

Fair Usage Policy Implementation - Part III

We will show fair usage implementation for Ericsson SmartEdge devices in this document. In this scenario, TekRADIUS will reduce connection speed of the user by sending a RADIUS Change of Authorization (CoA) request to SmartEdge when the user consumes all the credit. User credit will be reset monthly.

SmartEdge Configuration

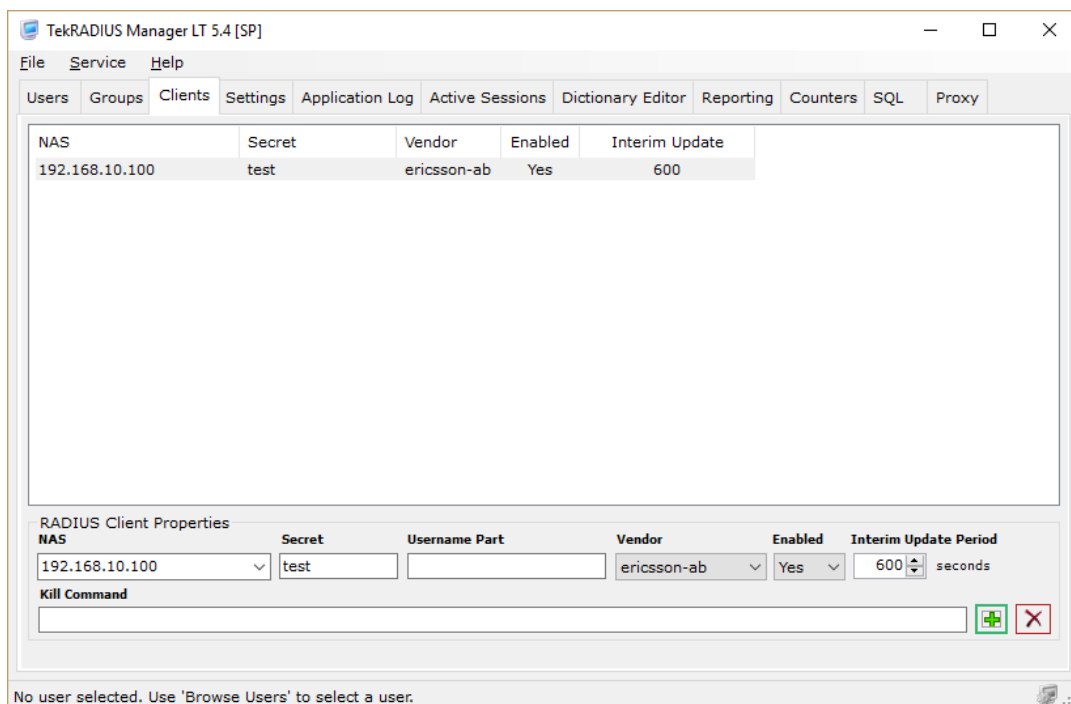
```
aaa authentication subscriber radius
aaa accounting subscriber radius
aaa accounting subscriber global
aaa update subscriber 10
radius accounting server 192.168.10.10 key test
radius coa server 192.168.10.10 key test port 3799
!
radius server 192.168.10.10 key test port 1812
radius attribute nas-ip-address interface loopback
radius attribute acct-session-id access-request
radius server-timeout 30
radius deadtime 5
radius accounting server-timeout 30
!
subscriber default
  qos policy policing 1M-in
  qos policy metering 1M-out
subscriber profile 2M
  qos policy policing 2M-in
  qos policy metering 2M-out
subscriber profile 8M
  qos policy policing 8M-in
  qos policy metering 8M-out
subscriber profile 24M
  qos policy policing 24M-in
  qos policy metering 24M-out
!
qos policy 1M-in policing
  rate 1024 burst 128000
rate-calculation exclude layer-2-overhead
!
qos policy 1M-out metering
  rate 1024 burst 128000
  rate-calculation exclude layer-2-overhead
!
qos policy 24M-in policing
  rate 24576 burst 3072000 excess-burst 4608000
  rate-calculation exclude layer-2-overhead
!
qos policy 24M-out metering
  rate 24576 burst 3072000 excess-burst 4608000
  rate-calculation exclude layer-2-overhead
!
qos policy 2M-in policing
  rate 2048 burst 256000 excess-burst 384000
  rate-calculation exclude layer-2-overhead
!
```

```
qos policy 2M-out metering
  rate 2048 burst 256000 excess-burst 384000
  rate-calculation exclude layer-2-overhead
!
qos policy 8M-in policing
  rate 8192 burst 1024000 excess-burst 1536000
  rate-calculation exclude layer-2-overhead
!
qos policy 8M-out metering
  rate 8192 burst 1024000 excess-burst 1536000
  rate-calculation exclude layer-2-overhead
```

