cnBNG Control Plane Metrics

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cnbng Metrics Reference

CNBNG Accounting Statistics Category

Accounting_message_current

Description: Current number of Start/Stop/Interim Message triggered towards Server and Waiting for Response

Sample Query: `'Accounting_message_current{acct_type="Start",upf="asr9k-1",service_name="qos1"}'`

Labels:

- Label: `acct_type`

  Label Description: Accounting Packet type

  Example: Start, Interim, Stop

- Label: `acct_level`

  Label Description: Accounting category

  Example: Session, Service

- Label: `upf`

  Label Description: UPF Name

  Example: Any string

- Label: `service_name`

  Label Description: Name of service

  Example: Any string

Accounting_message_total

Description: Total number of Start/Stop/Interim Message trigger towards Radius Server

Sample Query: `'Accounting_message_total{acct_type="Start",upf="asr9k-1",service_name="qos1"}'`

Labels:

- Label: `acct_type`

  Label Description: Accounting Packet type

  Example: Start, Interim, Stop

- Label: `acct_level`

  Label Description: Accounting category

  Example: Session, Service

- Label: `upf`

  Label Description: UPF Name

  Example: Any string

- Label: `aaa_profile`

  Label Description: AAA profile used

  Example: Any string

- Label: `service_name`

  Label Description: Name of service

  Example: Any string

- Label: `status`

  Label Description: Status of accounting request

  Example: Attempt, Success, Failure

Charging_subscriber_total

Description: Total number of Subscriber regardless of accounting enable or not

Sample Query: `'Charging_subscriber_total{upf="asr9k-1"}'`

Labels:

- Label: `upf`

  Label Description: UPF Name

  Example: Any string

Service_usage_report_total

Description: Total number of Usage Report Coming from PFCP per service

Sample Query:
`'Service_usage_report_total{report_type="ChargingFinalUsageReport",upf="asr9k-1",service_name="qos1"}'`

Labels:

- Label: `report_type`

Label Description: Usage report type

Example: ChargingFinalUsageReport, ChargingInterimUsageReport

Labels:

- Label: `upf`

  Label Description: UPF Name

  Example: Any string

- Label: `aaa_profile`

  Label Description: AAA profile used

  Example: Any string

- Label: `service_name`

  Label Description: Name of service

  Example: Any string

Session_usage_report_total

Description: Total number of Usage Report Coming from PFCP per session

Sample Query:
`'Session_usage_report_total{report_type="ChargingFinalUsageReport",upf="asr9k-1"}'`

Labels:

- Label: `report_type`

  Label Description: Usage report type

  Example: ChargingFinalUsageReport, ChargingInterimUsageReport

Labels:

- Label: `upf`

  Label Description: UPF Name

  Example: Any string

Labels:

- Label: `aaa_profile`

  Label Description: AAA profile used

  Example: Any string

db_records_total

Description: Current number of Subscriber regardless of accounting enable or not

Sample Query: `'db_records_total{session_type="Charging"}'`

Labels:

- Label: `session_type`

  Label Description: Session type

  Example: Charging, Charging:<upf>

CNBNG CP Audit Category

PPPoE_Audit_Confirmation_Total

Description: CP audit events in PPPoE

Sample Query: `'sum(PPPoE_Audit_Confirmation_Total) by (Event)'`

Labels:

- Label: `Event`

  Label Description: |

  type of event which can be no-session: Session audited in sm is not present in pppoe. session-fetch-failed: Session audited in sm is not present in pppoe. match: Session audited in sm is present in pppoe with matching audit id. mis-match: Session audited in sm is present in pppoe with wrong audit id.

PPPoE_ReconCP_Events_Total

Description: CP audit events in PPPoE

Sample Query: `'sum(PPPoE_ReconCP_Events_Total) by (Routername)'`

Labels:

- Label: `Routername`

  Label Description: UPF ID

  Example: asr9k-1

- Label: `Event`

  Label Description: |

  type of event which can be found: Audited session is present in sm. not-found: Audited session is not present in sm."

CNBNG Flowcontrol Statistics Category

metrics: incoming_drop_queued_total

Description: Total number of incoming queued request dropped

Sample Query:
`'incoming_drop_queued_total{interface="h4",local_address="10.1.0.1",protocol="Udp",peer_address="10.1.0.2",cause="DispatcherQueueFull",queue_id="1"}'`

Labels:

- Label: `interface`

  Label Description: |

Interface Name from the virtual queue config N4: PFCP Interface

- Label: `local_address`

  Label Description: Local Address

  Example: Any string

- Label: `peer_address`

  Label Description: Peer Address

  Example: Any string

- Label: `cause`

  Label Description: Drop Cause

  Example: DispatcherQueueFull, DispatcherQueueNotAvailable, DispatcherRetryRequestDrop, DispatcherThresholdRequestDrop

metrics: incoming_queued_rate_limit_reached_total

Description: Total number of incoming rate limit hit count

Sample Query: `'incoming_queued_rate_limit_reached_total{interface="n4", protocol="Udp",queue_id="1"}'`

Labels:

- Label: `interface`

  Label Description: |

  Interface Name from the virtual queue config N4: PFCP Interface

- Label: `local_address`

  Label Description: Local Address

  Example: Any string

- Label: `peer_address`

  Label Description: Peer Address

  Example: Any string

- Label: `cause`

  Label Description: Drop Cause

  Example: DispatcherQueueFull, DispatcherQueueNotAvailable, DispatcherRetryRequestDrop, DispatcherThresholdRequestDrop

metrics: virtual_message_rate_limit_reached_total

Description: Total number of times the rate limit is reached for virtual id queue

Sample Query: `'virtual_message_rate_limit_reached_total{interface="n4",msg_type="pfcpresponse",virtual_msg_id="1"}'`

Labels:

- Label: `interface`

Label Description: |

Interface Name from the virtual queue config n4: PFCP Interface

- Label: `msg_type`

  Label Description: |

  Message type from the virtual queue config all: This msg type falls under virtual id 1 pfcpresponse: This msg type falls under virtual id 2 lcpkeepalive: This msg type falls under virtual id 4 pfcpkeepalive: This msg type falls under virtual id 3 sessionreport: This msg type falls under virtual id 5

  Example: pfcpresponse, lcpkeepalive, pfcpkeepalive, sessionreport, all

- Label: `virtual_msg_id`

  Label Description: |

  Virtual Message Id of Queue 1: PFCP and GTPU msgs 2: N4 Session Establishment, Modification and Release Response msgs 3: N4 Heartbeat Request and Response, Association Update Response and Node Report Request msgs 4: PPP LCP Keepalive Timeout 5: N4 Session Report Request metrics: virtual_message_reject_total

