Configurazione e risoluzione dei problemi di segnalazione E1 R2

Sommario

Introduzione

Questo documento offre le voci di comando progressive necessarie per implementare la segnalazione E1 R2. In questo documento vengono anche fornite informazioni sulla risoluzione dei problemi con i comandi **di debug**.

Nota: prima di utilizzare questo documento, si consiglia di leggere la teoria dei segnali E1 R2.

Prerequisiti

Requisiti

Prima di provare la configurazione, verificare che siano soddisfatti i seguenti prerequisiti:

- La segnalazione R2 si applica solo a E1.
- La segnalazione R2 non è supportata sul router Cisco MC3810.
- Per eseguire la segnalazione R2 sui router Cisco serie 2600/3600, è necessario questo hardware:VWIC-1MFT-E1 o VWIC-2MFT-E1 o VWIC-2MFT-E1-DI insieme a uno dei seguenti moduli di densità vocale: NM-HDV (High Density Voice Network Module) o NM-HD-2VE (IP

communications voice/fax network module a 2 slot) .
- Definire il comando **ds0-group** (o **cas-group**, in base alla versione di Cisco IOS®) sui controller E1 (AS5x00, router Cisco 2600/3600).
- Usare il comando **cas-custom** per personalizzare le varianti di E1 R2 per paesi diversi.

Componenti usati

Le informazioni di questo documento si basano sulla seguente versione software e hardware:

- Cisco AS5300 con software Cisco IOS versione 12.0.7T

Nota: la segnalazione E1 R2 è stata introdotta nei router Cisco serie 2600/3600 nel software Cisco IOS versione 12.1.2XH e 12.1(3)T.

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

Convenzioni

Per ulteriori informazioni sulle convenzioni usate, consultare il documento Cisco sulle convenzioni nei suggerimenti tecnici.

Configurazione

In questa sezione vengono presentate le informazioni che è possibile utilizzare per configurare E1 R2.

Nota: per ulteriori informazioni sui comandi usati da questo documento, consultare lo strumento di ricerca dei comandi (solo utenti registrati).

AS5300: Cisco IOS - Compatibilità software Voice Feature Card (VFC)

Prima di implementare la segnalazione E1 R2 in un router Cisco AS5300, verificare che la versione del software Cisco IOS in uso sia compatibile con Cisco VCware nel modulo E1. Per verificare la compatibilità del software Cisco IOS, fare riferimento alla matrice di compatibilità VCWare per Cisco AS5300. Se le versioni non sono compatibili, i moduli del processore di segnale digitale (DSP) nella scheda voce non vengono caricati e non viene eseguita l'elaborazione del segnale vocale.

In genere, se la versione di Cisco VCWare non è compatibile con il software Cisco IOS, è possibile immettere il **comando show vfc *slot_number* interface** per verificare questa condizione, come mostrato nell'esempio.

```
eefje#show vfc 1 interface
Rx: in ptr 18, outptr 0
Tx: in ptr 14  outptr  14
0 in hw queue, 0 queue head , 0 queue tail
Hardware is VFC out-of-band channel
Interface : state RESET DSP instance (0x61048284)
```

```
dsp_number 0, Channel ID 0
TX outstanding 0, max TX outstanding 0
Received 18 packets, 1087 bytes, 0 giant packets
0 drops, 0 no buffers, 0 input errors
121 bytes output, 14 frames output
0 bounce errors 0

DSP module 1 is not installed
DSP module 2 is not installed
DSP module 3 is not installed
DSP module 4 is not installed
DSP module 5 is not installed
```

Nel primo output di esempio del comando **show vfc *slot_number* interface**, le istruzioni `DSP module number is not installed` mostrano che le versioni non sono compatibili per quel numero di modulo.

Questo secondo gruppo di output è un esempio di moduli DSP con la versione corretta di Cisco VCWare caricata:

```
eefje#show vfc 1 interface
Rx: in ptr 24, outptr 0
TX: in ptr 15  outptr  15
0 in hw queue, 0 queue head , 0 queue tail
Hardware is VFC out-of-band channel
Interface : state RESET DSP instance (0x618C6088)
dsp_number 0, Channel ID 0
TX outstanding 0, max TX outstanding 0
Received 283288 packets, 15864278 bytes, 0 giant packets
0 drops, 0 no buffers, 0 input errors
1416459 bytes output,  141647 frames output
0 bounce errors 0

Slot 1, DSPM 1 (C542), DSP 1, Channel 1
State RESET, DSP instance (0x61914BDC)
TX outstanding 0, max TX outstanding 8
Received 0 packets, 0 bytes, 0 giant packets
0 drops, 0 no buffers, 0 input errors
0 bytes output,  0 frames output
0 bounce errors 0

Slot 1, DSPM 1 (C542), DSP 2, Channel 1
State RESET, DSP instance (0x6191510C)
TX outstanding 0, max TX outstanding 8
Received 0 packets, 0 bytes, 0 giant packets
0 drops, 0 no buffers, 0 input errors
0 bytes output,  0 frames output
0 bounce errors 0
```

Per controllare la versione di Cisco VCWare installata, immettere il comando **show vfc *slot_number* version vcware**, come mostrato nell'esempio:

```
eefje#show vfc 1 version vcware
Voice Feature Card in Slot 1:

VCware Version : 4.10
ROM Monitor Version : 1.2
DSPware Version :
Technology :  C542
```

Nota: verificare che la versione della tecnologia Cisco VCWare (c549 o c542) corrisponda alla tecnologia VFC DSP installata (DSPM-542: supporto vocale a densità singola per DSPM-549:

supporto vocale ad alta densità).