This configuration has QoS policies for 1, 2, 8 and 24 Mbps bandwidth.

TekRADIUS Configuration

Create a RADIUS client entry for the SmartEdge device first. the 'Interim Update Period' may be set to force TekRADIUS to clear any associated active sessions and simultaneous session entries if an update is not received in the period specified. The minimum allowed value for interim update period is 60 seconds. 600 seconds (*10 minutes*) is set as interim update period in this example. You need to set Ericsson-AB as vendor.



User and Group Profiles

Here is a typical group profile named AKK-8Mbps and a user profile created for this scenario. Group profile has following attributes;

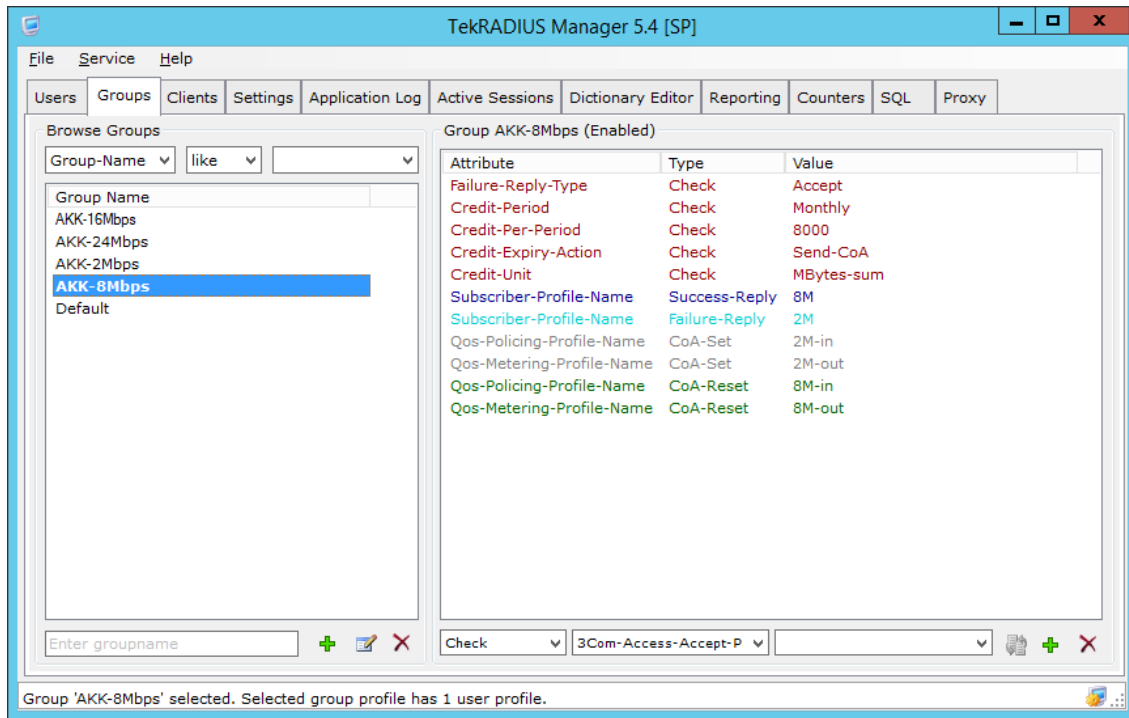
Failure-Reply-Type = Accept (*Check*). TekRADIUS will allow user connection even user consumes all credit. Connection will be accepted by returning Failure-Reply attributes to SmartEdge.

Credit-Period = Monthly (*Check*). User credit will be reset every month.