  Description: Total number of rejected virtual messages

  Sample Query:
  `'virtual_message_reject_total{interface="n4",msg_type="pfcpresponse",virtual_msg_id="1"}'`

Labels:

- Label: `interface`

  Label Description: |

  Interface Name from the virtual queue config n4: PFCP Interface

Labels:

- Label: `msg_type`

  Label Description: |

  Message type from the virtual queue config all: This msg type falls under virtual id 1 pfcpresponse: This msg type falls under virtual id 2 lcpkeepalive: This msg type falls under virtual id 4 pfcpkeepalive: This msg type falls under virtual id 3 sessionreport: This msg type falls under virtual id 5

  Example: pfcpresponse, lcpkeepalive, pfcpkeepalive, sessionreport, all

- Label: `virtual_msg_id`

  Label Description: |

  Virtual Message Id of Queue 1: PFCP and GTPU msgs 2: N4 Session Establishment, Modification and Release Response msgs 3: N4 Heartbeat Request and Response, Association Update Response and Node Report Request msgs 4: PPP LCP Keepalive Timeout 5: N4 Session Report Request

- Label: `cause`

  Label Description: |

  Drop Cause VirtualMsgQueueFull: Virtual message queue (channel) is full PendingRequestsLimitReached: Pending requests limit is reached

- Label: `virtual_msg_reject_code`

  Label Description: drop code from the virtual queue config

CNBNG GR Statistics Category

geo_MaintenanceMode_info

Description: GR maintenanceMode gauge

Sample Query: `'geo_MaintenanceMode_info{MaintenanceMode="false"}'`

Labels:

- Label: `MaintenanceMode`

  Label Description: Maintenance Mode

  Example: true,false

geo_RejectedRoleChanged_total

Description: GR Rejected Request coming to standby instance

Sample Query:
`'geo_RejectedRoleChanged_total{GRInstanceNumber="Instance.1",RejectedCount="200"}'`

Labels:

- Label: `RejectedCount`

  Label Description: Rejected Count

  Labels:

- Label: `GRInstanceNumber`

  Label Description: GR Instance Number

geo_monitoring_total

Description: GR replication Operation

Sample Query: `'geo_monitoring_total{ControlActionNameType="TriggerGRApi"}'`

Labels:

- Label: `ControlActionType`

  Label Description: Control Action Type

  Example: AdminRemoteMessageActionType, AdminRoleChangeActionType, AdminMonitoringActionType

Labels:

- Label: `ControlActionNameType`

  Label Description: Control Action Name Type

Example: RemoteMsgGetSiteStatus, TriggerGRApi, GeoMonitoring, MonitorPod, RemoteMsgNotifyFailover, RemoteMsgGetSiteRoleDetails, RemoteMsgHeartbeat, ResetRoleApi, AutoStandbyErrorToStandbyRoleChangeActionType

- Label: `AdminNode`

  Label Description: Node name

  Example: all, 1, 2

- Label: `status`

  Label Description: Status

  Example: success,fail,remote status unavailable, unmarshalling error,geo maintenance DISABLED using CLI,geo maintenance ENABLE using CLI

- Label: `status_code`

  Label Description: Status Code

  Example: 1002,1001,1010,1011

CNBNG IPAM Statistics Category

IPAM_AlarmsStats

Description: IPAM Alarm notification

- Label: `dnn`

  Label Description: This is the tag that is passed to IPAM it can be poolName or any group-tag string

  Example: Any string

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

- Label: `addressType`

  Label Description: address type associated with the request

  Example: IPv4/IPv6NA/IPv6PD

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

- Label: `StatsType`

  Label Description: Type of alarm this is triggered

Example: AlarmAddrRangeExhaust

IPAM_Quarantine_Chunks_Statistics

Description: Counter for chunks quarantine

- Label: `IPAM_RPC_Counter_Type`

  Label Description: Type of request Buffered/Processed

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

- Label: `addressType`

  Label Description: address type associated with the request

  Example: IPv4/IPv6NA/IPv6PD

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

- Label: `qtLabel`

  Label Description: Reason for quarantine route_sync_failed/quarantined_chunk

IPAM_Quarantine_Statistics

Description: Total number of IP's that are quarantined in IPAM

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

- Label: `addressType`

  Label Description: address type associated with the request

  Example: IPv4/IPv6NA/IPv6PD

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

- Label: `grInstId`

  Label Description: GR instance ID

Example: GR instance ID

- Label: `type`

  Label Description: Total address in quarantine queue and the queue sizes

  Example: start_batch_qsize/end_batch_qsize/avg_qtime_secs/pop_count_qtime/pop_count_qsize

IPAM_Role_Switch_Over

Description: Stats for Geo Role switch over happens

Sample Query: `'IPAM_Role_Switch_Over{grInstId="1"}'`

Labels:

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

- Label: `eventType`

  Label Description: Set based on the GR becomes Active or StandBy on cluster

  Example: Active/StandBy

IPAM_Static_Request_Statistics

Description: Total Static-ip Mapping Requests received

- Label: `eventType`

  Label Description: type of event associated with the request

  Example: Allocation/Release

IPAM_address_allocations_current

Description: Current state of IPAM Address allocations

Sample Query:
`'IPAM_address_allocations_current{pool="p1",allocationType="dynamic",addressType="IPv4",upf="dp1"}'`

Labels:

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

- Label: `allocationType`

  Label Description: type of allocation associated with the request

  Example: static/dynamic

- Label: `addressType`

  Label Description: address type associated with the request

Example: IPv4/IPv6NA/IPv6PD

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

- Label: `dnn`

  Label Description: This is the tag that is passed to IPAM it can be poolName or any group-tag string

  Example: Any string

- Label: `forRemoteSmf`

  Label Description: Set to true when the allocation is for GR that this is non-local cluster

  Example: true/false

IPAM_address_events_total

Description: Total number of IPAM Address events

Sample Query:

```
'IPAM_address_events_total{pool="p1",eventType="Allocation",allocationType="dynamic",addressType="IPv4",upf="dp1"}'
```

Labels:

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

Labels:

- Label: `eventType`

  Label Description: type of event associated with the request

  Example: Allocation/Release

- Label: `allocationType`

  Label Description: type of allocation associated with the request

  Example: static/dynamic

- Label: `addressType`

  Label Description: address type associated with the request

  Example: IPv4/IPv6NA/IPv6PD

- Label: `upf`

  Label Description: upf identifier associated with the request

Example: Any string

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

- Label: `dnn`

  Label Description: This is the tag that is passed to IPAM it can be poolName or any group-tag string

  Example: Any string

- Label: `forRemoteSmf`

  Label Description: Set to true when the allocation is for GR that this is non-local cluster

  Example: true/false

IPAM_address_pool_total

Description: Total address configured for Pool

- Label: `dnn`

  Label Description: This is the tag that is passed to IPAM it can be poolName or any group-tag string

