

S-GW New Call Rejection

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Feature Description

This CLI-controlled feature allows to reject Pure-S calls based on subscriber type (Roamer, Homer, Visitor), and/or APN.

Note This feature is applicable only when CUPS is enabled.

How It Works

When a new call arrives at S-GW, and if the feature CLI is enabled with which the APN of the call matches to the one configured through the CLI, the call is rejected. This feature works by identification of the type of subscribers—homer, visitor, or roamer. This identification is done in the following way:

- If the PLMN ID of S-GW is same as that of PGW and International Mobile Subscriber Identity (IMSI), the subscriber is identified as homer.
- If the PLMN ID of S-GW differs from PLMN ID of PGW irrespective of IMSI, the subscriber is identified as roamer. For example, if MS-1 is subscribed to PLMN1 and is connected to an SGW in PLMN2, then from PLMN2, MS-1 initiates a session with the PGW in PLMN1. In this scenario, MS-1 is roamer.
- Subscribers whose IMSI contains a foreign PLMN ID are identified as visitors.

The S-GW rejects all sessions of APNs that are configured for home, visitor, or roamer subscriber. Initial attach CS Request and UE requested additional PDN connection CS requests for Pure-S calls are also considered for rejection. The CS request is rejected with GTPV2 cause *No Resource Available*. The expected behaviour is that the MME reattempts attach based on this cause code, and blacklist this S-GW based on its blacklist algorithm implementation.

A configuration for list of APNs (maximum 10), which needs to be rejected by S-GW for homer and roamer subscribers, is required.

In case of SAEGW deployment, only Pure-S calls are rejected. If SAEGW receives CS request for collapsed call, then this call is not rejected even if corresponding APN is configured in the reject list.

Emergency or eMPS calls are not rejected, despite IMS APN being configured for new call reject, when:

- The S-GW receives CS request with IMS APN and unauthenticated imsi flag set.
- The S-GW receives CS request with IMS APN and eARP value is configured as eMPS eARP in S-GW service.



Note In the CS Request, eARP is received by S-GW, which is not configured as eMPS eARP. While in CS Response, the S-GW can receive new authorized eARP which can mark sessions as eMPS session. However, if the feature is enabled in case of CS Response, sessions are rejected while handling CS Request only.

Limitations

When Pure S call is rejected through new call reject policy, the rejection statistics is collected under *New Call Policy Rejection Stats* section of the **show saegw-service statistics all function sgw** CLI command. Other SGW-related statistics for the rejected call are not collected.

Configuring S-GW New Call Rejection

This section provides information on configuration commands to enable and disable support for S-GW to reject new calls.

Enabling New Call Rejection

Use the following configuration commands to reject calls at S-GW for roamer, home, visitor subscribers, and APN subscribers.

```
configure
   context context_name
      sgw-service sgw-service_name
         [ default | no ] newcall reject { roamer  | home [ apn apn_name ]
| visitor [ apn apn_name }
         end
```

NOTES:

- **default**: Resets the command to it its default setting - Disabled.
- **no**: Disables the rejection of all calls for the specified subscriber.
- **newcall**: Configures a new call for the configured S-GW service.
- **reject**: Configures newcall reject-policy for the configured S-GW service home, visitor, or roamer subscriber.

- **roamer**: Configures newcall reject-policy for the configured S-GW service for roamer subscriber.
- **home**: Configure newcall reject-policy for the configured S-GW service for home subscriber.
- **visitor**: Configures newcall reject-policy for the configured S-GW service for visitor subscriber.
- **apn-name** *apn_name*: Configures the APN name (for maximum of 10 APN profiles) to reject call for the configured S-GW service for home or visitor subscriber.

Monitoring and Troubleshooting

This section provides information regarding commands available to monitor and troubleshoot the new call and APN session rejection at S-GW.

Show Command(s) and/or Outputs

This section provides information about show commands and the fields that are introduced in support of new call and APN session rejection at S-GW.

show saegw-service statistics all function sgw

The output of this show command has been modified to display apn-profiles that are configured in sgw-service for new call rejection. Following fields are introduced:

- New Call Policy Rejection Stats
- New Calls
  - Visiting Subscriber
  - Home Subscriber
  - Roaming Subscriber

show sgw-service name

The output of this show command has been modified to display apn-profiles that are configured in sgw-service for new call rejection. Following fields have been introduced:

- SGW Reject Calls Visitor Subs
- SGW Reject Calls Roamer Subs
- SGW Reject Calls Home Subs