

عادال رشؤم ضافخنا عاااخأ فاشككساأ اهالصالو GX حاجن لدمب (KPI) يساسال IMS- لاصلال عطق ببس ةدايز ببسب Authorization-Failed

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ةمدقمل

ضافخنا ثودح دن ع ثدحت يتل اهالصالو ةلكشمل فاشككساأ ةيفيك دن تسمل اذه حضوي
"IMS-Authorization-Failed" لاصلال عطق ببس ةدايز دن GX (KPI) حاجن لدمب خاتفم عادأ رشؤم يف
Failed".

ةيساسال تابلطمل

تابلطمل

ةيلاتل عيضاوملاب ةفرعم كيدل نوكك نأب Cisco ي صوت:

- 5000/5500 زارطلل ةزهجال ةفرعم
- StarOS

ةمدختسمل تانوكمل

ةنعم ةيدام تانوكم وجمارب تارادصل يلع دن تسمل اذه رصتقي ال

ةصاخ ةيلمعم ةئيب يف ةدوجومل ةزهجال نم دن تسمل اذه يف ةدراول تامولعمل عاشنإ مت
ت ناك اذإ. (يضا رتفا) حوسمم نيوككب دن تسمل اذه يف ةمدختسمل ةزهجال عيمج تادب
رمأ يال لم تحمل ريثأتلل كمهف نم دكأتف، ليغشتل دي قكتكبش

ةيساسال تامولعم

تارصتخمل:

PCRF
PGW
CCR
CCA
نوبركورولفورولكلا
ةيفيل ةانق
KPI

ةسايسلاو نحشلا دعاوق ةفيظو
مزحلا تانايب ةكبش ةبواب
نامتئالا يف مكحتلا بلط
نامتئالا يف مكحتلا ةباج
مكحتلا ةفيظول ةيرهاظلا ةقابطلا
ةمدخللا ةفيظول ةيرهاظلا ةقابطلا
يسيرلا ءادال رشوم

ةلكش مالا

ببس دادع نأ نيبتو دحاو PGW يف GX حاجن لدعم KPI ضافخنا نع غالب الاب ةمدخل رقوم ماق
دايذرا يف 'ims-authorization-failed' لاصتال عطق.

عطق مت يتلا لمعل تاسلج ددع يلامج | "IMS-Authorization-failed" لاصتال عطق ببس فصبي
IMS ضيوفت لشف تالاج ببسب اهلاصت.

بابسأ تايئاصح ال اقفو. 'ims-authorization-failed' دادع نع رمتسم لكشب مالع الاب PGW ماق
GX حاجن لدعم ضافخنا يف 'ims-authorization-failed' دادعلا مهاس دقف، لاصتال عطق.

1st iteration-

```
[local]PGW# show session disconnect-reasons verbose | grep -i ims-authorization-failed  
Thursday June 13 16:10:39 NZST 2019
```

..

```
Disconnect Reason    Num Disc  Percentage  
-----
```

```
ims-authorization-failed          59034      1.68225
```

2nd iteration-

```
[local]PGW# show session disconnect-reasons verbose | grep -i ims-authorization-failed  
Thursday June 13 16:10:59 NZST 2019
```

..

```
Disconnect Reason    Num Disc  Percentage  
-----
```

```
ims-authorization-failed          59202      1.68181 >>168 counter  
increased in just 20 sec of span
```

اهحالص او ءاطخال فاشكتسا

ةدايز ببسب اهحالص او Gx ل KPI حاجن لدعم ءاطخال فاشكتسال تامولعم مسقلا اذه رفوي
'ims-authorization-failed' لاصتال عطق ببسب.

لشفل ويرانيسل ضرعلا زاهج كرتشم عبتت عيمجت مت.

هذه لمعل ءسلج تاليمل 'ims-authorization-failed' دوجو ظحول هنأ لي لحتلا نم نيبتو
ببسب IMS-Authorization-failed ببسب مالئتسا مت، ماع لكشبو 7. ةقابطلاب ءنرتقملا
لاصتال عطق.

لشفل كرتشملا عبتت لسلسلست يلا عجرا:

PGW يلا SGW نم CREATE_SESSION_REQUEST ءلاسرا لسرا مت.

