

H.323 T.38傳真中繼問題

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簡介

T.38傳真中繼問題通常與思科和第三方T.38傳真網關之間的互操作性問題相關。本文檔提供成功和不成功的T.38傳真中繼呼叫的詳細的debug命令示例。這些debug命令輸出包含提供參考點的註釋，以便您可以識別並排除此類互操作性問題。本文還提供相關的故障排除和驗證命令。

必要條件

需求

本文檔的讀者應瞭解傳真中繼的基本概念。有關傳真中繼概念和基本故障排除步驟的詳細資訊，請參閱[傳真中繼故障排除指南](#)。

採用元件

本文件所述內容不限於特定軟體和硬體版本。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

[T.38基礎知識](#)

T.38傳真中繼問題的一個常見症狀是，語音呼叫建立時已聽到傳真音，但傳真協商未完成，呼叫最終被丟棄。通常，此問題與Cisco T.38網關和第三方T.38網關互操作性問題有關。

T.38傳真中繼是即時傳真傳輸；即，兩台傳真機，它們彼此通訊，就好像它們之間有直接的電話線。在網關撥號對等體上配置了傳真中繼，這些命令已針對語音呼叫進行了定義和配置。

思科提供兩種傳真中繼方法：一種基於ITU-T.38標準的Cisco專有方法和一種方法。在大多數平台上，如果沒有明確配置傳真方法，則預設使用思科傳真中繼。[設定思科傳真中繼](#)中介紹了思科傳真中繼。

[T.38限制](#)

此時，思科T.38傳真中繼具有以下限制：

- T.38互操作性需要Cisco H.323版本2。
- 帶有語音壓縮模組(VCM)的Cisco MC3810系列集中器不支援T.38。
- 多媒體會議管理員(MCM)H.323代理不支援T.38。
- H.323 T.38僅實現使用者資料包協定(UDP)。
- 某些第三方閘道和閘道管理員與T.38傳真中繼的思科語音閘道不相容，因為不同的製造商可以選擇將H.323和T.38的某些部分實施到其閘道管理員中。必須對這些第三方網關和網守進行語音互操作性測試，以確保T.38傳真中繼能夠成功。

[T.38交涉](#)

本節簡短地逐步總結如何在思科閘道中處理T.38交涉。如需傳真中繼基本資訊的詳細資訊，請參閱[傳真中繼疑難排解指南](#)。

1. 在初始設定消息中，始發網關(OGW)宣佈T.38資料能力。如果終端網關(TGW)支援T.38資料功能，則它可以在傳送到OGW的後續消息中轉發該資訊。
2. 一旦建立語音呼叫並且TGW上的數位訊號處理器(DSP)檢測到傳真音，語音電話服務提供商(VTSP)狀態機通知與OGW協商T.38模式的H.323呼叫支路。
3. 在確認T.38模式後，音訊通道關閉，T.38邏輯通道兩端開啟。
4. 在VTSP代碼級別，進行傳真編碼器 — 解碼器 (編解碼器) 下載。
5. 成功下載T.38開放邏輯通道(OLC)和編解碼器後，VTSP進入傳真模式。
6. 在傳真傳輸完成後，該呼叫被恢復為語音呼叫。**注意：**在T.38模式協商期間，如果另一端未確認T.38模式，則呼叫將恢復為語音呼叫並斷開連線。如果從T.38 OLC的另一端接收到否定確認，則呼叫也返回到語音呼叫並斷開連線。

[T.38故障排除](#)

[H.323或SIP T.38傳真中繼故障排除提示](#)

若要疑難排解T.38傳真中繼，請執行以下步驟：

- **確保您可以進行語音呼叫。**檢查傳真連線之前，請確認可以完成普通語音呼叫。如果沒有連線電話，請拔下傳真機並連線普通電話。如果普通語音呼叫無法連線，則問題可能與VoX相關

- ，您可以在繼續進行傳真故障排除之前，將該問題作為普通語音連線問題進行故障排除。
- 確保在始發和終止網關上使用fax protocol命令設定了所需的傳真協定。
 - 確保在全域性配置級別或在始發和終止網關的撥號對等體配置級別將傳真協定配置為T.38。

debug和show命令

用於T.38傳真中繼故障排除的debug和show命令包括：

- **debug voip ccapi inout** — 此命令通過呼叫控制應用程式介面(API)跟蹤執行路徑，該介面充當呼叫會話應用程式和基礎網路特定軟體之間的介面。您可以使用此命令的輸出瞭解語音網關處理呼叫的方式。
- **debug vtsp all** — 此命令啟用以下debug VTSP命令：**debug vtsp session**、**debug vtsp error**和**debug vtsp dsp**。
- **debug h245 asn1** — 此命令顯示H.245消息的抽象語法表示法One(ASN.1)內容。要禁用調試輸出，請使用此命令的no形式。
- **debug cch323 h245** — 此命令根據處理的事件，提供H.245狀態機狀態轉換的跟蹤。要禁用調試輸出，請使用此命令的no形式。
- **[show call active fax brief](#)** — 此命令顯示正在進行儲存轉發傳真傳輸的呼叫資訊。
- **[show call history fax](#)** — 此命令顯示傳真的最近呼叫歷史記錄。

