Chapter 2

Complete MPLS Applications Configuration Mode Statements

This chapter shows the complete configuration statement hierarchy for the MPLS applications configuration statements, listing all possible configuration statements and showing their level in the configuration hierarchy. When you are configuring the JUNOS software, your current hierarchy level is shown in the banner on the line preceding the user@host# prompt.

For a complete list of the JUNOS configuration statements, see the *JUNOS Internet Software System Basics Configuration Guide*.

This chapter is organized as follows:

[edit logical-routers] Hierarchy Level

The following MPLS protocol statements can be configured at the [edit logical-routers] hierarchy level. This is not a comprehensive list of statements available for logical routers. Only the statements that are also documented in this manual are listed here. For more information about logical routers, see the *JUNOS Internet Softw are Routing Protocols Configur ation Guide*.

```
logical-routers {
    logical-router-name {
        protocols {
            connections {
                connections-configuration;
            }
            ldp {
                ldp-configuration;
            }
            link-management {
                link-management-configuration;
            }
            mpls {
                mpls-configuration;
            }
            rsvp {
                rsvp-configuration;
            }
        }
    }
}
```

[edit protocols connections] Hierarchy Level

The following statements can also be configured at the [edit logical-routers *logical-router-name*] hierarchy level:

```
protocols {
    connections {
        interface-switch connection-name {
            interface interface-name.unit-number;
            interface interface-name.unit-number;
        }
        lsp-switch connection-name {
            transmit-lsp label-switched-path;
            receive-lsp label-switched-path;
        }
        remote-interface-switch connection-name {
            interface interface-name.unit-number;
            transmit-lsp label-switched-path;
            receive-lsp label-switched-path;
        }
    }
}
```

[edit protocols ldp] Hierarchy Level

The following statements can also be configured at the [edit logical-routers *logical-router-name*] hierarchy level:

```
protocols {
    ldp {
        deaggregate | no-deaggregate;
        egress-policy policy-name;
        export [ policy-name ];
        graceful-restart {
            disable;
            helper-disable;
            maximum-recovery-time seconds;
            recovery-time seconds;
        }
        import [policy-name];
        interface interface-name {
            disable;
            hello-interval seconds;
            hold-time seconds;
            transport-address (interface | router-id);
        }
        keepalive-interval seconds;
        keepalive-timeout seconds;
        no-forwarding;
        preference preference;
        session address {
            authentication-key authentication-key;
        }
        traceoptions {
            file filename <replace> <size size> <files number> <no-stamp>
                <(world-readable | no-world-readable)>;
            flag flag <flag-modifier> <disable>;
        }
        track-igp-metric;
        traffic-statistics {
            file filename <replace> <size size> <files number>
                <(world-readable | no-world-readable)>;
            interval interval;
        }
        transport-address (interface | router-id);
    }
}
```

[edit protocols link-management] Hierarchy Level

The following statements can also be configured at the [edit logical-routers *logical-router-name*] hierarchy level:

```
protocols {
    link-management {
        te-link te-link-name {
            local-address ipv4-address;
            remote-address ipv4-address;
            remote-id number;
            interface interface-name {
                remote-id number;
                local-address ipv4-address;
                remote-address ipv4-address;
            }
        }
    }
}
```

