

Configuring Frame Relay Control Bit Translation

On interfaces with Frame Relay CCC encapsulation, you can configure Frame Relay control bit translation, as defined in the IETF documents:

- Internet draft draft-martini-frame-encap-mpls-00.txt, *Frame Relay Encapsulation over Pseudo-Wires* (expired December 2002)
- Internet draft draft-martini-l2circuit-encap-mpls-07.txt, *Encapsulation Methods for Transport of Layer 2 Frames Over IP and MPLS Networks* (expired December 2004)

To support Frame Relay services over IP and MPLS backbones using Layer 2 VPNs and Layer 2 circuits, you can configure translation of the Frame Relay control bits. When you configure translation of Frame Relay control bits, the bits are mapped into the Layer 2 circuit control word and preserved across the IP or MPLS backbone.

The JUNOS software allows you to translate the following Frame Relay control bits:

- Discard eligibility (DE)—A header bit used to identify lower priority traffic that can be dropped during periods of congestion.
- Forward explicit congestion notification (FECN)—A header bit transmitted by the source routing platform requesting that the destination routing platform slow down its requests for data.
- Backward explicit congestion notification (BECN)—A header bit transmitted by the destination routing platform requesting that the source routing platform send data more slowly.

By default, translation of Frame Relay control bits is disabled. If you enable Frame Relay control bit translation, the bits are translated in both directions (CE to PE and PE to CE):

- From CE to PE—At ingress, the DE, FECN, and BECN header bits from the incoming Frame Relay header are mapped to the control word.
- From PE to CE—At egress, the DE, FECN, and BECN header bits from the control word are mapped to the outgoing Frame Relay header.

The Frame Relay control bits do not map to MPLS EXP labels, and do not affect class-of-service (CoS) behavior inside the provider network.

You enable or explicitly disable translation of Frame Relay control bits by including the `translate-discard-eligible` and `translate-fecn-and-becn` statements:

```
(translate-discard-eligible | no-translate-discard-eligible);  
(translate-fecn-and-becn | no-translate-fecn-and-becn);
```

You can include these statements at the following hierarchy levels:

- [edit interfaces *interface-name* unit *logical-unit-number* family ccc]

- [edit logical-systems *logical-system-name* interfaces *interface-name* unit *logical-unit-number* family ccc]

If you enable or disable Frame Relay control bit translation on one CE-facing interface, you must configure the same Frame Relay control bit translation settings on the other CE-facing interface.

If you change the Frame Relay control bit translation settings, the circuit goes down and comes back up, which might result in traffic loss for a few seconds.

If you enable Frame Relay control bit translation, the number of supportable Layer 2 virtual private networks (VPNs) and Layer 2 circuits is reduced to one eighth of what the routing platform can support without Frame Relay control bit translation enabled.

For ATM2 IQ interfaces, the control word contains a field to carry ATM cell loss priority (CLP) information by default. For more information, see *Configuring Layer 2 Circuit Transport Mode*.

For more information about Layer 2 circuits, see the *JUNOS VPNs Configuration Guide* and the *JUNOS Routing Protocols Configuration Guide*. For a comprehensive example, see the *JUNOS Feature Guide*.