Eventid:141004(3)

[PGW-S5/S2a/S2b]GTPv2C Rx PDU, from 202.73.X.Y:31552 to 202.73.A.B:2123 (262)

TEID: 0x00000000, Message type: EGTP_CREATE_SESSION_REQUEST (0x20)

Sequence Number: 0x18A861 (1615969)

GTP HEADER

Version number: 2

TEID flag: Present

Piggybacking flag: Not present

Message Length: 0x0102 (258)

INFORMATION ELEMENTS

IMSI:

Type: 1 Length: 8 Inst: 0

Value: ABXY01106562064

USER LOCATION INFO:

Type: 86 Length: 13 Inst: 0

Value:

Location type: TAI

MCC: 530

MNC: 01

TAC: 0xA101

Location type: ECGI

MCC: AB0

MNC: XY

ECI: 0x006F902

SERVING NETWORK:

Type: 83 Length: 3 Inst: 0

Value:

MCC: AB0

MNC: XY

RADIO ACCESS TECH:

Type: 82 Length: 1 Inst: 0

Value: EUTRAN (6)

SGW-CONTROL FTEID:

Type: 87 Length: 9 Inst: 0

Value:

Interface: SGW S5/S8-C

IPv4 Flag: 1

IPv6 Flag: 0

Teid: 0x84B8A061

IPV4 Addr: 202.73.X.Y

ACCESS POINT NAME:

Type: 71 Length: 28 Inst: 0

Value: internet.mnc0XY.mcc0AB.gprs

SELECTION MODE:

Type: 128 Length: 1 Inst: 0

Value: MS or network provided APN,subscr verified (0x00)

PDN TYPE:

Type: 99 Length: 1 Inst: 0

Value: IPV4

PDN ADDRESS ALLOC:

Type: 79 Length: 5 Inst: 0

Value:

PDN Type: IPV4

IPV4 Addr: 0.0.0.0

INDICATION:

Type: 77 Length: 6 Inst: 0

Value:

DAF : 0

DTF : 0(Direct tunnel disabled)

HI : 0

DFI : 0

OI : 0

ISRSI: 0(ISR not supported)

ISRAI: 0(ISR not Activated)

SGWCI: 0
SQCI : 0
UIMSI: 0(Authenticated IMSI)
CF SI : 0(F-TEID Change Indication not supported)
CR SI : 0(Location Change Reporting not supported)
PS : 1(Piggybacking feature supported)
PT : 0(GTPv2)
SI : 0
MSV : 0
RetLoc: 0
PBIC: 0
SRNI: 0
S6AF: 0
S4AF: 0
MBMDT: 0
ISRAU: 0
CCRSI: 0(CSG Information Change Reporting mechanism not supported)
CPRAI: 0
ARRL: 0
PPOF: 0
PPON / PPEI: 0
PPSI: 0
CSFBI: 0
CLII: 0
CPSR: 0
UASI: 0
DTCI: 0
BDWI: 0
PCRI: 0
AOSI: 0
AOPI: 0
EPCOSI: 0
CPOPCI: 0
S11TF: 0
PNSI: 0
WPMSI: 0

APN RESTRICTION:

Type: 127 Length: 1 Inst: 0
Value: 0

AGGREGATE MAX BIT RATE:

Type: 72 Length: 8 Inst: 0
Value:
Uplk AMBR: 64000 kbps
Dnlk AMBR: 256000 kbps

PCO:

Type: 78 Length: 32 Inst: 0
Container id: 0x8021 (IPCP)
Container length: 0x10 (16)
Container content:
Conf-Req(0), Pri-DNS=0.0.0.0, Sec-DNS=0.0.0.0
Container id: 0x000D (IPv4-DNS-Server)
Container length: 0x00 (0)
Container content:
DNS Address: Request for IPv4 DNS Address allocation
Container id: 0x000A (IP address allocation via NAS signalling)
Container length: 0x00 (0)
Container content:
IP Address allocation via NAS signalling
Container id: 0x0005 (Bearer Control Mode)
Container length: 0x00 (0)
Container content:
NCQOS BCM Indicator:
Container id: 0x0010 (Link MTU)
Container length: 0x00 (0)

```
Container content:
BEARER CONTEXT TO BE CREATED:
  Type: 93 Length: 44 Inst: 0
  Value:
    EPS BEARER ID:
      Type: 73 Length: 1 Inst: 0
      Value: 5
    SGW-DATA FTEID:
      Type: 87 Length: 9 Inst: 2
      Value:
        Interface: SGW S5/S8-U
        IPv4 Flag: 1
        IPv6 Flag: 0
        Teid: 0x8A948061
        IPV4 Addr: 202.73.X.Y
    BEARER QOS:
      Type: 80 Length: 22 Inst: 0
      Value:
        ARP: PCI = 1 (Disabled), PL = 9, PVI = 0 (Enabled)
        QCI: 6
        Uplnk MBR: 0 kbps
        Dlnlk MBR: 0 kbps
        Uplnk GBR: 0 kbps
        Dlnlk GBR: 0 kbps
  UE TIME ZONE:
    Type: 114 Length: 2 Inst: 0
    Value:
      TZ: +12:00
      DST: +0 hour
  CHARGING CHAR:
    Type: 95 Length: 2 Inst: 0
    Value: 0x0800
```

