

LBO Restriction on Downlink and Uplink Data Volume Transfer

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Feature Summary and Revision History

Summary Data

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

Revision History

Revision Details	Release
First introduced.	21.5

Feature Description

After the subscriber quota is exhausted, all the ongoing download of files must be terminated and the UE must be allowed access to only user-defined servers (Self-Care Portal).

This feature achieves the functionality of Local Break Out (LBO) restriction on Downlink and Uplink data volume transfer by CLI-controlled mechanism.

How It Works

Following is a brief overview of how the feature works:

1. User is redirected to the portal and enters an OTP. The subscriber session continues after authentication.
2. Internet rule and Default rules are installed by PCRF and quota is granted by the OCS.
3. After the subscriber quota is exhausted, the PCRF installs a Self-Care Readdress rule and removes the previously installed Internet rule.
4. After the Readdress rule is applied:
   - For UDP: The ongoing Downlink packets are discarded while all the new uplink packets are readdressed to Self-Care Portal.
   - For TCP: All the existing flows matching the Internet rule are terminated by sending FIN to UE and RST to the server.

Limitation

Post installation of readdress rule, first packet is charged but not sent to the UE. Subsequent packets are not charged or sent to the UE.

Configuring the LBO Restriction on Downlink and Uplink Data Volume Transfer

This section provides information about the CLI commands available in support of the feature.

Enabling the LBO Restriction on Downlink and Uplink Data Volume Transfer

Use the following configuration in ACS Rulebase Configuration Mode to enable the feature.

```
configure
  active-charging service service_name
    rulebase rulebase_name
      ip readdress failure-action terminate
      { default | no } ip readdress failure-action
      end
```

NOTES:

- **ip readdress**: Configures the IP Readdress options.
- **failure-action**: Configures the failure action for IP Readdress.
- **terminate**: Terminates the flow
- If previously configured, use the **{ default | no } ip readdress failure-action** CLI command to disable the feature.

Monitoring and Troubleshooting the LBO Restriction on Downlink and Uplink Data Volume Transfer

This section describes the CLI commands available to monitor and/or troubleshoot the feature.

Show Commands and/or Outputs

show active-charging rulebase statistics

The output of this CLI command has been enhanced in support of the feature. The following existing counters will be updated when Readdressing fails for UDP:

- Total Readdressing Failures
- Dropped Pkts

show active-charging sessions full all

The output of this CLI command has been enhanced in support of the feature. The following existing counter will be updated when Readdressing fails for TCP flow:

- Flow action Terminated Flows

show active-charging charging-action statistics name *<charging_action_name>*

The output of this CLI command has been enhanced in support of the feature. The following existing counter will be updated when Readdressing fails for TCP flow:

- Terminate Flow

show active-charging service statistics

The output of this CLI command has been enhanced in support of the feature. The following existing counter will be updated when Readdressing fails for UDP:

- Dropped Pkts