成功的T.38呼叫的輸出

本節詳細介紹在AS5300系列路由器和Cisco 3640模組化接入路由器之間成功設定T.38傳真的方法。debug和show命令輸出在Cisco AS5300通用閘道上擷取為TGW IOS 12.2:

```
debug vtsp all命令輸出

!---After the voice call setup: !--- Usually, after the
call is connected, the ccCallConnect debug !--- message
is seen as follows: May 3 21:41:21.424: ccCallConnect
(callID=0x9), prog_ind = 0

May? 3 21:41:21.424: ssaFlushPeerTagQueue cid(9) peer
list: (empty)

May 3 21:41:21.424: H.225 SM: process event
H225_EVENT_SETUP_CFM, for callID 9

May 3 21:41:21.424: cch323_run_h225_sm:
  received event H225_EVENT_SETUP_CFM while at state
H225_ALERT

May 3 21:41:21.424: H.225 SM:
  changing from H225_ALERT state to H225_ACTIVE state
for callID 9

May 3 21:41:21.424: ==== PI in
cch323_h225_generic_send_setup_cfm = 0

!---After the voice call is established, the TGW DSP
detected fax tone: May 3 21:41:26.741:
vtsp_process_dsp_message: MSG_TX_TONE_DETECT:
  type=0 trigger=1 tone_id=0
```

```

May 3 21:41:26.741: vtsp:[1:D (10), S_CONNECT,
E_DSP_TONE_DETECT]

May 3 21:41:26.745: vtsp_modem_proto_from_cdb:
cap_modem_proto 0

May 3 21:41:26.745: cc_api_call_feature:
(vdbPtr=0x624130C0,
  callID=0xA,feature_ind.type=1

!---Switched to fax mode: May 3 21:41:26.745:
act_lfax_switch:
  cap_modem_proto=16, fax_relay_on=1, state=19

May 3 21:41:26.745: vtsp_t38_switchover:2 - data_mode:1
!--- Note that 2 means T.38; 1 means Cisco proprietary.
May 3 21:41:26.745: cc_api_t38_fax_start
  (dstVdbPtr=0x61B45A90, dstCallId=0x9,
  srcCallId=0xA,????
  caps={codec=0x10000, fax_rate=0x2, vad=0x2,
  modem=0x0codec_bytes=160, signal_type=1})

May 3 21:41:26.745: vtsp_timer: 2016656

May 3 21:41:26.745: sess_appl:
ev(28=CC_EV_CALL_FEATURE), cid(10), disp(0)

May 3 21:41:26.745:
cid(10)st(SSA_CS_ACTIVE)ev(SSA_EV_CALL_FEATURE)

oldst(SSA_CS_CONFERENCED_ALERT)cfid(5)csize(0)in(0)fDest
(0)

May 3 21:41:26.745: -
cid2(9)st2(SSA_CS_ACTIVE)oldst2(SSA_CS_CONFERENCING_ALER
T)
!---H245 ModeRequest was sent to the OGW: May 3
21:41:26.745: ccCallFeature (callID=0x9, feature.type=1)
Set new event H245_EVENT_MR, for callID 9 May 3
21:41:26.745: cch323_run_h245_mr_sm: received event
  H245_EVENT_MR while at state H245_MR_NONE?
!---Above, state H245_MR_NONE refers to ModeRequest
state. May 3 21:41:26.745: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= request :
requestMode :

??? {

????? sequenceNumber 1

????? requestedModes

?????{

????????? {

????????????? {

????????????????? type dataMode :

????????????????? {

????????????????????? application t38fax :

```



```

fd (3) of type ACCEPTED has data PROCESS_READ: NOT
COMPLETE, rc 10, fd=3

May? 3 21:41:27.001: vtsp_process_dsp_message:
    MSG_TX_TONE_DETECT: type=0 trigger=1 tone_id=0

May? 3 21:41:27.001: vtsp:[1:D (10),
S_LFAX_WAIT_CAPS_ACK, E_DSP_TONE_DETECT]

May? 3 21:41:27.005: vtsp_process_event(): prev_state =
0.11 ,

?state = S_LFAX_WAIT_CAPS_ACK, event = E_DSP_TONE_DETECT

Invalid FSM?Input on channel 1:D (10)

May 3 21:41:27.101: vtsp_process_dsp_message:
    MSG_TX_TONE_DETECT: type=0 trigger=0 tone_id=0

May 3 21:41:27.101: vtsp:[1:D (10),
S_LFAX_WAIT_CAPS_ACK, E_DSP_TONE_DETECT]

May 3 21:41:27.105: vtsp_process_event(): prev_state =
0.11 ,

state = S_LFAX_WAIT_CAPS_ACK, event = E_DSP_TONE_DETECT

Invalid FSM Input on channel 1:D
(10)h323chan_chn_process_read_socket:
    fd (3) of type ACCEPTED has data

Hex representation of the received TPKT0321000827000100

May 3 21:41:27.173: ? state = 0 bytesLeftToDecode = 4

May 3 21:41:27.173: H245 MSC INCOMING ENCODE BUFFER ::=
27 000100
!---Received ModeRequestAck from the OGW: May 3
21:41:27.173: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= response :
requestModeAck :

??? {

????? sequenceNumber 1

????? response willTransmitMostPreferredMode : NULL

??? }

Set new event H245_EVENT_MR_CFM, for callID 9

May 3 21:41:27.173: cch323_run_h245_mr_sm: received
event
H245_EVENT_MR_CFM while at state H245_MR_WAIT_FOR_ACK
!---The voice LC is closed and the T.38 fax data LC is
opened: May 3 21:41:27.173: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= request :
closeLogicalChannel :?
!---In the previous line, LogicalChannel refers to the
voice LC. ??? { ?????? forwardLogicalChannelNumber 1

