

排除4G ASR KPI因mme-hss-user-unknown断开原因增加而降级故障

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简介

本文档介绍如何对4G连接成功率(ASR)关键性能指标(KPI)降级发生时的问题进行故障排除，当mme-hss-user-unknown断开原因增加时。

先决条件

要求

Cisco 建议您了解以下主题：

- 5000/5500的硬件知识
- StarOS

使用的组件

本文档不限于特定的软件和硬件版本。

本文档中的信息都是基于特定实验室环境中的设备编写的。

本文档中使用的所有设备最初均采用原始（默认）配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

缩写

ASR
KPI

配售成功率
关键绩效指标(KPI)

空气
AIA
CER
CEA
MME
HSS
DPC
RFC
AVP

身份验证信息请求
身份验证信息答案
功能交换请求
功能交换答案
移动管理实体
家庭用户服务器
数据处理卡
请求注释
属性值对

问题

服务提供商报告一个MME中4G ASR降级，并且断开原因“mme-hss-user-unknown”增加。

"mme-hss-user-unknown(375)"断开原因描述由于MME HSS用户未知而断开的会话总数。

捕获到的一个故障跟踪报告HSS拒绝身份验证作为AIA消息中的结果代码
DIAMETER_MISSING_AVP(5005)。

MME不断从HSS获取“DIAMETER_MISSING_AVP(5005)”，故障AIA消息的样式如下：

```
INBOUND>>>>> From diamproxy:52 oxy_conn_mgmt.c:3406 (Callid 4c0ea07a) 08:42:11:109
Eventid:81991(5)
Diameter message from 10.5.40.X:6000 to 10.0.231.Y:49417
Base Header Information:
  Version:          0x01          (1)
  Message Length:   0x000110      (272)
  Command Flags:    0x40          (64)  PXY
  Command Code:     0x00013e      (318) Authentication-Information-Answer
  Application ID:   0x01000023     (16777251)  3GPP-S6a
  Hop2Hop-ID:      0xad40545     (2914256197)
  End2End-ID:      0x2cafadd5     (749710805)
AVP Information:
  [M] Session-Id
    Code:           0x00000107     (263) Session-Id
    Flags:          0x40          (64)  [M]
    Length:         0x000069      (105)
    Data: 0004-
diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNET;1276027002;2496613;5c204e8b-16502
  [M] Auth-Session-State
    Code:           0x00000115     (277) Auth-Session-State
    Flags:          0x40          (64)  [M]
    Length:         0x00000c      (12)
    Data: NO_STATE_MAINTAINED (1)
  [M] Origin-Host
    Code:           0x00000108     (264) Origin-Host
    Flags:          0x40          (64)  [M]
    Length:         0x000033      (51)
    Data: hss101.epc.mnc0XY.mcc404.3gppnetwork.org
  [M] Origin-Realm
    Code:           0x00000128     (296) Origin-Realm
    Flags:          0x40          (64)  [M]
    Length:         0x000029      (41)
    Data: epc.mnc0XY.mcc404.3gppnetwork.org
  [M] Result-Code
    Code:           0x0000010c     (268) Result-Code
    Flags:          0x40          (64)  [M]
```

```

Length:      0x00000c   (12)
Data: DIAMETER_MISSING_AVP (5005) >> DIAMETER_MISSING_AVP(5005)received from HSS
[M] Failed-AVP
Code:        0x00000117 (279) Failed-AVP
Flags:       0x40       (64) [M]
Length:      0x000018   (24)
[V] [M] Visited-PLMN-Id
Code:        0x0000057f (1407) Visited-PLMN-Id
Flags:       0xc0       (192) [V] [M]
Length:      0x00000d   (13)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 0x00

