



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

DHCP_Audit_Confirmation_Total

Description: CP audit events in Dhcp

Sample Query: `'sum(DHCP_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 dhcp session-fetch-error: Session audited in sm is not present in dhcp match: Session audited in sm is present in dhcp with matching audit id. mis-match: Session audited in sm is present in dhcp with wrong audit id.

DHCP_ReconCP_Events_Total

Description: CP audit events in Dhcp

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

Labels:

- Label: `upf`
Label Description: UPF ID
Example: asr9k-1
- Label: `event`
Label Description: |
type of event which can be found: Audited Dhcp session is present in sm. not-found: Audited Dhcp session is not present in sm. NM-Recon-IP-Not-allocated: IP address of audited Dhcp session is not allocated in pool. NM-Recon-IP-allocated: IP address of audited Dhcp session is allocated in pool.

IPIDReconReq

Description: CP audit events in PPPoE

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

Labels:

- Label: `Routername`
Label Description: UPF ID
Example: asr9k-1

Labels:

- Label: `status`

Label Description: |

type of event which can be Success: Audited PPPoE has allocation in ipam. Failure: Audited PPPoE does not have allocation in ipam.

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 (Routename)'`

Labels:

- Label: `Routename`

Label Description: UPF ID

Example: `asr9k-1`

Labels:

- Label: `Event`

Label Description: |

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

reconCpEventsTotal

Description: CP audit events

Sample Query: `'sum(reconCpEventsTotal) by (event,instance)'`

Labels:

- Label: `upf`

Label Description: UPF ID

Example: `asr9k-1`

Labels:

- Label: `event`

Label Description: |

type of event which can be AuditStarted: CP audit Started. FSolAuditStarted: CP audit Started for dhcp and pppoe sessions. SMAuditStarted: CP audit Started for sm sessions. dhcp-AuditCompleted: All audit notifications received for dhcp sessions. pppoe-AuditCompleted: All audit notifications received for pppoe sessions. sessmgr-AuditCompleted: All audit notifications received for sm sessions. AuditCompleted: All audit notifications received for all type of sessions.

- Label: `instance`

Label Description: Instance ID of NM Pod

Example: 0, 1

reconCpNotificationTotal

Description: Number of sessions audited

Sample Query: `'sum(reconCpNotificationTotal) by (sessionType)'`

Labels:

- Label: `upf`

Label Description: UPF

Example: asr9k-1

Labels:

- Label: `sessionType`

Label Description: type of session

Example: dhcp, pppoe, sessmgr

smc_audit_cp_stats_total

Description: CP audit events in SM

Sample Query: `'sum(smc_audit_cp_stats_total) by (Upf)'`

Labels:

- Label: `SessType`

Label Description: Type of session

Example: dhcp

Labels:

- Label: `Upf`

Label Description: Upf ID

Example: asr9k-1

Labels:

- Label: `status`

Label Description: |

status can be following- DhcpFsolMatch: Session Audited by dhcp has matching audit id. PppFsolMatch: Session Audited by pppoe has matching audit id. DhcpFsolMismatch: Session Audited by dhcp has audit id mismatch. PppFsolMismatch: Session Audited by pppoe has audit id mismatch. DhcpMatch: Dhcp Session Audited by sm has matching audit id. PppV4Match: PPPoE v4 Session Audited by sm has matching audit id. PppV6Match: PPPoE v6 Session Audited by sm has matching audit id. DhcpMismatch: Dhcp Session Audited by sm has audit id mismatch. DhcpAuditIdMismatch: Dhcp Session Audited by sm has cdl audit id mismatch. PppAuditIdMismatch: PPPoE Session Audited by sm has cdl audit id mismatch. DhcpAuditConfirmed: Dhcp Confirmed audit id match for session audited in sm. PppV6AuditConfirmed: PPPoE Confirmed audit id match for session audited in sm. PppV6AuditNotConfirmed: PPPoE Confirmed audit id mismatch for session audited in sm. DhcpAuditNotConfirmed: Dhcp Confirmed audit id mismatch for session audited in sm. PppV6DhcpAuditConfirmed: Dhcp Confirmed audit id mismatch for pppoe session audited in sm. PppV6DhcpAuditNotConfirmed: Dhcp Confirmed audit id mismatch for pppoe session audited in sm. PppV4AuditNotConfirmed: PPPoE Confirmed audit id mismatch for session audited in sm. PppV4AuditConfirmed: PPPoE Confirmed audit id match for session audited in sm.

