

# Defining Code-Point Aliases on EX9200 Switches



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# About the Documentation

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## Documentation and Release Notes

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## Supported Platforms

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For the features described in this document, the following platforms are supported:

- EX Series

## Using the Examples in This Manual

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If you want to use the examples in this manual, you can use the **load merge** or the **load merge relative** command. These commands cause the software to merge the incoming configuration into the current candidate configuration. The example does not become active until you commit the candidate configuration.

If the example configuration contains the top level of the hierarchy (or multiple hierarchies), the example is a *full example*. In this case, use the **load merge** command.

If the example configuration does not start at the top level of the hierarchy, the example is a *snippet*. In this case, use the **load merge relative** command. These procedures are described in the following sections.

## Merging a Full Example

To merge a full example, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration example into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following configuration to a file and name the file **ex-script.conf**. Copy the **ex-script.conf** file to the **/var/tmp** directory on your routing platform.

```
system {
  scripts {
    commit {
      file ex-script.xml;
    }
  }
}
interfaces {
  fxp0 {
    disable;
    unit 0 {
      family inet {
        address 10.0.0.1/24;
      }
    }
  }
}
```

2. Merge the contents of the file into your routing platform configuration by issuing the **load merge** configuration mode command:

```
[edit]
user@host# load merge /var/tmp/ex-script.conf
load complete
```

## Merging a Snippet

To merge a snippet, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration snippet into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following snippet to a file and name the file **ex-script-snippet.conf**. Copy the **ex-script-snippet.conf** file to the **/var/tmp** directory on your routing platform.

```
commit {
  file ex-script-snippet.xml; }
```

2. Move to the hierarchy level that is relevant for this snippet by issuing the following configuration mode command:



```
[edit]
user@host# edit system scripts
[edit system scripts]
```

3. Merge the contents of the file into your routing platform configuration by issuing the **load merge relative** configuration mode command:

```
[edit system scripts]
user@host# load merge relative /var/tmp/ex-script-snippet.conf
load complete
```

For more information about the **load** command, see the CLI User Guide.

## Documentation Conventions

Table 1 on page ix defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.

Table 2 on page ix defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
<b>Bold text like this</b>	Represents text that you type.	To enter configuration mode, type the <b>configure</b> command:  user@host> <b>configure</b>
Fixed-width text like this	Represents output that appears on the terminal screen.	user@host> <b>show chassis alarms</b>  No alarms currently active

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
<i>Italic text like this</i>	<ul style="list-style-type: none"> <li>Introduces or emphasizes important new terms.</li> <li>Identifies book names.</li> <li>Identifies RFC and Internet draft titles.</li> </ul>	<ul style="list-style-type: none"> <li>A policy <i>term</i> is a named structure that defines match conditions and actions.</li> <li><i>Junos OS System Basics Configuration Guide</i></li> <li>RFC 1997, <i>BGP Communities Attribute</i></li> </ul>
<i>Italic text like this</i>	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name:  [edit] root@# <b>set system domain-name</b> <i>domain-name</i>
<b>Text like this</b>	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none"> <li>To configure a stub area, include the <b>stub</b> statement at the [edit protocols ospf area area-id] hierarchy level.</li> <li>The console port is labeled <b>CONSOLE</b>.</li> </ul>
< > (angle brackets)	Enclose optional keywords or variables.	<b>stub</b> <default-metric <i>metric</i> >;
(pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	<b>broadcast   multicast</b>  ( <i>string1</i>   <i>string2</i>   <i>string3</i> )
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	<b>rsvp { # Required for dynamic MPLS only</b>
[ ] (square brackets)	Enclose a variable for which you can substitute one or more values.	<b>community name members [</b> <i>community-ids</i> <b>]</b>
Indentation and braces ( { } )	Identify a level in the configuration hierarchy.	[edit] routing-options { static { route default { nexthop <i>address</i> ; retain; } } }
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
<b>GUI Conventions</b>		
<b>Bold text like this</b>	Represents graphical user interface (GUI) items you click or select.	<ul style="list-style-type: none"> <li>In the Logical Interfaces box, select <b>All Interfaces</b>.</li> <li>To cancel the configuration, click <b>Cancel</b>.</li> </ul>
> (bold right angle bracket)	Separates levels in a hierarchy of menu selections.	In the configuration editor hierarchy, select <b>Protocols&gt;Ospf</b> .

