



## WLAN CDR Field Reference

This chapter provides a reference for WLAN-CDR fields supported by PDG and TTG.

The PDG/TTG provides CDRs that are compliant with the definitions in 3GPP TS32.298. When modifications are required, changes to the standard behavior can be implemented in different dictionaries which can be selected in the configuration file. This provides the flexibility to adapt to a customer's needs, and therefore, to a legacy post-processing billing interface, while retaining the standard behavior.

A complete list and descriptions of supported CDR fields is provided in the *WLAN CDR Field Descriptions* chapter of this reference.



### Important

This reference document contains information only on standard GTPP dictionaries. For information on custom dictionaries, contact your Cisco account representative.

The Category column in all tables use key described in the following table.

**Table 1: Dictionary Table Key 20**

| Abbreviation | Meaning                             | Description                                                                                             |
|--------------|-------------------------------------|---------------------------------------------------------------------------------------------------------|
| M            | Mandatory                           | A field that must be present in the CDR.                                                                |
| C            | Conditional                         | A field that must be in a CDR if certain conditions are met.                                            |
| OM           | Operator Provisionable: Mandatory   | A field that an operator has provisioned and must be included in the CDR for all conditions.            |
| OC           | Operator Provisionable: Conditional | A field that an operator has provisioned and must be included in the CDR if certain conditions are met. |

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## CDR Fields Supported in WLAN-CDRs

The table in this section lists the WLAN fields present in GTPP dictionaries.

### standard, custom1 – custom6 Dictionaries

WLAN-CDR fields for TS 32.252

| Field                                | Category | Description                                                                                                                                                                                                                        |
|--------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Record Type                          | M        | This field identifies the type of record. The 3GPP 32298 does not define any values for record type.                                                                                                                               |
| Network Initiated PDP Context        | O        | This field indicates that the PDP context was network-initiated. This field is missing in case of UE-activated PDP context.                                                                                                        |
| Served IMSI                          | M        | This field contains the International Mobile Subscriber Identity (IMSI) of the served party. The IMSI is formatted in accordance with 3GPP TS 23.003.                                                                              |
| PDG Address                          | M        | This field provides the current service PDG IP address for the control plane.                                                                                                                                                      |
| PDG IPv4 Binary Address              | M        | The octet string in this field includes the IPv4 address of the PDG service in binary coding.                                                                                                                                      |
| PDG IPv6 Binary Address              | M        | The octet string in this field includes the IPv6 address of the PDG service in binary coding.                                                                                                                                      |
| Charging ID                          | M        | This field contains a charging identifier, which can be used with the PDG address to identify all records produced in the PDG involved in a single PDP context. The charging ID is generated by the PDG at PDP context activation. |
| Access Point Name Network Identifier | M        | This field contains the Network Identifier part of the Access Point Name (APN). It is provided by WMN during the IPsec or SSL establishment procedure.                                                                             |

| Field                              | Category | Description                                                                                                                                                                                              |
|------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PDP Type                           | O        | This field defines the PDG type, IP or PPP.                                                                                                                                                              |
| Served WLAN PDP Address            | M        | This field contains the PDP address of the served IMSI. The standard 3GPP TS 32.298 allows a choice of either IPAddress or ETSIAddress.                                                                  |
| WLAN UE Remote Address             | M        | This field contains the PDP address of the served IMSI, which is supported only in IPAddress by the PDG.                                                                                                 |
| WLAN UE Remote IPv4 Binary Address | M        | The octet string in this field contains the IPv4 address assigned to the subscriber by the PDG/TTG in binary coding.                                                                                     |
| WLAN UE Remote IPv6 Binary Address | M        | The octet string in this field contains the IPv6 address assigned to the subscriber by the PDG/TTG in binary coding.                                                                                     |
| Dynamic Address Flag               | O        | This field indicates that the PDP address has been dynamically allocated for that particular PDP context. This field is missing if the address is static, that is, part of the PDP context subscription. |
| List of Traffic Data Volumes       | M        | This list includes one or more Traffic Data Volume containers. The number of containers is configurable with a maximum of 4 for WLAN-CDRs.                                                               |

| Field                        | Category | Description                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change of Charging Condition | M        | <p>One traffic data volume container contains a list of change of charging conditions:</p> <ul style="list-style-type: none"> <li>• Data Volume Uplink</li> <li>• Data Volume Downlink</li> <li>• Change Condition</li> <li>• Change Time</li> <li>• Failurehandling Continue</li> </ul> <p>The QoS values may only be included in the first container. In later containers, the presence depends on what was changed.</p> |
| QoS Negotiated               | O        | <p>This field indicates that the applied QoS is accepted by the network. This field is compliant with 3GPP standards.</p>                                                                                                                                                                                                                                                                                                  |
| GPRS Uplink Data Volume      | M        | <p>This field includes the number of octets transmitted during the use of the packet data services in the uplink direction.</p> <p>Note that a maximum of <math>2^{32}</math> bytes can be counted in this field. A volume trigger should be defined for this value to avoid an overflow, if not already done for a smaller amount of traffic.</p>                                                                         |
| GPRS Downlink Data Volume    | M        | <p>This field includes the number of octets transmitted during the use of the packet data services in the downlink direction.</p> <p>Note that a maximum of <math>2^{32}</math> bytes can be counted in this field. A volume trigger should be defined for this value to avoid an overflow, if not already done for a smaller amount of traffic.</p>                                                                       |

