

PGW 2200 软交换机 'Bearer Capability Not Implemented' 原因值

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简介

本文档提供Cisco PGW 2200上未实现因值承载功能的信息。本文档特别适用于适用于语音/数据网关的思科SS7互联解决方案。

先决条件

要求

本文档读者应了解以下主题的知识：

- 思科媒体网关控制器软件版本9知识

使用的组件

本文档中的信息基于Cisco PGW 2200软件版本7.x和9.x。

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。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文件规则的更多信息请参见“Cisco技术提示规则”。

'承载功能不可用'说明

当Cisco IOS®命令`isdn incoming-voice modem`未在接口`Serial0:x`下激活时，您会“`i = 0x80BA -`”

注意：出于空间原因，此命令输出中的某些行已降至第二行。

```
Time stamp   Orig IP address   Dest IP address   Prot   Msg   Data
-----
*****
* 03 SNOOPER INFO: Snooper is listening on interface "hme1"... *
*****
14:07:33.450567  1-002-1[02065]   1-010-1[02129]   ITU   ISUP.  -> IAM (01) CIC=00062
                                   CDPN=1492169679F CGPN=9678
                                   SLS=14 Pr:0 Ni:NTL

*****  DETAIL  *****
CIC                                     62
MESSAGE TYPE                           0x01 IAM - Initial_Address_Msg
NATURE_OF_CONNECTION                   0x06
  LENGTH:                               0x01 FIXED DATA 0x00
  SATELLITE IND                          0 no_satellite_circuit_in_connection
  CONTINUITY CHECK IND                   0 Continuity_check_not_required
  ECHO SUPPRESSOR IND                   0 outgoing_half_echo_suppressor_not_included
FORWARD CALL IND.                       0x07
  LENGTH:                               0x02 FIXED DATA 0x20 0x01
  NATL/INTL CALL IND                     0 incoming_national_call
  END-TO-END METHOD IND                   0 no_end_to_end_method_available
  INTERWORKING IND                       0 no_interworking_encountered
  END-TO-END INFO IND                    0 no_end_to_end_information_available
  ISUP IND.                              1 ISUP_used_all_the_way
  ISDN PREFERENCE IND                     0 isdn_up_pref_all_the_way
  ISDN ACCESS IND.                       1 originating_access_ISDN
  SCCP Method                             0 no indication
CALLING PARTYS CATEGORY                 0x09
  LENGTH:                               0x01 FIXED DATA 0x0A
  CALLING PARTYS CATEGORY                 10 ordinary_subscriber_precedence_level_1
TRANSMISSION MEDIUM REQUIRED             0x02
  LENGTH:                               0x01 FIXED DATA 0x00
  TRANSMISSION MEDIUM REQUIRED             0 speech
INDEX TO CALLED PTY ADDRESS              0x02
INDEX TO OPTIONAL PART                   0x0A
CALLED PARTY NUMBER PARM                  0x04
  LENGTH:                               0x08 VAR. DATA 0x82 0x90 0x41 0x29 0x61 0x69 0x97 0x0F
  ODD/EVEN IND                            1 odd_number_of_digits
  NATURE OF ADDRESS IND                   0x02 Called_reserved_for_national_use
  INTERNAL NETWORK PARM                   1 routing_to_internal_network_number_not_allowed
  NUMBERING PLAN                          1 ISDN_Telephony_Numbering_Plan
  DIGITS:                                 1492169679F
  EXTENSION DIGIT                         F -ST
OPTIONAL PARAMETERS:
CALLING PARTY ADDRESS                     0x0A
  LENGTH:                               0x04 OPT. DATA 0x02 0x11 0x69 0x87
  ODD/EVEN IND                            0 even_number_of_digits
  NATURE OF ADDRESS IND                   0x02 Calling_reserved_for_national_use
  NUMBER INCOMPLETE IND.                  0 complete
  PRESENTATION IND.                       0 address_presentation_allowed
  SCREENING IND.                          1 user_provided_passed_network_screening
  NUMBERING PLAN                          1 ISDN_Telephony_Numbering_Plan
  DIGITS:                                 9678
RESERVED/UNKNOWN OPT PARM                 0x3D
  LENGTH:                               0x01 OPT. DATA 0x1F
USER SERVICE INFO                         0x1D
  LENGTH:                               0x03 OPT. DATA 0x80 0x90 0xA3
  EXTENSION BIT                            1 last_octet
  CODING STANDARD                          0 CCITT_coding_standard
  BC INFO TRANSFER CAP                     0 transfer_speech
```

