

Update Bearer Request Enhancements to Close Charging Gap

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Feature Summary and Revision History

Summary Data

Applicable Product(s) or Functional Area	P-GW
Applicable Platform(s)	• ASR 5500 • VPC-DI • VPC-SI
Feature Default	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	• *Command Line Interface Reference* • *P-GW Administration Guide*

Revision History

Revision Details	Release
In this release, the P-GW supports deferred rule removal policy to avoid charging discrepancies	21.22

Feature Description

When Re-Auth-Request (RAR) is received on P-GW with **charging-rule-install** and **charging-rule-remove** Attribute Value Pairs (AVPs) with changes in the default bearer Quality of Service Class Index (QCI), P-GW removes the old dynamic charging rule and triggers Update Bearer Request. Only on receiving the Update Bearer Response, the new rule gets applied. This results in charging discrepancies for the time period when no policies are associated with default bearer.

In the StarOS 21.22 and later releases, to avoid charging discrepancies, the rule removal is deferred until Update Bearer Response is received for the above case. This new deferred rule removal policy is applicable only for default bearer with a change in QOS parameters (QCI, GBR, MBR or ARP) and the above condition of **charging-rule-install** and **charging-rule-remove** is satisfied .

How it Works

The Charging rule remove policy is applied after receiving bearer update response and not immediately when RAR is received. This change is supported through CLI configurations and following functions happen::

1. RAR or Credit Control Answer-Update is received by P-GW with Rule remove for Rule1, default bearer QCI update, and Rule install for Rule2.
2. ACS manager verifies the following:
   - Checks for defer rule removal policy.
   - Checks if there is a QOS change for the default bearer and rule remove for default bearer.
   - After Update Bearer Request response is received, removes the stored policy.
3. Verifies if correct QCI, MBR, and GBR values are sent for the Update Bearer Request. Also, verifies if correct default bearer QOS is reflected on the bearer.
4. If update bearer response is not received, then:
   - Performs a timeout handling when you want to cancel the deferred rule removal.
   - Validates the correct bearer QOS restored

Enabling defer default-bearer-rule-removal

Use the following configuration command to enable or disable default bearer rule removal policy.

```
configure
  active-charging service service_name
    [no] policy-controldefer default-bearer-rule-removal
   end
```

Notes:

- **active-charging service**:: Charging actions define the action to take when a rule definition is matched.

- **no**: Disables deferring of dynamic rule remove.
- **defer default-bearer-rule-removal**: Defers removal of rule from default bearer until Update Bearer Response or timeout.