

Problemas del Fax Relay de H.323 T.38

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[Introducción](#)

Los problemas de Fax Relay T.38 suelen estar asociados a problemas de interoperabilidad entre Cisco y gateways de fax T.38 de otras compañías. Este documento proporciona ejemplos detallados de comandos de debug de llamadas correctas y fallidas de Fax Relay T.38. Estos resultados de comandos de debug contienen comentarios para proporcionar puntos de referencia, de modo que pueda identificar y resolver esos problemas de interoperabilidad. En este documento también se proporcionan los comandos de troubleshooting y verificación pertinentes.

[prerrequisitos](#)

[Requisitos](#)

Los Quien lea este documento deben estar bien informados de los conceptos básicos de Fax Relay. Refiera a la [guía del Troubleshooting de Fax Relay](#) para más información sobre los conceptos y los pasos básicos para Troubleshooting del Fax Relay.

[Componentes Utilizados](#)

Este documento no tiene restricciones específicas en cuanto a versiones de software y de hardware.

La información que contiene este documento se creó a partir de los dispositivos en un ambiente de laboratorio específico. Todos los dispositivos que se utilizan en este documento se pusieron en

funcionamiento con una configuración verificada (predeterminada). Si la red está funcionando, asegúrese de haber comprendido el impacto que puede tener cualquier comando.

[Convenciones](#)

Consulte [Convenciones de Consejos Técnicos Cisco](#) para obtener más información sobre las convenciones del documento.

[Fundamentos de T.38](#)

Un síntoma común de los problemas del Fax Relay de T.38 es una llamada de voz se establece que donde se oye un tono del fax, pero la negociación del fax no se completa y la llamada se cae eventual. Este problema se asocia a menudo al gateway de Cisco T.38 y a los problemas de interoperabilidad del gateway de tercera persona de T.38.

El Fax Relay de T.38 es transmisión por fax en tiempo real; es decir, dos máquinas de fax que comunican con uno a como si hubiera una línea telefónica directa entre los dos. El Fax Relay se configura con algunos comandos adicionales en los gateway dial peer que se han definido y se han configurado ya para las llamadas de voz.

Cisco proporciona dos métodos para el Fax Relay: un método del patentado Cisco y un método basados en el estándar ITU-T T.38. En la mayoría de las Plataformas, el Fax Relay de Cisco es el valor por defecto si un método del fax no se configura explícitamente. El Fax Relay de Cisco se describe en [configurar el Fax Relay de Cisco](#).

[Restricciones de T.38](#)

En este momento, el Fax Relay de Cisco T.38 tiene estas restricciones:

- La Interoperabilidad de T.38 requiere la versión 2 de Cisco H.323.
- T.38 no se soporta en los concentradores del Cisco MC3810 Series con un Módulo de compresión de voz (VCM).
- T.38 no es soportado por el proxy de H.323 del Multimedia Conference Manager (MCM).
- Solamente el User Datagram Protocol (UDP) se implementa para H.323 T.38.
- Algunos gateways y porteros de tercera persona no son compatibles con los gateways de voz de Cisco para el Fax Relay de T.38 porque diversos fabricantes pueden elegir a ciertas partes de H.323 y T.38 para implementar en sus gateways y porteros. La prueba de Interoperabilidad de la Voz con estos gateways y porteros de tercera persona se debe realizar para asegurarse que el Fax Relay de T.38 puede ser acertado.

[Negociación de T.38](#)

Esta sección proporciona un resumen gradual abreviado de cómo la negociación de T.38 se maneja dentro de los gateways de Cisco. Refiera a la [guía del Troubleshooting de Fax Relay](#) para más información sobre los fundamentos del Fax Relay.

1. En el mensaje de configuración inicial, la capacidad de datos de T.38 es anunciada por el gateway de origen (OGW). Si el gateway de terminación (TGW) soporta la capacidad de datos de T.38, puede retransmitir que información en los mensajes subsiguientes enviados

al OGW.