```

```
????? source user : NULL

??? }

May 3 21:41:27.173: H245 MSC OUTGOING ENCODE BUFFER ::=
04 00000000

May 3 21:41:27.173: send result :0

May 3 21:41:27.173: changing from H245_OLC_DONE state to
H245_OLC_NONE state

May 3 21:41:27.173: cch323_update_new_codec_info: Remote
codec 17

May 3 21:41:27.173: cch323_update_new_codec_info:
negotiated_codec set(17)(40 bytes)

May 3 21:41:27.173: Changing to new event H245_EVENT_OLC

May 3 21:41:27.177: cch323_h245_olc_sm:
received event H245_EVENT_OLC while at state
H245_OLC_NONE

May 3 21:41:27.177: changing from H245_OLC_NONE state to
H245_OLC_WAIT state

May 3 21:41:27.177: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= request :
openLogicalChannel :?
  !---In the previous line, LogicalChannel refers to the
T.38 or data LC. ??? { ?????? forwardLogicalChannelNumber
2
  ?????? forwardLogicalChannelParameters

  ?????? {

  ?????????? dataType data :

  ?????????? {

  ???????????? application t38fax :

  ???????????? {

  ?????????????? t38FaxProtocol udp : NULL

  ?????????????? t38FaxProfile

  ?????????????? {

  ?????????????????? fillBitRemoval FALSE

  ?????????????????? transcodingJBIG FALSE

  ?????????????????? transcodingMMR FALSE

  ?????????????????? version 0

  ?????????????????? t38FaxRateManagement transferredTCF : NULL

  ?????????????????? t38FaxUdpOptions
```

```

?????????????? ??{
?????????????????? t38FaxMaxBuffer 200
?????????????????? t38FaxMaxDatagram 72
?????????????????? t38FaxUdpEC t38UDPRedundancy : NULL
?????????????????? }
?????????????????? }
?????????????? }
?????????????? maxBitRate 144
?????????? }
?????????? multiplexParameters
h2250LogicalChannelParameters :
?????????? {
????????????? sessionID 3?
!---The previous line refers to the data session ID.
????????????? mediaControlChannel unicastAddress : ipAddress
: ??????????? { ?????????????? network 'AB44BA66'H
?????????????? tsapIdentifier 17517 ??????????? } ???????????
silenceSuppression FALSE ?????????? } ?????? } ??? } May 3
21:41:27.181: H245 MSC OUTGOING ENCODE BUFFER::= 03
00000111 04118601 00805C01 00014007 C00200C8 01484000
90800B05 000300AB 44BA6644 6D00 May 3 21:41:27.181: send
result :0 May 3 21:41:27.181: OLC using T38Fax
May 3 21:41:27.181: changing from H245_MR_WAIT_FOR_ACK
state to H245_MR_NONE state
h323chan_chn_process_read_socket: fd (3) of type
ACCEPTED has data
Hex representation of the received
TPKT032100090400000000
May 3 21:41:27.185: ? state = 0 bytesLeftToDecode = 5
May 3 21:41:27.185: H245 MSC INCOMING ENCODE BUFFER::=
04 00000000
May 3 21:41:27.185:
May 3 21:41:27.185: H245 MSC INCOMING PDU ::=
value MultimediaSystemControlMessage ::= request :
closeLogicalChannel :??
!---In the previous line, LogicalChannel refers to the
voice LC. ??? { ?????? forwardLogicalChannelNumber 1
?????? source user : NULL ??? } May? 3 21:41:27.185: H245
MSC OUTGOING PDU ::=
value MultimediaSystemControlMessage ::= response
: closeLogicalChannelAck :???
!---In the previous line, LogicalChannel refers to the