## Documentation Feedback

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We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can send your comments to [techpubs-comments@juniper.net](mailto:techpubs-comments@juniper.net), or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document or topic name
- URL or page number
- Software release version (if applicable)

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- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
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- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>

- Join and participate in the Juniper Networks Community Forum:  
<http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://tools.juniper.net/SerialNumberEntitlementSearch/>

## Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <http://www.juniper.net/support/requesting-support.html>.

## PART 1

# Overview

- [Code-Point Alias on page 3](#)



## CHAPTER 1

# Code-Point Alias

- [Default Code-Point Alias Overview on page 3](#)
- [Default CoS Values on page 4](#)

## Default Code-Point Alias Overview

---

Behavior aggregate (BA) classifiers use class-of-service (CoS) values such as Differentiated Services code points (DSCPs), DSCP IPv6, IP precedence, IEEE 802.1 and MPLS experimental (EXP) bits to associate incoming packets with a particular CoS servicing level. On a Services Router or EX Series switch, you can assign a meaningful name or alias to the CoS values and use this alias instead of bits when configuring CoS components. These aliases are not part of the specifications but are well known through usage. For example, the alias for DSCP 101110 is widely accepted as **ef** (expedited forwarding).



**NOTE:** The code point aliases must begin with a letter and can be up to 64 characters long.

When you configure classes and define classifiers, you can refer to the markers by alias names. You can configure user-defined classifiers in terms of alias names. If the value of an alias changes, it alters the behavior of any classifier that references it.

To configure class-of-service (CoS) code point aliases, include the **code-point-aliases** statement at the **[edit class-of-service]** hierarchy level:

```
[edit class-of-service]
code-point-aliases {
  (dscp | dscp-ipv6 | exp | ieee-802.1 | inet-precedence) {
    alias-name bits;
  }
}
```

Related  
Documentation

- [code-point-aliases on page 17](#)

## Default CoS Values

Table 3 on page 4 shows the default mappings between the bit values and standard aliases. For example, it is widely accepted that the alias for DSCP 101110 is **ef** (expedited forwarding).

**Table 3: Default CoS Values**

CoS Value Types	Mapping
<b>DSCP and DSCP IPv6 CoS Values</b>	
<b>ef</b>	101110
<b>af11</b>	001010
<b>af12</b>	001100
<b>af13</b>	001110
<b>af21</b>	010010
<b>af22</b>	010100
<b>af23</b>	010110
<b>af31</b>	011010
<b>af32</b>	011100
<b>af33</b>	011110
<b>af41</b>	100010
<b>af42</b>	100100
<b>af43</b>	100110
<b>be</b>	000000
<b>cs1</b>	001000
<b>cs2</b>	010000
<b>cs3</b>	011000
<b>cs4</b>	100000
<b>cs5</b>	101000



Table 3: Default CoS Values (*continued*)

CoS Value Types	Mapping
nc1/cs6	110000
nc2/cs7	111000
MPLS EXP CoS Values	
be	000
be1	001
ef	010
ef1	011
af11	100
af12	101
nc1/cs6	110
nc2/cs7	111
IEEE 802.1 CoS Values	
be	000
be1	001
ef	010
ef1	011
af11	100
af12	101
nc1/cs6	110
nc2/cs7	111
Legacy IP Precedence CoS Values	
be	000
be1	001
ef	010
ef1	011

**Table 3: Default CoS Values (*continued*)**

CoS Value Types	Mapping
<b>af11</b>	100
<b>af12</b>	101
<b>nc1/cs6</b>	110
<b>nc2/cs7</b>	111

## PART 2

# Configuration

- [Configuration Task on page 9](#)
- [Configuration Statements on page 13](#)



## CHAPTER 2

# Configuration Task

- [Defining Code Point Aliases for Bit Patterns on page 9](#)

### Defining Code Point Aliases for Bit Patterns

---

To define a code-point alias, include the **code-point-aliases** statement at the **[edit class-of-service]** hierarchy level:

```
[edit class-of-service]
code-point-aliases {
  (dscp | dscp-ipv6 | exp | ieee-802.1 | inet-precedence) {
    alias-name bit-pattern;
  }
}
```

The CoS marker types are as follows:

- **dscp**—Handles incoming IPv4 packets.
- **dscp-ipv6**—Handles incoming IPv6 packets.
- **exp**—Handles MPLS packets using Layer 2 headers.
- **ieee-802.1**—Handles Layer 2 CoS.
- **inet-precedence**—Handles incoming IPv4 packets. IP precedence mapping requires only the upper three bits of the DSCP field.