CNBNG DHCP Statistics Category

DHCPv4_packet_stats

Description: Total DHCPv4 packet statistics

Sample Query:

```
'DHCPv4_packet_stats{pkt_type="Discover",upf="asr9k-1",port_id="Bundle-Ether1.1"}'
```

Labels:

- Label: `pkt_type`

Label Description: Packet type

Example: Discover, Request, Release, Decline, Inform, Offer, Ack, Nak

- Label: `direction`

Label Description: Transmitted or Received packet

Example: In, Out

- Label: `upf`

Label Description: UPF Name

Example: Any string

- Label: `port_id`

Label Description: Access interface Name

Example: Any string

- Label: `vrf`

Label Description: VRF Name

Example: Any string

DHCPv6_packet_stats

Description: Total DHCPv6 packet statistics

Sample Query: 'DHCPv6_packet_stats{pkt_type="Solicit",upf="asr9k-1",port_id="Bundle-Ether1.1"}'

Labels:

- Label: `pkt_type`
Label Description: Packet type
Example: Solicit, Request, Renew, Rebind, Release, Decline, Inform, Advertise, Reply
- Label: `direction`
Label Description: Transmitted or Received packet
Example: In, Out
- Label: `upf`
Label Description: UPF Name
Example: Any string
- Label: `port_id`
Label Description: Access interface Name
Example: Any string
- Label: `vrf`
Label Description: VRF Name
Example: Any string

db_records_total

Description: Current number of DHCP sessions

Sample Query: 'db_records_total{session_type="dhcp:ipoe"}'

Labels:

- Label: `session_type`
Label Description: Session type
Example: dhcp:ipoe, dhcp:ipoe:<upf>, dhcp:ipoe:<upf>:<intf>, dhcp:pppoe, dhcp:pppoe:<upf>, dhcp:pppoe:<upf>:<intf>, dhcp:afi:dual, dhcp:afi:ipv4, dhcp:afi:ipv6, dhcp:ipv4-state:<state>, dhcp:ipv6-addr-state:<state>, dhcp:ipv6-pfx-state:<state>