Credit-Per-Period = 8000 (Check). User credit will be reset to 8000 MB at beginning of every credit period.

Credit-Expiry-Action = send-CoA (Check). TekRADIUS will send a CoA request to SmartEdge when a user consumes all the credit.

Credit-Unit = Mbytes-Sum (Check). Usage will be calculated by adding user's both upload and download traffic.



Group profile

Subscriber-Profile-Name = 8M (Success-Reply). This will returned when user authentication is successful and user has enough credit.

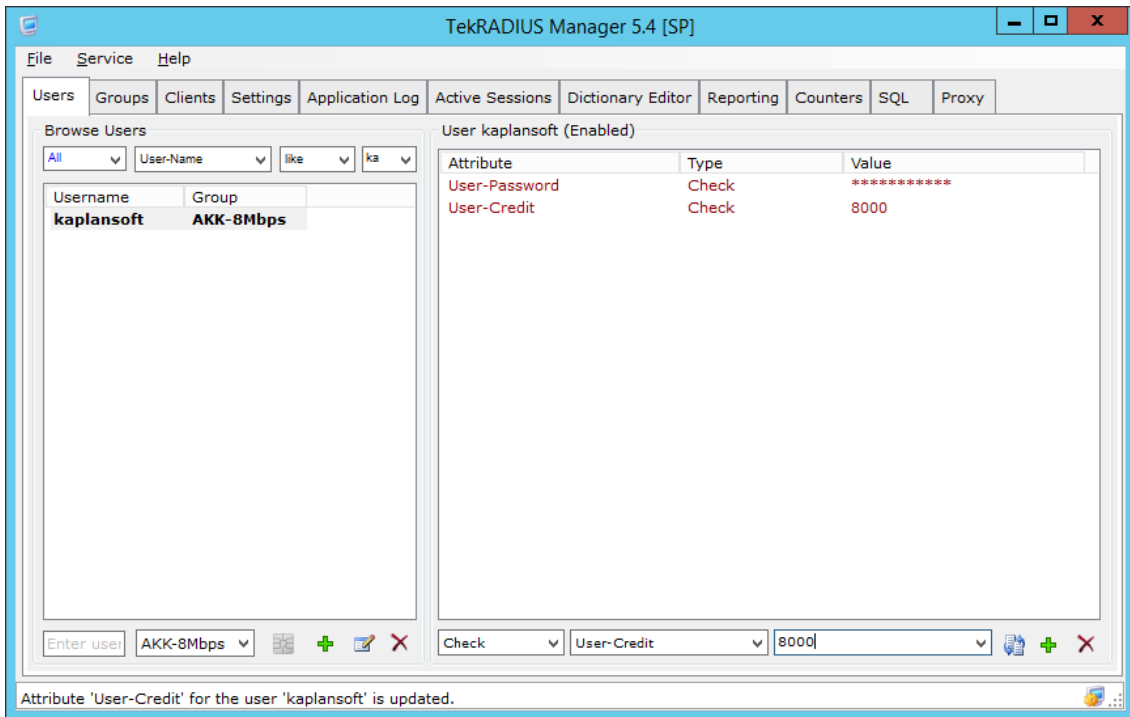
Subscriber-Profile-Name = 2M (Failure-Reply). This will returned when user authentication is successful but user has not enough credit.

QoS-Policing-Profile-Name=2M-in & QoS-Policing-Profile-Name=2M-out (CoA-Set). These attributes will be send in the CoA request to reduce user's connection speed.

QoS-Policing-Profile-Name=8M-in & QoS-Policing-Profile-Name=8M-out (CoA-Reset). These attributes will be send in the CoA request to set user's connection speed to normal level. This is typically done at beginning of a credit period.

User profile has just User-Password and User-Credit = 8000 attributes and its group is set to AKK-8Mbps. You may need to add additional attributes to the user profile such as Framed-IP-Address and Framed-Netmask based on your configuration.

You can set user connection speed any time through TekRADIUS Manager / Active Session tab. Just select active session entry, click **CoA** button, select CoA Set to reduce connection speed or select CoA Reset to increase user connection speed. You can also disconnect user session by clicking **PoD** button.



Sample user profile