For example, you might configure the following aliases:

```
[edit class-of-service]
code-point-aliases {
  dscp {
    my1 110001;
    my2 101110;
    be 000001;
    cs7 110000;
  }
}
```

This configuration produces the following mapping:

```
user@host> show class-of-service code-point-aliases dscp
Code point type: dscp
```

Alias	Bit pattern
ef/my2	101110
af11	001010
af12	001100
af13	001110
af21	010010
af22	010100
af23	010110
af31	011010
af32	011100
af33	011110
af41	100010
af42	100100
af43	100110
be	000001
cs1	001000
cs2	010000
cs3	011000
cs4	100000
cs5	101000
nc1/cs6/cs7	110000
nc2	111000
my1	110001

The following notes explain certain results in the mapping:

- **my1 110001:**
  - 110001 was not mapped to anything before, and **my1** is a new alias.
  - Nothing in the default mapping table is changed by this statement.
- **my2 101110:**
  - 101110 is now mapped to **my2** as well as **ef**.
- **be 000001:**
  - **be** is now mapped to 000001.
  - The old value of **be**, 000000, is not associated with any alias. Packets with this DSCP value are now mapped to the default forwarding class.
- **cs7 110000:**
  - **cs7** is now mapped to 110000, as well as **nc1** and **cs6**.
  - The old value of **cs7**, 111000, is still mapped to **nc2**.

**Related Documentation**

- [Applying DSCP IPv6 Classifiers](#)





## CHAPTER 3

# Configuration Statements

- [\[edit class-of-service\] Hierarchy Level on page 13](#)

### [\[edit class-of-service\] Hierarchy Level](#)

---

```
class-of-service {
  classifiers {
    type classifier-name {
      forwarding-class class-name {
        loss-priority (high | low | medium-high | medium-low) code-points [ aliases bits ];
      }
      import (classifier-name | default);
    }
  }
  code-point-aliases {
    (dscp | dscp-ipv6 | exp | ieee-802.1 | ieee-802.1ad | inet-precedence) {
      alias-name bits;
    }
  }
  drop-profiles {
    profile-name {
      fill-level percentage drop-probability percentage;
      interpolate {
        drop-probability value;
        fill-level value;
      }
    }
  }
  fabric {
    scheduler-map {
      priority (high | low) scheduler scheduler-name;
    }
  }
  forwarding-class-map {
    map-name {
      class class-name queue-num queue-number <restricted-queue queue-number>;
    }
  }
  forwarding-classes {
    class class-name policing-priority (normal | premium) queue-num queue-number
      priority (high | low);
  }
}
```

```

        queue queue-number class-name policing-priority (normal | premium) priority (high |
        low);
    }
    forwarding-policy {
        class class-name {
            classification-override {
                forwarding-class class-name;
            }
        }
        next-hop-map map-name {
            forwarding-class class-name {
                discard;
                lsp-next-hop [ lsp-regular-expressions ];
                next-hop [ next-hop-names ];
                non-lsp-next-hop;
            }
        }
    }
    fragmentation-maps {
        map-name {
            forwarding-class class-name {
                drop-timeout milliseconds;
                fragment-threshold bytes;
                multilink-class number;
                no-fragmentation;
            }
        }
    }
    host-outbound-traffic {
        dscp-code-point value;
        forwarding-class class-name;
        ieee-802.1 {
            default value;
            rewrite-rules;
        }
        tcp {
            raise-internet-control-priority;
        }
    }
    interfaces {
        ... the interfaces subhierarchy appears after the main [edit class-of-service] hierarchy
        ...
    }
    restricted-queues {
        forwarding-class class-name queue-number;
    }
    rewrite-rules {
        (dscp | dscp-ipv6 | exp | frame-relay-de | ieee-802.1 | ieee-802.1ad | inet-precedence)
        rewrite-rule {
            forwarding-class class-name {
                loss-priority level code-point (alias | bits);
            }
            import (rewrite-rule | default);
        }
    }
}