2. Una vez que se establece una llamada de voz y el procesador de señales digitales (DSP) en el TGW detecta un tono del fax, la máquina de estado del proveedor de servicio de telefonía de voz (VTSP) informa al tramo de llamada de H.323, que negocia el modo de T.38 con el OGW.
3. Sobre el acuse de recibo del modo de T.38, el canal de audio es cerrado, y el canal lógico de T.38 se abre en los ambos extremos.
4. En un nivel de código del VTSP, la descarga del decodificador del codificador del fax (codificador-decodificador) ocurre.
5. Sobre una descarga abierta acertada del canal lógico (OLC) y del codificador-decodificador de T.38, el VTSP ingresa en el modo fax.
6. Al completar la transmisión por fax, la llamada se invierte de nuevo a una llamada de voz. **Nota:** Durante la negociación del modo de T.38, si el otro extremo no reconoce el modo de T.38, la llamada se invierte de nuevo a una llamada de voz y se desconecta. Si el reconocimiento negativo se recibe del otro extremo con respecto a T.38 OLC, después la llamada también se invierte de nuevo a una llamada de voz y se desconecta.

[El resolver problemas de T.38](#)

[Consejos de Troubleshooting para el Fax Relay de H.323 o de T.38 del SORBO](#)

Para resolver problemas el Fax Relay de T.38, realice estos pasos:

- **Asegúrese que usted puede hacer una llamada de voz.** Confirme que las llamadas de voz normales pueden ser completadas antes de que usted investigue la Conectividad del fax. Si no hay ningún teléfono conectado, desconecte la máquina de fax y conecte un teléfono común. Si las llamadas de voz normales no conectan, el problema puede ser Voz-relacionado, y usted puede resolver problemas el problema mientras que un problema normal de la conectividad de voz antes de que usted proceda con el Troubleshooting de fax.
- **Asegúrese que el protocolo deseado del fax fue fijado con el comando fax protocol** en ambos los gateways de origen y destinos.
- **Asegúrese que el protocolo del fax está configurado como T.38** en el nivel de la configuración global o en la configuración de dial-peer llana para ambos los gateways de origen y destinos.

[Comandos debug y show](#)

Los comandos **debug and show** usados para resolver problemas el Fax Relay de T.38 son:

- **inout del ccapi del voip del debug** — Este comando localiza el trayecto de ejecución con el Application Program Interface del Control de Llamadas (API), que sirve como la interfaz entre la aplicación de la sesión de llamada y el software red-específico subyacente. Usted puede utilizar la salida de este comando de entender cómo las llamadas están siendo manejadas por el gateway de voz.
- **vtsp todo del debug** — Este comando habilita estos comandos del VTSP del **debug: debug vtsp session, vtsp error del debug, y dsp del vtsp del debug.**
- **asn1 del debug h245** — Este comando visualiza el contenido del Abstract Syntax Notation

One (ASN.1) de los mensajes H.245. Para inhabilitar la salida de debugging, no utilice la ninguna forma de este comando.

- **haga el debug de cch323 h245** — Este comando proporciona la traza de la transición de estado de la máquina de estado H.245 basada en los eventos procesados. Para inhabilitar la salida de debugging, no utilice la ninguna forma de este comando.
- **[muestre la descripción de la llamada Active Fax](#)** — Este comando visualiza la información de la llamada para las transmisiones de fax de almacenamiento y reenvío en curso.
- **[muestre el fax del historial de llamadas](#)** — Este comando visualiza el historial de llamadas reciente para los faxes.

Salida de una llamada acertada de T.38

Esta sección detalla la anatomía de un fax acertado de T.38 puesto entre un router de las AS5300 Series y un router de acceso modular del Cisco 3640. Las salidas del **comando debug and show** fueron capturadas en el Universal Gateway del Cisco AS5300 como el IOS 12.2 TGW:

salida del comando debug vtsp all

```
!---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)

```

[Un ejemplo de una llamada fallada de T.38](#)

Éste es un ejemplo del resultado del comando de debug para una llamada fallada de T.38:

salida del comando debug vtsp all

```

!---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
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:

```

Esta sección detalla la anatomía de un fax acertado de T.38 puesto entre un router de las AS5300 Series y un router de acceso modular del Cisco 3640. Las salidas del comando **debug and show** fueron capturadas en el comando **debug vtsp all** en un router de acceso modular del Cisco 3640 como el IOS 12.4 TGW:

salida del comando debug vtsp all

```

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 (xxxxxxxxxxxx). *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
```

Información Relacionada

- [Configurando el Fax Relay con VoIP \(T.38\)](#)
- [Guía de resolución de problemas de Fax Relay](#)
- [Ayuda de gateway AVVID de Cisco para Fax Relay y Fax Pass-Through](#)
- [Depuración del proveedor de servicio de telefonía de voz](#)
- [Resolver problemas el fax](#)
- [Soporte de tecnología de voz](#)
- [Soporte de Productos de Voice and Unified Communications](#)
- [Troubleshooting de Cisco IP Telephony](#)
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