

H.323 T.38传真中继问题

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简介

T.38传真中继问题通常关联与在思科和第三方T.38传真网关之间的互操作性问题。本文提供成功和不成功T.38传真中继呼叫详细的**debug命令**示例。这些**debug命令的输出**包含注释提供参考点，因此您能识别和排除故障这样互操作性问题。相关故障排除和验证命令在本文也提供。

先决条件

要求

本文读者应该对传真中继熟悉基本概念。参考[传真中继故障排除指南](#)关于传真中继概念和基本故障排除步骤的更多信息。

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

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

[T.38基础](#)

T.38传真中继问题常见的症状是建立的语音呼叫传真音听到的地方，但是传真协商没有完成，并且呼叫最终丢弃。通常此问题关联与思科T.38网关和第三方T.38网关互操作性问题。

T.38传真中继是实时传真发射;即与彼此联络的两台传真机，好象在两个之间的一条直接电话线路。传真中继用在为语音呼叫已经定义并且配置的网关拨号对等体的一些个其它命令配置。

思科为传真中继提供两个方法：根据ITU-T T.38标准和方法的一个Cisco专利的方法。在多数平台上，如果传真方法没有明确地配置，Cisco FAX中继是默认。Cisco FAX中继在[配置描述Cisco FAX中继](#)。

[T.38限制](#)

此时此刻，思科T.38传真中继有这些限制：

- T.38互通性要求Cisco H.323版本2。
- 有语音压缩模块(VCM)的Cisco MC3810系列集中器不支持T.38。
- 多媒体会议管理器(MCM) H.323代理不支持T.38。
- 仅用户数据报协议(UDP)为H.323 T.38实现。
- 因为不同的制造商能选择H.323和T.38的某些部分实现到他们的网关和网守，一些第三方网关和网守不是与T.38传真中继的Cisco语音网关兼容。必须执行语音互用性测试用这些第三方网关和网守确保，T.38传真中继可以是成功的。

[T.38协商](#)

此部分提供一简要逐步摘要T.38协商如何在Cisco网关内被处理。关于传真中继基础的更多信息参考的[传真中继故障排除指南](#)。

1. 在初始设置消息，T.38数据功能由始发网关(OGW)宣布。如果终端网关(TGW)支持T.38数据功能，能中继在随后的消息的信息发送对OGW。
2. 一旦语音呼叫建立，并且数字信号处理器(DSP)在TGW检测传真音，语音电话服务提供商(VTSP)状态机通知H.323呼叫段，协商与OGW的T.38模式。
3. 在T.38模式的确认，音频信道关闭，并且T.38逻辑信道被建立在两端。
4. 在VTSP代码级，传真编码器译码器(编码)下载发生。
5. 在成功的T.38开放逻辑信道(OLC)和编码下载，VTSP加入到传真模式。
6. 在完成了传真传输后，呼叫被恢复回到语音呼叫。**注意：**在T.38模式的协商时，如果另一端不确认T.38模式，呼叫被恢复回到语音呼叫并且被断开。如果否定应答从关于T.38 OLC的另一端接收，则呼叫也被恢复回到语音呼叫并且被断开。

[T.38排除故障](#)

[H.323或SIP T.38传真中继的故障排除提示](#)

为了排除故障T.38传真中继，请执行这些步骤：

- **确保您能做语音呼叫。**确认在您检查传真连接之前可以完成普通语音呼叫。如果没有连接电话，请拔掉传真机并连接普通电话。如果正常语音呼叫不连接，问题可以是VoX-related，并且您