<additional output suppressed>

ةلاسري ف SGW لى 'رفوتم دروم دجوي ال' لاسراب PGW ماق
EGTP_CREATE_SESSION_RESPONSE.

```
<<<<OUTBOUND From sessmgr:102 sessmgr_egtp.c:2906 (Callid 1e283e66) 16:55:15:492
Eventid:141005(3)
[PGW-S5/S2a/S2b]GTPv2C Tx PDU, from 202.73.195.91:2123 to 202.73.195.89:31552 (33)
TEID: 0x84B8A061, Message type: EGTP_CREATE_SESSION_RESPONSE (0x21)
Sequence Number: 0x18A861 (1615969)
GTP HEADER
  Version number: 2
  TEID flag: Present
  Piggybacking flag: Not present
  Message Length: 0x001D (29)
INFORMATION ELEMENTS
  CAUSE:
    Type: 2 Length: 2 Inst: 0
    Value:
      Cause: EGTP_CAUSE_NO_RESOURCES_AVAILABLE (0x49)
      PCE: 0
      BCE: 0
      CS: 0
  BEARER CONTEXT CREATED:
    Type: 93 Length: 11 Inst: 0
    Value:
      EPS BEARER ID:
        Type: 73 Length: 1 Inst: 0
        Value: 5
      CAUSE:
        Type: 2 Length: 2 Inst: 0
```

Value:

Cause: EGTP_CAUSE_NO_RESOURCES_AVAILABLE (0x49)

PCE: 0

BCE: 0

CS: 0

ل.اصتال عطق بېس ي IMS-Authorization ل ش ف بېس مالتس ا مت ،ماع لك ش ب

CONTROL From **sessmgr:102** sessmgr_func.c:5311 (Callid 1e283e66) 16:55:15:493 Eventid:10285
>>disconnect received for sessmr 102

CALL STATS: <xyz12591615@internet>, msid <ABXY01106562064>, Call-Duration(sec): 0

```
input pkts: 0                output pkts: 0
input bytes: 0               output bytes: 0
input bytes dropped: 0       output bytes dropped: 0
input pkts dropped: 0        output pkts dropped: 0
pk rate from user(bps): 0    pk rate to user(bps): 0
ave rate from user(bps): 0   ave rate to user(bps): 0
sust rate from user(bps): 0  sust rate to user(bps): 0
pk rate from user(pps): 0    pk rate to user(pps): 0
ave rate from user(pps): 0   ave rate to user(pps): 0
sust rate from user(pps): 0  sust rate to user(pps): 0
link online/active percent: 0
ipv4 bad hdr: 0              ipv4 ttl exceeded: 0
ipv4 fragments sent: 0       ipv4 could not fragment: 0
ipv4 input acl drop: 0        ipv4 output acl drop: 0
ipv4 bad length trim: 0
ipv4 input non-mip drop: 0    ipv4 output non-mip drop: 0
ipv4 input css drop: 0        ipv4 output css drop: 0
output gre xoff pkts drop: 0  output gre xoff bytes drop: 0
ipv4 output no-flow drop: 0
ipv4 source violations: 0     ipv4 early pdu drop: 0
ipv4 proxy-dns redirect: 0    ipv4 proxy-dns pass-thru: 0
ipv4 proxy-dns drop: 0        ipv4 proxy-dns redirect tcp connection: 0
ipv6 bad hdr: 0              ipv6 bad length trim: 0
ip source violation no acct: 0 ip source violation ignored: 0
dlnk pkts exceeded bw: 0      dlnk pkts violated bw: 0
uplnk pkts exceeded bw: 0     uplnk pkts violated bw: 0
dormancy total: 0             handoff total: 0
```

Disconnect Reason: ims-authorization-failed

Last Progress State: IMS Authorizing

دادع ي قلت متي ي الت 7 ة قاطب ل اب انرتقم 102 وه SESMGR لي ثم مقر نو كي ،ك لذ ي لع ة و ال ع
IMS-Authorization-Failed ل اه.

