Configuring Initial CoS Parameters Dynamically Obtained from RADIUS

You can configure a subscriber interface so that subscribers receive initial CoS parameters that the router obtains from the RADIUS authentication server when subscribers log in using that logical interface on the router.

This topic includes the following tasks:

Configuring a RADIUS Authentication Server with Values for Initial CoS

You can configure external RADIUS server VSAs with values that you expect subscribers to log in with.

- To configure a RADIUS authentication server to include CoS traffic-shaping parameters in authentication grants on certain subscriber interfaces, configure Juniper Networks VSA 26–108.
- To configure a RADIUS authentication server to include CoS scheduling and queuing parameters in authentication grants a certain subscriber interfaces, configure Juniper Networks VSA 28–146.

See Configuring Router Interaction with RADIUS Servers and Configuring RADIUS Server Parameters for Subscriber Access.

See Extended DHCP Local Server Overview and Juniper Networks VSAs Supported by the AAA Service Framework.

Associating a Client Dynamic Profile with a Subscriber Interface That Supports Hierarchical CoS

You need to use different configuration statements and JUNOS predefined variables to associate a client dynamic profile with a static or dynamic subscriber interface:

- To associate a client dynamic profile with a static subscriber interface, configure the interface at the static [edit interfaces] hierarchy level and reference the interface at the [edit dynamic-profiles *client-profile-name*] hierarchy level by using the JUNOS predefined variables $junos-interface-ifd-name and $junos-underlying-interface-unit to specify the interface name and logical unit number:

  [edit]

```
interfaces {
   ... supported_interface_configuration ...
}
dynamic-profiles {
   client-profile-name {
      interfaces { # Specify interface on which DHCP DISCOVER arrives
         "$junos-interface-ifd-name" { # Physical interface name
            unit "$junos-underlying-interface-unit" { # Logical unit number
               family inet { #
                  . . . logical_interface_ip_address_configuration . . .
               }
            }
         }
      }
   }
}
```

- To associate a client dynamic profile with a dynamic subscriber interface, create the interface at the [edit dynamic-profiles *client-profile-name*] hierarchy level by using the JUNOS predefined variables $junos-underlying-interface, $junos-interface-unit, and $junos-subscriber-ip-address to specify the interface name, interface logical unit number, and subscriber IP address:

```
[edit]
dynamic-profiles {
   client-profile-name {
      interfaces {
         demux0 { # The logical demux interface
            unit "$junos-underlying-interface-unit" { # Logical unit number
               demux-options {
                  underlying-interface "$junos-underlying-interface";
               }
               family inet { #
                  demux-source {
                     $junos-subscriber-ip-address;
                  }
               }
            }
         }
      }
   }
}
```

Applying a Traffic-Control Profile to the Subscriber Interface

To apply a traffic-control profile to the subscriber interface when a subscriber logs, include the output-traffic-control-profile in the [edit dynamic-profiles *client-profile-name* class-of-service interfaces *interface-name* unit *logical-unit-number*] hierarchy level:

```
[edit]
dynamic-profiles {
   client-profile-name {
      class-of-service {
         interfaces { # Interface-specific CoS for incoming packets
```

```
            "$junos-interface-ifd-name" {
               unit "$junos-underlying-interface-unit" {
                  output-traffic-control-profile tc-profile-name;
               }
            }
         }
      }
   }
```

Configuring Initial Traffic-Shaping Parameters to be Obtained from RADIUS

Configure a traffic-control profile to specify initial traffic-shaping parameters to be dynamically obtained from RADIUS when a subscriber logs in. To configure, include statements at the [edit dynamic-profiles *client-profile-name* class-of-service traffic-control-profiles *tc-profile-name*] hierarchy level:

```
[edit]
dynamic-profiles {
   client-profile-name {
      class-of-service {
         traffic-control-profiles {
            tc-profile-name {
               scheduler-map "$juno-cos-scheduler-map";
               shaping-rate "$junos-cos-shaping-rate";
               guaranteed-rate "$junos-cos-guaranteed-rate";
               delay-buffer-rate "$junos-cos-delay-buffer-rate";
            }
         }
      }
   }
}
```

Configuring Static Forwarding Classes and Scheduler Maps

Configure forwarding classes and scheduler maps at the static [edit class-of-service scheduler-maps] hierarchy level:

```
[edit]
class-of-service {
   forwarding-class ( # Include a queue for each class and associate queue numbers
      with class names
      queue number scheduler-name;
   }
   scheduler-maps { # Associates queues with scheduler
      smap-name {
         forwarding-class class-name scheduler scheduler-name;
      }
   }
}
```

Configuring Initial Scheduling and Queuing Parameters to be Obtained from RADIUS

Configure a scheduler to specify initial scheduling and queuing parameters to be dynamically obtained from RADIUS when a subscriber logs in. To configure, include statements at the [edit dynamic-profiles *client-profile-name* class-of-service schedulers] hierarchy level:

```
[edit]
dynamic-profiles {
   client-profile-name {
      class-of-service {
         schedulers "$junos-cos-scheduler" {
            transmit-rate "$juno-cos-scheduler-tx";
               buffer-size "$junos-cos-scheduler-bs";
               priority "$junos-cos-scheduler-pri";
               drop-profile-map loss-priority low protocol any "$junos-cos-scheduler-low";
               drop-profile-map loss-priority medium-low protocol any
                  "$junos-cos-scheduler-medium-low";
               drop-profile-map loss-priority medium-high protocol any
                  "$junos-cos-scheduler-medium-high";
               drop-profile-map loss-priority high protocol any
                  "$junos-cos-scheduler-high";
               drop-profile-map loss-priority any protocol any "$junos-cos-scheduler-any";
               }
            }
         }
      }
   }
}
```

Related Topics

- Activating Subscribers and Managing Services in an Access Network
- Dynamic Profiles Overview
- Dynamic Variables Overview
- Subscriber Interfaces that Provide Initial CoS Parameters Dynamically Obtained from RADIUS
- Example: Configuring Initial CoS Parameters Dynamically Obtained from RADIUS