

LTE To Wi-Fi Success Rate

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Feature Summary and Revision History

Summary Data

Applicable Product(s) or Functional Area	ePDG
Applicable Platform(s)	• ASR 5500 • VPC-DI
Feature Default	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	• *Command Line Interface Reference* • *ePDG Administration Guide* • *Statistics and Counters Reference - Bulkstatistic Descriptions*

Revision History

Revision Details	Release
First introduced.	21.25

Feature Description

The ePDG supports disconnect reasons collectively for call types such as fresh attach, handoff (HO), and LTE to Wi-Fi HO calls.

The disconnect reasons for LTE to Wi-Fi HO help operators to categorize failures during LTE to Wi-Fi HO scenarios. The disconnect reason statistics and bulk statistics are configurable through the CLI.

Monitoring and Troubleshooting

This section provides information on how to monitor and troubleshoot this feature using show commands and bulk statistics.

Show Commands and Outputs

This section provides information regarding show commands and their outputs for this feature.

show epdg-service statistics

The following commands display disconnect reasons for LTE to Wi-Fi HO:

show epdg-service statistics-All ePDG services

- show epdg-service statistics handoff-disc-reasons - Displays the statistics corresponding to LTE to Wi-Fi HO disconnect reasons for all services.
- clear epdg-service statistics handoff-disc-reasons - Removes the statistics corresponding to LTE to Wi-Fi HO disconnect reasons for all services.

show epdg-service statistics-for Specific ePDG Services

- show epdg-service statistics name <epdg1> handoff-disc-reasons - Displays the statistics corresponding to LTE to Wi-Fi HO disconnect reasons for specific services.
- clear epdg-service statistics name <epdg1> handoff-disc-reasons - Removes the statistics corresponding to LTE to Wi-Fi HO disconnect reasons for specific services.
- show bulkstats variables epdg-handoff-disc - Displays the bulk statistics corresponding to LTE to Wi-Fi HO disconnect reasons.

Bulk Statistics

The following bulk statistics are added to the ePDG schema as part of this feature.

Configuring Bulkstats Schema

Use the following sample configuration to configure bulkstats schema for LTE to Wi-Fi HO disconnect reasons statistics.

```
configure
  bulkstats mode
    epdg-handoff-disc schema SchemaHODisc_name format format_string active-only

    epdg-handoff-disc schema SchemaHODisc_name active-only format format_string

     end
```

NOTES:

- **epdg-handoff-disc schema**: Configures bulkstats schema for transferring LTE to Wi-Fi HO disconnect reason statistics.
- **active-only**: Configures statistics on the active chasis only.
- **format** *format_string*: Assigns the naming convention format. *format_string*must be a string of 1 through 3599 characters, including spaces within double quotation marks (" ").

The following is an example of the format string:

```
"vpnid:%vpnid%,servid:%servid%,RemDisc:%ho-disc-remote%,
AdminDisc:%ho-disc-admin%,IdleTimeout:%ho-disc-idle-timeout%,
AbsTimeout:%ho-disc-abs-timeout%,LongDurTimeout:%ho-disc-longdur-timeout%,
SessSetuptimeout:%ho-disc-sesssetup-timeout%,NoRes:%ho-disc-noresource%,"
```

Clearing Bulkstats Schema

Use the following sample configuration to clear the bulkstats for LTE to Wi-Fi Ho disconnect reasons statistics.

```
configure
  bulkstats mode
     no epdg-handoff-disc schema SchemaHODisc_name
     end
```

NOTES:

- **no epdg-handoff-disc-schema**: Removes bulkstats schema.

ePDG Schema

Table 1: Bulk Statistics Variables in the ePDG Schema

Variables	Description
vpnname	The name of the VPN associated with the interface.
vpnid	The identification number of the context configured on the system is facilitating the ePDG service. VPN ID is an internal reference number.
servname	The name of the ePDG service for which these statistics are being displayed.
servid	The identification number of the ePDG service for which these statistics are displayed. Service ID is an internal reference number.

