

Chapter 3

Hardware Capabilities and Limitations

Juniper Networks T-series platforms, M320 platforms, and other M-series platforms with enhanced Flexible PIC Concentrators (FPCs) have more CoS capabilities than M-series platforms that use other FPC models. Table 7 lists the differences.

The information in the column titled “M320 and T-series FPCs” is valid for all M320 and T-series FPCs, including Enhanced II FPCs.

Table 7: CoS Hardware Capabilities and Limitations

Feature	M-series FPC	M-series Enhanced FPC	M320 and T-series FPCs	Comments
Classifiers				
Maximum number per FPC or PIC	1	8	64	For M-series FPCs, the one-classifier limit includes the default IP precedence classifier. If you create a new classifier and apply it to an interface, the new classifier does not override the default classifier for other interfaces on the same FPC. In general, the first classifier associated with a logical interface is the one that is used. The default classifier can be replaced only when a single interface is associated with the default classifier. For more information, see Table 11 on page 49.
dscp	No	Yes	Yes	On all platforms, you cannot configure IP precedence and DSCP classifiers on a single logical interface, because both apply to IPv4 packets. For more information, see Table 11 on page 49.
dscp-ipv6	No	Yes	Yes	For T-series platforms, you can apply separate classifiers for IPv4 and IPv6 packets per logical interface. For M-series enhanced FPCs, you cannot apply separate classifiers for IPv4 and IPv6 packets. Classifier assignment works as follows: <ul style="list-style-type: none">■ If you assign a DSCP classifier only, IPv4 and IPv6 packets are classified using the DSCP classifier.■ If you assign an IP precedence classifier only, IPv4 and IPv6 packets are classified using the IP precedence classifier. The lower three bits of the DSCP field are ignored because IP precedence mapping requires the upper three bits only.■ If you assign either the DSCP or the IP precedence classifier in conjunction with the DSCP IPv6 classifier, the commit fails.■ If you assign a DSCP IPv6 classifier only, IPv4 and IPv6 packets are classified using the DSCP IPv6 classifier, but the commit displays a warning message. For more information, see Table 11 on page 49.

Feature	M-series FPC	M-series Enhanced FPC	M320 and T-series FPCs	Comments
ieee-802.1p	No	Yes	Yes	On M-series enhanced FPCs and T-series platforms, if you associate an IEEE 802.1p classifier with a logical interface, you cannot associate any other classifier with that logical interface. For more information, see Table 11 on page 49.
inet-precedence	Yes	Yes	Yes	On all platforms, you cannot assign IP precedence and DSCP classifiers to a single logical interface, because both apply to IPv4 packets. For more information, see Table 11 on page 49.
mpls-exp	Yes	Yes	Yes	For M-series FPCs, only the default MPLS EXP classifier is supported; the default MPLS EXP classifier takes the EXP bits 1 and 2 as the output queue number.
Drop Profiles				
Maximum number per FPC or PIC	2	16	32	
Per queue	No	Yes	Yes	
Per loss priority	Yes	Yes	Yes	
Per TCP bit	No	Yes	Yes	
Policing				
Traffic policing	Yes	Yes	Yes	
Two-rate tricolor marking (TCM)	No	No	Yes	Two-rate TCM is supported on T-series platforms with Enhanced II FPCs. For more information, see “Configuring Tricolor Marking” on page 149.
Queuing				
Priority	No	Yes	Yes	Support for the medium-low and medium-high queuing priority mappings varies by FPC type. For more information, see Table 18 on page 70.
Rewrite Markers				
Maximum number per FPC or PIC	None	None	64	
dscp	No	Yes	Yes	For M320 and T-series FPCs, you must decode the loss priority using the firewall filter before you can use loss priority to select the rewrite code point. For more information, see “Overriding the Default PLP on M320 and T-series Platforms” on page 55.
dscp-ipv6	No	Yes	Yes	For M320 and T-series FPCs, you must decode the loss priority using the firewall filter before you can use loss priority to select the rewrite code point. For more information, see “Overriding the Default PLP on M320 and T-series Platforms” on page 55.
ieee-802.1	No	Yes	Yes	For M-series enhanced FPCs and T-series FPCs, fixed rewrite loss priority determines the value for bit 0; queue number (forwarding class) determines bits 1 and 2.

Feature	M-series FPC	M-series Enhanced FPC	M320 and T-series FPCs	Comments
inet-precedence	Yes	Yes	Yes	For M320 and T-series FPCs, you must decode the loss priority using the firewall filter before you can use loss priority to select the rewrite code point. For more information, see “Overriding the Default PLP on M320 and T-series Platforms” on page 55.
mpls-exp	Yes	Yes	Yes	For M320 and T-series FPCs, you must decode the loss priority using the firewall filter before you can use loss priority to select the rewrite code point. For more information, see “Overriding the Default PLP on M320 and T-series Platforms” on page 55. For M-series FPCs, fixed rewrite loss priority determines the value for bit 0; queue number (forwarding class) determines bits 1 and 2.

