

Chapter 2

Services Interfaces Configuration Statements

This chapter shows the complete configuration statement hierarchies for configuring services interfaces. It lists all the statements that pertain to configuring services and shows 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.

This chapter is organized as follows:

[edit applications] Hierarchy Level on page 9

[edit forwarding-options] Hierarchy Level on page 10

[edit interfaces] Hierarchy Level on page 12

[edit services] Hierarchy Level on page 14

[edit applications] Hierarchy Level

To configure application protocols, include the following statements at the [edit applications] hierarchy level of the configuration:

```
[edit applications]
application application-name {
  application-protocol protocol-name;
  destination-port port-number;
  icmp-code value;
  icmp-type value;
  inactivity-timeout value;
  protocol type;
  rpc-program-number number;
  snmp-command command;
  source-port port-number;
  ttl-threshold value;
  uuid hex-value;
}
}
application-set application-set-name {
  [ application application-names ];
}
```

[edit forwarding-options] Hierarchy Level

To configure flow monitoring and accounting properties, include the following statements at the [edit forwarding-options] hierarchy level:

```
[edit forwarding-options]
accounting name {
  output {
    aggregate-export-interval seconds;
    cflowd hostname {
      aggregation {
        autonomous-system;
        destination-prefix;
        protocol-port;
        source-destination-prefix {
          caida-compliant;
        }
        source-prefix;
      }
      autonomous-system-type (origin | peer);
      port port-number;
      version format;
    }
    flow-active-timeout seconds;
    flow-inactive-timeout seconds;
    interface interface-name {
      engine-id number;
      engine-type number;
      source-address address;
    }
  }
}
monitoring name;
family inet {
  output {
    cflowd hostname port port-number;
    export-format format;
    flow-active-timeout seconds;
    flow-inactive-timeout seconds;
    interface interface-name {
      engine-id number;
      engine-type number;
      input-interface-index number;
      output-interface-index number;
      source-address address;
    }
  }
}
next-hop-group [ group-names ] {
  interface interface-name {
    next-hop [ addresses ];
  }
}
```

```

port-mirroring {
  input {
    family inet {
      rate rate;
      run-length number;
    }
  }
  output {
    interface interface-name {
      next-hop address;
    }
    no-filter-check;
  }
  traceoptions {
    file filename {
      files number;
      size bytes;
      (world-readable | no-world-readable);
    }
  }
}
sampling {
  disable;
  input {
    family inet {
      max-packets-per-second number;
      rate number;
      run-length number;
    }
  }
  output {
    aggregate-export-interval seconds;
    cflowd hostname {
      aggregation {
        autonomous-system;
        destination-prefix;
        protocol-port;
        source-destination-prefix {
          caida-compliant;
        }
        source-prefix;
      }
      autonomous-system-type (origin | peer);
      (local-dump | no-local-dump);
      port port-number;
      source-address address;
      version format;
    }
  }
  file {
    disable;
    filename filename;
    files number;
    size bytes;
    (stamp | no-stamp);
    (world-readable | no-world-readable);
  }
  flow-active-timeout seconds;
  flow-inactive-timeout seconds;
}

```

```

interface interface-name {
    engine-id number;
    engine-type number;
    source-address address;
}
}
traceoptions {
    file filename {
        files number;
        size bytes;
        (world-readable | no-world-readable);
    }
}
}

```

**Note**

For the complete [edit forwarding-options] hierarchy, see the *JUNOS Internet Software Configuration Guide: Policy Framework*. This listing includes only the statements used in flow monitoring and accounting services.

