

# mme-hss-user-unknown 연결 끊김 이유 증가로 인한 4G ASR KPI 성능 저하 문제 해결

## 목차

[소개](#)

[사전 요구 사항](#)

[요구 사항](#)

[사용되는 구성 요소](#)

[약어](#)

[문제](#)

[문제 해결](#)

[솔루션](#)

## 소개

이 문서에서는 mme-hss-user-unknown disconnect 사유가 증가하는 경우 4G ASR(Attach Success Rate) KPI(Key Performance Indicator) 성능 저하가 발생할 때 발생하는 문제를 해결하는 방법에 대해 설명합니다.

## 사전 요구 사항

### 요구 사항

다음 주제에 대한 지식을 보유하고 있으면 유용합니다.

- 5000/5500의 하드웨어 지식
- 스타오스

### 사용되는 구성 요소

이 문서는 특정 소프트웨어 및 하드웨어 버전으로 한정되지 않습니다.

이 문서의 정보는 특정 랩 환경의 디바이스를 토대로 작성되었습니다. 이 문서에 사용된 모든 디바이스는 초기화된(기본) 컨피그레이션으로 시작되었습니다. 네트워크가 작동 중인 경우 모든 명령의 잠재적인 영향을 이해해야 합니다.

## 약어

ASR

연결 성공률

KPI  
항공  
AIA  
CER  
CEA  
MME  
HSS  
DPC  
RFC  
AVP

주요 성과 지표  
인증 정보 요청  
인증 정보 응답  
기능 교환 요청  
기능 교환 응답  
모빌리티 관리 엔티티  
홈 가입자 서버  
데이터 처리 카드  
의견 요청  
특성-값 쌍

## 문제

서비스 공급자가 한 MME에서 4G ASR 성능 저하를 보고했으며 'mme-hss-user-unknown' 연결 끊기 이유가 증가했습니다.

"mme-hss-user-unknown(375)" disconnect reason은 MME HSS 사용자를 알 수 없기 때문에 연결이 끊긴 총 세션 수를 설명합니다.

AIA 메시지에서 HSS가 DIAMETER\_MISSING\_AVP(5005) 결과 코드로 인증을 거부했다고 보고된 오류 추적

MME는 HSS에서 지속적으로 "DIAMETER\_MISSING\_AVP (5005)"를 얻었으며 실패 AIA 메시지는 다음과 같습니다.

```
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

```

## 문제 해결

이 섹션에서는 mme-hss-user-unknown 연결 끊기 사유가 증가하여 ASR KPI 성능 저하 문제를 해결하는 데 사용할 수 있는 정보를 제공합니다.

수집된 "mon sub"는 성공 및 실패 시나리오와 비교하여 추적됩니다. 지원되는 기능 AVP가 MME에서 HSS 서버로 AIR에 없습니다.

성공적인 AIR 및 AIA 메시지는 mon 하위 추적에서 캡처됩니다. MME에서 HSS로 전송되는 AIR 메시지는 아닙니다.

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

```

HSS에서 MME로 전송되는 AIA 메시지는 다음과 같습니다.

```

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: 0xbf4c4f11f05d9c8c1e39d1066c6cdb92080760e40d0273b015cffffd4a20325fc
[M] Result-Code
Code: 0x0000010c (268) Result-Code
Flags: 0x40 (64) [M]
Length: 0x00000c (12)
Data: DIAMETER_SUCCESS (2001)
```

실패 AIR 및 AIA 메시지는 mon 하위 추적에서 캡처됩니다.

MME에서 HSS로 전송되는 AIR 메시지는 다음과 같습니다.

```
<<<<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
```

HSS에서 MME로 전송되는 AIA 메시지는 다음과 같습니다.

```
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
```

**mon 하위 추적에 따라 DPC 카드 2에만 연결된 0004-diamproxy에 대해 "DIAMETER\_MISSING\_AVP (5005)" 오류가 수신됩니다.**

```
[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#

DPC 카드 2와 연결된 해당 sessmgr 인스턴스에 대해 'mme-hss-user-unknown' 연결 끊기 이유가 증가한 것 같습니다.

\*\*\*\*\* 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 supressed>

**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

```

추가로 확인하면 지원되는 공급업체 ID는 DPC 카드 2가 있는 HSS 피어에 대해 '없음'이었습니다.

```

[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

## 솔루션

"Supported Vendor IDs(지원되는 공급업체 ID)" AVP는 DPC Card 2와 협상되지 않으므로 해당 카드에 대해서만 오류가 관찰됩니다.

RFC 3588에 따르면

**Supported-Vendor-Id AVP** - 발신자가 이 AVP에 식별된 공급업체에서 정의한 벤더별 AVP를 지원(일부)한다는 사실을 피어에 알리기 위해 CER 및 CEA 메시지에 사용됩니다.

**Vendor-Id AVP** - Supported-Vendor-Id AVP와 함께 사용하면 어떤 벤더별 특성을 피어로 전송할지 알 수 있습니다.

지름 피어와 클라이언트 간에 기능을 교환하기 위해 서비스 공급업체에 이 작업 계획을 제안합니다

실행 계획은 대기 DPC 카드 10을 사용하여 DPC 카드 2를 마이그레이션하는 것입니다.

```
[local]SGSN-MME-03# card migrate from 2 to 10
Are you sure? [Yes|No]: yes
```

통신 사업자는 대기 DPC 카드 10을 사용하여 DPC 카드 2 마이그레이션을 수행했습니다.

사후 활동, 지원되는 공급업체 ID(10415)는 각각 hss-peer를 사용하는 카드 10에 대해 정상적으로 보이며 ASR KPI도 정상적으로 작동하는 것 같습니다.

```
[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>

작동 지름 메시지를 교환하기 위해 MME와 HSS 간에 지름 피어 연결이 설정된 경우 지원되는 공급 업체 ID는 '10415' 값이어야 합니다.