

# ASR 5000系列HSGW上的“show session progress”仅报告给定IMSI的一个已连接APN ( 如果多个 )

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## 简介

本文解释HSGW上show sub和show session progress命令之间会话计数的差异。

呼叫ID是ASR5K平台上用于表示呼叫会话的实体。在分组数据网络网关(PGW)上，对于特定用户国际移动会话标识符(IMSI)，每个应用点名称(APN)连接都有唯一的呼叫ID。相反，在eHRPD服务网关(HSGW)上，所有APN共享IMSI的相同呼叫ID。由于show sub命令基于子会话进行报告，因此此命令的计数可正确反映APN连接总数。相反，按呼叫ID显示会话进度报告，因此计数将低于PGW，不会反映APN总数。

## 解释

在PGW上，对于show subscriber命令和“show session progress”的同一IMSI，APN连接会彼此分开计数。以下是通过三个不同APN连接的单个用户的示例，因此分配了三个单独的呼叫ID。请注意，对于给定IMSI，呼叫ID的值可以接近。

```
[local]PGW> show sub pgw-only imsi 311480131055555
2015613:41:24
+ - (W) - pgw-gtp-ipv4(Y) - pgw-gtp-ipv6
|      (Z) - pgw-gtp-ipv4-ipv6(X) - pgw-pmip-ipv4
| (U) - pgw-pmip-ipv6(V) - pgw-pmip-ipv4-ipv6
| (.) -
|
|+ - (U) - UTRAN(G) - GERAN
||      (W) - WLAN(N) - GAN
|| (U) - HSPA(E) - eUTRAN
|| (H) - eHRPD(.) -
|
||+ - (C) - (c) -
|||      (d) - (u) -
||
|||+ - PLMN:      (H) - (V) -
|||| (R) - (u) -
||||
||||+ -      (D) - (E) -
|||||
|||||
```

```

|||||+ - (A) - IMSI(U) - IMSI
|||||(O) - IMEI(N) -
|||||
|||||
|||||(L) -
|||||(S) -
|||||(u) -
||||| |
||||| |
||||| +
||||| EBI--+ |
||||| | |
vvvv CALLID IMSI/IMEI v IP APN TIME-IDLE
- - -
YECHDN 4d9c05f3 311480131055555 005 L 2600:5555:8007:71a5:0:4d:9c05:f301
APN1 00h16m27s
ZECHDN 4d9c0c9e 311480131055555 006 L 2600:5555:b02f:6bec:0:4d:9c0c:9e01
100.123.165.246 APN2 00h00m43s
ZECHDN 4da040b5 311480131055555 007 L 2600:5555:9006:9f:0:4d:a040:b501
10.150.22.115 APN3 00h00m45s

```

在以下输出中，在PGW上看到长期演进(LTE)(gtp)和演进高速分组数据(eHRPD)(pmip)计数。show sub sum和show session progress值之间可以相互印证：

```

[local]PGW>

3822449

3822449 0

pdsn-simple-ipv4: 0 pdsn-simple-ipv6:
0

pdsn-mobile-ip: 0 ha-mobile-ipv6:
0

hsgw-ipv6: 0 hsgw-ipv4:
0

hsgw-ipv4-ipv6: 0 pgw-pmip-ipv6:
258454

pgw-pmip-ipv4: 209 pgw-pmip-ipv4-ipv6:
220120

pgw-gtp-ipv6: 1793806 pgw-gtp-ipv4:
6701

pgw-gtp-ipv4-ipv6: 1543679 sgw-gtp-ipv6:
0

[local]PGW>