EXTENSION BIT 1 last_octet
 TRANSFER MODE 0 circuit_mode
 INFORMATION TRANSFER RATE 16 rate_64_kb_per_s
 EXTENSION BIT 1 last_octet
 USER LAYER IDENTIFICATION 1 user_info_layer_1_protocol
 MULTIPLIER/PROTOCOL ID 3 A_law_speech
 END OF OPTIONAL PARAMETERS 0x00
 ***** END_OF_MSG *****

14:07:33.607918 1-010-1[02129] 1-002-1[02065] ITU ISUP. -> IAM (01) CIC=00001
 CDPN=92169679F CGPN=9678
 SLS=01 Pr:0 Ni:NTL

***** DETAIL *****

CIC 1
 MESSAGE TYPE 0x01 IAM - Initial_Address_Msg
 NATURE_OF_CONNECTION 0x06
 LENGTH: 0x01 FIXED DATA 0x00
 SATELLITE IND 0 no_satellite_circuit_in_connection
 CONTINUITY CHECK IND 0 Continuity_check_not_required
 ECHO SUPPRESSOR IND 0 outgoing_half_echo_suppressor_not_included
 FORWARD CALL IND. 0x07
 LENGTH: 0x02 FIXED DATA 0x20 0x01
 NATL/INTL CALL IND 0 incoming_national_call
 END-TO-END METHOD IND 0 no_end_to_end_method_available
 INTERWORKING IND 0 no_interworking_encountered
 END-TO-END INFO IND 0 no_end_to_end_information_available
 ISUP IND. 1 ISUP_used_all_the_way
 ISDN PREFERENCE IND 0 isdn_up_pref_all_the_way
 ISDN ACCESS IND. 1 originating_access_ISDN
 SCCP Method 0 no indication
 CALLING PARTYS CATEGORY 0x09
 LENGTH: 0x01 FIXED DATA 0x0A
 CALLING PARTYS CATEGORY 10 ordinary_subscriber_precedence_level_1
 TRANSMISSION MEDIUM REQUIRED 0x02
 LENGTH: 0x01 FIXED DATA 0x00
 TRANSMISSION MEDIUM REQUIRED 0 speech
 INDEX TO CALLED PTY ADDRESS 0x02
 INDEX TO OPTIONAL PART 0x09
 CALLED PARTY NUMBER PARM 0x04
 LENGTH: 0x07 VAR. DATA 0x82 0x90 0x29 0x61 0x69 0x97 0x0F
 ODD/EVEN IND 1 odd_number_of_digits
 NATURE OF ADDRESS IND 0x02 Called_reserved_for_national_use
 INTERNAL NETWORK PARM 1 routing_to_internal_network_number_not_allowed
 NUMBERING PLAN 1 ISDN_Telephony_Numbering_Plan
 DIGITS: 92169679F
 EXTENSION DIGIT F -ST
 OPTIONAL PARAMETERS:
 CALLING PARTY ADDRESS 0x0A
 LENGTH: 0x04 OPT. DATA 0x02 0x11 0x69 0x87
 ODD/EVEN IND 0 even_number_of_digits
 NATURE OF ADDRESS IND 0x02 Calling_reserved_for_national_use
 NUMBER INCOMPLETE IND. 0 complete
 PRESENTATION IND. 0 address_presentation_allowed
 SCREENING IND. 1 user_provided_passed_network_screening
 NUMBERING PLAN 1 ISDN_Telephony_Numbering_Plan
 DIGITS: 9678
 RESERVED/UNKNOWN OPT PARM 0x3D
 LENGTH: 0x01 OPT. DATA 0x1F
 USER SERVICE INFO 0x1D
 LENGTH: 0x03 OPT. DATA 0x80 0x90 0xA3
 EXTENSION BIT 1 last_octet
 CODING STANDARD 0 CCITT_coding_standard