  Example: Any string

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

- Label: `addressType`

  Label Description: address type associated with the request

  Example: IPv4/IPv6NA/IPv6PD

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

IPAM_chunk_allocations_current

Description: Current state of IPAM Address Chunk allocations

Sample Query: `'IPAM_chunk_allocations_current{pool="p1",addressType="IPv4",upf="dp1"}'`

Labels:

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

Labels:

- Label: `addressType`

  Label Description: address type associated with the request

  Example: IPv4/IPv6NA/IPv6PD

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

- Label: `dnn`

  Label Description: This is the tag that is passed to IPAM it can be poolName or any group-tag string

  Example: Any string

- Label: `forRemoteSmf`

  Label Description: Set to true when the allocation is for GR that this is non-local cluster

  Example: true/false

- Label: `quarantined`

  Label Description: When chunk operation on UP fails and the chunk is not released/allocated on IPAM

  Example: true/false

IPAM_chunk_events_total

Description: Total number of IPAM Address Chunk events

Sample Query:

```
'IPAM_chunk_events_total{pool="p1",eventType="Allocation",addressType="IPv4",upf="dp1"}'
```

Labels:

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

Labels:

- Label: `eventType`

  Label Description: type of event associated with the request

  Example: Allocation/Release

Labels:

- Label: `addressType`

Label Description: address type associated with the request

Example: IPv4/IPv6NA/IPv6PD

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

- Label: `dnn`

  Label Description: This is the tag that is passed to IPAM it can be poolName or any group-tag string

  Example: Any string

- Label: `forRemoteSmf`

  Label Description: Set to true when the allocation is for GR that this is non-local cluster

  Example: true/false

- Label: `quarantined`

  Label Description: If the chunk delete is failed on UP then the chunk is marked quarantined

  Example: true/false

IPAM_reconcile_with_cdl

Description: Total number of IP that are reconciled with CDL

Sample Query: `'sum(IPAM_reconcile_with_cdl{}) by (addressType)'`

Labels:

- Label: `pool`

  Label Description: name of the pool associated with the request

  Example: Any string

Labels:

- Label: `addressType`

  Label Description: address type associated with the request

  Example: IPv4/IPv6NA/IPv6PD

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Example: Any string

Labels:

- Label: `grInstId`

  Label Description: GR instance ID

  Example: GR instance ID

Labels:

- Label: `dnn`

  Label Description: This is the tag that is passed to IPAM it can be poolName or any group-tag string

  Example: Any string

Labels:

- Label: `IPAM_Reconcile_Trigger`

  Label Description: Origin for the reconcile trigger can be NM Restart or via cli(Audit) or role switchover(RoleSwitchOver)

  Example: Restart/Audit/RoleSwitchOver

- Label: `quarantined`

  Label Description: When chunk operation on UP fails and the chunk is not released/allocated on IPAM

  Example: true/false

CNBNG L2TP Statistics Category

L2TPMgr_IPC_Events_total

Description: Total IPC events

Sample Query:
```
'L2TPMgr_IPC_Events_total{MessageType="SessionIDAllocReq",Routername="lps_lns_asr9k-1",Status="Success"}'
```

Labels:

- Label: `Routername`

  Label Description: Name of user-plane

- Label: `MessageType`

  Label Description: |

  Type of Message
  BGIPCRequest,BGIPCResponse,SessionDateReq,SessionIDReleaseReq,SessionIDReleaseRsp,SessionIDAllocReq,SessionIDAllocRsp,BGIPCCDNResponse,L2TPTunnelFailover

- Label: `Status`

  Label Description: |

Status of Message IPC-failure: IPC Failure Message Success: IPC Success Message Failure: IPC Failure Message

L2TPMgr_Packet_Events_total

Description: Total L2TP packets

Sample Query:
```
'L2TPMgr_Packet_Events_total{Direction="Rx",PacketType="CDN",Routername="lps_lns_asr9k-1"}'
```

Labels:

- Label: `Routername`

  Label Description: Name of user-plane

Labels:

- Label: `PacketType`

  Label Description: |

  L2TP Packet Type CDN,HELLO,ICCN,ICRQ,PPP,SCCCN,SCCRQ,StopCCN,ZLB ACK,ICRP,SCCRP

- Label: `Direction`

  Label Description: |

  Direction of Packet Rx: Packet Received Tx: Packet Transmitted

L2TPMgr_Retransmit_Packet_Events_total

Description: Total L2TP Retransmit packets

Sample Query:
```
'L2TPMgr_Retransmit_Packet_Events_total{PacketType="HELLO",Routername="lps_lns_asr9k-1"}'
```

Labels:

- Label: `Routername`

  Label Description: Name of user-plane

Labels:

- Label: `PacketType`

  Label Description: |

  Type of Packet CDN,HELLO,ICCN,ICRQ,PPP,SCCCN,SCCRQ,StopCCN,ZLB ACK,ICRP,SCCRP

L2TPMgr_disconnect_events_total

Description: Total L2TP Disconnect Events

Sample Query:
```
'L2TPMgr_disconnect_events_total{MessageType="NoSessionTimeout",Routername="lps_lns_asr9k-1"}'
```

Labels:

- Label: `Routername`

  Label Description: Name of user-plane

Labels:

- Label: `MessageType`

  Label Description: |

  Type of Message NoSessionTimeout: Nosessiontimeout message RxStopCCNfromLAC: ReceiveStopCCN message from LAC

CNBNG PFCP and GTPU packet statistics Category

bng_proto_dhcp_total

Description: Total number of GTPU DHCP packets received/transmitted

Sample Query: `'bng_proto_dhcp_total{pkt_type="Gtpu",message_name="IPoE", upf="asr9k-1"}'`

Labels:

- Label: `pkt_type`

  Label Description: Type of packet, Value: Gtpu

- Label: `message_direction`

  Label Description: |

  Transmitted or received packet type inbound: Received outbound: Transmitted

- Label: `status`

  Label Description: Status of packet processing with values: send, IPCFailure, accepted

- Label: `message_name`

  Label Description: Message Type, Value: IPoE, Dhcpv6OverPPPoE, Dhcpv6OverL2TPLNS

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

bng_proto_l2tp_total

Description: Total number of GTPU L2TP packets received/transmitted

Sample Query: `'bng_proto_l2tp_total{pkt_type="Gtpu",message_name="L2TP", upf="asr9k-1"}'`

Labels:

- Label: `pkt_type`

  Label Description: Type of packet, Value: Gtpu

Labels:

- Label: `message_direction`

  Label Description: |

Transmitted or received packet type inbound: Received outbound: Transmitted

- Label: `status`

  Label Description: Status of packet processing with values: send, IPCFailure, accepted