[edit interfaces] Hierarchy Level

To configure services interfaces, include the following statements at the [edit interfaces] hierarchy level of the configuration:

```

[edit interfaces]
interface-name {
    encapsulation type;
    mlfr-uni-nni-bundle-options {
        acknowledge-retries number;
        acknowledge-timer milliseconds;
        action-red-differential-delay (disable-tx | remove-link);
        drop-timeout milliseconds;
        fragment-threshold bytes;
        hello-timer milliseconds;
        lmi-type (ansi | itu);
        minimum-links number;
        mrru bytes;
        n391 number;
        n392 number;
        n393 number;
        red-differential-delay milliseconds;
        t391 number;
        t392 number;
        yellow-differential-delay milliseconds;
    }
    unit logical-unit-number {
        family inet {
            accounting {
                destination-class-usage;
                source-class-usage direction;
            }
            address address {
                destination address;
            }
            bundle (ml-fpc/pic/port | ls-fpc/pic/port);
        }
    }
}

```

```

ipsec-sa ipsec-sa;
receive-options-packets;
receive-ttl-exceeded;
sampling direction;
service {
  input {
    [ service-set service-set-names <service-filter filter-name> ];
    post-service-filter filter-name;
  }
  output {
    [ service-set service-set-names <service-filter filter-name> ];
  }
}
service-domain (inside | outside);
tunnel {
  destination destination-address;
  source-address address;
  interfaces address;
  routing-instance {
    destination routing-instance-name;
  }
  ttl number;
}
dcli dcli-identifier;
drop-timeout milliseconds;
encapsulation type;
fragment-threshold bytes;
interleave-fragments;
minimum-links number;
mrru bytes;
multicast-dcli dcli-identifier;
short-sequence;
}
multiservice-options {
  boot-command filename;
  (core-dump | no-core-dump);
  (syslog | no-syslog);
}
}
services-options {
  inactivity-timeout seconds;
  open-timeout seconds;
  syslog {
    host hostname {
      services priority-level;
      facility-override facility-name;
      log-prefix prefix-number;
    }
  }
}
}
}
so-fpc/pic/port {
  unit logical-unit-number {
    passive-monitor-mode;
  }
}
}

```



For the complete [edit interfaces] hierarchy, see the *JUNOS Internet Software Configuration Guide: Network Interfaces and Class of Service*. This listing includes only the statements used in configuring services.

[edit services] Hierarchy Level

To configure services, include statements at the [edit services] hierarchy level of the configuration:

```
[edit services]
adaptive-services-pics {
  traceoptions {
    flag flag;
  }
}
ids {
  rule rule-name {
    term term-name {
      from {
        applications [ application-names ];
        application-sets [ set-names ];
        destination-address address;
        source-address address;
      }
      then {
        aggregation {
          destination-prefix prefix-value;
          source-prefix prefix-value;
        }
        (force-entry | ignore entry);
        logging {
          syslog;
          threshold rate;
        }
        syn-cookie {
          mss value;
          threshold rate;
        }
      }
    }
  }
  match-direction (input | output | input-output);
}
rule-set rule-set-name {
  [ rule rule-names ];
}
}
```

```

nat {
  pool nat-pool-name {
    address (address | address-range low minimum-value high maximum-value);
    port (automatic | range low minimum-value high maximum-value);
  }
  rule rule-name {
    match-direction (input | output);
    term term-name {
      from {
        applications [ application-names ];
        application-sets [ set-names ];
        destination-address address;
        source-address address;
      }
      then {
        translated {
          destination-pool nat-pool-name;
          source-pool nat-pool-name;
          translation-type (destination type | source type);
        }
        syslog;
      }
    }
  }
  rule-set rule-set-name {
    [ rule rule-names ];
  }
}
service-set service-set-name {
  ([ ids-rules rule-names ] | ids-rule-sets rule-set-name );
  ([ nat-rules rule-names ] | nat-rule-sets rule-set-name );
  ([ stateful-firewall-rules rule-names ] | stateful-firewall-rule-sets rule-set-name );
  interface-service {
    service-interface name;
  }
  next-hop-service {
    inside-service-interface name.number;
    outside-service-interface name.number;
  }
  syslog {
    host hostname {
      services priority-level;
      facility-override facility-name;
      log-prefix prefix-number;
    }
  }
}

```

```
stateful-firewall {
  rule rule-name {
    match-direction (input | output | input-output);
    term term-name {
      from {
        applications [ application-names ];
        application-sets [ set-names ];
        destination-address address;
        source-address address;
      }
      then {
        (accept | discard | reject);
        syslog;
      }
    }
  }
}
rule-set rule-set-name {
  [ rule rule-names ];
}
}
```