Subscriber Interfaces that Provide Initial CoS Parameters Dynamically Obtained from RADIUS

You can configure interface-specific CoS parameters that the router obtains when subscribers log in at appropriately configured static or dynamic subscriber interfaces. This feature is supported only for interfaces on Enhanced Queuing Dense Port Concentrators (EQ DPCs) in MX-series routers.

To configure a client dynamic profile to providing initial CoS Services, make sure you understand the following concepts:

Dynamic Configuration of Initial CoS in Client Profiles

When a router interface receives a join message from a DHCP subscriber, the JUNOS software applies the values configured in the dynamic profile associated with that router interface. A dynamic profile that is activated through its association with a subscriber interface is known as a *client profile*. You can associate a dynamic profile with a subscriber interface on the router by including statements at the [edit dynamic-profiles *profile-name* class-of-service interfaces] hierarchy level.

The JUNOS software supports a set of predefined variables for obtaining a scheduler-map name and traffic-shaping parameters from the RADIUS authentication server, and another set of predefined variables for obtaining a scheduler name and scheduler parameters from the RADIUS authentication server. When a client authenticates over a router interface associated with the client dynamic profile, the router replaces the predefined variables with interface-specific values obtained from the RADIUS server.

NOTE: To associate dynamically configured initial CoS features with a subscriber interface, reference *JUNOS predefined variables*—and not *user-defined variables*—in a *client* dynamic profile for that interface.

Predefined Variables for Dynamic Configuration of Initial Traffic Shaping

You can configure a client dynamic profile that provides initial traffic-shaping parameters when a subscriber logs in. The JUNOS software obtains this information from the RADIUS server when a subscriber authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.

If you define the Juniper Networks authentication and authorization VSA for CoS traffic-shaping parameter values (attribute number 26–108) on the RADIUS authentication server, the RADIUS server includes the values in RADIUS Access-Accept

messages it sends to the router when a subscriber successfully authenticates over the interface.

To provide an initial scheduler map name and traffic shaping parameters obtained from the RADIUS authentication server when a subscriber logs in, reference the JUNOS predefined variables for CoS listed in Table 1 in a client dynamic profile associated with the subscriber interface.

Table 1: CoS Predefined Variables for Scheduler Map and Traffic Shaping

Variable	Description
$junos-cos-scheduler-map	Scheduler-map name to be dynamically configured in a traffic-control profile in the client dynamic profile when a subscriber logs in. NOTE: The scheduler map referenced by the scheduler-map statement can be defined dynamically (at the [edit dynamic-profiles *profile-name* class-of-service scheduler-maps] hierarchy level) or statically (at the [edit class-of-service scheduler-maps] hierarchy level).
$junos-cos-shaping-rate	Shaping rate to be dynamically configured in a traffic-control profile in the client dynamic profile when a subscriber logs in. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.
$junos-cos-guaranteed-rate	Guaranteed rate to be dynamically configured in a traffic-control profile in the client dynamic profile when a subscriber logs in. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.
$junos-cos-delay-buffer-rate	Delay-buffer rate to be dynamically configured in a traffic-control profile in the client dynamic profile when a subscriber logs in. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.

Predefined Variables for Dynamic Configuration of Initial Scheduling and Queuing

You can configure a client dynamic profile that provides initial traffic-shaping parameters when a subscriber logs in. The JUNOS software obtains this information from the RADIUS server when a subscriber authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.

If you define the Juniper Networks authentication and authorization VSA for CoS scheduling and queuing parameter values (attribute number 26–146) on the RADIUS authentication server, the RADIUS server includes the values in RADIUS Access-Accept messages it sends to the router when a subscriber successfully authenticates over the interface.

To provide an initial scheduler name and scheduler parameters obtained from the RADIUS authentication server when a subscriber logs in, reference the JUNOS predefined variables listed in Table 2 in a client dynamic profile associated with the subscriber interface.

Table 2: CoS Predefined Variables for Scheduler Map and Traffic Shaping

Variable	Description
$junos-cos-scheduler	Name of a scheduler to be dynamically configured in the client dynamic profile. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.
$junos-cos-scheduler-transmit-rate	Transmit rate to be dynamically configured for the scheduler in the client dynamic profile. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.
$junos-cos-scheduler-bs	Buffer size, as a percentage of total buffer, to be dynamically configured for the scheduler in the client dynamic profile. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.
$junos-cos-scheduler-pri	Packet-scheduling priority value to be dynamically configured for the scheduler in the client dynamic profile. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached.
$junos-cos-scheduler-dropfile-low	Name of the drop profile for RED for loss-priority level low to be dynamically configured for the scheduler in the client dynamic profile. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached. NOTE: The drop profile must be configured statically (at the [edit class-of-service schedulers *scheduler-name* drop-profiles] hierarchy level) for loss-priority low.
$junos-cos-scheduler-dropfile-medium-low	Name of the drop profile for RED for loss-priority level medium-low to be dynamically configured for the scheduler in the client dynamic profile. The JUNOS software obtains this information from the RADIUS server when a subscriber authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached. NOTE: The drop profile must be configured statically (at the [edit class-of-service schedulers *scheduler-name* drop-profiles] hierarchy level).
$junos-cos-scheduler-dropfile-medium-high	Name of the drop profile for RED for loss-priority level medium-high to be dynamically configured for the scheduler in the client dynamic profile. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached. NOTE: The drop profile must be configured statically (at the [edit class-of-service schedulers *scheduler-name* drop-profiles] hierarchy level).

Table 2: CoS Predefined Variables for Scheduler Map and Traffic Shaping *(continued)*

Variable	Description
$junos-cos-scheduler-dropfile-high	Name of the drop profile for RED for loss-priority level high to be dynamically configured for the scheduler in the client dynamic profile. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached. NOTE: The drop profile must be configured statically (at the [edit class-of-service schedulers *scheduler-name* drop-profiles] hierarchy level).
$junos-cos-scheduler-dropfile-any	Name of the drop profile for RED for loss-priority level any to be dynamically configured for the scheduler in the client dynamic profile. You can configure a RADIUS authentication server to include this information the Accept-Accept message when a subscriber successfully authenticates over the static or dynamic subscriber interface to which the client dynamic profile is attached. NOTE: The drop profile must be configured statically (at the [edit class-of-service schedulers *scheduler-name* drop-profiles] hierarchy level).

Related Topics

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