BC INFO TRANSFER CAP 0 transfer_speech
EXTENSION BIT 1 last_octet
TRANSFER MODE 0 circuit_mode
INFORMATION TRANSFER RATE 16 rate_64_kb_per_s
EXTENSION BIT 1 last_octet
USER LAYER IDENTIFICATION 1 user_info_layer_1_protocol
MULTIPLIER/PROTOCOL ID 3 A_law_speech
END OF OPTIONAL PARAMETERS 0x00
***** END_OF_MSG *****

14:07:33.630890 10.48.85.24:3001 10.48.85.187:3001
NI2+..... -> SETUP (05) PROT:08 CREF:0003
IE:BEARER_CAPAB (04) 8090a3
IE:CHANNEL_ID (18) e9808381
IE:CALLING_PARTY_NB (6c) 0181 CALLING_NB:9678
IE:CALLED_PARTY_NB (70) 81 CALLED_NB:92169679

14:07:33.640377 10.48.85.187:3001 10.48.85.24:3001

NI2+..... -> REL_COMP (5a) PROT:08 CREF:8003

IE:CAUSE (08) 80ba

Cause 58 = Bearer Cap Not Avail

14:07:33.660505 1-002-1[02065] 1-010-1[02129]

ITU ISUP. -> REL (0c) CIC=00001 Cause 58 = Bearer Cap Not Avail

SLS=01 Pr:0 Ni:NTL

***** DETAIL *****

CIC 1
MESSAGE TYPE 0x0C REL - Release_Msg
INDEX TO VARIABLE PART 0x02
INDEX TO OPTIONAL PART 0x00
CAUSE IND 0x12
LENGTH: 0x02 VAR. DATA 0x80 0xBA
EXTENSION BIT 1 diagnostic_is_not_included
CODING STANDARD 0 CCITT_standard
GENERAL LOCATION 0 User
EXTENSION BIT 1 diagnostic_is_not_included
CLASS 3 Service or option not available
VALUE IN CLASS 10
CAUSE VALUE 58 Bearer capability not presently available
***** END_OF_MSG *****

14:07:33.742257 1-010-1[02129] 1-002-1[02065]
ITU ISUP. -> REL (0c) CIC=00062 Cause 58 = Bearer Cap Not Available

SLS=14 Pr:0 Ni:NTL

***** DETAIL *****

CIC 62
MESSAGE TYPE 0x0C REL - Release_Msg
INDEX TO VARIABLE PART 0x02
INDEX TO OPTIONAL PART 0x00
CAUSE IND 0x12
LENGTH: 0x02 VAR. DATA 0x80 0xBA
EXTENSION BIT 1 diagnostic_is_not_included
CODING STANDARD 0 CCITT_standard
GENERAL LOCATION 0 User
EXTENSION BIT 1 diagnostic_is_not_included
CLASS 3 Service or option not available
VALUE IN CLASS 10
CAUSE VALUE 58 Bearer capability not presently available
***** END_OF_MSG *****

```
14:07:33.770574 1-010-1[02129] 1-002-1[02065] ITU ISUP. -> RLC (10) CIC=00001
SLS=01 Pr:0 Ni:NTL
```

```
***** DETAIL *****
CIC 1
MESSAGE TYPE 0x10 RLC - Release_Complete_Msg
*****
END_OF_MSG *****
```

```
14:07:33.780953 1-002-1[02065] 1-010-1[02129] ITU ISUP. -> RLC (10) CIC=00062
SLS=14 Pr:0 Ni:NTL
```

```
***** DETAIL *****
CIC 62
MESSAGE TYPE 0x10 RLC - Release_Complete_Msg
*****
END_OF_MSG *****
```

注意：为原因i = 0x80 BA发出Cisco IOS debug命令debug isdn q931。这在“[了解调试isdn q931断开原因代码](#)”文档中解释。

