

Chapter 5

Understanding DiffServ-Aware Traffic-Engineered LSP Events

This chapter lists and describes label-switched path (LSP) events that might occur in the output of the `show mpls lsp extensive` command for Differentiated-Services-Aware (DiffServ) traffic-engineered LSPs. Descriptions typically include sample output of the LSP event, an explanation of what the event means, the possible cause of the event, and any possible actions that you can take. (See Table 9.)

Table 9: Checklist for Understanding DiffServ-Aware Traffic-Engineered LSP Events

Understanding DiffServ-Aware Traffic Engineered LSP Events Tasks	Possible Action or Command
Displaying DiffServ-Aware Traffic-Engineered LSP Events on page 62	
1. Unsupported Traffic Class Event on page 63	Not available.
2. Traffic Class Value Out of Allowed Range Event on page 63	Not available.
3. The Combination of Setup Priority and Traffic Class Is Not One of the Configured TE Classes Event on page 63	Correct the configuration depending on supported traffic engineering classes.
4. The Combination of Hold Priority and Traffic Class Is Not One of the Configured TE Classes Event on page 64	Correct the configuration depending on supported traffic engineering classes.

Displaying DiffServ-Aware Traffic-Engineered LSP Events

Purpose A DiffServ-aware traffic-engineered LSP is configured with a bandwidth reservation for a specific class type, and carries traffic for a single class type. On the packets, the class type is specified by the experimental (EXP) bits (also known as the class-of-service bits) and the per-hop behavior (PHB) associated with the EXP bits. The mapping between the EXP bits and the PHB is static, instead of being signaled in Resource Reservation Protocol (RSVP).

The class type must be configured consistently across the DiffServ domain, and must be consistent from router to router in the network. You can unambiguously map a class type to a queue. On each node router, the class-of-service queue configuration for an interface translates to the available bandwidth for a particular class type on that link. For more information about forwarding classes and class of service, see the *JUNOS Class of Service Configuration Guide*. For more information about differentiated services, see RFC 3270, *Multi-Protocol Label Switching (MPLS) Support of Differentiated Services*.

When the configuration of a DiffServ-aware traffic-engineered LSP is incorrect, an even or error message might occur in the output of the **show mpls lsp extensive** command.

Action To display LSP events that can occur with a Diff-Serv-aware LSP, enter the following JUNOS command-line interface (CLI) operational mode command from the ingress router:

```
user@host> show mpls lsp extensive
```

Sample Output Not available.

Unsupported Traffic Class Event

LSP Event	Unsupported traffic class
Sample Output	Not available.
What It Means	This LSP error event is a Juniper Networks proprietary error indicating that a Diffserv traffic engineering LSP was signaled with one or more traffic classes with values greater than the 4 traffic classes currently supported by the JUNOS software.
Cause	Not available.
Action	Not available.

Traffic Class Value Out of Allowed Range Event

LSP Event	Traffic class value out of allowed range
Sample Output	Not available.
What It Means	This LSP error event is a Juniper Networks proprietary error indicating that a single class, IETF-style DiffServ traffic engineering LSP was signaled with a traffic class value of zero, which is invalid.
Cause	Not available.
Action	Not available.

The Combination of Setup Priority and Traffic Class Is Not One of the Configured TE Classes Event

LSP Event	The combination of setup-priority and traffic class is not one of the configured TE-classes
Sample Output	Not available.
What It Means	This LSP error event is a Juniper Networks proprietary error that indicates the setup priority signaled in the Path message for the LSP does not match the supported Diffserv traffic engineering classes configured on a label-switching router (LSR) along the LSP path.
Cause	This LSP error event is caused by incorrect configuration of the LSP setup priority on the ingress LSR, or the incorrect configuration of a DiffServ traffic engineering class on an LSR along the LSP path.
Action	Correct the configuration depending on the supported traffic engineering classes.

The Combination of Hold Priority and Traffic Class Is Not One of the Configured TE Classes Event

LSP Event	The combination of hold priority and traffic class is not one of the configured traffic engineering classes
Sample Output	Not available.
What It Means	This LSP event is a Juniper Networks proprietary error indicating that the hold priority signaled in the Path message for the LSP does not match the supported DiffServ traffic engineering classes configured on an LSR along the LSP path.
Cause	This LSP event is caused by the incorrect configuration of the LSP hold priority at the ingress LSR, or the incorrect configuration of the DiffServ traffic engineering class on an LSR along the LSP path.
Action	Correct the configuration depending on the supported traffic engineering classes.