```



```
voice LC. ??? { ????? forwardLogicalChannelNumber 1 ???  
} May 3 21:41:27.185: H245 MSC OUTGOING ENCODE BUFFER::=  
23 800000 May 3 21:41:27.185: H245 MSC INCOMING ENCODE  
BUFFER::= 03 00000111 04118601 00805C01 00014007  
C00200C8 01484000 90800B05 000300AC 10AF6941 7100 May 3  
21:41:27.189: H245 MSC INCOMING PDU ::=
```

```
value MultimediaSystemControlMessage ::= request :  
openLogicalChannel :?  
!---In the previous line, LogicalChannel refers to the  
T.38 or data LC. ??? { ????? forwardLogicalChannelNumber  
2
```

```
????? forwardLogicalChannelParameters
```

```
????? {
```

```
??????? dataType data :
```

```
??????? {
```

```
????????? application t38fax :
```

```
????????? {
```

```
????????????? t38FaxProtocol udp : NULL
```

```
????????????? t38FaxProfile
```

```
????????????? {
```

```
????????????????? fillBitRemoval FALSE
```

```
????????????????? transcodingJBIG FALSE
```

```
????????????????? transcodingMMR FALSE
```

```
????????????????? version 0
```

```
????????????????? t38FaxRateManagement transferredTCF : NULL
```

```
????????????????? t38FaxUdpOptions
```

```
????????????????? {
```

```
????????????????????? t38FaxMaxBuffer 200
```

```
????????????????????? t38FaxMaxDatagram 72
```

```
????????????????????? t38FaxUdpEC t38UDPRedundancy : NULL
```

```
????????????????? }
```

```
????????????? }
```

```
????????? }
```

```
????????? maxBitRate 144
```

```
????????? }
```

```
????????? multiplexParameters
```

```
h2250LogicalChannelParameters :
```

```

???????? {

?????????? sessionID 3

?????????? mediaControlChannel unicastAddress : ipAddress
:

?????????? {

???????????? network 'AC10AF69'H

???????????? tsapIdentifier 16753

?????????? }

?????????? silenceSuppression FALSE

????? ???}

????? }

??? }

!---DSP started T.38 fax codec download: May 3
21:41:27.193: cc_api_t38_fax_start
  (dstVdbPtr=0x624130C0, dstCallId=0xA, srcCallId=0x9,

???? caps={codec=0x10000, fax_rate=0x2, vad=0x2,
modem=0x
  codec_bytes=160, signal_type=1})

May 3 21:41:27.193: vtsp:[1:D (10),
S_LFAX_WAIT_CAPS_ACK, E_CC_T38_START]

May 3 21:41:27.193: act_caps_ack_lfax_dnld

May 3 21:41:27.193: vtsp_timer_stop: 2016700

May 3 21:41:27.193: dsp_idle_mode: [1:D (10)]
  packet_len=8 channel_id=8481 packet_id=68

May 3 21:41:27.193: cc_api_local_codec_dnld_done
(dstVdbPtr=0x61B45A90, dstCallId=0x9, srcCallId=0xA)

May 3 21:41:27.193: vtsp_timer:
2016700cch323_h245_local_codec_dnld_done:
  negotiatedCodec[17]

May 3 21:41:27.197: Changing to new event
H245_EVENT_OLC_IND

May 3 21:41:27.197: cch323_h245_olc_sm:
  received event H245_EVENT_OLC_IND while at state
H245_OLC_WAIT

May 3 21:41:27.197: H245 MSC OUTGOING PDU ::=

value MultimediaSystemControlMessage ::= response
  : openLogicalChannelAck :

??? {

????? forwardLogicalChannelNumber 2

????? forwardMultiplexAckParameters