```

故障排除

本部分提供可用于排除ASR KPI因mme-hss-user-unknown断开原因增加而降级问题的信息。

跟踪收集的“监控子”，并将其与成功和失败场景进行比较。从MME到HSS服务器的AIR中缺少支持的功能AVP。

成功的AIR和AIA消息从监控子跟踪中捕获。以下是从MME发送到HSS的AIR消息：

```

Monday December 24 2018
<<<<OUTBOUND From diamproxy:49 diamproxy_rlf.c:553 (Callid 62adced4) 08:42:39:580
Eventid:81990(5)
Diameter message from 10.0.231.Y:48273 to 10.5.40.X:6000
Base Header Information:
Version:      0x01      (1)
Message Length: 0x0001c4 (452)
Command Flags: 0xc0      (192) REQ PXY
Command Code: 0x00013e (318) Authentication-Information-Request
Application ID: 0x01000023(16777251) 3GPP-S6a
Hop2Hop-ID:   0xadbf12a (2914906410)
End2End-ID:   0x60bd9382 (1623036802)
AVP Information:
[M]Session-Id
Code:        0x00000107 (263) Session-Id
Flags:       0x40       (64) [M]
Length:      0x000069 (105)
Data: 0001-
diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNET;1655557844;4204805;5c204ea7-30502
[M]Auth-Session-State
Code:        0x00000115 (277) Auth-Session-State
Flags:       0x40       (64) [M]
Length:      0x00000c (12)
Data: NO_STATE_MAINTAINED (1)
[M]Origin-Host
Code:        0x00000108 (264) Origin-Host
Flags:       0x40       (64) [M]
Length:      0x00004f (79)
Data: 0001-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
[M]Origin-Realm
Code:        0x00000128 (296) Origin-Realm
Flags:       0x40       (64) [M]
Length:      0x00002d (45)
Data: MME.epc.mnc0XY.mcc404.3gppnetwork.org
[M]Destination-Realm
Code:        0x0000011b (283) Destination-Realm
Flags:       0x40       (64) [M]
Length:      0x000029 (41)

```

```

Data: epc.mnc0XY.mcc404.3gppnetwork.org
[M]User-Name
Code:      0x00000001 (1) User-Name
Flags:     0x40        (64) [M]
Length:    0x000017   (23)
Data: 404XY0000011111
[V]Supported-Features
Code:      0x00000274 (628) Supported-Features
Flags:     0x80        (128) [V]
Length:    0x000038   (56)
Vendor-Id: 0x000028af (10415) 3GPP
[M]Vendor-Id
Code:      0x0000010a (266) Vendor-Id
Flags:     0x40        (64) [M]
Length:    0x00000c   (12)
Data: 10415
[V]Feature-List-ID
Code:      0x00000275 (629) Feature-List-ID
Flags:     0x80        (128) [V]
Length:    0x000010   (16)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 1
[V]Feature-List
Code:      0x00000276 (630) Feature-List
Flags:     0x80        (128) [V]
Length:    0x000010   (16)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 469763591
[V] [M]Requested-EUTRAN-Authentication-Info
Code:      0x00000580 (1408) Requested-EUTRAN-Authentication-Info
Flags:     0xc0        (192) [V] [M]
Length:    0x00002c   (44)
Vendor-Id: 0x000028af (10415) 3GPP
[V] [M] Number-Of-Requested-Vectors
Code:      0x00000582 (1410) Number-Of-Requested-Vectors
Flags:     0xc0        (192) [V] [M]
Length:    0x000010   (16)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 1
[V] [M] Immediate-Response-Preferred
Code:      0x00000584 (1412) Immediate-Response-Preferred
Flags:     0xc0        (192) [V] [M]
Length:    0x000010   (16)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 1
[V] [M]Visited-PLMN-Id
Code:      0x0000057f (1407) Visited-PLMN-Id
Flags:     0xc0        (192) [V] [M]
Length:    0x00000f   (15)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 0x04f4YX

```

从HSS发送到MME的AIA消息是：

```

INBOUND>>>> From diamproxy:49 oxy_conn_mgmt.c:3406 (Callid 62adced4) 08:42:39:601
Eventid:81991(5)
Diameter message from 10.5.40.X:6000 to 10.0.231.Y:48273
Base Header Information:
Version:      0x01        (1)
Message Length: 0x000198   (408)
Command Flags: 0x40        (64)PXY
Command Code:  0x00013e   (318) Authentication-Information-Answer
Application ID: 0x01000023(16777251) 3GPP-S6a

