

HSGW上的ASR 5000系列「顯示會話進度」僅報告給定IMSI的一個已連線APN (如果超過一個)

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簡介

本文說明HSGW上show sub和show session progress命令之間的會話計數差異。

Call ID是在ASR5K平台上用於表示呼叫會話的實體。在封包資料網路閘道(PGW)上，特定使用者國際行動作業階段識別碼(IMSI)的每個應用點名稱(APN)連線都有一個唯一的呼叫ID。反之，在eHRPD服務閘道(HSGW)上，所有APN對於IMSI共用相同的呼叫ID。由於show sub命令基於子會話報告，因此此命令的計數正確反映了APN連線的總數。相反，以呼叫ID為基礎顯示會話進度報告，因此計數將低於PGW，並且不會反映APN的總數。

說明

在PGW上，對於show subscriber命令和「show session progress」的相同IMSI，APN連線會彼此分開計數。以下是一個通過三個不同APN連線的單個使用者，因此分配了三個單獨呼叫ID的示例。請注意，對於給定的IMSI，呼叫ID的值可以非常接近。

```
[local]PGW> show sub pgw-only imsi 311480131055555
2015609134124
+-----Access(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) -
||      (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-----+  |
|||||                                     |  |
vvvvvvv CALLID IMSI/IMEI v IP APN
-----
YECHDN 4d9c05f3 3114801310555 005 L 2600:555:8007:71a5:0:4d:9c05:f301
APN1 00h16m27s
ZECHDN 4d9c0c9e 31148013105555 006 L
2600:5555:b02f:6bec:0:4d:9c0c:9e01,100.123.165.246 APN2 00h00m43s
ZECHDN 4da040b5 31148013105555 007 L
2600:555:9006:9f:0:4d:a040:b501,10.150.22.115 APN3 00h00m45s

```

在以下輸出中，PGW上可見長期演化(LTE)(gtp)和演化高速分組資料(eHRPD)(pmip)計數。可以在 show sub sum和show session progress之間驗證這些值：

```

[local]PGW> show subscriber summary

          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

```

6909@ PDN-TYPE-IPv4 CONNECTED STATE

2051456 @ PDN-TYPE-IPv6 CONNECTED STATE

1762878 @ PDN-TYPE-IPv4+IPv6 CONNECTED STATE

所以：

1793806 + 258454 = 2052260

1543679 + 220120 = 1763799

HSGWIMSIAPNIDRRQAAASTaHSGWIMSIPPP VSNCPAPN IMSIAPNPDNHSGW

APNHSGWAPNIIPv4IPv6IPv4+IPv6show

```
[HSGWin]HSGW> show sub all
+-----Access(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)- IPSEG
| (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) - - fa(J)- asngw -
| (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
|
|+-----Access(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(.) -
|||
||||
|||+ - (A) - /(D) - /
||||
||||
||||+ (I) - IP (M) - - IP (L) - L2TP
||||| (P) - - - IP (i) - IP (G) - GRE
||||| (V) - IPv6IPv4 (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:4201100.82.205.107

```

show sub summaryshow session progressSIMPLE-IPv6show sub summaryhsgw-ipv6.....

hsgw-ipv4-ipv6SIMPLE-IPv4+IPv6hsgw-ipv6SIMPLE-IPv6IMSIIPv4/IPv6APNSIMPLE-IPv4+IPv6
 IPv6APNIMSSIMPLE-IPv6IPv4+IPv6IPv4SIMPLE-IPv6show session progressIMSIIMSIAPN
 HSGWIMSIID

[HSGWin]HSGW>

460307

39756

420551

hsgw-ipv6: 247972 hsgw-ipv4:
 1632

hsgw-ipv4-ipv6: 20968 pgw-pmip-ipv6: 0

[HSGWin]HSGW>

255045

20713

234332

811LCP-NEG

84@ LCP-UP

```
276@
```

```
0@ BCMCS
```

```
270@
```

```
72SIMPLE-IPv4
```

```
43944 @ SIMPLE-IPv6 CONNECTED state
```

```
209555 @ SIMPLE-IPv4+IPv6 CONNECTED state
```

當檢視一個僅連線三個APN的IMSI的組合HSGW-PGW LAB節點的輸出時，上述情況更加清晰。顯示子摘要報告全部六個子會話，三個用於HSGW，三個用於PGW。根本區別在於HSGW會話共用相同的呼叫ID，而對於PGW，呼叫ID是唯一的。

同時，對於「show session progress」，報告了4個呼叫，其中3個用於PGW上的APN，1個用於HSGW上的IPv4+IPv6 APN，這實際上代表了所有三個HSGW APN，因此總計有4個會話，而不是show子命令報告的實際六個。

```
[local]ASR#
```

```
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#
```

```
4  
4
```

```
1SIMPLE-IPv4+IPv6 CONNECTED state<<HSGW
```

```
1@ PDN-TYPE-IPv4 CONNECTED state
```

```
1@ PDN-TYPE-IPv6 CONNECTED STATE
```

```
1@ PDN-TYPE-IPv4+IPv6 CONNECTED STATE
```