```

```

routing-instances routing-instance-name {
  classifiers {
    dscp (classifier-name | default);
    dscp-ipv6 (classifier-name | default);
    exp (classifier-name | default);
    ieee-208.1 (classifier-name | default | encapsulated | vlan-tag (inner | outer));
  }
}
scheduler-maps {
  map-name {
    forwarding-class class-name scheduler scheduler-name;
  }
}
schedulers {
  scheduler-name {
    adjust-minimum value;
    adjust-percent value;
    buffer-size (exact | percent percentage | remainder);
    drop-profile-map loss-priority (any | high | low | medium-high | medium-low)
      protocol any;
    excess-priority (high | low | medium-high | medium-low);
    excess-rate (percent percentage | proportion proportion);
    priority (high | low | medium-high | medium-low | strict-high);
    shaping-rate (bps | percent percentage | burst-size size);
    transmit-rate (bps | percent percentage | remainder) <exact | rate-limit>;
  }
}
traceoptions {
  file <files number> <match regular-expression> <size maximum-file-size>
    <world-readable | no-world-readable>;
  flag flag;
  no-remote-trace;
}
traffic-control-profiles {
  profile-name {
    adjust-minimum rate;
    delay-buffer-rate (bps | cps cps | percent percentage);
    excess-rate (percent percentage | proportion value);
    guaranteed-rate (bps | percent percentage) <burst-size bytes>;
    overhead-accounting (frame-mode | cell-mode) <bytes byte-value>;
    scheduler-map map-name;
    shaping-rate (bps | percent percentage) <burst-size bytes>;
  }
}
tri-color;
}

class-of-service {
  interfaces {
    interface-name {
      excess-bandwidth-share (equal | proportional value);
      input-excess-bandwidth-share (equal | proportional value);
      input-scheduler-map map-name;
      input-shaping-rate bps;
      input-traffic-control-profile profile-name;
      output-forwarding-class-map map-name;
    }
  }
}

```

```

output-traffic-control-profile profile-name;
scheduler-map map-name;
scheduler-map-chassis (map-name | derived);
shaping-rate bps;
unit (logical-unit-number | *) {
    classifiers {
        dscp (classifier-name | default) {
            family [ inet mpls ];
        }
        dscp-ipv6 (classifier-name | default) {
            family [ inet mpls ];
        }
        exp (classifier-name | default);
        ieee-208.1 (classifier-name | default) <vlan-tag (inner | outer)>;
        ieee-208.1ad (classifier-name | default);
        inet-precedence (classifier-name | default);
    }
    forwarding-class class-name;
    input-scheduler-map map-name;
    input-shaping-rate bps;
    input-traffic-control-profile profile-name shared-instance instance-name;
    loss-priority-maps {
        (map-name | default);
    }
    loss-priority-rewrites {
        (map-name | default);
    }
    output-forwarding-class-map map-name;
    output-traffic-control-profile profile-name shared-instance instance-name;
    rewrite-rules {
        dscp (rule-name | default) <protocol mpls>;
        dscp-ipv6 (rule-name | default);
        exp (rule-name | default) <protocol [ mpls-any | mpls-inet-both |
            mpls-inet-both-non-vpn ]>;
        exp-push-push-push default;
        exp-swap-push-push default;
        ieee-802.1 (rewrite-name | default) <vlan-tag (outer | outer-and-inner)>;
        ieee-802.1ad (rewrite-name | default) <vlan-tag (outer | outer-and-inner)>;
        inet-precedence (rewrite-name | default) <protocol mpls>;
    }
    scheduler-map map-name;
    shaping-rate bps;
    translation-table (to-dscp-from-dscp | to-dscp-ipv6-from-dscp-ipv6 |
        to-exp-from-exp | to-inet-precedence-from-inet-precedence) table-name;
    }
}
interface-set interface-set-name {
    excess-bandwidth-share (equal | proportional value);
    input-excess-bandwidth-share (equal | proportional value);
    input-traffic-control-profile profile-name;
    input-traffic-control-profile-remaining profile-name;
    internal-node;
    output-traffic-control-profile profile-name;
    output-traffic-control-profile-remaining profile-name;
}
}

```

}

**Related Documentation** • [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

## code-point-aliases

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**Syntax** `code-point-aliases {  
    type {  
        alias-name bits;  
    }  
}`

**Hierarchy Level** [edit class-of-service]

**Release Information** Statement introduced before Junos OS Release 7.4.

**Description** Define an alias for a CoS marker.

**Options** *alias-name*—Name of the code-point alias.  
*bits*—6-bit value of the code-point bits, in decimal form.  
*type*—CoS marker type.  
**Values:** dscp, dscp-ipv6, exp, ieee-802.1, inet-precedence

**Required Privilege Level** interface—To view this statement in the configuration.  
interface-control—To add this statement to the configuration.

