Chapter 4

Defining Code-Point Aliases

A code-point alias is a name you assign to a set of DiffServ code point (DSCP) and DSCP IPv6 bits. When you configure classes and define classifiers, you can refer to the code points by these 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, you can include the following statements at the [edit class-of-service] hierarchy level of the configuration:

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

This chapter discusses the following topics:

Default DSCP Mappings

Table 8 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 8: Default DSCP Mappings

DiffServ Code Designator	Mapping
DSCP and DSCP IPv6 Code Points	
ef	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	000000
cs1	001000
cs2	010000
cs3	011000
cs4	100000
cs5	101000
nc1/cs6	110000
nc2/cs7	111000
MPLS EXP Code Points	
be	000
be1	001
ef	010
ef1	011
af11	100
af12	101
nc1/cs6	110
nc2/cs7	111

DiffServ Code Designator	Mapping
IEEE 802.1 Code Points	
be	000
be1	001
ef	010
ef1	011
af11	100
af12	101
nc1/cs6	110
nc2/cs7	111
Legacy IP Precedence Code Points	
be	000
be1	001
ef	010
ef1	011
af11	100
af12	101
nc1/cs6	110
nc2/cs7	111

Defining Aliases for Bits

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 bits;
    }
}
```

For example, you might set up the following configuration:

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

The sample configuration produces this 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 classified 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.