```

Hop2Hop-ID: 0xadbf12a (2914906410)
End2End-ID: 0x60bd9382 (1623036802)

AVP Information:

[M]Session-Id

Code: 0x00000107 (263) Session-Id
Flags: 0x40 (64) [M]
Length: 0x000069 (105)
Data: 0001-

diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNET;1655557844;4204805;5c204ea7-30502

[M]Auth-Session-State

Code: 0x00000115 (277) Auth-Session-State
Flags: 0x40 (64) [M]
Length: 0x00000c (12)
Data: NO_STATE_MAINTAINED (1)

[M]Origin-Realm

Code: 0x00000128 (296) Origin-Realm
Flags: 0x40 (64) [M]
Length: 0x000029 (41)
Data: epc.mnc0XY.mcc404.3gppnetwork.org

[M]Origin-Host

Code: 0x00000108 (264) Origin-Host
Flags: 0x40 (64) [M]
Length: 0x000033 (51)
Data: hss304.epc.mnc0XY.mcc404.3gppnetwork.org

[V] [M]Authentication-Info

Code: 0x00000585 (1413) Authentication-Info
Flags: 0xc0 (192) [V] [M]
Length: 0x0000a0 (160)
Vendor-Id: 0x000028af (10415) 3GPP

[V] [M] EUTRAN-Vector

Code: 0x00000586 (1414) EUTRAN-Vector
Flags: 0xc0 (192) [V] [M]
Length: 0x000094 (148)
Vendor-Id: 0x000028af (10415) 3GPP

[V] [M] Item-Number

Code: 0x0000058b (1419) Item-Number
Flags: 0xc0 (192) [V] [M]
Length: 0x000010 (16)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 1

[V] [M] RAND

Code: 0x000005a7 (1447) RAND
Flags: 0xc0 (192) [V] [M]
Length: 0x00001c (28)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 0xc8d8ecce3d684b36ee5aa7aaadaf2658

[V] [M] XRES

Code: 0x000005a8 (1448) XRES
Flags: 0xc0 (192) [V] [M]
Length: 0x000014 (20)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 0x7a74729d5a811ac9

[V] [M] AUTN

Code: 0x000005a9 (1449) AUTN
Flags: 0xc0 (192) [V] [M]
Length: 0x00001c (28)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 0xddc5adb739e6800088e9c8135c3099d4

[V] [M] KASME

Code: 0x000005aa (1450) KASME
Flags: 0xc0 (192) [V] [M]
Length: 0x00002c (44)
Vendor-Id: 0x000028af (10415) 3GPP
Data: 0xbf4c4f11f05d9c8c1e39d1066c6cdb92080760e40d0273b015cfff4a20325fc

```
[M]Result-Code
Code:      0x0000010c (268) Result-Code
Flags:     0x40      (64) [M]
Length:    0x00000c (12)
Data: DIAMETER_SUCCESS (2001)
```

故障AIR和AIA消息从监控子跟踪中捕获。

从MME发送到HSS的AIR消息为：

```
<<<<OUTBOUND From diamproxy:52 diamproxy_rlf.c:553 (Callid 4c0ea07a) 08:42:11:089
Eventid:81990(5)
```

```
Diameter message from 10.0.231.Y:49417 to 10.5.40.X:6000
```

```
Base Header Information:
```

```
Version:      0x01      (1)
Message Length: 0x000150 (336)
Command Flags: 0xc0      (192) REQ PXY
Command Code:  0x00013e (318) Authentication-Information-Request
Application ID: 0x01000023 (16777251) 3GPP-S6a
Hop2Hop-ID:   0xad40545 (2914256197)
End2End-ID:   0x2cafadd5 (749710805)
```

```
AVP Information:
```

```
[M] Session-Id
```

```
Code:      0x00000107 (263) Session-Id
Flags:     0x40      (64) [M]
Length:    0x000069 (105)
Data: 0004-
```

```
diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNET;1276027002;2496613;5c204e8b-16502
```

```
[M] Auth-Session-State
```

```
Code:      0x00000115 (277) Auth-Session-State
Flags:     0x40      (64) [M]
Length:    0x00000c (12)
Data: NO_STATE_MAINTAINED (1)
```

```
[M] Origin-Host
```

```
Code:      0x00000108 (264) Origin-Host
Flags:     0x40      (64) [M]
Length:    0x00004f (79)
Data: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
```

```
[M] Origin-Realm
```

```
Code:      0x00000128 (296) Origin-Realm
Flags:     0x40      (64) [M]
Length:    0x00002d (45)
Data: MME.epc.mnc0XY.mcc404.3gppnetwork.org
```

```
[M] Destination-Realm
```

```
Code:      0x0000011b (283) Destination-Realm
Flags:     0x40      (64) [M]
Length:    0x000029 (41)
Data: epc.mnc0XY.mcc404.3gppnetwork.org
```

```
[M] User-Name
```

```
Code:      0x00000001 (1) User-Name
Flags:     0x40      (64) [M]
Length:    0x000017 (23)
Data: 404XY0000022222
```