[local]PGW# show task resources facility sessmgr instance 102

Thursday June 13 16:56:14 NZST 2019

cpu facility	task inst	cputime		memory		files		sessions		S	status
		used	allc	used	alloc	used	allc	used	allc		
7/0 sessmgr	102	8.80%	100%	792.2M	2.34G	45	500	3097	32504	I	good
Total	1	8.80%		792.2M		45		3097			

ة.ديج تن اك ة ددعت مل Diamproxy ت اني وكت ن ا ة ظح ال م مت ، ن ي وكت ال ن م ق قحت ال م ام دن ع

[local]PGW# show config | grep multiple

Thursday June 13 15:15:11 NZST 2019

require diameter-proxy multiple

ة أش ن م اه ي ف دلوتت مل ي الت ة قاطب ل ل ظحول دق 'IMS-authorization-failed' ن ا ن ي بت م ث
ل. لي و ل.

7. قاطب لابل Diamproxyc فرم دي لوت متي مل ،ةالجال هذه في

[local]PGW# show card table

Thursday June 13 14:53:53 NZST 2019

Slot	Card Type	Oper State	SPOF	Attach
1: CFC	Control Function Virtual Card	Standby	-	
2: CFC	Control Function Virtual Card	Active	No	
3: FC	2-Port Service Function Virtual Card	Active	No	
4: FC	2-Port Service Function Virtual Card	Active	No	
5: FC	2-Port Service Function Virtual Card	Active	No	
6: FC	2-Port Service Function Virtual Card	Active	No	
7: FC	2-Port Service Function Virtual Card	Active	No	
8: FC	2-Port Service Function Virtual Card	Active	No	
9: FC	2-Port Service Function Virtual Card	Active	No	
10: FC	2-Port Service Function Virtual Card	Active	No	
11: FC	2-Port Service Function Virtual Card	Active	No	
12: FC	2-Port Service Function Virtual Card	Active	No	
13: FC	2-Port Service Function Virtual Card	Active	No	
14: FC	2-Port Service Function Virtual Card	Active	No	
15: FC	2-Port Service Function Virtual Card	Standby	-	
16: FC	2-Port Service Function Virtual Card	Active	No	

[local]PGW# show task resources facility diamproxyc all

Thursday June 13 14:55:31 NZST 2019

cpu facility	task inst	cputime		memory		files		sessions			S status
		used	allc	used	alloc	used	allc	used	allc		
3/0 diamproxyc	8	1.10%	90%	43.75M	250.0M	271	2500	--	--	-	good
4/0 diamproxyc	9	1.09%	90%	43.89M	250.0M	266	2500	--	--	-	good
5/0 diamproxyc	10	1.09%	90%	43.93M	250.0M	237	2500	--	--	-	good
9/0 diamproxyc	1	1.08%	90%	43.63M	250.0M	212	2500	--	--	-	good
10/0 diamproxyc	4	1.08%	90%	43.88M	250.0M	258	2500	--	--	-	good
12/0 diamproxyc	11	1.11%	90%	43.93M	250.0M	229	2500	--	--	-	good
13/0 diamproxyc	2	1.09%	90%	43.75M	250.0M	258	2500	--	--	-	good
14/0 diamproxyc	7	1.06%	90%	43.88M	250.0M	256	2500	--	--	-	good
16/0 diamproxyc	13	1.04%	90%	43.89M	250.0M	199	2500	--	--	-	good

لحل

ري فوتل .ةطشن تناك 7 قاطب لابل نأ مغر 7 قاطب لابل جتنت مل Diamproxyc تازيهجت نأ دجو دقو CF. قاطب لابل دي دبت ارجا مزلي وا Diamctrl قفرم لي غشت ةداعا مزلي ، Diamproxyc قفرم