CNBNG Flowcontrol Statistics Category

metrics: incoming_drop_queued_total

Description: Total number of incoming queued request dropped

Sample Query:

```
'incoming_drop_queued_total{interface="n4",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
Example: N4, GTPU
- Label: `local_address`
Label Description: Local Address
Example: Any string
- Label: `protocol`
Label Description: Protocol Type
Example: Udp
- Label: `peer_address`
Label Description: Peer Address
Example: Any string
- Label: `cause`
Label Description: Drop Cause
Example: DispatcherQueueFull, DispatcherQueueNotAvailable, DispatcherRetryRequestDrop, DispatcherThresholdRequestDrop
- Label: `queue_id`
Label Description: Queue Index
Example: Integer value represented as string

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
Example: N4, GTPU
- Label: `protocol`
Label Description: Protocol Type
Example: Udp
- Label: `queue_id`

Label Description: Queue Index

Example: Integer value represented as string

metrics: virtual_message_drop_total

Description: Total number of messages dropped in virtual id queue

Sample Query: 'virtual_message_drop_total{interface="n4",
msg_type="pfcpresponse",virtual_msg_id="1",cause="VirtualMsgQueueFull"}'

Labels:

- Label: interface

Label Description: Interface Name

Example: n4

Labels:

- Label: msg_type

Label Description: Logical Message Type

Example: pfcpresponse, lcpkeepalive, pfcpkeepalive, sessionreport, all

- Label: virtual_msg_id

Label Description: Virtual Message Id of Queue

Example: 1, 2, 3, 4, 5

- Label: cause

Label Description: Drop Cause

Example: VirtualMsgQueueFull, PendingRequestsLimitReached

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

Example: n4

Labels:

- Label: msg_type

Label Description: Logical Message Type

Example: pfcpresponse, lcpkeepalive, pfcpkeepalive, sessionreport, all

Labels:

- Label: `virtual_msg_id`
Label Description: Virtual Message Id of Queue
Example: 1, 2, 3, 4, 5

CNBNG IPAM Statistics Category

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

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

- 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

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
- Label: `upf`
Label Description: upf identifier associated with the request
Example: Any string
- Label: `grInstId`
Label Description: GR instance ID
Example: GR instance ID

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

- Label: `upf`

Label Description: upf identifier associated with the request

Example: Any string

- Label: `grInstId`

Label Description: GR instance ID

Example: GR instance ID

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: Router name

Example: `lps_lns_asr9k-1`

- Label: `MessageType`

Label Description: Message Type

Example:

BGIPCRequest,BGIPCResponse,SessionDeleteReq,SessionDeleteRsp,SessionReleaseReq,SessionReleaseRsp,SessionAllocateReq,SessionAllocateRsp,BGIPCDNResponse

- Label: Status

Label Description: Status

Example: IPC-failure,Success,Failure

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: Router name

Example: lps_lns_asr9k-1

- Label: PacketType

Label Description: Packet Type

Example: CDN,HELLO,ICCN,ICRQ,PPP,SCCCN,SCCRQ,StopCCN,ZLB ACK,ICRP,SCCRP,StopCCN

- Label: Direction

Label Description: Direction

Example: Rx,Tx

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: Router name

Example: lps_lns_asr9k-1

Labels:

- Label: PacketType

Label Description: Packet Type

Example: CDN,HELLO,ICCN,ICRQ,PPP,SCCCN,SCCRQ,StopCCN,ZLB ACK,ICRP,SCCRP,StopCCN

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: Router name

Example: lps_lns_asr9k-1

Labels:

- Label: MessageType

Label Description: Message Type

Example: NoSessionTimeout,RxStopCCNfromLAC

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

Example: Gtpu

- Label: message_direction

Label Description: Transmitted or received packet

Example: inbound, outbound

- Label: status

Label Description: Status of packet processing

Example: accepted, discarded, decode-error, encode-error

- Label: message_name

Label Description: IPoE message type

Example: IPoE

- 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
Example: Gtpu
- Label: `message_direction`
Label Description: Transmitted or received packet
Example: inbound, outbound
- Label: `status`
Label Description: Status of packet processing
Example: accepted, discarded, decode-error, encode-error
- Label: `message_name`
Label Description: PPPoE message type
Example: PPPoE
- 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="Pfcip",message_name="n4_session_establishment_req"}'`

Labels:

- Label: `pkt_type`
Label Description: Type of packet
Example: Pfcip, Gtpu

Labels:

- Label: `message_direction`
Label Description: Transmitted or received packet
Example: inbound, outbound
- Label: `status`
Label Description: Status of packet processing

Example: accepted, discarded, decode-error, encode-error

- Label: `transport_type`

Label Description: Initial or retransmitted request

Example: original, retransmitted

- Label: `message_name`

Label Description: pfcg/gtpu message type

Example: `n4_session_establishment_req`, `n4_session_establishment_res`, `n4_session_modification_req`, `gtpu_bng_control_packet`, `gtpu_bng_control_packet_dhcp`, `gtpu_bng_control_packet_pppoe`

- Label: `upf`

Label Description: upf identifier associated with the request

Example: Any string

CNBNG PPPOE or PPP Statistics Category

PPPOE_L2TP_ipc_events_total

Description: PPPoE L2TP ipc total

Sample Query:

```
'PPPOE_L2TP_ipc_events_total(MessageType="L2TPIDAllocReq",PortID="Bundle-Ether1.2",Routename="lps_lns_asr9k-2",Status="Success")'
```

Labels:

- Label: `MessageType`

Label Description: Message Type

Example: `L2TPIDAllocReq`,`L2TPIDReleaseReq`

- Label: `PortID`

Label Description: Access interface Name

Example: Any string

- Label: `Routename`

Label Description: UPF Name

Example: Any string

- Label: `Status`

Label Description: Status of IPC processing

Example: `Success`,`Failure`

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_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: `Routrname`

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",Routrname="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: `Routrname`

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

PPPoE_session_limits_total

Description: Total number of PPPoE session limit hits

Sample Query: 'PPPoE_session_limits_total{profile="pppoe-prof1",limit="circuit-id"}'

Labels:

- Label: `profile`

Label Description: pppoe profile name

Example: Any string

Labels:

- Label: `limit_type`

Label Description: Type of pppoe limit

Example: Any string

Labels:

- Label: `status`

Label Description: Status of pppoe limit

Example: accepted, warned, rejected

db_records_total

Description: Current PPPoE session count

Sample Query: `'db_records_total{session_type="PPPOE:dual"}'`

Labels:

- Label: `session_type`

Label Description: Session type

Example: PPPOE, PPPOE:<upf>, PPPOE:<upf>:<intf>, PPPOE:dual, PPPOE:ipv4, PPPOE:ipv6

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 address

Example: Any string

- Label: `radMsgCode`

Label Description: Message type

Example: CoaReq, DMReq, CoaAck, CoaNak

- Label: `grInstId`

Label Description: GR instance ID

Example: GR instance ID

Radius_CoaDM_Requests_Statistics

Description: Total number of radius COA and DM packets sent and received

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

Labels:

- Label: `radSvrIp`

Label Description: Radius Server IP address

Example: Any string

- Label: `radMsgCode`
Label Description: Message type
Example: CoaReq, DMReq, CoaAck, CoaNak
- Label: `radPacketType`
Label Description: Direction
Example: Tx, Rx
- Label: `radResult`
Label Description: Result
Example: Success, Failure_Invalid_Request
- Label: `grInstId`
Label Description: GR instance ID
Example: GR instance ID

Radius_Server_Status

Description: Display active/inactive status of radius-server

Sample Query:

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

Labels:

- Label: `radSvrIP`
Label Description: Radius Server IP address
Example: Any string

Labels:

- Label: `radSvrPort`
Label Description: Radius Server Port
Example: Any string
- Label: `radSvrPortType`
Label Description: Type of server
Example: Auth, Acct

Radius_requests_current

Description: Current outstanding radius requests

Sample Query:

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

Labels:

- Label: `radSvrIp`

Label Description: Radius Server IP address

Example: Any string

Labels:

- Label: `radSvrPort`

Label Description: Radius Server Port

Example: Any string

Labels:

- Label: `radSvrPortType`

Label Description: Type of server

Example: Auth, Acct

- Label: `radMsgCode`

Label Description: Message type

Example: AaaAuthReq, AaaAcctReq

- Label: `radPacketType`

Label Description: Direction

Example: Tx, Rx

- Label: `grInstId`

Label Description: GR instance ID

Example: GR instance ID

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 address

Example: Any string

Labels:

- Label: `radSvrPort`

Label Description: Radius Server Port

Example: Any string

Labels:

- Label: `radSvrPortType`

Label Description: Type of server

Example: Auth, Acct

Labels:

- Label: `radMsgCode`

Label Description: Message type

Example: AaaAuthReq, AaaAcctReq

- Label: `radPacketType`

Label Description: Direction

Example: Tx, Retry_Tx, Rx

- Label: `radResult`

Label Description: Result

Example: Success, Timeout, Failure_Reject, Failure_NoServer

- Label: `grInstId`

Label Description: GR instance ID

Example: GR instance ID

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

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 value
Example: Active, InActive, Deleting, Deleted
- Label: `UpIp`
Label Description: upf identifier associated with the request
Example: Any string