| Field                    | Category | Description                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change Condition         | M        | <p>This field defines the reason for closing the container, such as tariff time change, QoS change, or closing of the CDR. Values according to 3GPP TS 32.298 are:</p> <ul style="list-style-type: none"> <li>• qoSChange = 0</li> <li>• tariffTime = 1</li> <li>• recordClosure = 2</li> </ul>                                                                                |
| Change Time              | M        | A time stamp that defines the moment when the volume container or the CDR is closed.                                                                                                                                                                                                                                                                                           |
| Record Opening Time      | M        | <p>This field contains the time stamp of when the PDP context is activated in the PDG or when a subsequent record is opened after a partial record.</p> <p>The timestamp is determined based on the internal timer which has an accuracy of 10ms. Depending on the configured mechanism (ceiling, floor, or round-off) this field is translated to only show full seconds.</p> |
| Duration                 | M        | <p>This field contains the duration in seconds of the PDP contexts with the range of 0 to 4294967295 (<math>2^{32}-1</math>). It is the duration from Record Opening Time to record closure. For partial records, this is the duration of the individual partial record and not the cumulative duration.</p>                                                                   |
| Cause for Record Closing | M        | <p>This field shows the reason for the release of the CDR. The values are:</p> <ul style="list-style-type: none"> <li>• normalRelease = 0</li> <li>• abnormalRelease = 4</li> <li>• volumeLimit = 16</li> <li>• timeLimit = 17</li> <li>• maxChangeCond = 19</li> <li>• managementIntervention = 20</li> </ul>                                                                 |

| Field                  | Category | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Diagnostics            | O        | This field is included in the CDR when the PDP context is released and when the option <b>gtp-attribute diagnostics</b> is configured.                                                                                                                                                                                                                                                                                                                                                                 |
| gsm0408Cause           | M        | <p>This cause is used in the Diagnostics field and contains one of the following values:</p> <ul style="list-style-type: none"> <li>• 36: If the PDP context is terminated gracefully</li> <li>• 40: AAA Server disconnect</li> <li>• 26: If the PDG sends delete PDP context request for any other reason</li> </ul>                                                                                                                                                                                  |
| Record Sequence Number | O        | A running sequence number with range 1 to 4294967295 that links partial records generated by the PDG for a specific PDP context (characterized with the same Charging ID and PDG address pair). This field is not present if the first record is also the final record.                                                                                                                                                                                                                                |
| Node ID                | O        | <p>This field contains an identifier string for the node that generated the CDR. The NodeID field is a printable string of the ndddSTRING format:</p> <ul style="list-style-type: none"> <li>• n: the first digit is the sessmgr restart counter having a value between 0 and 7.</li> <li>• ddd: The number of the sessmgr instance generating the CDR.</li> <li>• STRING: A configured Node-ID-Suffix string of 1 to 16 characters. Defined with the <b>gtp attribute node-id</b> command.</li> </ul> |
| recordExtensions       | O        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Field                        | Category | Description                                                                                                                                                                                                                                                                                                                             |
|------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Record Sequence Number | O        | <p>For each Node ID, this number with range 1 to 4294967295, is allocated sequentially for each CDR. With the Node ID, it uniquely identifies a CDR.</p> <p>For WLAN-CDRs, this field is only included when the option <b>gtp attribute local-record-sequence number</b> is configured.</p>                                             |
| APN Selection Mode           | O        | <p>An index that shows how the APN is selected:</p> <ul style="list-style-type: none"> <li>• 0 = MS or network provided APN, subscribed verified</li> <li>• 1 = MS provided APN, subscription not verified</li> <li>• 2 = Network provided APN, subscription not verified</li> </ul>                                                    |
| Served MSISDN                | O        | <p>This field tracks the Mobile Station (MS) ISDN number (MSISDN) of the subscriber, which is sent by the AAA server.</p>                                                                                                                                                                                                               |
| Charging Characteristics     | M        | <p>Lists the charging characteristics applied to the PDP context. The PDG can accept charging characteristics from the AAA server or use its own configured value. PDG-configured charging characteristics are specified as part of the PDG Service and are applied for WLAN-CDRs to subscriber PDP contexts through APN templates.</p> |

| Field                                   | Category | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Charging Characteristics Selection Mode | O        | <p>Lists the charging characteristic type that the PDG applied to the CDR. The values for this field are defined in 3GPP TS 32.298:</p> <ul style="list-style-type: none"> <li>• AAASupplied (0): The PDG is using the charging characteristics supplied by the AAA Server.</li> <li>• homeDefault (3): PDG configured charging characteristics for home subscribers are used.</li> <li>• roamingDefault (4): PDG configured charging characteristics for roaming subscribers are used.</li> <li>• visitingDefault (5): PDG configured charging characteristics for visiting subscribers are used.</li> </ul> |
| Rat Type                                | O        | <p>This field shows the Radio Access Technology (RAT) type currently used by the Mobile Station. This field is present in the CDR if provided by WLAN. RAT Type values:</p> <ul style="list-style-type: none"> <li>• 0 = Reserved</li> <li>• 1 = UTRAN</li> <li>• 2 = GERAN</li> <li>• 3 = <b>WLAN</b></li> <li>• 4-255 = Spare</li> </ul>                                                                                                                                                                                                                                                                    |