جرت قمل وحنل الى هذه لمعال ةطخ تذفن دقو

ةيطاي تحا CFC قاطب مادختساب ةطشن CFC قاطب لي وحت

عضول الى داغ Gx KPI وحي حص لكشب صاخل Diamproxyc ءاشن امت ، قاطب لابل لي دبت دعب ةقوت مل مي قل بسح ي عيب لابل

***** show card table all *****

Thursday June 13 22:17:54 NZST 2019<tel:2019>

Slot	Card Type	Oper State	SPOF	Attach
1: CFC	Control Function Virtual Card	Active	No	

>>CFC card

1 active post switchover

2: CFC	Control Function Virtual Card	Standby	-
3: FC	2-Port Service Function Virtual Card	Active	No
4: FC	2-Port Service Function Virtual Card	Active	No
5: FC	2-Port Service Function Virtual Card	Active	No
6: FC	2-Port Service Function Virtual Card	Active	No
7: FC	2-Port Service Function Virtual Card	Active	No
8: FC	2-Port Service Function Virtual Card	Active	No
9: FC	2-Port Service Function Virtual Card	Active	No
10: FC	2-Port Service Function Virtual Card	Active	No
11: FC	2-Port Service Function Virtual Card	Active	No
12: FC	2-Port Service Function Virtual Card	Active	No
13: FC	2-Port Service Function Virtual Card	Active	No
14: FC	2-Port Service Function Virtual Card	Active	No
15: FC	2-Port Service Function Virtual Card	Standby	-
16: FC	2-Port Service Function Virtual Card	Active	No

[local]PGW# show task resources facility diamproxy all
Thursday June 13 14:55:31 NZST 2019

cpu facility	task inst	cputime		memory		files		sessions			S status
		used	allc	used	alloc	used	allc	used	allc		
3/0 diamproxy	8	0.95%	90%	43.86M	250.0M	130	2500	--	--	-	good
4/0 diamproxy	9	0.98%	90%	44.00M	250.0M	130	2500	--	--	-	good
5/0 diamproxy	10	1.00%	90%	44.00M	250.0M	135	2500	--	--	-	good
7/0 diamproxy	3	0.26%	90%	43.73M	250.0M	278	2500	--	--	-	good
instance 3 spawn with card 7											
8/0 diamproxy	5	0.31%	90%	43.73M	250.0M	277	2500	--	--	-	good
9/0 diamproxy	1	1.00%	90%	43.86M	250.0M	130	2500	--	--	-	good
10/0 diamproxy	4	0.98%	90%	43.96M	250.0M	133	2500	--	--	-	good
11/0 diamproxy	6	0.24%	90%	43.74M	250.0M	277	2500	--	--	-	good
12/0 diamproxy	11	1.04%	90%	44.01M	250.0M	144	2500	--	--	-	good
13/0 diamproxy	2	0.97%	90%	43.84M	250.0M	134	2500	--	--	-	good
14/0 diamproxy	7	1.04%	90%	43.99M	250.0M	138	2500	--	--	-	good
16/0 diamproxy	13	0.96%	90%	43.74M	250.0M	261	2500	--	--	-	good

>>diamproxy

لكش ب رطقل او طاشن ل لئاسر لدابت دع ب ةلصل ا يذ لي كول ا يئانث ق فرم عاشن ا م تو
PGW و PCRF. نيب حي حص

ةمچرتل هذه ل و ح

ةلأل تاي نقتل ن م ة و مچ م ادخت ساب دن تسمل اذ ه Cisco ت مچرت
ملاعلاء ن أ عي مچ ي ف ن ي م دخت سمل ل م عد ي و تح م مي دقت ل ة ي رش ب ل و
امك ة ق ي قد ن و ك ت ن ل ة ي ل أ ة مچرت ل ض ف أ ن أ ة ظ حال م ي ج ر ي . ة ص ا خ ل م ه ت غ ل ب
Cisco ي ل خ ت . ف ر ت ح م مچرت م ا ه م د ق ي ي ت ل ا ة ي ف ا ر ت ح ا ل ا ة مچرت ل ا ع م ل ا ح ل ا و ه
ي ل ا م ئ ا د ع و ج ر ل ا ب ي ص و ت و ت ا مچرت ل ا ه ذ ه ة ق د ن ع ا ه ت ي ل و ئ س م Cisco
Systems (رف و ت م ط بار ل ا) ي ل ص أ ل ا ي ز ي ل ج ن ا ل ا دن تسمل ا