{ *DSCP* | **all** }

PCP-MAP := [*PCP-MAP*] *PCP-MAPPING*

PCP-MAPPING := *Prio*:*PCP*

DSCP := { **0** .. **63** }

PCP := { **0(nd/de)** .. **7(nd/de)** }

Prio := { **0** .. **7** }

DESCRIPTION

dcb rewr is used to configure the rewrite table, in the DCB (Data Center Bridging) subsystem. The rewrite table is used to rewrite certain values in the packet headers, based on packet priority.

DCB rewrite entries are, like DCB APP entries, 3-tuples of selector, protocol ID, and priority. Selector is an enumeration that picks one of the prioritization namespaces. Currently, only the DSCP and PCP selector namespaces are supported by `dcb rewr`.

The rewrite table is a list of DCB rewrite rules that applies to packets with matching priority. Notably, it is valid to have conflicting rewrite assignments for the same selector and priority. For example, the set of two rewrite entries (DSCP, 10, 1) and (DSCP, 11, 1), where packets with priority 1 should have their DSCP values rewritten to both 10 and 11, form a well-defined rewrite table. **dcb rewr** tool allows low-level management of the rewrite table by adding and deleting individual rewrite 3-tuples through **add** and **del** commands. On the other hand, the command **replace** does what one would typically want in this situation--first adds the new configuration, and then removes the obsolete one, so that only one rewrite rule is in effect for a given selector and priority.

COMMANDS

show Displays all entries with a given selector. When no selector is given, shows all rewrite table entries categorized per selector.

flush Removes all entries with a given selector. When no selector is given, removes all rewrite table entries.

add

del Add and, respectively, remove individual rewrite 3-tuples to and from the DCB rewrite table.

replace Takes the list of entries mentioned as parameter, and adds those that are not present in the rewrite table yet. Then removes those entries, whose selector and priority have been mentioned as parameter, but not with the exact same protocol ID. This has the effect of, for the given selector and priority, ensuring that the table only contains the protocol ID (or IDs) given as parameter.

PARAMETERS

The following table shows parameters in a way that they would be used with **add**, **del** and **replace** commands. For **show** and **flush**, the parameter name is to be used as a simple keyword without further arguments.

prio-dscp *DSCP-MAP*

DSCP-MAP uses the array parameter syntax, see **dcb**(8) for details. Keys are priorities, values are DSCP points for traffic with matching priority. DSCP points can be written either directly as numeric values, or using symbolic names specified in */etc/iproute2/rt_dsfield* (however note that the file specifies full 8-bit dsfield values, whereas **dcb rewr** will only use the higher six bits). **dcb rewr show** will similarly format DSCP values as symbolic names if possible. The command line option **-N** turns the show translation off.

prio-pcp *PCP-MAP*

PCP-MAP uses the array parameter syntax, see **dcb**(8) for details. Keys are priorities. Values are PCP/DEI for traffic with matching priority. PCP/DEI values are written as a combination of numeric and symbolic values, to accommodate both. PCP is always in numeric form, e.g., 0 .. 7 and DEI in symbolic form, e.g., 'de' (drop-eligible), indicating that the DEI bit is 1 or 'nd' (not-drop-eligible), indicating that the DEI bit is 0. In combination 1:2de translates to a mapping of priority 1 to PCP=2 and DEI=1.

EXAMPLE & USAGE

Add a rule to rewrite DSCP to 0, 24 and 48 for traffic with priority 0, 3 and 6, respectively:

```
# dcb rewr add dev eth0 prio-dscp 0:0 3:24 6:48
```

Add a rule to rewrite DSCP to 25 for traffic with priority 3:

```
# dcb rewr add dev eth0 prio-dscp 3:25
# dcb rewr show dev eth0 prio-dscp
prio-dscp 0:0 3:CS3 3:25 6:CS6
# dcb -N rewr show dev eth0 prio-dscp
prio-dscp 0:0 3:24 3:25 6:48
```

Reconfigure the table so that only one rule exists for rewriting traffic with priority 3.

```
# dcb rewr replace dev eth0 prio-dscp 3:26
# dcb rewr -N show dev eth0 prio-dscp
prio-dscp 0:0 3:26 6:48
```

Flush all DSCP rules:

```
# dcb rewr flush dev eth0 prio-dscp
# dcb rewr show dev eth0 prio-dscp
(nothing)
```

Add a rule to rewrite PCP to 1 and DEI to 0 for traffic with priority 1 and a rule to rewrite PCP to 2 and DEI to 1 for traffic with priority 2:

```
# dcb rewri add dev eth0 prio-pcp 1:1nd 2:2de
# dcb rewri show dev eth0 prio-pcp
prio-pcp 1:1nd 2:2de
```

EXIT STATUS

Exit status is 0 if command was successful or a positive integer upon failure.

SEE ALSO

dcb(8), **dcb-app(8)**, **dcb-apptrust(8)**

REPORTING BUGS

Report any bugs to the Network Developers mailing list <netdev@vger.kernel.org> where the development and maintenance is primarily done. You do not have to be subscribed to the list to send a message there.

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