```

```
h2250LogicalChannelAckParameters :
????? {
??????? sessionID 1
??????? mediaChannel unicastAddress : ipAddress :
??????? {
?????????? network 'AB44BA66'H
?????????? tsapIdentifier 17516
????????? }
????? ??mediaControlChannel unicastAddress : ipAddress :
????????? {
?????????? network 'AB44BA66'H
?????????? tsapIdentifier 17517
????????? }
????????? flowControlToZero FALSE
?????? }
??? }

May 3 21:41:27.197: H245 MSC OUTGOING ENCODE BUFFER:
:= 22 C0000104 80145C00 00AB44BA 66446C00 AB44BA66
446D0300 0100

May 3 21:41:27.589: ? state = 0 bytesLeftToDecode = 4

May 3 21:41:27.589: H245 MSC INCOMING ENCODE BUFFER::=
23 800000

May 3 21:41:27.589:

May 3 21:41:27.589: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= response :
closeLogicalChannelAck :

??? {
????? forwardLogicalChannelNumber 1
??? }

May 3 21:41:27.789: H245 MSC INCOMING ENCODE BUFFER:
:= 22 C0000104 80145C00 00AC10AF 69417000 AC10AF69
41710300 0100

May 3 21:41:27.789: H245 MSC INCOMING PDU ::=

value MultimediaSystemControlMessage ::= response :
openLogicalChannelAck :

??? {
```

```
????? forwardLogicalChannelNumber 2

????? forwardMultiplexAckParameters
h2250LogicalChannelAckParameters :

????? {

????????? sessionID 3

????????? mediaChannel unicastAddress : ipAddress :

????????? {

????????????? network 'AC10AF69'H

????????????? tsapIdentifier 16752

????????? }

????????? mediaControlChannel unicastAddress : ipAddress :

????????? {

????????????? network 'AC10AF69'H

????????????? tsapIdentifier 16753

????????? }

????????? flowControlToZero FALSE

????? }

??? }

May 3 21:41:27.793: Changing to new event
H245_EVENT_OLC_CFM

May 3 21:41:27.793: cch323_h245_olc_sm:
  received event H245_EVENT_OLC_CFM while at state
H245_OLC_WAIT

May 3 21:41:27.793: changing from H245_OLC_WAIT state to
H245_OLC_DONE state

May 3 21:41:27.793: cc_api_t38_fax_start
  (dstVdbPtr=0x624130C0, dstCallId=0xA, srcCallId=0x9,

???? caps={codec=0x10000, fax_rate=0x2, vad=0x2,
  modem=0x0 codec_bytes=160, signal_type=1})

May 3 21:41:27.793: H.225 SM: process event
H225_EVENT_H245_SUCCESS, for callID 9

May 3 21:41:27.793: cch323_run_h225_sm:
  received event H225_EVENT_H245_SUCCESS while at state
H225_ACTIVE

May 3 21:41:27.793: cc_api_remote_codec_dnld_done
  (dstVdbPtr=0x624130C0, dstCallId=0xA, srcCallId=0x9)

May 3 21:41:27.793: vtsp:[1:D (10), S_LFAX_WAIT_FAX,
E_CC_T38_START]
```

```

May 3 21:41:27.793: vtsp:[1:D (10), S_LFAX_WAIT_FAX,
E_CC_T30_CAP_ACK]

May 3 21:41:27.793: act_t38_lfax_mode

May 3 21:41:27.793: vtsp_timer_stop: 2016760

May 3 21:41:27.793: cc_api_set_fax_mode
  (dstVdbPtr=0x61B45A90, dstCallId=0x9, srcCallId=0xA)

May 3 21:41:27.793: dsp_idle_mode: [1:D (10)]
  packet_len=8 channel_id=8481 packet_id=68

May 3 21:41:27.793: dsp_encap_config: T38

May 3 21:41:27.793: dsp_fax_mode: [1:D (10)] FaxRate
0x2, Codec 0x10000?
dsp_fax_mode() ECM_DISABLE not set,
debug_info not requested

May 3 21:41:27.793: dsp_fax_mode:[1:D (10)]
  packet_len=28 channel_id=8481 packet_id=69
max_trans=6 info_size=20,
fax_protocol_type=3,hs_data_len=40, ls_data_red=0,
hs_data_red=0,
  tcf_handling=2, fax_relay_cntl=0x0 nsf_country =
0xAD, nsf_mfg = 0x0051

May 3 21:41:29.621: ccGetCallActive
  (next=1, setup_time=0x0, index=0x0, p=0x6293A8C0)

May 3 21:41:29.621: ccGetCallActive
  (next=1, setup_time=0x1EC241, index=0x1,
p=0x6293A8C0)

```

T.38呼叫失敗的示例

以下是debug命令輸出失敗的T.38呼叫的示例：

debug vtsp all命令輸出

```

!---When the ModeRequest was sent, T35 nonStandard was
sent instead of T38: *Jun 14 15:35:01.743: PDU DATA =
61593960 value MultimediaSystemControlMessage ::=
request : requestMode :

??? {

????? sequenceNumber 12

????? requestedModes

????? {

????????? {

????????????? {

????????????????? type dataMode :