**Related Documentation** • [Defining Code Point Aliases for Bit Patterns on page 9](#)

## dscp (Rewrite Rules)

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<b>Syntax</b>	<code>dscp (rewrite-name   default);</code>
<b>Hierarchy Level</b>	[edit class-of-service interfaces <i>interface-name</i> unit <i>logical-unit-number</i> rewrite-rules]
<b>Release Information</b>	Statement introduced before Junos OS Release 7.4.
<b>Description</b>	For IPv4 traffic, apply a Differentiated Services (DiffServ) code point (DSCP) rewrite rule.
<b>Options</b>	<p><b>rewrite-name</b>—Name of a <b>rewrite-rules</b> mapping configured at the [edit class-of-service rewrite-rules dscp] hierarchy level.</p> <p><b>default</b>—The default mapping.</p>
<b>Required Privilege Level</b>	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>
<b>Related Documentation</b>	<ul style="list-style-type: none"><li>• <a href="#">Configuring Rewrite Rules</a></li><li>• <a href="#">dscp-ipv6 (Class-of-Service) on page 19</a></li><li>• <a href="#">exp on page 20</a></li><li>• <a href="#">exp-push-push-push</a></li><li>• <a href="#">exp-swap-push-push</a></li><li>• <a href="#">ieee-802.1 (Rewrite Rules on Logical Interface) on page 21</a></li><li>• <a href="#">ieee-802.1ad</a></li><li>• <a href="#">inet-precedence on page 22</a></li><li>• <a href="#">rewrite-rules (Definition)</a></li></ul>

## dscp-ipv6 (Class-of-Service)

<b>Syntax</b>	<code>dscp-ipv6 (<i>rewrite-name</i>   &lt;default&gt;) {     protocol mpls }</code>
<b>Hierarchy Level</b>	[edit class-of-service interfaces <i>interface-name</i> unit <i>logical-unit-number</i> rewrite-rules]
<b>Release Information</b>	Statement introduced before Junos OS Release 7.4.
<b>Description</b>	For IPv6 traffic, apply a DSCP rewrite rule.
<b>Options</b>	<p><b><i>rewrite-name</i></b>—Name of a <b>rewrite-rules</b> mapping configured at the [edit class-of-service rewrite-rules dscp-ipv6] hierarchy level.</p> <p><b>default</b>— Default mapping.</p> <p>The remaining statements are explained separately.</p>
<b>Required Privilege Level</b>	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>
<b>Related Documentation</b>	<ul style="list-style-type: none"> <li>Configuring Rewrite Rules</li> <li><a href="#">dscp (Rewrite Rules) on page 18</a></li> <li><a href="#">exp on page 20</a></li> <li>exp-push-push-push</li> <li>exp-swap-push-push</li> <li><a href="#">ieee-802.1 (Rewrite Rules on Logical Interface) on page 21</a></li> <li>ieee-802.1ad</li> <li><a href="#">inet-precedence on page 22</a></li> <li>rewrite-rules (Definition)</li> </ul>

## exp

<b>Syntax</b>	<code>exp (rewrite-name   default) protocol protocol-types;</code>
<b>Hierarchy Level</b>	<code>[edit class-of-service interfaces interface-name unit logical-unit-number rewrite-rules]</code>
<b>Release Information</b>	Statement introduced before Junos OS Release 7.4. Statement introduced before Junos OS Release 12.2. for ACX series
<b>Description</b>	Apply an MPLS experimental (EXP) rewrite rule.
<b>Options</b>	<p><b>rewrite-name</b>—Name of a <b>rewrite-rules</b> mapping configured at the <code>[edit class-of-service rewrite-rules exp]</code> hierarchy level.</p> <p><b>default</b>—The default mapping.</p> <p>By default, IP precedence rewrite rules alter the first three bits on the type-of-service (ToS) byte while leaving the last three bits unchanged. This default behavior applies to rewrite rules you configure for MPLS packets with IPv4 payloads. You configure these types of rewrite rules by including the <b>mpls-inet-both</b> or <b>mpls-inet-both-non-vpn</b> option at the <code>[edit class-of-service interfaces interface interface-name unit logical-unit-number rewrite-rules exp rewrite-rule-name protocol]</code> hierarchy level. The IP precedence rewrite rules explanation does not apply to ACX Series Universal Access routers.</p> <p>On interfaces configured on Modular Port Concentrators (MPCs) and Modular Interface Cards (MICs) on MX Series Ethernet Services Routers and EX Series switches, we highly recommend that you configure the <b>default</b> option when you configure a behavior aggregate (BA) classifier that does not include a specific rewrite rule for MPLS packets. Doing so ensures that MPLS exp value is rewritten according to the BA classifier rules configured for forwarding or packet loss priority. This does not apply to ACX Series Universal Access routers.</p> <p>The remaining statement is explained separately.</p>
<b>Required Privilege Level</b>	<p><b>interface</b>—To view this statement in the configuration.</p> <p><b>interface-control</b>—To add this statement to the configuration.</p>
<b>Related Documentation</b>	<ul style="list-style-type: none"> <li>Rewriting the EXP Bits of All Three Labels of an Outgoing Packet</li> <li><a href="#">dscp (Rewrite Rules) on page 18</a></li> <li><a href="#">dscp-ipv6 (Class-of-Service) on page 19</a></li> <li>exp-push-push-push</li> <li>exp-swap-push-push</li> <li><a href="#">ieee-802.1 (Rewrite Rules on Logical Interface) on page 21</a></li> <li>ieee-802.1ad</li> <li><a href="#">inet-precedence on page 22</a></li> </ul>