Variables	Description
ho-disc-remote	The total number of disconnected sessions remotely before connect during LTE to Wi-Fi handoff.
ho-disc-admin	The total number of sessions disconnected by Administrator during LTE to Wi-Fi handoff.
ho-disc-idle-timeout	The total number of sessions disconnected due to idle timeout during LTE to Wi-Fi handoff.
ho-disc-abs-timeout	The total number of sessions disconnected due to absolute timeout during LTE to Wi-Fi handoff.
ho-disc-longdur-timeout	The total number of sessions disconnected due to long duration timeout during LTE to Wi-Fi handoff.
ho-disc-sesssetup-timeout	The total number of sessions disconnected due to session setup timeout during LTE to Wi-Fi handoff.
ho-disc-noresource	The total number of sessions disconnected due to non availability of resources during LTE to Wi-Fi handoff
ho-disc-authfail	The total number of sessions disconnected due to authorization failure during LTE to Wi-Fi handoff.
ho-disc-flowadd-failure	The total number of sessions disconnected due to flow add failure during LTE to Wi-Fi handoff.
ho-disc-invalid-dest	The total number of sessions disconnected due to invalid destination during LTE to Wi-Fi handoff.
ho-disc-srcaddr-violation	The total number of sessions disconnected due to source address violation during LTE to Wi-Fi handoff.
ho-disc-dupreq	The total number of sessions disconnected due to duplicate request during LTE to Wi-Fi handoff.
ho-disc-addrassign-failure	The total number of sessions disconnected due to address assignment failure during LTE to Wi-Fi handoff.
ho-disc-misc	The total number of sessions disconnected due to miscellaneous reasons during LTE to Wi-Fi handoff.
ho-disc-mip-reg-timeout	The total MIP registration timeout during LTE to Wi-Fi handoff.
ho-disc-invalid-apn	The number of sessions disconnected because an ePDG rejected the incoming new call due to an APN syntax error (invalid length).
ho-disc-icsr-delete	The number of times that a session got deleted on the standby ICSR chassis when a call clear trigger is received from the active chassis or the call is removed for re-establishment when a full checkpoint was received.

Variables	Description
ho-disc-invalid-qci	The total number of sessions disconnected due to invalid QCI received from the AAA server during LTE to Wi-Fi handoff.
ho-disc-ue-redirected	The total number of sessions disconnected due to UE redirection during LTE to Wi-Fi handoff.
ho-disc-roaming-mandatory	The total number of sessions disconnected due to DNS failure when roaming is mandatory during LTE to Wi-Fi handoff.
ho-disc-ho-disc-invalid-imei	The total number of sessions disconnected due to invalid IMEI received from UE during LTE to Wi-Fi handoff.
ho-disc-gtpc-abort-sess-cmd	The total number of disconnected sessions due to GTP control plane path failure during LTE to Wi-Fi handoff.
ho-disc-gtpu-abort-sess-cmd	The total number of disconnected sessions due to GTP user plane path failure during LTE to Wi-Fi handoff.
ho-disc-gtpu-error-indication	The total number of disconnected sessions due to error indication message on GTP user plane during LTE to Wi-Fi handoff.
ho-disc-pgw-not-reachable	The total number of disconnected sessions due to P-GW during LTE to Wi-Fi handoff.
ho-disc-reject-from-pgw	The total number of disconnected sessions due to P-GW rejecting the Create Session Request during LTE to Wi-Fi handoff.
ho-disc-s2b-access-denied	The total number of sessions disconnected due to S2B cause codes mapped to private IKEv2 notify payload type access denied during LTE to Wi-Fi handoff.
ho-disc-s2b-network-failure	The total the number of sessions disconnected due to S2B cause codes mapped to private IKEv2 notify payload type network failure during LTE to Wi-Fi handoff.
ho-disc-s2b-msg-failure	The total number of sessions disconnected due to S2B cause codes mapped to private IKEv2 notify payload type message failure during LTE to Wi-Fi handoff.
ho-disc-s2b-rat-disallowed	The total number of sessions disconnected due to S2B cause code rat disallowed during LTE to Wi-Fi handoff.
ho-disc-s2b-context-not-found	The total number of sessions disconnected due GTPv2 cause code "Context Not Found" during LTE to Wi-Fi handoff.
ho-disc-epdg-pcscf-restoration	The total number of sessions disconnected due to P-GW triggered reactivation request for P-CSCF restoration during LTE to Wi-Fi handoff.