```

```
???????????? {
???????????????? application nonStandard :
???????????????? {
???????????????????? nonStandardIdentifier h221NonStandard :
???????????????????? {
???????????????????????? t35CountryCode 181
? ?????????????????????????t35Extension 0
???????????????????????? manufacturerCode 20
???????????????????????? }
???????????????????? data '543338466178554450'H
???????????????????? }
???????????????????? bitRate 144
???????????????????? }
???????????????? }
???????????? }
???????? }
???? }
??? }

Set new event H245_EVENT_MR_IND, for callID C

*Jun 14 15:35:01.751: cch323_run_h245_mr_sm: received
event H245_EVENT_MR_IND wh

ile at state H245_MR_NONE

*Jun 14 15:35:01.751: Scan Preferred List for g729r8PDU
DATA = 61593960

value MultimediaSystemControlMessage ::= response :
requestModeAck :

??? {

????? sequenceNumber 12

????? response willTransmitMostPreferredMode : NULL

??? }

RAW_BUFFER ::=

27 000C00

*Jun 14 15:35:01.751: PDU DATA = 61593960

value MultimediaSystemControlMessage ::= request :
closeLogicalChannel :
```

```
??? {
?? ???forwardLogicalChannelNumber 2

????? source user : NULL

??? }

RAW_BUFFER::=
04 00000100

*Jun 14 15:35:01.751:

*Jun 14 15:35:01.751: changing from H245_OLC_DONE state
to H245_OLC_NONE state

*Jun 14 15:35:01.751: cch323_update_new_codec_info:
Remote codec 17

*Jun 14 15:35:01.751: cch323_update_new_codec_info:
negotiated_codec set(17)(40

bytes)

*Jun 14 15:35:01.751: Changing to new event
H245_EVENT_OLC

*Jun 14 15:35:01.751: cch323_h245_olc_sm:
received event H245_EVENT_OLC while atstate
H245_OLC_NONE

*Jun 14 15:35:01.751: changing from H245_OLC_NONE state
to H245_OLC_WAIT state

PDU DATA = 61593960

value MultimediaSystemControlMessage ::= request :
openLogicalChannel :

??? {

????? forwardLogicalChannelNumber 3

????? forwardLogicalChannelParameters

????? {

????????? dataType data :

????????? {

????????????? application nonStandard :

????????????? {

????????????????? nonStandardIdentifier h221nonStandard :

????????????????? {

????????????????????? t35CountryCode 181

????????????????????? t35Extension 0
```

```
???????????? manufacturerCode 18

? ?????????????}

???????????? data '543338466178554450'H

???????????? }

???????????? maxBitRate 144

???????????? }

???????????? multiplexParameters
h2250LogicalChannelParameters :

???????????? {

???????????? sessionID 3

???????????? mediaControlChannel unicastAddress : ipAddress
:

???????????? ???{

???????????????? network 'C95C381E'H

???????????????? tsapIdentifier 18101

???????????????? }

???????????? }

???????? }

???? }

??? }

RAW_BUFFER ::=

03 00000210 08B50000 12095433 38466178 55445000 90800A04
000300C9 5C381E46 B5

*Jun 14 15:35:01.759:

*Jun 14 15:35:01.759: OLC using T38Fax

*Jun 14 15:35:01.783: Changing to new event
H245_PROCESS_H245CONTROL

*Jun 14 15:35:01.783:
cch323_h245_connection_sm:H245_CONNECT: received event
H24

5_PROCESS_H245CONTROL while at H245_CONNECTED state

RAW_BUFFER ::=

04 80000100 800100

*Jun 14 15:35:01.783: PDU DATA = 61593960

value MultimediaSystemControlMessage ::= request :
closeLogicalChannel :
```



```
??? {
????? forwardLogicalChannelNumber 2

????? source user : NULL

????? reason unknown : NULL

??? }

PDU DATA = 61593960

value MultimediaSystemControlMessage ::= response :
closeLogicalChannelAck :

??? {

????? forwardLogicalChannelNumber 2

??? }

RAW_BUFFER ::=

23 800001

*Jun 14 15:35:01.787:

*Jun 14 15:35:01.787: Changing to new event
H245_PROCESS_H245CONTROL

*Jun 14 15:35:01.787:
cch323_h245_connection_sm:H245_CONNECT: received event
H24

5_PROCESS_H245CONTROL while at H245_CONNECTED state

RAW_BUFFER ::=

03 00000310 08B50000 14095433 38466178 55445000 90800300
0003

*Jun 14 15:35:01.787: PDU DATA = 61593960

value MultimediaSystemControlMessage ::= request :
openLogicalChannel :

??? {

????? forwardLogicalChannelNumber 4

????? forwardLogicalChannelParameters

????? {

????????? dataType data :

????????? {

????????????? application nonStandard :

????????????? {

????????????????? nonStandardIdentifier h221NonStandard :
```

```
?? ??????????{
??????????????? t35CountryCode 181
???????????????? t35Extension 0
???????????????? manufacturerCode 20
?????????????? }
?????????????? data '543338466178554450'H
?????????????? }
????????????? maxBitRate 144
?????????? }
????????? multiplexParameters
h2250LogicalChannelParameters :
????????? {
???????????? sessionID 3
?????????? }
?????? }
??? }
*Jun 14 15:35:01.831: Changing to new event
H245_PROCESS_H245CONTROL
*Jun 14 15:35:01.831:
cch323_h245_connection_sm:H245_CONNECT: received event
H24
5_PROCESS_H245CONTROL while at H245_CONNECTED state
RAW_BUFFER::=
23 800001
*Jun 14 15:35:01.831: PDU DATA = 61593960
value MultimediaSystemControlMessage ::= response :
closeLogicalChannelAck :
??? {
????? forwardLogicalChannelNumber 2
??? }
*Jun 14 15:35:01.883: Changing to new event
H245_PROCESS_H245CONTROL
*Jun 14 15:35:01.883:
cch323_h245_connection_sm:H245_CONNECT: received event
H24
5_PROCESS_H245CONTROL while at H245_CONNECTED state
```

```
RAW_BUFFER ::=
22 C0000204 800C5804 00875C34 CB1B4801 0100

*Jun 14 15:35:01.883: PDU DATA = 61593960

value MultimediaSystemControlMessage ::= response :
openLogicalChannelAck :

??? {

????? forwardLogicalChannelNumber 3

????? forwardMultiplexAckParameters
h2250LogicalChannelAckParameters :

????? {

????????? sessionID 3

????????? mediaChannel unicastAddress : ipAddress :

????????? {

????????????? network '875C34CB'H

????????????? tsapIdentifier 6984

????????? }

????????? flowControlToZero FALSE

????? }

??? }

*Jun 14 15:35:01.887: Changing to new event
H245_EVENT_OLC_CFM

*Jun 14 15:35:01.887: cch323_h245_olc_sm:
received event H245_EVENT_OLC_CFM while at state
H245_OLC_WAIT

*Jun 14 15:35:01.887: changing from H245_OLC_WAIT state
to H245_OLC_DONE state

cch323_h245_local_codec_dnld_done: negotiatedCodec[17]

*Jun 14 15:35:01.979: Changing to new event
H245_EVENT_OLC_IND

*Jun 14 15:35:01.979: cch323_h245_olc_sm: received event
H245_EVENT_OLC_IND whil

e at state H245_OLC_DONE
!---Session ID was sent as voice session ID, fallback to
voice and the call disconnected: PDU DATA = 61593960
value MultimediaSystemControlMessage ::= response :
openLogicalChannelAck : ??? { ?????
forwardLogicalChannelNumber 4 ?????
forwardMultiplexAckParameters
h2250LogicalChannelAckParameters : ????? { ???????
sessionID 1
```

```

??????? mediaChannel unicastAddress : ipAddress :

??????? {

??? ?????network 'C95C381E'H

???????? tsapIdentifier 18100

??????? }

??????? mediaControlChannel unicastAddress : ipAddress :

??????? {

???????? network 'C95C381E'H

???????? tsapIdentifier 18101

??????? }

??????? flowControlToZero FALSE

????? }

??? }

RAW_BUFFER::=

22 C0000304 80145C00 00C95C38 1E46B400 C95C381E 46B50300
0100

*Jun 14 15:35:01.983:

```

本節詳細介紹在AS5300系列路由器和Cisco 3640模組化接入路由器之間成功設定T.38傳真的方法。在Cisco 3640模組化接入路由器上的**debug vtsp all**命令上捕獲了**debug**和**show**命令輸出，這些命令輸出用作TGW IOS 12.4:

debug vtsp all命令輸出

```

Router# debug vtsp all

Voice telephony call control all debugging is on
!--- At this point, the VTSP is not aware of anything.
The format of this message is //callid/GUID/VTSP:(voice-
port):T1-channel_number:DSP_number:DSP_channel_number:
•CallEntry ID is -1. •GUID is xxxxxxxxxxxx. •The voice
port is blank. •Channel ID is -1. •DSP ID is -1. •DSP
channel ID is -1. *Mar 1 08:23:10.869: //-
1/xxxxxxxxxxxx/VTSP:():-1:-1:-
1/vtsp_do_regxrule_translate: !--- The original and the
translated calling number are the same (55555) and the
original and the translated called number are the same
(888545). These numbers are often the same because if a
translation rule is applied, it will be on the dial
peers or the ports, both of which comes later than these
VTSP messages in the Cisco IOS code execution. *Mar 1
08:23:10.869: //-1/xxxxxxxxxxxx/VTSP:():-1:-1:-1/vtsp
_do_regxrule_translate: calling_number(original)=
calling_number(xlated)=55555 called_number(original)=
called_number(xlated)=888545 redirectNumber(original)=
redirectNumber(xlated)= !--- The VTSP got a call setup
indicator from the TSP layer with called number 888545