从HSS发送到MME的AIA消息是：

```
INBOUND>>>>> From diamproxy:52 oxy_conn_mgmt.c:3406 (Callid 4c0ea07a) 08:42:11:109
Eventid:81991(5)
```

```
Diameter message from 10.5.40.X:6000 to 10.0.231.Y:49417
```

```
Base Header Information:
```

```

Version:          0x01          (1)
Message Length:  0x000110      (272)
Command Flags:   0x40          (64)  PXY
Command Code:    0x00013e      (318) Authentication-Information-Answer
Application ID:  0x01000023    (16777251)  3GPP-S6a
Hop2Hop-ID:     0xad40545     (2914256197)
End2End-ID:     0x2cafadd5    (749710805)
AVP Information:
[M] Session-Id
  Code:          0x00000107    (263) Session-Id
  Flags:         0x40          (64)  [M]
  Length:        0x000069     (105)
  Data: 0004-
diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNET;1276027002;2496613;5c204e8b-16502
[M] Auth-Session-State
  Code:          0x00000115    (277) Auth-Session-State
  Flags:         0x40          (64)  [M]
  Length:        0x00000c     (12)
  Data: NO_STATE_MAINTAINED (1)
[M] Origin-Host
  Code:          0x00000108    (264) Origin-Host
  Flags:         0x40          (64)  [M]
  Length:        0x000033     (51)
  Data: hss101.epc.mnc0XY.mcc404.3gppnetwork.org
[M] Origin-Realm
  Code:          0x00000128    (296) Origin-Realm
  Flags:         0x40          (64)  [M]
  Length:        0x000029     (41)
  Data: epc.mnc0XY.mcc404.3gppnetwork.org
[M] Result-Code
  Code:          0x0000010c    (268) Result-Code
  Flags:         0x40          (64)  [M]
  Length:        0x00000c     (12)
  Data: DIAMETER_MISSING_AVP (5005) >>DIAMETER_MISSING_AVP(5005)received from
HSS
[M] Failed-AVP
  Code:          0x00000117    (279) Failed-AVP
  Flags:         0x40          (64)  [M]
  Length:        0x000018     (24)
  [V] [M] Visited-PLMN-Id
    Code:        0x0000057f    (1407) Visited-PLMN-Id
    Flags:       0xc0          (192) [V] [M]
    Length:      0x00000d     (13)
    Vendor-Id:  0x000028af    (10415) 3GPP
    Data: 0x00

```

根据监控子跟踪,0004-diamproxy收到错误“DIAMETER_MISSING_AVP(5005)”,该代理仅与DPC卡2关联。

```

[local]SGSN-MME-03# show diameter peers full endpoint DRA1 | grep -i -E "CPU|LOCAL HOST"
Monday December 24 11:34:47 IST 2018
Local Hostname: 0001-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 8/1 Task: diamproxy-49
Local Hostname: 0002-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 9/1 Task: diamproxy-50
Local Hostname: 0003-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 3/1 Task: diamproxy-51
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 2/1 Task: diamproxy-52
Local Hostname: 0005-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 4/1 Task: diamproxy-53