Variables	Description
ho-disc-dns-server-not-reachable	The total number of disconnected sessions due to DNS server not reachable during LTE to Wi-Fi handoff.
ho-disc-dns-no-resource-records	The total number of disconnected sessions when no valid record is fetched from the DNS server during LTE to Wi-Fi handoff.
ho-disc-dns-no-matching-server	The total number of disconnected sessions when the fetched service parameters from DNS record doesn't match the configured protocol (GTP or PMIPv6) during LTE to Wi-Fi handoff.
ho-disc-aaa-server-not-reachable	The total number of disconnected sessions due to the AAA server being unreachable from ePDG during LTE to Wi-Fi handoff.
ho-disc-aaa-invalid-aaa-attribute	The total number of disconnected sessions due to authentication failure at AAA server and invalid attributes received in Diameter messages from the AAA server during LTE to Wi-Fi handoff.
ho-disc-aaa-apn-validation-failed	The total number of disconnected sessions due to APN mismatch at SWu and SWm interfaces during LTE to Wi-Fi handoff.
ho-disc-aaa-admin	Indicates the AAA Admin disconnect during LTE to Wi-Fi handoff.
ho-disc-aaa-invalid-pdn-type	The total number of disconnected sessions due to mismatch over PDN type between UE and AAA server during LTE to Wi-Fi handoff.
ho-disc-aaa-non-uicc-auth-failed	The total number of non-UICC disconnected sessions due to AAA server during LTE to Wi-Fi handoff.
ho-disc-aaa-network-too-busy	The total number of sessions disconnected due to network busy during LTE to Wi-Fi handoff.
ho-disc-aaa-network-failure	The total number of sessions disconnected due to network failure during LTE to Wi-Fi handoff .
ho-disc-aaa-roaming-not-allowed	The total number of sessions disconnected due to roaming not allowed during LTE to Wi-Fi handoff.
ho-disc-aaa-rat-disallowed	The total number of sessions disconnected due to result code or experimental result code returned by Diameter during LTE to Wi-Fi handoff.
ho-disc-aaa-no-subscription	The total number of sessions disconnected due to non subscription of AAA during LTE to Wi-Fi handoff.
ho-disc-aaa-operator-policy	The total number of disconnected sessions due to lack of suitable operator policy configuration during LTE to Wi-Fi handoff.

Variables	Description
ho-disc-aaa-no-non-3gpp-subscript	The total number of sessions disconnected due to AAA cause codes mapped to 3GPP IKEv2 private notify payload error type "#9000 No Non 3gpp Subscription" during LTE to Wi-Fi handoff.
ho-disc-aaa-user-unknown	The total number of sessions disconnected due to AAA cause codes mapped to 3GPP IKEv2 private notify payload error type "#9001 User Unknown" during LTE to Wi-Fi handoff.
ho-disc-aaa-illegal-equipment	The total number of sessions disconnected due to AAA cause codes mapped to 3GPP IKEv2 private notify error payload type "#9006 Illegal ME" during LTE to Wi-Fi handoff.
ho-disc-pgwselectfail-handoff	The total number of disconnected sessions due to P-GW selection failure during LTE to Wi-Fi handoff.