

Network Provided Location Indication

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Revision History

Note Revision history details are not provided for features introduced before release 21.24.

Revision Details	Release
First introduced	Pre 21.24

Feature Description

This feature enables the P-GW to provide the required access network information to the PCRF within the TWAN-Identifier AVP, User-Location-Info-Time AVP (if available), and/or UE-Local-IP-Address AVP as applicable for S2a/S2b. The P-GW also provides the ACCESS_NETWORK_INFO_REPORT event trigger within Event-Trigger AVP.

Important The Network Provided Location Indication (NPLI) is an existing feature that is supported in non-CUPS architecture. With this release, the feature is qualified in CUPS architecture. For more information, refer the *NetLoc for WiFi EPC* chapter in the *SAEGW Administration Guide*.

How It Works

During bearer deactivation or UE detach procedure, the P-GW provides the access network information to the PCRF within the TWAN-Identifier AVP and information on when the UE was last known to be in that location within User-Location-Info-Time AVP, and/or UE-Local-IP-Address AVP as applicable for S2a/S2b.

If the PCRF request for user-location information as part of the Required-Access-Info AVP and it is not available in the P-GW, then the P-GW provides the serving PLMN identifier within the 3GPP-SGSN-MCC-MNC AVP.

Previously, the P-GW notified ULI/MS-TimeZone/PLMN-ID to ECS/IMSA/PCRF only when their value changed. With this feature, the P-GW receives NetLoc indication in the rules sent by ECS regardless of whether the values changed, and it sends this to the ECS/IMSA/PCRF. If the P-GW receives NetLoc as "1", then it informs the MS-Timezone. If the P-GW receives NetLoc as '0', then it informs the ULI and ULI Timestamp. If ULI is not available in that case, then the PLMN-ID is sent. If NetLoc indication is received for an update, then the P-GW indicates this information to the access side in the UBReq using the RetLoc Indication flag.

This is required for VoLTE and aids in charging and LI functionality in IMS domain. This feature allows EPC to support an efficient way of reporting ULI and Time-Zone information of the subscriber to the IMS core network.

NOTE: In CUPS, when dedicated bearer is created by PCRF, it waits for CBRsp to trigger the CCR-I (for new bearer, NSAPI) towards OCS server. Since there is no usage for this bearer until this point, instead of sending a CCR-I with old access side information and following it up with a new CCR-U with updated access side information, the P-GW sends a single CCR-I message with updated access side information.

Supported Functionality

Netloc sent in CBRes/DSReq/UBRes/DBC/DBRes is supported on Gx, Gy, and Gz interfaces. The NPLI feature is supported for:

- Pure-P, Collapsed, and Pure-S sessions
- WiFi sessions
- S-GW Relocation
- Session Recovery

Limitations

The NPLI feature has the following limitations:

- GnGp handover scenarios are not supported.
- When there is a change in Netloc in UBRes, CDR for TimeZone change is not generated.
- When there is a ULI change in Netloc in DSReq, serviceConditionChange is blank in the CDR.