```

```
and calling number 55555. There is no awareness of the
CallEntry ID (-1) or the GUID (xxxxxxxxxxxx). *Mar 1
08:23:10.873: //-1/xxxxxxxxxxxx/VTSP:():-1:-1:-
1/vtsp_tsp_call_setup_ind: (sdb=0x634C90EC,
tdm_info=0x0, tsp_info=0x63083950, calling_number=55555
calling_oct3 = 0x80, called_number=888545 called_oct3 =
0x80, oct3a=0x0): peer_tag=10002 *Mar 1 08:23:10.873:
//-1/xxxxxxxxxxxx/VTSP:():-1:-1:-
1/vtsp_tsp_fill_setup_ind : ev.clg.clir is 0
ev.clg.clid_transparent is 0 ev.clg.null_orig_clg is 0
ev.clg.calling_translated is false *Mar 1 08:23:10.873:
//-1/xxxxxxxxxxxx/VTSP:():-1:-1:-
1/vtsp_do_call_setup_ind: . *Mar 1 08:23:10.873: //-
1/xxxxxxxxxxxx/VTSP:():-1:-1:-1/vtsp_allocate_cdb: ,cdb
0x635FC480 *Mar 1 08:23:10.873: //-
1/xxxxxxxxxxxx/VTSP:():-1:-1:-1/vtsp_do_call_setup_ind:
*Mar 1 08:23:10.873: source route label !--- At this
point, the VTSP is not aware of anything. The format of
this message is //callid/GUID/VTSP:(voice-port):T1-
channel_number:DSP_number:DSP_channel_number: •CallEntry
ID is -1. •GUID is D2F6429A8A8A. •The voice port is
1/0:23 where 23 indicates D channel. •The T1 channel is
still unknown at this point (-1). •The digital signal
processor (DSP) is 0. •The DSP channel is 4. *Mar 1
08:23:10.873: //-1/D2F6429A8A8A/VTSP:(1/0:23):-
1:0:4/vtsp_do_call_setup_ind: Call ID=101002,
guid=635FCB08 !--- The VTSP learns about the B channel
(changed from -1 to 22), and the CallEntry ID is still
unknown (-1). *Mar 1 08:23:10.873: //-
1/D2F6429A8A8A/VTSP:
(1/0:23):22:0:4/vtsp_do_call_setup_ind: type=0,
under_spec=1615186336, name=, id0=23, id1=0, id2=0,
calling=55555,called=888545
subscriber=RegularLinevtsp_do_call_setup_ind: redirect
DN = reason = -1 *Mar 1 08:23:10.877: //-
1/xxxxxxxxxxxx/VTSP:():-1:-1:-
1/vtsp_do_normal_call_setup_ind: . !--- The VTSP learns
the CallEntry ID. The format of this message is
//callid/GUID/VTSP:(voice-port):T1-
channel_number:DSP_number:DSP_channel_number: •CallEntry
ID is 899 (changed from -1 to 899) •GUID is D2F6429A8A8A
•The voice port is 1/0:23 where 23 indicates D channel
•The T1 channel is 22 •The DSP is 12 •The DSP channel is
4 *Mar 1 08:23:10.877: //899/D2F6429A8A8A/VTSP:(1/0:23)
:22:12:4/vtsp_insert_cdb:,cdb 0x635FC480, CallID=899
*Mar 1 08:23:10.877:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/vtsp_open_voice
_and_set_params: . !--- In these outputs, VTSP sets some
of the voice parameters for this call: •Modem capability
•Playout delay •Dial-peer tag 10003 •Digit timeouts *Mar
1 08:23:10.877: //899/D2F6429A8A8A/VTSP:(1/0:23):
22:12:4/vtsp_modem_proto_from_cdb: cap_modem_proto 0
*Mar 1 08:23:10.881:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/set_playout_cdb
:playout default *Mar 1 08:23:10.881:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/vtsp_dsp_echo_c
anceller_control: echo_cancel: 1 *Mar 1 08:23:10.885:
//899/D2F6429A8A8A/VTSP:
(1/0:23):22:12:4/vtsp_save_dialpeer_tag: tag = 10003
*Mar 1 08:23:10.885: //899/D2F6429A8A8A/VTSP:
(1/0:23):22:12:4/vtsp_report_digit_control:
vtsp_report_digit_control: enable=0: *Mar 1
08:23:10.885: //899/D2F6429A8A8A/VTSP:(1/0:23):
22:12:4/vtsp_report_digit_control: digit reporting
```

```
disabled *Mar 1 08:23:10.885:
//899/D2F6429A8A8A/VTSP:(1/0:23):
22:12:4/vtsp_get_digit_timeouts: :
vtsp_get_digit_timeouts !--- VTSP sends out a call-
proceeding message to the POTS leg *Mar 1 08:23:10.885:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/vtsp_process_ev
ent:vtsp:[1/0:23:899, S_SETUP_INDICATED,
E_CC_PROCEEDING] *Mar 1 08:23:10.885:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/act_proceeding:
. *Mar 1 08:23:10.941: //899/D2F6429A8A8A/VTSP:
(1/0:23):22:12:4/vtsp_get_dialpeer_tag: tag = 10003 *Mar
1 08:23:10.949: //899/D2F6429A8A8A/VTSP:(1/0:23):
22:12:4/vtsp_get_dialpeer_tag: tag = 10003 !--- VTSP
sends out an alerting to the POTS leg; the phone is
ringing at this time. *Mar 1 08:23:10.949:
//899/D2F6429A8A8A/VTSP:
(1/0:23):22:12:4/vtsp_process_event: vtsp:[1/0:23:899,
S_PROCEEDING, E_CC_ALERT] *Mar 1 08:23:10.949:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/act_alert: .
*Mar 1 08:23:10.949:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/vtsp_timer_stop
:3019095 *Mar 1 08:23:18.769:
//899/D2F6429A8A8A/VTSP:(1/0:23):
22:12:4/vtsp_get_dialpeer_tag: tag = 10003 !--- The
phone gets answered here, a bridge is now set up between
the two call legs. *Mar 1 08:23:10.949:
//899/D2F6429A8A8A/VTSP:
(1/0:23):22:12:4/vtsp_process_event: vtsp:[1/0:23:899,
S_PROCEEDING, E_CC_ALERT] *Mar 1 08:23:10.949:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/act_alert: .
*Mar 1 08:23:10.949:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/vtsp_timer_stop
:3019095 *Mar 1 08:23:18.769:
//899/D2F6429A8A8A/VTSP:(1/0:23):
22:12:4/vtsp_get_dialpeer_tag: tag = 10003 !--- The call
is now connected. Mar 1 08:23:18.769:
//899/D2F6429A8A8A/VTSP:(1/0:23)
:22:12:4/vtsp_process_event: vtsp:[1/0:23:899,
S_ALERTING, E_CC_CONNECT] *Mar 1 08:23:18.769:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/act_alert_conne
ct: . *Mar 1 08:23:18.773:
//899/D2F6429A8A8A/VTSP:(1/0:23):22:12:4/vtsp_ring_noan_
timer_stop: 3019877
```

相關資訊

- [使用VoIP配置傳真中繼\(T.38\)](#)
- [傳真中繼故障排除指南](#)
- [適用於傳真中繼和傳真直通的Cisco AVVID闢道支援](#)
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