- [rewrite-rules \(Definition\)](#)

## ieee-802.1 (Rewrite Rules on Logical Interface)

<b>Syntax</b>	<code>ieee-802.1 (<i>rewrite-name</i>   default) vlan-tag (outer   outer-and-inner);</code>
<b>Hierarchy Level</b>	[edit class-of-service interfaces <i>interface-name</i> unit <i>logical-unit-number</i> rewrite-rules]
<b>Release Information</b>	Statement introduced before Junos OS Release 7.4. <b>vlan-tag</b> statement introduced in Junos OS Release 8.1.
<b>Description</b>	Apply an IEEE-802.1 rewrite rule. For IQ PICs, you can only configure one IEEE 802.1 rewrite rule on a physical port. All logical ports (units) on that physical port should apply the same IEEE 802.1 rewrite rule.
<b>Options</b>	<b><i>rewrite-name</i></b> —Name of a <b>rewrite-rules</b> mapping configured at the [edit class-of-service rewrite-rules <b>ieee-802.1</b> ] hierarchy level.  <b>default</b> —The default mapping.
<b>Required Privilege Level</b>	<b>interface</b> —To view this statement in the configuration. <b>interface-control</b> —To add this statement to the configuration.
<b>Related Documentation</b>	<ul style="list-style-type: none"> <li>• <a href="#">Configuring Rewrite Rules</a></li> <li>• <a href="#">Example: Configuring CoS for a PBB Network</a></li> <li>• <a href="#">dscp (Rewrite Rules) on page 18</a></li> <li>• <a href="#">dscp-ipv6 (Class-of-Service) on page 19</a></li> <li>• <a href="#">exp on page 20</a></li> <li>• <a href="#">exp-push-push-push</a></li> <li>• <a href="#">exp-swap-push-push</a></li> <li>• <a href="#">ieee-802.1ad</a></li> <li>• <a href="#">inet-precedence on page 22</a></li> <li>• <a href="#">rewrite-rules (Definition)</a></li> </ul>

## inet-precedence

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<b>Syntax</b>	<code>inet-precedence (<i>rewrite-name</i>   default);</code>
<b>Hierarchy Level</b>	[edit class-of-service interfaces <i>interface-name</i> unit <i>logical-unit-number</i> rewrite-rules]
<b>Release Information</b>	Statement introduced before Junos OS Release 7.4.
<b>Description</b>	Apply a IPv4 precedence rewrite rule.
<b>Options</b>	<p><b><i>rewrite-name</i></b>—Name of a <b>rewrite-rules</b> mapping configured at the [edit class-of-service rewrite-rules <b>inet-precedence</b>] hierarchy level.</p> <p><b>default</b>—The default mapping. By default, IP precedence rewrite rules alter the first three bits on the type of service (ToS) byte while leaving the last three bits unchanged.</p>
<b>Required Privilege Level</b>	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>
<b>Related Documentation</b>	<ul style="list-style-type: none"><li>• Configuring Rewrite Rules</li><li>• <a href="#">dscp (Rewrite Rules) on page 18</a></li><li>• <a href="#">dscp-ipv6 (Class-of-Service) on page 19</a></li><li>• <a href="#">exp on page 20</a></li><li>• exp-push-push-push</li><li>• exp-swap-push-push</li><li>• <a href="#">ieee-802.1 (Rewrite Rules on Logical Interface) on page 21</a></li><li>• ieee-802.1ad</li><li>• rewrite-rules (Definition)</li></ul>