注意：对于原因i = 0x82c1 — 未实现承载功能，网络无法提供用户请求的承载功能。这可能与Telco问题有关。

如果是这种情况，请在串行接口下添加命令。发出debug isdn q931并检查您是否仍遇到此问题。如果是，请发出debug isdn q931命令，并将这些Cisco IOS命令添加到配置中。

- service timestamps debug datetime msec
- service timestamps log datetime msec

再次进行测试呼叫，并检查debug isdn q931命令的输出。

在串行接口下添加isdn incoming-voice modem命令，以更改Cause i = 0x80BA。

```
May 3 10:31:02.916: ISDN Se0:15 SC Q931: RX <- SETUP pd = 8 callref = 0x000D
Bearer Capability i = 0x8090A3
Standard = CCITT
Transer Capability = Speech
Transfer Mode = Circuit
Transfer Rate = 64 kbit/s
Channel ID i = 0xE980839F
Exclusive, Interface 0, Channel 31
Calling Party Number i = 0x0181, '9678'
Plan:ISDN, Type:Unknown
Called Party Number i = 0x81, '92169679'
Plan:ISDN, Type:Unknown
May 3 10:31:02.936: ISDN Se0:15 SC Q931: TX -> CALL_PROC pd = 8 callref = 0x800D
Channel ID i = 0xE180839F
Preferred, Interface 0, Channel 31
May 3 10:31:05.300: ISDN Se0:15 SC Q931: TX -> ALERTING pd = 8 callref = 0x800D
Facility i = 0x9E810003677464000001B41434D2C0D0A50524E2C6973646E2A2C2C4E45543
52A2C0D0A0D0A
May 3 10:31:07.088: ISDN Se0:15 SC Q931: TX -> CONNECT pd = 8 callref = 0x800D
May 3 10:31:07.108: ISDN Se0:15 SC Q931: RX <- CONNECT_ACK pd = 8 callref = 0x000D
May 3 10:31:09.672: %ISDN-6-CONNECT: Interface Serial0:30 is now connected to 9678
May 3 10:31:09.672: %ISDN-6-DISCONNECT: Interface Serial0:30 disconnected from 9678
, call lasted 2 seconds
May 3 10:31:09.672: ISDN Se0:15 SC Q931: TX -> DISCONNECT pd = 8 callref = 0x800D
Cause i = 0x8090 - Normal call clearing
Facility i = 0x9E810003677464000001B52454C2C0D0A50524E2C6973646E2A2C2C4E45543
52A2C0D0A0D0A
May 3 10:31:09.824: ISDN Se0:15 SC Q931: RX <- RELEASE pd = 8 callref = 0x000D
```

故障排除和验证

如果遇到任何问题，请结合Cisco IOS **debug** 命令**debug isdn q931**和Cisco PGW 2200消息定义语言(MDL)跟踪来收集SS7嗅探器跟踪。

收集Cisco PGW 2200 MDL跟踪

按照以下步骤收集MDL跟踪：

1. 确定发出呼叫的始发SS7 SigPath Number或始发中继组Number。
2. 运行/opt/CiscoMGC/bin/log_rotate.sh上的脚本，旋转日志。
3. 通过发出sta-sc-trc:ss7sigPath名称启动MDL跟踪 | orig trunkgroup number命令并确认。如果需要更多详细信息，请通过人机语言(MML)发出help:sta-sc-trc help命令。
4. 通过呼叫执行测试。
5. 发出stp-sc-trc:all命令，停止MDL跟踪。
6. 识别错误呼叫的呼叫ID(C:)。如果测试呼叫是在测试环境中进行的，则只显示一个呼叫ID。以下是您在发出./get_trc.sh trace_file_name时收到的详细信息的示例：

```
/opt/CiscoMGC/bin
mgcusr@PGW2200% ./get_trc.sh _ss7path_20040116104232.btr
get_trc.sh ca/sim/sp Trace File Utility Mistral Version 1.2
The ANALYSIS mdo file is:  GENERIC_ANALYSIS.mdo
Retrieving _ss7path_20040116104232.btr trace file Call ID's, please wait...
Enter one of the following commands:
S = Simprint in less
F = Simprint with printing of sent and received Fields in less
D = Display trc trace in less
G = Display trc trace in less (Generated)
C = Convert to trc trace file
A = Display CA file in less
N = Move to Next call ID
P = Move to Previous call ID
L = List call ID's in current file
X = Set SP flags
H = Print Help
Q = Quit get_trc.sh
Or just enter the ID of the call you want if you know it
Use (N)ext and (P)revious to move between the call ID's
_ss7path_20040116104232.btr contains 10 call(s)
==> Working on call 1 ID 24 H = Help [S/F/D/G/C/A/N/P/L/H/Q/id]?
```