- Label: `message_name`

  Label Description: Message Type, Value: L2TP

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

bng_proto_pppoe_total

Description: Total number of GTPU PPPOE packets received/transmitted

Sample Query: `'bng_proto_pppoe_total{pkt_type="Gtpu",message_name="PPPoE", upf="asr9k-1"}'`

Labels:

- Label: `pkt_type`

  Label Description: Type of packet, Value: Gtpu

Labels:

- Label: `message_direction`

  Label Description: |

  Transmitted or received packet type inbound: Received outbound: Transmitted

- Label: `status`

  Label Description: Status of packet processing with values: send, IPCFailure, accepted

- Label: `message_name`

  Label Description: Message Type, Value: PPPoE, Icmpv6OverPPPoE

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

bng_proto_udp_total

Description: Total number of PFCP/GTPU packets received/transmitted

Sample Query:
`'bng_proto_udp_total{pkt_type="Pfcp",message_name="n4_session_establishment_req"}'`

Labels:

- Label: `pkt_type`

Label Description: |

Type of packet which can be Pfcp: Packet Forwarding Control Protocol packets Gtpu: GPRS Tunnelling Protocol packets

Labels:

- Label: `message_direction`

  Label Description: |

  Transmitted or received packet type inbound: Received outbound: Transmitted

- Label: `status`

  Label Description: Status of packet processing with values: accepted, discarded, ignore-response, decode-error, encode-error, IPCFailure, Invalid, Timeout, proxy-rsp-error, request-nil, response-nil, upfinfo-nil, GetMsgobj-error, response-error, received, send, resend, retrans-accepted, retrans, rsp-rcvd-after-timeout, failed, unsupported, getcon-nil, upf-inactive, av-sla-lt-1sec, BGIPCFailure

- Label: `transport_type`

  Label Description: |

  Initial or retransmitted request original: First request initiated retransmitted: resend on failure

- Label: `message_name`

  Label Description: |

  pfcp/gtpu message types n4_session_establishment_req: Session Establishment Request n4_session_establishment_res: Session Establishment Response n4_session_modification_req: Session Modification Request n4_session_modification_res: Session Modification Response n4_session_report_req: Session Report Request n4_session_report_res: Session Report Response n4_session_ppp_lcp_timeout_req: PPP LCP Timeout Request n4_session_ppp_lcp_timeout_res: PPP LCP Timeout Response n4_session_deletion_req: Session Release Request n4_session_deletion_res: Session Release Response n4_association_setup_req: Association Setup Request n4_association_setup_res: Association Setup Response n4_association_update_req: Association Update Request n4_association_update_res: Association Update Response n4_association_release_req: Association Release Request n4_association_release_res: Association Release Response n4_heartbeat_req: Heartbeat Request n4_heartbeat_res: Heartbeat Response n4_node_report_req: Node Report Request n4_node_report_res: Node Report Response

- Label: `upf`

  Label Description: upf identifier associated with the request

  Example: Any string

CNBNG PPPOE L2TP Statistics Category

L2TP_Packet_Events_total

Description: Total L2TP packets

Sample Query: `'L2TP_Packet_Events_total{Routername="asr9k-1",PacketType="ICRQ"}'`

Labels:

- Label: `Routername`

  Label Description: Router Name

- Label: `PacketType`

  Label Description: Packet Type

  Example: ICRQ, ICRP, ICCN, CDN, ZLB ACK

- Label: `Direction`

  Label Description: Transmitted or Received packet

  Example: Tx, Rx

CNBNG PPPOE or PPP Statistics Category

PPPOE_packet_events_total

Description: Total number of PPPoE packets transmitted and received

Sample Query:
`'PPPOE_packet_events_total{PacketType="PADI",Routername="asr9k-1",PortID="Bundle-Ether1.1"}'`

Labels:

- Label: `PacketType`

  Label Description: Packet type

  Example: PADI, PADO, PADR, PADS, PADT

- Label: `Direction`

  Label Description: Transmitted or Received packet

  Example: Tx, Rx

- Label: `Routername`

  Label Description: UPF Name

  Example: Any string

- Label: `PortID`

  Label Description: Access interface Name

  Example: Any string

- Label: `Status`

  Label Description: Status of packet processing

  Example: Processed | Dropped

PPP_ICMPV6_packet_events_total

Description: Total PPPoE ICMPv6 packets

Sample Query: `'PPP_ICMPV6_packet_events_total{Routername="asr9k-1",PortID="Bundle-Ether1.1"}'`

Labels:

- Label: `PacketType`

  Label Description: Packet type

  Example: RouterSolicitation, RouterAdvertisement

- Label: `Direction`

  Label Description: Transmitted or Received packet

  Example: Tx, Rx

- Label: `Routername`

  Label Description: UPF Name

  Example: Any string

- Label: `PortID`

  Label Description: Access interface Name

  Example: Any string

PPP_IPCP_packet_events_total

Description: Total number of PPP IPCP packets transmitted and received

Sample Query:
`'PPP_IPCP_packet_events_total{PacketType="Conf-Req",Routername="asr9k-1",PortID="Bundle-Ether1.1"}'`

Labels:

- Label: `PacketType`

  Label Description: Packet type

  Example: Conf-Req, Conf-Ack, Conf-Nak, Term-Req, Term-Ack, Proto-Rej, Code-Rej, Conf-Rej

Labels:

- Label: `Direction`

  Label Description: Transmitted or Received packet

  Example: Tx, Rx

- Label: `Routername`

  Label Description: UPF Name

  Example: Any string

- Label: `PortID`

  Label Description: Access interface Name

  Example: Any string

PPP_IPV6CP_packet_events_total

Description: Total number of PPP IPv6CP packets transmitted and received

Sample Query:
`'PPP_IPV6CP_packet_events_total{PacketType="Conf-Req",Routername="asr9k-1",PortID="Bundle-Ether1.1"}'`

Labels:

- Label: `PacketType`

  Label Description: Packet type

  Example: Conf-Req, Conf-Ack, Conf-Nak, Term-Req, Term-Ack, Proto-Rej, Code-Rej, Conf-Rej

Labels:

- Label: `Direction`

  Label Description: Transmitted or Received packet

  Example: Tx, Rx

Labels:

- Label: `Routername`

  Label Description: UPF Name

  Example: Any string

- Label: `PortID`

  Label Description: Access interface Name

  Example: Any string

PPP_LCP_CHAP_packet_events_total

Description: Total number of PPP LCP CHAP packets transmitted and received

Sample Query:
`'PPP_LCP_CHAP_packet_events_total{PacketType="Challenge",Routername="asr9k-1",PortID="Bundle-Ether1.1"}'`

Labels:

- Label: `PacketType`

  Label Description: Packet type

  Example: Challenge, Response, Rep-Success, Rep-Fail

Labels:

- Label: `Direction`

  Label Description: Transmitted or Received packet

  Example: Tx, Rx

Labels:

- Label: `Routername`

Label Description: UPF Name

Example: Any string

Labels:

- Label: `PortID`

  Label Description: Access interface Name

  Example: Any string

PPP_LCP_PAP_packet_events_total

Description: Total number of PPP LCP PAP packets transmitted and received

Sample Query:

```
'PPP_LCP_PAP_packet_events_total{PacketType="Request",Routername="asr9k-1",PortID="Bundle-Ether1.1"}'
```

Labels:

- Label: `PacketType`

  Label Description: Packet type

  Example: Request, Ack, Nack

Labels:

- Label: `Direction`

  Label Description: Transmitted or Received packet

  Example: Tx, Rx

Labels:

- Label: `Routername`

  Label Description: UPF Name

  Example: Any string

Labels:

- Label: `PortID`

  Label Description: Access interface Name

  Example: Any string

PPP_LCP_packet_events_total

Description: Total number of PPP LCP packets transmitted and received

Sample Query:

```
'PPP_LCP_packet_events_total{PacketType="Conf-Req",Routername="asr9k-1",PortID="Bundle-Ether1.1"}'
```

Labels:

- Label: `PacketType`

Label Description: Packet type

Example: Conf-Req, Conf-Ack, Conf-Nak, Conf-Rej, Term-Req, Term-Ack, Proto-Rej, Code-Rej, Echo-Req, Echo-Rep

Labels:

- Label: `Direction`

  Label Description: Transmitted or Received packet

  Example: Tx, Rx

Labels:

- Label: `Routername`

  Label Description: UPF Name

  Example: Any string

Labels:

- Label: `PortID`

  Label Description: Access interface Name

  Example: Any string

CNBNG Radius Statistics Category

Radius_CoaDM_Requests_Current

Description: Current outstanding radius COA/DM requests

Sample Query: `'Radius_CoaDM_Requests_Current{radSvrIp="1.1.1.1",radMsgCode="CoaReq"}'`

Labels:

- Label: `radSvrIp`

  Label Description: Radius Server IP (v4/v6) address

- Label: `radMsgCode`

  Label Description: |

  Type of Radius Dynamic Authotization (CoA/DM) Messages DisconnectRequest: Packet of disconect request from CoA Client received on cnBNG. DisconnectACK: Packet of disconnect request accepted by cnBNG and ACK sent to CoA client. DisconnectNAK: Packet of disconnect request rejected by cnBNG and NACK sent to CoA client. CoAReq: CoA request from CoA client received on cnBNG. CoAACK: CoA request accepted by cnBNG and ACK sent to CoA client. CoANAK: CoA request rejected by cnBNG and NACK sent to CoA client.

- Label: `radPacketType`

  Label Description: |

Direction of Radius message from cnBNG perspective Tx: Outboung message to the CoA client Rx: Inbound message from the CoA client

- Label: `radResult`

  Label Description: |

  Results of Radius handshake for CoA/DM during dynamic authorization with CoA client Success: Successful transaction Failure_Invalid_Request: Invalid request coming from CoA client Failure_Unknown_MsgType: Invalid message type from CoA client Failure_Bad_Authenticator: Mismatch in preshared secret between CoA client cnBNG Failure_Drop_Retry_Coa: Retried CoA packet is dropped by cnBNG

Radius_CoaDM_Requests_Statistics

Description: Total number of radius COA and DM packets

Sample Query: `'Radius_CoaDM_Requests_Statistics{radSvrIp="1.1.1.1",radMsgCode="CoaReq"}'`

Labels:

- Label: `radSvrIp`

  Label Description: Radius Server IP (v4/v6) address

Labels:

- Label: `radMsgCode`

  Label Description: |

  Type of Radius Dynamic Authotization (CoA/DM) Messages DisconnectRequest: Packet of disconect request from CoA Client received on cnBNG. DisconnectACK: Packet of disconnect request accepted by cnBNG and ACK sent to CoA client. DisconnectNAK: Packet of disconnect request rejected by cnBNG and NACK sent to CoA client. CoAReq: CoA request from CoA client received on cnBNG. CoAACK: CoA request accepted by cnBNG and ACK sent to CoA client. CoANAK: CoA request rejected by cnBNG and NACK sent to CoA client.

- Label: `radPacketType`

  Label Description: |

  Direction of Radius message from cnBNG perspective Tx: Outboung message to the CoA client Rx: Inbound message from the CoA client

- Label: `radResult`

  Label Description: |

  Results of Radius handshake for CoA/DM during dynamic authorization with CoA client Success: Successful transaction Failure_Invalid_Request: Invalid request coming from CoA client Failure_Unknown_MsgType: Invalid message type from CoA client Failure_Bad_Authenticator: Mismatch in preshared secret between CoA client cnBNG Failure_Drop_Retry_Coa: Retried CoA packet is dropped by cnBNG

Radius_LeastOutStandingServer

Description: Display Least Outstanding Radius Server statistics

Sample Query:
`'Radius_LeastOutStandingServer{LeastOutstandingServer="1.1.1.1:1812",BatchSize="25"}'`

Labels:

- Label: `LeastOutstandingServer`

  Label Description: Radius Server IP (v4/v6) in the form of ip_port

Labels:

- Label: `BatchSize`

  Label Description: BatchSize in number of messages. Default value is 25

Radius_Server_Rtt_ms

Description: Display Radius Server RTT

Sample Query:
`'Radius_Server_Rtt_ms{radSvrIp="1.1.1.1",radSvrPort="1812",radSvrPortType="Auth"}'`

Labels:

- Label: `radSvrIP`

  Label Description: Radius Server IP (v4/v6) address

Labels:

- Label: `radSvrPort`

  Label Description: Radius Server Port number (e.g. 1812/1813)

Labels:

- Label: `radSvrPortType`

  Label Description: Type of server (Auth/Acct)

Radius_Server_Status

Description: Display active/inactive status of radius-server. Server status values are UP/Down/Deleted

Sample Query:
`'Radius_Server_Status{radSvrIp="1.1.1.1",radSvrPort="1812",radSvrPortType="Auth"}'`

Labels:

- Label: `radSvrIP`

  Label Description: Radius Server IP (v4/v6) address

Labels:

- Label: `radSvrPort`

  Label Description: Radius Server Port number (e.g. 1812/1813)

Labels:

- Label: `radSvrPortType`

  Label Description: Type of server (Auth/Acct)

Radius_requests_current

Description: Current outstanding radius packets

Sample Query:
`'Radius_requests_current{radSvrIp="1.1.1.1",radSvrPort="1812",radSvrPortType="Auth"}'`

Labels:

- Label: `radSvrIp`

  Label Description: Radius Server IP (v4/v6) address

Labels:

- Label: `radSvrPort`

  Label Description: Radius Server Port number (e.g. 1812/1813)

Labels:

- Label: `radSvrPortType`

  Label Description: Type of server (Auth/Acct)

Labels:

- Label: `radMsgCode`

  Label Description: |

  Type of Radius Messages AAAAuthReq: Radius Authentication Request Message AAAAcctReq: Radius Accounting Request Message TestAuth: Radius Authentication Test message TestAcct: Radius Accounting Test message

Radius_requests_statistics

Description: Total number of radius packets sent and received

Sample Query:
`'Radius_requests_statistics{radSvrIp="1.1.1.1",radSvrPort="1812",radSvrPortType="Auth"}'`

Labels:

- Label: `radSvrIp`

  Label Description: Radius Server IP (v4/v6) address

Labels:

- Label: `radSvrPort`

  Label Description: Radius Server Port number (e.g. 1812/1813)

Labels:

- Label: `radSvrPortType`

Label Description: Type of server (Auth/Acct)

Labels:

- Label: `radMsgCode`

  Label Description: |

  Type of Radius Messages AAAAuthReq: Radius Authentication Request Message AAAAcctReq: Radius Accounting Request Message TestAuth: Radius Authentication Test message TestAcct: Radius Accounting Test message

Labels:

- Label: `radPacketType`

  Label Description: |

  Direction of Radius message from cnBNG perspective Tx: Outboung message to the server Retry_Tx: Retry Outbound Tx message to the server Rx: Inbound message from the server

Labels:

- Label: `radResult`

  Label Description: |

  Results of Radius handshake Failed: Transation failed Failure_No_Server: No server could be found Failure_Bad_Authenticator: pre-shared secret between cnBNG and Radius server is not matching. Success: Successful transaction Timeout: Radius handshake is timed out Failure_Reject: Radius handshake rejected by the server

CNBNG SRG Statistics Category

metrics: SRGEventsTotal

Description: Total number of Srg Add/Remove Events

Sample Query: `'SRGEventsTotal{peerID="Peer1",upfID="asr9k-1",event="Add"}'`

Labels:

- Label: `peerID`

  Label Description: Peer ID

  Example: Any String

- Label: `groupID`

  Label Description: ID of Group

  Example: Any String

- Label: `upfID`

  Label Description: ID of UPF

  Example: Any String

- Label: `event`

  Label Description: event Add/Remove

Example: Add, Remove

metrics: SRGRoleReqTotal

Description: Total number of Role change Request

Sample Query: `'SRGRoleReqTotal{peerID="Peer1", upfID="asr9k-1", groupID="group1", role="Active"}'`

Labels:

- Label: `peerID`

  Label Description: Peer ID

  Example: Any String

- Label: `upfID`

  Label Description: ID of UPF

  Example: Any String

- Label: `groupID`

  Label Description: ID of group

  Example: Any String

- Label: `role`

  Label Description: SRG Role

  Example: Active, Standby, Invalid, NotReady

- Label: `create`

  Label Description: is first role change request

  Example: yes, no

metrics: SRGRoleRspTotal

Description: Total number of Role change Response

Sample Query: `'SRGRoleRspTotal{peerID="Peer1", upfID="asr9k-1", groupID="group1", role="Active", state="Up", result="Success"}'`

Labels:

- Label: `peerID`

  Label Description: Peer ID

  Example: Any String

Labels:

- Label: `upfID`

  Label Description: ID of UPF

  Example: Any String

- Label: `groupID`

Label Description: ID of group

Example: Any String

- Label: `role`

  Label Description: SRG Role

  Example: Active, Standby, Invalid, NotReady

- Label: `state`

  Label Description: SRG state of UPF

  Example: Up, Down, NotReady

- Label: `result`

  Label Description: result of role change request

  Example: Success, Failure

- Label: `inprogress`

  Label Description: SRG Role change state of UPF

  Example: yes, no

metrics: SRGStateChangeTotal

Description: Total number of Srg Node Report received

Sample Query: `'SRGStateChangeTotal{peerID="Peer1", upfID="asr9k-1", groupID="group1", role="Active", state="Up"}'`

Labels:

- Label: `peerID`

  Label Description: Peer ID

  Example: Any String

Labels:

- Label: `upfID`

  Label Description: ID of UPF

  Example: Any String

Labels:

- Label: `groupID`

  Label Description: ID of group

  Example: Any String

- Label: `role`

  Label Description: SRG Role

  Example: Active, Standby, Invalid, NotReady

- Label: `state`

  Label Description: SRG state of UPF

  Example: Up, Down, NotReady

- Label: `inprogress`

  Label Description: SRG Role change state of UPF

  Example: yes, no

metrics: SRGUpfN4StateChangeTotal

Description: Total number of Upf n4 state change

Sample Query: `'SRGUpfN4StateChangeTotal{peerID="Peer1", groupID="group1", upfID="asr9k-1", active="yes"}'`

Labels:

- Label: `peerID`

  Label Description: Peer ID

  Example: Any String

Labels:

- Label: `groupID`

  Label Description: ID of group

  Example: Any String

Labels:

- Label: `upfID`

  Label Description: ID of UPF

  Example: Any String

Labels:

- Label: `active`

  Label Description: N4 state

  Example: yes, no

metrics: db_records_total

Description: Total number of Groups and their Srg Role, Srg State and N4 Connection State

Sample Query:
`'avg(db_records_total{session_type=~\"SRG:${srgUpfID}:(Active:Connected:Up|Standby:Connected:(Up|Down))\"})'`

Labels:

- Label: `session_type`

  Label Description: Type of session

Example: SRG:ASR9K-1:Active:Connected:Up

CNBNG Session Manager Statistics Category

db_records_total

Description: Current number of IPOE/PPPOE sessions

Sample Query: `'db_records_total{session_type="SM:DHCP"}'`

Labels:

- Label: `session_type`

  Label Description: Type of session

  Example: SM:DHCP, SM:DHCP:<upf>, SM:PPPOE, SM:PPPOE:<upf>

smc_pre_events_status_total

Description: Total number of execution status of PRE-events.

Sample Query: `'smc_pre_events_status_total{session_type="DHCP", Upf="asr9k-1", preEvent="session-start", status="success"}'`

Labels:

- Label: `SessType`

  Label Description: Type of session

  Example: DHCP, PPPOE

- Label: `Upf`

  Label Description: UPF Name

  Example: Any string

- Label: `PortID`

  Label Description: Port Identifier

  Example: Any string

- Label: `preEvent`

  Label Description: PRE event name

  Example: session-start, session-activate, session-update, session-disconnect, account-update

- Label: `status`

  Label Description: PRE event status

  Example: success, error

- Label: `status_code`

  Label Description: PRE event status code

Example: policySuccess, policySvmApplyFailed, policySubsProfNotFound, policyActionAuthenFailure, policyActionAuthorFailure

smc_pre_events_total

Description: Total number of PRE-events started.