```

3821347

6909PDN-TYPE-IPv4 CONNECTED

2051456PDN-TYPE-IPv6 CONNECTED

1762878@ PDN-TYPE-IPv4+IPv6 CONNECTED

那么：

1793806 + 258454 = 2052260

1543679 + 220120 = 1763799

HSGWIMSIAPNIDRRQAAASTaHSGWIMSIPPP VSNCPAPN IMSIAPNPDNHSGW

APNHSGWAPNIIPv4IPv6IPv4+IPv6show sub

```
[HSGWin]HSGW>
+ - (S)- pdsn-simple-ip(M)- pdsn-mobile-ip(H)- ha-mobile-ip
|   (P)- ggsn-pdp-type-ppp(h)- ha-ipsec(N)- lns-l2tp
| (I)- ggsn-pdp-type-ipv4(A)- asngw-simple-ip(G)- IPSG
| (V)- ggsn-pdp-type-ipv6(B)- asngw-mobile-ip(C)- cscf-sip
| (z)- ggsn-pdp-type-ipv4v6
| (R)- sgw-gtp-ipv4(O)- sgw-gtp-ipv6(Q)- sgw-gtp-ipv4-ipv6
| (W)- pgw-gtp-ipv4(Y)- pgw-gtp-ipv6(Z)- pgw-gtp-ipv4-ipv6
| (@)- saegw-gtp-ipv4(#)- saegw-gtp-ipv6($)- saegw-gtp-ipv4-ipv6
| (&- cgw-gtp-ipv4(^)- cgw-gtp-ipv6(*)- cgw-gtp-ipv4-ipv6
| (p)- sgsn-pdp-type-ppp(s)- sgsn(4)- sgsn-pdp-type-ip
| (6)- sgsn-pdp-type-ipv6(2)- sgsn-pdp-type-ipv4-ipv6
| (L)- pdif-simple-ip(K)- pdif-mobile-ip(o)- femto-ip
| (F)- standalone-fa(J)- asngw-non-anchor
| (e)- ggsn-mbms-ue(i)- asnpc(U)- pdg-ipsec-ipv4
| (E)- ha-mobile-ipv6(T)- pdg-ssl(v)- pdg-ipsec-ipv6
| (f)- hnbgw-hnb(g)- hnbgw-iu(x)- s1-mme
| (a)- phsgw-simple-ip(b)- phsgw-mobile-ip(y)- asngw-auth-only
| (j)- phsgw-non-anchor(c)- phspc(k)- PCC
| (X)- HSGW(n)- ePDG(t)- hnbgw-ue
| (m)- hnbgw-henb(q)- wsg-simple-ip(r)- samog-pmip
| (D)- bng-simple-ip(l)- pgw-pmip(u) -
| (+)- samog-eogre
|
|+ - (X)- CDMA 1xRTT(E)- GPRS GERAN(I)- IP
||   (D)- CDMA EV-DO(U)- WCDMA UTRAN(W) - LAN
|| (A)- CDMA EV-DO REVA(G)- GPRS Other(M)- WiMax
|| (C)- CDMA(N)- GAN(O)- Femto IPsec
|| (P)- PDIF(S)- HSPA(L)- eHRPD
|| (T)- eUTRAN(B)- PPPoE(F)- FEMTO UTRAN
|| (H)- PHS(Q)- WSG(.) - /
|
||+ - (C) - (c) -
|||   (d) - (u) -
||| (r)- CSCF(R)- CSCF
```

```

||| (U) - CSCF -
||
|||+ - (A) - (N) -
|||| CSCF(.) -
||||
||||
||||+-Link(A) - /(D) - /
|||||
|||||
|||||+(I) - IP(M) - IP(L) - L2TP
|||||| (P) - - IP(i) - IP-in-IP(G) - GRE
|||||| (V) - IPv6-in-IPv4(S) - IPSEC(C) - GTP
|||||| (A) - R4(IP-GRE)(T) - IPv6(u) -
|||||| (W) - PMIPv6(IPv4)(Y) - PMIPv6(IPv4+IPv6)(R) - IPv4+IPv6
|||||| (v) - PMIPv6(IPv6)(/) - GTPv1SAMOG(+) - GTPv2SAMOG
|||||
|||||

```

```

vvvvv CALLID MSIDIP
- -
XLCNDv 00004e76 311286039685555 6311480126445555@nai.epc.mnc480.mcc311.3gppnetwork.org
2600:5555:8020:334c:0:e:b6b5:aa01
XLCNDY 00004e76 311286039685555 6311480126445555@nai.epc.mnc480.mcc311.3gppnetwork.org
2600:5555:b027:6f8e:0:e:b6cd:1a01, 100.121.59.239

```

```

XLCNDv 0000501c 311289787584444 6311480085164444@nai.epc.mnc480.mcc311.3gppnetwork.org
2600:5555:8027:c7da:0:20:996b:cd01
XLCNDY 0000501c 311289787584444 6311480085164444@nai.epc.mnc480.mcc311.3gppnetwork.org
2600:5555:b020:1fbc:0:20:996c:4201, 100.82.205.107

```

“show sub summary”“show session progress”SIMPLE-IPv6show sub summaryhsgw-ipv6.....

hsgw-ipv4-ipv6SIMPLE-IPv4+IPv6hsgw-ipv6SIMPLE-IPv6IMSIIIPv4/IPv6APNAPNsimple-  
 IPv4+IPv6IPv6APNIMSSIMPLE-IPv6IPv4+SIMPLE-IPv6IPv6IPv4IMSIAPNshow session progress  
 IMSIHSGWIMSIID

```

[HSGWin]HSGW>

460307

39756 420551

hsgw-ipv6: 247972 hsgw-ipv4:
1632

hsgw-ipv4-ipv6: 209968 pgw-pmip-ipv6: 0

```

```

[HSGWin]HSGW>

255045

20713

234332

811LCP-NEG

```

84LCP-UP

276AUTHENTICATING

0BCMCS

270AUTHENTICATED

72SIMPLE-IPv4 CONNECTED

43944SIMPLE-IPv6 CONNECTED

209555SIMPLE-IPv4+IPv6 CONNECTED

查看一个仅连接一个IMSI和三个APN的HSGW-PGW LAB节点的输出时，上述内容更加清晰。show sub summary报告所有六个子会话，三个用于HSGW，三个用于PGW。根本区别在于，HSGW会话都共享相同的呼叫ID，而对于PGW，呼叫ID是唯一的。

同时，对于“show session progress”，报告四个呼叫，三个用于PGW上的APN，一个用于HSGW上的IPv4+IPv6 APN，有效代表所有三个HSGW APN，提供总共四个会话，而不是show sub命令报告的实际六个会话。

```
[local]ASR# show sub summary
```

6

60

**hsgw-ipv6:1 hsgw-ipv4:1**

**hsgw-ipv4-ipv6:1** pgw-pmip-ipv6:1

pgw-pmip-ipv4:1 pgw-pmip-ipv4-ipv6:1

```
[local]ASR# show session progress
```

4

4

1SIMPLE-IPv4+IPv6 CONNECTED<< HSGW

1PDN-TYPE-IPv4 CONNECTED

1PDN-TYPE-IPv6 CONNECTED

1PDN-TYPE-IPv4+IPv6 CONNECTED