[edit protocols mpls] Hierarchy Level

The following statements can also be configured at the [edit logical-routers *logical-router-name*] hierarchy level:

```
protocols {
    mpls {
        disable;
        admin-groups {
            group-name group-value;
        }
        advertise-hold-time seconds;
        bandwidth bandwidth;
        class-of-service cos-value;
        diffserv-te {
            bandwidth-model {
                extended-mam;
                mam;
            }
            te-class-matrix {
                tenumber {
                    priority priority;
                    traffic-class {
                        ctnumber priority priority;
                    }
                }
            }
        }
        explicit-null;
        hop-limit number;
        icmp-tunneling;
```

```
interface (interface-name | all) {
    disable;
    admin-group {
        group-name;
    }
    label-map {
        in-label {
            class-of-service value;
            (next-hop (address | interface-name | address/interface-name)) | (reject |
                discard);
            (pop | swap <out-label>);
            preference preference;
            type type;
        }
        default-route {
            class-of-service value;
            (next-hop (address | interface-name | address/interface-name)) | (reject |
                discard);
            (pop | swap <out-label>);
            preference preference;
            type type;
        }
    }
}
ipv6-tunneling;
label-switched-path lsp-path-name {
    disable;
    adaptive;
    admin-group {
        exclude group-names;
        include group-names;
    }
    auto-bandwidth {
        adjust-interval seconds;
        adjust-threshold percent;
        maximum-bandwidth bps;
        minimum-bandwidth bps;
        monitor-bandwidth;
    }
    bandwidth bps;
    class-of-service cos-value;
    description;
    fast-reroute {
        bandwidth bps;
        (exclude group-names | no-exclude);
        hop-limit number;
        (include group-names | no-include);
    }
    from address;
    hop-limit number;
    install {
        destination-prefix/prefix-length <active>;
    }
    ldp-tunneling;
    link-protection;
```

```
lsp-attributes {
   gpid (ethernet | hdlc | ipv4 | ppp);
   signal-bandwidth type;
   switching-type type;
}
metric number;
no-cspf;
no-decrement-ttl;
node-link-protection;
optimize-timer seconds;
policing filter filter-name;
preference preference;
priority setup-priority hold-priority;
primary path-name {
   adaptive;
   admin-group {
      exclude group-names;
      include group-names;
   }
   bandwidth bps;
   class-of-service cos-value;
   hop-limit number;
   no-cspf;
   no-decrement-ttl;
   optimize-timer seconds;
   preference preference;
   priority setup-priority hold-priority;
   (record | no-record);
   retry-limit number;
   retry-timer seconds;
   standby;
}
(random | least-fill | most-fill);
(record | no-record);
retry-limit number;
retry-timer seconds;
secondary path-name {
   adaptive;
   admin-group {
      exclude group-names;
      include group-names;
   }
   bandwidth bps;
   class-of-service cos-value;
   hop-limit number;
   no-cspf;
   no-decrement-ttl;
   optimize-timer seconds;
   preference preference;
   priority setup-priority hold-priority;
   (record | no-record);
   standby;
}
soft-preemption {
   cleanup-timer seconds;
}
standby;
```

```
            to address;
            traceoptions {
               file filename <replace> <size size> <files number> <no-stamp>
                  <(world-readable | no-world-readable)>;
               flag flag <flag-modifier> <disable>;
            }
         }
         log-updown {
            (syslog | no-syslog);
            (trap | no-trap);
         }
         mtu-signaling;
         no-cspf;
         no-decrement-ttl;
         no-propagate-ttl;
         no-record;
         optimize-aggressive;
         optimize-timer;
         path path-name {
            address <strict | loose>;
         }
         path-mtu {
            allow-fragmentation;
            rsvp {
               mtu-signaling;
            }
         }
         policing filter filter-name;
         preference preference;
         priority setup-priority hold-priority;
         record;
         rsvp-error-hold-time seconds;
         soft-preemption {
            cleanup-timer seconds;
         }
         standby;
         static-path inet {
            prefix {
               class-of-service value;
               next-hop (address | interface-name | address/interface-name);
               push out-label;
               preference preference;
            }
         }
         statistics {
            auto-bandwidth;
            file filename size size files number <no-stamp>;
            interval seconds;
         }
         traceoptions {
            file filename <replace> <size size> <files number> <no-stamp>
               <(world-readable | no-world-readable)>;
            flag flag <flag-modifier> <disable>;
         }
         traffic-engineering (bgp | bgp-igp | bgp-igp-both-ribs | mpls-forwarding);
      }
   }
```

[edit protocols rsvp] Hierarchy Level

The following statements can also be configured at the [edit logical-routers *logical-router-name*] hierarchy level:

```
protocols {
    rsvp {
        disable;
        graceful-restart {
            disable;
            helper-disable;
        }
        keep-multiplier number;
        preemption {
            (aggressive | disabled | normal);
            soft-preemption {
                cleanup-timer seconds;
            }
        }
        refresh-time seconds;
        traceoptions {
            file filename <replace> <size size> <files number> <no-stamp>
                <(world-readable | no-world-readable)>;
            flag flag <flag-modifier> <disable>;
        }
        interface interface-name {
            disable;
            (aggregate | no-aggregate);
            authentication-key key;
            bandwidth bps;
            hello-interval seconds;
            link-protection {
                bandwidth bandwidth;
                class-of-service value;
                disable;
                path address <strict | loose>;
            }
            (reliable | no-reliable);
            subscription percentage;
        }
    }
}
```