Sample Query: `'smc_pre_events_total{session_type="DHCP", Upf="asr9k-1", preEvent="session-start"}'`

Labels:

- Label: `SessType`

  Label Description: Type of session

  Example: DHCP, PPPOE

Labels:

- Label: `Upf`

  Label Description: UPF Name

  Example: Any string

- Label: `PortID`

  Label Description: Port Identifier

  Example: Any string

- Label: `preEvent`

  Label Description: PRE event name

  Example: session-start, session-activate, session-update, session-disconnect, account-update

CNBNG UPF Status Category

UPF_Status

Description: UPF status

Sample Query: `'UPF_Status{Status="Active", UpIp="asr9k-1"}'`

Labels:

- Label: `Status`

  Label Description: |

  Status values Active: Active state UPF InActive: InActive state UPF Deleting: Deleting state UPF Deleted: Deleted state UPF

- Label: `UpIp`

  Label Description: Userplane ip-address associated with the request

UPMGR_Statistics

Description: UPF Related Statistics

Sample Query: `'UPMGR_Statistics{UpIp="asr9k-1",MessageType="N4AssocRequest",CounterType="Rx"}'`

Labels:

- Label: `UpIp`

  Label Description: User-plane ip-address associated with the request

Labels:

- Label: `MessageType`

  Label Description: |

  UPF related Messages Info N4AssocRequest: UPF Association Request N4AssocResponse: UPF Association Response N4UpdateRequest: UPF Association Update Request N4UpdateResponse: UPF Association Update Response N4ReleaseRequest: UPF Association Release Request N4ReleaseResponse: UPF Association Release Response N4HeartBeatRequest: UPF Heartbeat Request N4HeartBeatResponse: UPF Heartbeat Response

- Label: `CounterType`

  Label Description: |

  Direction of message Rx: Message Received Tx: Message Transmitted

DHCP Statistics Category

DHCP_HA_packet_drop_stats

Description: DHCP HA Packet Drop stats

Sample Query: `'sum(DHCP_HA_packet_drop_stats{} by (pkt_type)'`

Labels:

- Label: `pkt_type`

  Label Description: |

  Type of packet which can be v4_Unspecified, v4_Discover, v4_Offer, v4_Request, v4_Decline, v4_Ack, v4_Nak, v4_Release, v4_Inform, v4_Unknown v6_INVALID, v6_SOLICIT_Rx , v6_REQUEST_Rx , v6_DECLINE_Rx , v6_RELEASE_Rx, v6_INFORM_Rx, v6_RENEW_Rx, v6_REBIND_Rx, v6_DELETE, v6_FAILURE, v6_TIMER_EXPIRY

- Label: `upf`

  Label Description: upf identifier associated with the request

- Label: `port_id`

  Label Description: Access Interface

- Label: `SrgPeerID`

  Label Description: srg peer id

- Label: `vrf`

  Label Description: Access vrf

DHCP_HA_stale_sess_stats

Description: DHCP HA stale session stats

Sample Query: `'sum(DHCP_HA_stale_sess_stats{} by (pkt_type)'`

Labels:

- Label: `pkt_type`

  Label Description: |

  Type of packet which can be Unspecified, Discover, Offer, Request, Decline, Ack, Nak, Release, Inform, Unknown INVALID, SOLICIT_Rx , REQUEST_Rx , DECLINE_Rx , RELEASE_Rx, INFORM_Rx, RENEW_Rx, REBIND_Rx, DELETE, FAILURE, TIMER_EXPIRY

- Label: `upf`

  Label Description: upf identifier associated with the request

- Label: `port_id`

  Label Description: Access Interface

- Label: `SrgPeerID`

  Label Description: srg peer id

- Label: `vrf`

  Label Description: Access vrf

- Label: `stale_action`

  Label Description: |

  stale action can be untagged, tagged

DHCP_NM_Recon_AFI_Total

Description: Total number DHCP NM recon Afi type

Sample Query: `'sum(DHCP_NM_Recon_AFI_Total{} by (afi)'`

Labels:

- Label: `afi`

  Label Description: |

  Afi type String can be ipv4, IANA, IAPD

- Label: `upf`

  Label Description: upf identifier associated with the request

- Label: `SrgPeerID`

Label Description: srg peer id

DHCP_ReconCP_Events_Total

Description: Total number recon events

Sample Query: `'sum(DHCP_ReconCP_Events_Total{} by (upf)'`

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

Labels:

- Label: `event`

  Label Description: |

  event can be success_found, failure_audit_id_mismatch, failure_session_notfound, success_hold, failure_sm_not_connected

DHCP_UP_inactive_packet_drop_stats

Description: DHCP UP Inactive Packet Drop stats

Sample Query: `'sum(DHCP_UP_inactive_packet_drop_stats{} by (pkt_type)'`

Labels:

- Label: `pkt_type`

  Label Description: |

  Type of packet which can be (with or without v4_/v6_ prefix) v4_Unspecified, v4_Discover, v4_Offer, v4_Request, v4_Decline, v4_Ack, v4_Nak, v4_Release, v4_Inform, v4_Unknown v6_INVALID, v6_SOLICIT_Rx , v6_REQUEST_Rx , v6_DECLINE_Rx , v6_RELEASE_Rx, v6_INFORM_Rx, v6_RENEW_Rx, v6_REBIND_Rx, v6_DELETE, v6_FAILURE, v6_TIMER_EXPIRY

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

Label Description: srg peer id

- Label: `vrf`

  Label Description: Access vrf

DHCP_miscellaneous_failure_stats

Description: DHCP miscellaneous failure stats

Sample Query: `'sum(DHCP_miscellaneous_failure_stats {}) by (pkt_type, fail_reason)'`

Labels:

- Label: `afi`

  Label Description: |

  Afi type String AFIINVAL, IPV4, IPV6

Labels:

- Label: `pkt_type`

  Label Description: |

  session type can be invalid, ipoe, pppoe, l2tp_lns

Labels:

- Label: `fail_reason`

  Label Description: |

  fail reason can be get_request, unmarshal, validation, decode, emptyRequest, get_request, session_key, leaseReservation_request, get_session, dhcp_profile, basic_validation, pppoe_sublabel, pppoe_sess_cfg, sublabel, sess_attr, sm_create_err, sess_create_auth, sm_state, fsm, sm_action, send, early_trigger, fsm_v4, v4_sess_invalid_holdtimer_expiry, v6_sess_invalid_holdtimer_expiry, v4_sess_invalid_int_holdtimer_expiry, v6_sess_invalid_int_holdtimer_expiry, lease_reservation, err_rsp, v4_sess_invalid, v6_sess_invalid