注意：如果捕获是在生产Cisco PGW 2200上进行的，则这些文件可能包含许多混合呼叫跟踪。文件中的每个跟踪记录都具有特定的记录类型，并记录与该记录相关的类型的信息。每条记录都有一个呼叫ID，用于将其与特定呼叫关联。

7. 将MDL跟踪转换为可读格式。转到目录/opt/CiscoMGC/bin并发出命令./get_trc.sh trace file name。
8. 在提示符下键入Call ID，以跳至错误呼叫的MDL跟踪。
9. 选择C选项以转换跟踪文件。**注：**扩展名为.btr的文件是Cisco PGW 2200跟踪器功能生成的二进制跟踪文件。文件名的主要部分在Cisco PGW 2200 MML命令sta-sc-trc中给出。Cisco PGW 2200始终向这些文件添加.btr扩展名。使用“C”选项时，文件将转换为文本格式，扩展名.trc将添加到文件名中。这些文件包含来自生成文件的模拟重放中运行的MDO代码的逐行详细跟踪信息，因此它们包含MDL跟踪。
10. 跟踪文件位于/opt/CiscoMGC/var/trace。将.btr和.trc文件上传到服务请求以供审核。
11. 收集位于/opt/CiscoMGC/var/log的平台.log文件。在某些情况下，在处理服务请求时，思

科技术支持工程师要求报告与问题相关的其他platform.log信息。

收集监听/SIP-SS7嗅探器跟踪

本节列出了收集嗅探器踪迹的几种方法。您选择哪个选项取决于您是[已安装Cisco Packet Telephony Center — 监控和故障排除\(PTC-MT\)](#)，还是运行旧版本的Cisco监听程序。思科监听程序可以很好地了解SS7-SIP呼叫流。

- 在所有Solaris平台上发出snoop命令：要收集UNIX监听信息，请以超级用户身份登录并发出命令：

```
snoop -o snoop.log IP address
```

输入Ctrl+C退出snoop并将snoop.log文件上传到案例说明。**注意**：在案例中说明此文件是使用UNIX snoop命令捕获的。

- 运行Cisco监听应用：要收集Cisco监听信息，请以超级用户身份登录并发出./snooper int **INTERFACE PARMS LIST**命令或运行./snooper，这将为提供完整说明。

```
./snooper int hme'x' ni2+ ss7 > snooper_int1  
!--- Where 'x' is the interface number, which you can also find !--- by issuing the ifconfig  
-a command.
```

注意：将snooper_int1文件上传到案例说明。

- 运行PTC-MT。要收集PTC-MT信息，请以超级用户身份登录并发出./ptcmt int **INTERFACE PARMS LIST**命令或运行./snooper，这为您提供了完整说明。

```
./ptcmt int hme'x' ni2+ ss7 > snooper_int1  
!--- Where 'x' is the interface number, which you can also find !--- by issuing the ifconfig  
-a command.
```

将“snooper_int1”文件上传到案例说明。

相关信息

- [Cisco PGW 2200 Softswitch技术说明](#)
- [PGW2200 配置示例](#)
- [语音技术支持](#)
- [语音和统一通信产品支持](#)
- [Cisco IP 电话故障排除](#)
- [技术支持 - Cisco Systems](#)