```

```

Local Hostname: 0006-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 7/1 Task: diamproxy-54
Local Hostname: 0001-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 8/1 Task: diamproxy-49
Local Hostname: 0002-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 9/1 Task: diamproxy-50
Local Hostname: 0003-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 3/1 Task: diamproxy-51
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 2/1 Task: diamproxy-52
Local Hostname: 0005-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 4/1 Task: diamproxy-53
Local Hostname: 0006-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
CPU: 7/1 Task: diamproxy-54

```

[local]SGSN-MME-03#

对于仅与DPC卡2关联的实例的sessmgr实例，似乎增加了“mme-hss-user-unknown”断开原因。

***** show task resources *****

cpu	facility	task	cputime	memory	files	sessions			
		instused	allc	usedalloc	used	allc	used	allc	S status
2/1	sessmgr	749	3.07%	100%	355.0M	900.0M	173500	881	12000 I good
2/1	sessmgr	762	2.86%	100%	353.3M	900.0M	171500	881	12000 I good

<additional outputs suppressed>

Disconnect reason for smgr-instance 749:

```

[local]SGSN-MME-03# show session disconnect-reasons smgr-instance 749|grep -i hss-us
Monday December 24 13:45:17 IST 2018

```

```

mme-hss-user-unknown 788 8.97597

```

```

[local]SGSN-MME-03# show session disconnect-reasons smgr-instance 749|grep -i hss-us
Monday December 24 13:45:19 IST 2018

```

```

mme-hss-user-unknown 790 8.99158
-----

```

Disconnect reason for smgr-instance 762:

```

[local]SGSN-MME-03# show session disconnect-reasons smgr-instance 762|grep -i hss-us
Monday December 24 13:45:26 IST 2018

```

```

mme-hss-user-unknown 743 8.16125

```

```

[local]SGSN-MME-03# show session disconnect-reasons smgr-instance 762|grep -i hss-us
Monday December 24 13:45:31 IST 2018

```

```

mme-hss-user-unknown 744 8.16147

```

```

[local]SGSN-MME-03# show session disconnect-reasons smgr-instance 762|grep -i hss-us
Monday December 24 13:45:32 IST 2018

```

```

mme-hss-user-unknown 749 8.20732

```

```

[local]SGSN-MME-03# show session disconnect-reasons smgr-instance 762|grep -i hss-us
Monday December 24 13:45:34 IST 2018

```

```

mme-hss-user-unknown 750 8.20659

```

进一步检查后，支持的供应商ID对于带DPC卡2的HSS对等体为“无”。

```

[local]SGSN-MME-03# show diameter peers full peer-host dra01.epc.mnc0XY.mcc404.3gppnetwork.org

```

```

-----
Context: s6a Endpoint: HSS_DRA01
-----

```

```

Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org
Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org
Peer Address: 10.5.40.X:6000
State: OPEN [SCTP]
CPU: 2/1 Task: sessmgr-4
Messages Out/Queued: H0.L0/H0.L0

```



```
Supported Vendor IDs: None >> Supported Vendor IDs: none instead of
10415
Admin Status: Enable
DPR Disconnect: N/A
Peer Backoff Timer running:N/A
-----
Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org
Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org
Peer Address: 10.5.40.X:6000
State: OPEN [SCTP]
CPU: 2/2 Task: sessmgr-8
Messages Out/Queued: H0.L0/H0.L0
Supported Vendor IDs: None >> Supported Vendor IDs: none instead of
10415
Admin Status: Enable
DPR Disconnect: N/A
Peer Backoff Timer running:N/A
-----
Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org
Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org
Peer Address: 10.5.40.X:6000
State: OPEN [SCTP]
CPU: 2/0 Task: sessmgr-15
Messages Out/Queued: H0.L0/H0.L0
Supported Vendor IDs: None >> Supported Vendor IDs: none instead of
10415
Admin Status: Enable
DPR Disconnect: N/A
Peer Backoff Timer running:N/A
-----
Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org
Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org
Peer Address: 10.5.40.X:6000
State: OPEN [SCTP]
CPU: 2/0 Task: sessmgr-20
Messages Out/Queued: H0.L0/H0.L0
Supported Vendor IDs: None >> Supported Vendor IDs: none instead of
10415
Admin Status: Enable
DPR Disconnect: N/A
Peer Backoff Timer running:N/A
-----
Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG
Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org
Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org
Peer Address: 10.5.40.X:6000
State: OPEN [SCTP]
CPU: 2/1 Task: sessmgr-27
Messages Out/Queued: H0.L0/H0.L0
Supported Vendor IDs: None >> Supported Vendor IDs: none instead of
10415
Admin Status: Enable
DPR Disconnect: N/A
Peer Backoff Timer running:N/A
```