DHCP_session_current

Description: current DHCP sessions count

Sample Query: `'sum(DHCP_session_current{}) by (sess_type, afi,upf)'`

Labels:

- Label: `sess_type`

  Label Description: |

  session type can be invalid, ipoe, pppoe, l2tp_lns

Labels:

- Label: `afi`

  Label Description: |

  Afi type String afi:dual, afi:ipv4, afi:ipv6

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

DHCP_stale_sess_packet_drop_stats

Description: DHCP stale session packet Drop stats

Sample Query: `'sum(DHCP_HA_packet_drop_stats{} by (pkt_type)'`

Labels:

- Label: `pkt_type`

  Label Description: |

  Type of packet which can be v4_Unspecified, v4_Discover, v4_Offer, v4_Request, v4_Decline, v4_Ack, v4_Nak, v4_Release, v4_Inform, v4_Unknown v6_INVALID, v6_SOLICIT_Rx , v6_REQUEST_Rx , v6_DECLINE_Rx , v6_RELEASE_Rx, v6_INFORM_Rx, v6_RENEW_Rx, v6_REBIND_Rx, v6_DELETE, v6_FAILURE, v6_TIMER_EXPIRY

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

Labels:

- Label: `vrf`

  Label Description: Access vrf

DHCPv4_packet_error_stats

Description: DHCPv4 Packet Error stats

Sample Query: `'sum(DHCPv4_packet_error_stats{} by (pkt_type)'`

Labels:

- Label: `pkt_type`

  Label Description: |

  Type of packet which can be Unspecified, Discover, Offer, Request, Decline, Ack, Nak, Release, Inform, Unknown

Labels:

- Label: `fail_reason`

  Label Description: |

  fail reason can be sm_disconnect, pppoe_no_sublabel, pppoe_subcfg_read, sublabel_alloc, session_attr_set, sm_create_exchange, sm_create_reject, sm_not_connected, TokenAllocateFailure, fail_sm_action, fail_encode, SessionLess_PacketRx, NAK_Request_in_Init_State, NAK_Failure_in_Init_State, NAK_Failure_in_Offered_State, NAK_Failure_in_Bound_State, packet_encode, get_session, get_profile, timer_set, no_pool_or_tag_name, ip_alloc, release_ip, sublabel_coversion " TODO.. infraErrorCodeStr..[recordPacketErrorDropStats] there are many infra error codes!"

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

DHCPv6_packet_error_stats

Description: DHCPv6 Packet Error stats

Sample Query: `'sum(DHCPv6_packet_error_stats{} by (pkt_type)'`

Labels:

- Label: `pkt_type`

  Label Description: |

  Type of packet which can be Unspecified, Solicit, Adverstise, Request, Confirm, Renew, Rebind, Reply, Release, Decline, Reconfigure, InformationRequest, RelayForward, RelayReply, Unknown

Labels:

- Label: `fail_reason`

  Label Description: |

  fail reason can be sm_disconnect, pppoe_no_sublabel, pppoe_subcfg_read, sublabel_alloc, session_attr_set, sm_create_exchange, sm_create_reject, sm_not_connected, TokenAllocateFailure, fail_sm_action, fail_encode, SessionLess_PacketRx, NAK_Request_in_Init_State, NAK_Failure_in_Init_State, NAK_Failure_in_Offered_State, NAK_Failure_in_Bound_State, packet_encode, get_session, get_profile, timer_set, no_pool_or_tag_name, ip_alloc, release_ip, sublabel_coversion Additional infra error codes. " TODO.. infraErrorCodeStr..[recordPacketErrorDropStats] there are many infra error codes!"

Labels:

- Label: `ia_type`

  Label Description: |

  IA Type String IANA, IAPD

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

DHCPv4_packet_stats

Description: Total number of DHCPv4 packets received and transmitted

Sample Query: `'sum(DHCPv4_packet_stats{}) by (pkt_type)'`

Labels:

- Label: `pkt_type`

  Label Description: |

  Type of packet which can be Unspecified, Discover, Offer, Request, Decline, Ack, Nak, Release, Inform, Unknown

Labels:

- Label: `direction`

  Label Description: |

  Packet direction In, Out

Labels:

- Label: `upf`

Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

Labels:

- Label: `vrf`

  Label Description: Access vrf

DHCPv4_session_current

Description: current DHCPv4 sessions count

Sample Query: `'sum(DHCPv4_session_current{upf="upf-name"}) by (state)'`

Labels:

- Label: `state`

  Label Description: |

  session state can be v4init, v4offered, v4bound

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

DHCPv6_IA_type_packet_stats

Description: Total number of DHCPv6 na/pd packets received and transmitted

Sample Query: `'sum(DHCPv6_IA_type_packet_stats{}) by (pkt_type, ia_type)'`

Labels:

- Label: `pkt_type`

Label Description: |

Type of packet which can be Unspecified, Solicit, Adverstise, Request, Confirm, Renew, Rebind, Reply, Release, Decline, Reconfigure, InformationRequest, RelayForward, RelayReply, Unknown

Labels:

- Label: `ia_type`

  Label Description: |

  IA Type String IANA, IAPD

Labels:

- Label: `direction`

  Label Description: |

  Packet direction In, Out

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

Labels:

- Label: `vrf`

  Label Description: Access vrf

DHCPv6_packet_stats

Description: Total number of DHCPv6 packets received and transmitted

Sample Query: `'sum(DHCPv6_packet_stats{}) by (pkt_type)'`

Labels:

- Label: `pkt_type`

  Label Description: |

  Type of packet which can be Unspecified, Solicit, Adverstise, Request, Confirm, Renew, Rebind, Reply, Release, Decline, Reconfigure, InformationRequest, RelayForward, RelayReply, Unknown

Labels:

- Label: `direction`

Label Description: |

Packet direction In, Out

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id

Labels:

- Label: `vrf`

  Label Description: Access vrf

DHCPv6_session_current

Description: current DHCPv6 sessions count

Sample Query: `'sum(DHCPv6_session_current{upf="upf-name"}) by (state)'`

Labels:

- Label: `sess_type`

  Label Description: |

  session type can be invalid, ipoe, pppoe, l2tp_lns

Labels:

- Label: `ia_type`

  Label Description: |

  IA Type String IANA, IAPD

Labels:

- Label: `state`

  Label Description: |

  session state can be v6Init, v6Advertised, v6Bound

Labels:

- Label: `upf`

  Label Description: upf identifier associated with the request

Labels:

- Label: `port_id`

  Label Description: Access Interface

Labels:

- Label: `SrgPeerID`

  Label Description: srg peer id