能排除故障问题，当一个正常语音连通性问题，在您继续进行传真故障排除前。

- 确保希望的传真协议设置了fax protocol命令在两始发和终接网关。
- 确保传真协议配置作为T.38在全局配置级别或在拨号对等配置级为两始发和终接网关。

debug 和 show 命令

排除故障T.38传真中继使用的Debug与Show调试指令是：

- **debug voip ccapi inout** —此命令通过呼叫控制Application Program Interface (API)追踪执行路径，担当呼叫会话应用程序和基础网络细节的软件之间的接口。您能使用从此命令的输出知道呼叫如何由语音网关处理。
- **全的debug vtsp**此命令启用这些debug vtsp命令：**debug vtsp session**、[debug vtsp error](#) 和 debug vtsp dsp。
- **debug h245 asn1** —此命令显示H.245消息抽象语法标记(ASN.1)内容。对禁用调试输出，请使用此命令no表示。
- **debug cch323 h245** —此命令提供H.245状态机的状态转换的trace根据处理的事件的。对禁用调试输出，请使用此命令no表示。
- [show call active fax摘要](#)—此命令显示进展中存储和转送传真的发射的呼叫信息。
- [show call history fax](#) —此命令显示传真的最近的呼叫历史记录。

成功的T.38呼叫的输出

此部分选派一成功的T.38传真的解剖学设置在一个AS5300系列路由器和Cisco 3640模块化访问路由器之间。debug and show命令输出在Cisco AS5300通用网关捕获作为TGW IOS 12.2：

```
debug vtsp all命令输出

!---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 :
????????????????? { ????????????????????? t38FaxProtocol udp :
NULL ?????????????????? t38FaxProfile ?????????????? ???{
????????????????????? fillBitRemoval FALSE ??????????????????
transcodingJBIG FALSE ?????????????????????? transcodingMMR
FALSE ?????????????????????? version 0 ??????????????????????
t38FaxRateManagement transferredTCF : NULL
????????????????????? t38FaxUdpOptions ??????? ??????????????{
????????????????????????? t38FaxMaxBuffer 200
????????????????????????? t38FaxMaxDatagram 72
????????????????????????? t38FaxUdpEC t38UDPRedundancy : NULL
????????????????????????? } ?????????????????????? } ?????????????????? }
????????????????????? bitrate 144 ?????????????? } ?????????? }
????????? } ?????? } ??? } May 3 21:41:26.753: changing
from H245_MR_NONE state to H245_MR_WAIT_FOR_ACK state
May 3 21:41:26.861: vtsp_process_dsp_message:
MSG_TX_TONE_DETECT: type=0 trigger=0 tone_id=0 May 3
21:41:26.861: vtsp:[1:D (10), S_LFAX_WAIT_CAPS_ACK,
E_DSP_TONE_DETECT] May 3 21:41:26.865:
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 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)

```

失败的T.38呼叫的示例

这是debug命令的输出的示例一失败的T.38呼叫的：

debug vtsp all命令输出

```

!---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 while 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
H245_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
while 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:
```

此部分选派一成功的T.38传真的解剖学设置在一个AS5300系列路由器和Cisco 3640模块化访问路由器之间。**debug and show命令**输出在**debug vtsp all命令**捕获在Cisco 3640模块化访问路由器作为TGW IOS 12.4 :

debug vtsp all命令输出

```
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/xxxxxxxxxxxxx/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/xxxxxxxxxxxxx/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 (xxxxxxxxxxxxx). *Mar 1
08:23:10.873: //-1/xxxxxxxxxxxxx/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/xxxxxxxxxxxxx/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/xxxxxxxxxxxxx/VTSP:():-1:-1:-
1/vtsp_do_call_setup_ind: . *Mar 1 08:23:10.873: //-
1/xxxxxxxxxxxxx/VTSP:():-1:-1:-1/vtsp_allocate_cdb: ,cdb
0x635FC480 *Mar 1 08:23:10.873: //-
1/xxxxxxxxxxxxx/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/xxxxxxxxxxxxx/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
```

相关信息

- [配置有VoIP的\(T.38\)传真中继](#)
- [传真中继故障排除指南](#)
- [Cisco AVVID 网关支持传真中继和传真转接](#)
- [语音电话服务提供商调试](#)
- [排除故障传真](#)
- [语音技术支持](#)
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