解决方案

似乎“支持的供应商ID”AVP未与DPC卡2协商，因此仅观察该卡的故障。

根据RFC 3588,

Supported-Vendor-Id AVP — 这用于CER和CEA消息中，以通知对等体发送方支持（其子集）由此AVP中确定的供应商定义的供应商特定AVP。

Vendor-Id AVP — 与Supported-Vendor-Id AVP结合使用，以便了解哪些供应商特定属性可能发送到对等体。

为了在直径对等体和客户端之间交换功能，向服务提供商建议此行动计划。

行动计划是迁移DPC卡2和备用DPC卡10。

```
[local]SGSN-MME-03# card migrate from 2 to 10
```

```
Are you sure? [Yes|No]: yes
```

服务提供商使用备用DPC卡10执行DPC卡2迁移。

在活动后，支持的供应商ID(10415)对于卡10（具有相应的hss-peer）似乎正常，ASR KPI似乎也正常。

```
[local]SGSN-MME-03# show diameter peers full peer-host dra01.epc.mnc0XY.mcc404.3gppnetwork.org
```

```
-----  
Context: s6a Endpoint: HSS_DRA01  
-----
```

```
Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org  
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG  
Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org  
Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org  
Peer Address: 10.5.40.X:6000  
State: OPEN [SCTP]  
CPU: 10/1 Task: sessmgr-4  
Messages Out/Queued: H0.L0/H0.L0  
Supported Vendor IDs: 10415 >> Supported Vendor IDs: 10415  
Admin Status: Enable  
DPR Disconnect: N/A  
Peer Backoff Timer running:N/A
```

```
-----  
Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org  
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG  
Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org  
Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org  
Peer Address: 10.5.40.X:6000  
State: OPEN [SCTP]  
CPU: 10/0 Task: sessmgr-15  
Messages Out/Queued: H0.L0/H0.L0  
Supported Vendor IDs: 10415 >> Supported Vendor IDs: 10415  
Admin Status: Enable  
DPR Disconnect: N/A  
Peer Backoff Timer running:N/A
```

```
-----  
Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org  
Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG  
Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org  
Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org  
Peer Address: 10.5.40.X:6000  
State: OPEN [SCTP]  
CPU: 10/1 Task: sessmgr-27  
Messages Out/Queued: H0.L0/H0.L0  
Supported Vendor IDs: 10415 >> Supported Vendor IDs: 10415  
Admin Status: Enable
```

DPR Disconnect: N/A
Peer Backoff Timer running:N/A

Peer Hostname: dra01.epc.mnc0xy.mcc404.3gppnetwork.org

Local Hostname: 0004-diamproxy.MMEC001.MMEGI32000.MME.EPC.MNC0XY.MCC404.3GPPNETWORK.ORG

Peer Realm: epc.mnc0XY.mcc404.3gppnetwork.org

Local Realm: MME.epc.mnc0XY.mcc404.3gppnetwork.org

Peer Address: 10.5.40.X:6000

State: OPEN [SCTP]

CPU: 10/2

Task: sessmgr-29

Messages Out/Queued: H0.L0/H0.L0

Supported Vendor IDs: 10415

>> Supported Vendor IDs: 10415

Admin Status: Enable

DPR Disconnect: N/A

Peer Backoff Timer running:N/A

<additional outputs suppressed>

当在MME和HSS之间建立直径对等连接以交换操作直径消息时，支持的供应商ID应为“10415”值。