Configurare E1 R2

Completare questa procedura per configurare E1 R2:

1. Configurare il controller E1 che si connette allo switch o al PBX (Automatic Branch Exchange) privato.Accertatevi che le impostazioni di framing e linecoding della E1 siano corrette.
2. Per il frame E1, scegliere **CRC** o **non CRC**.
3. Per la codifica lineare E1, scegliete **HDB3** o **AMI**.
4. Per l'origine dell'orologio E1, scegliere **interno** o **linea**. Tenere presente che i diversi PBX hanno requisiti diversi sull'origine dell'orologio.
5. Configurare la segnalazione della linea.
6. Configurare la segnalazione tra registri.
7. Personalizzare la configurazione con il comando **cas-custom**.

Configura segnalazione linea

Utilizzare questa sequenza di comandi per definire la segnalazione sulla linea.

```
 eefje(config)#controller E1 0
 eefje(config-controller)#ds0-group 1 timeslots 1-15 type ?
...
r2-analog        R2 ITU Q411
r2-digital       R2 ITU Q421
r2-pulse         R2 ITU Supplement 7
...
```

Questa è la sequenza di comandi per il software Cisco IOS versione 11.3.

```
 eefje(config)#controller E1 0
 eefje(config-controller)#cas-group 1 timeslot 1-15 type ?
...
```

Nota: se si esegue l'aggiornamento dal software Cisco IOS versione 11.3 alla 12.0, il nuovo comando sostituisce automaticamente quello precedente.

Configura segnalazione tra registri

Questo esempio di sequenza di comandi illustra come configurare i diversi tipi di segnalazione tra registri:

```
 eefje(config)#controller E1 0
 eefje(config-controller)#ds0-group 1 timeslots 1-15 type r2-digital ?
dtmf               DTMF tone signaling
r2-compelled       R2 Compelled Register Signaling
r2-non-compelled   R2 Non Compelled Register Signaling
r2-semi-compelled  R2 Semi Compelled Register Signaling
```

Per impostazione predefinita, il supporto DNIS (Dialed Number Identification Service) è abilitato nell'implementazione Cisco della segnalazione R2. Se si attiva l'opzione ANI (Automatic Number Identification), la raccolta delle informazioni DNIS viene comunque eseguita. La specifica

dell'opzione ANI non disabilita la raccolta DNIS. DNIS è il numero chiamato. ANI è il numero del chiamante. Ad esempio, se si configura un router denominato A per chiamare un router denominato B, il numero DNIS viene assegnato al router B e il numero ANI al router A. ANI è simile all'ID chiamante.

Personalizzazione di E1 R2 con il comando cas-custom

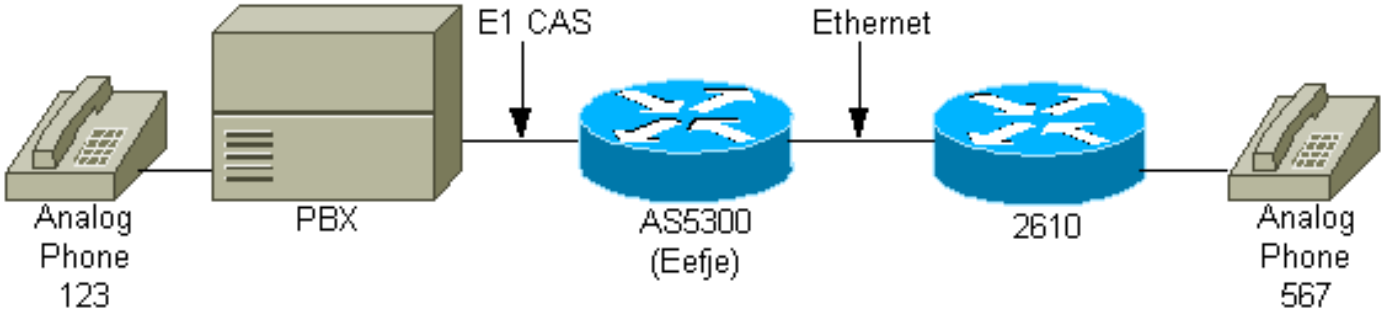
I sottocomandi del comando **cas-custom** vengono usati per adattarsi alle varianti del paese. Vengono inoltre utilizzati per personalizzare i parametri CAS (Channel Associated Signaling). In questa sequenza di comandi viene illustrato come visualizzare tutte le opzioni dei comandi **personalizzati in base alla richiesta**.

```
eefje(config)#controller E1 0
eefje(config-controller)#cas-custom 1
eefje(config-ctrl-cas)#?
CAS custom commands:
  ani-digits           Expected number of ANI digits
  ani-timeout          Timeout for ANI digits
  answer-guard-time    Wait Between Group-B Answer Signal And Line Answer
  answer-signal        Answer signal to be used
  caller-digits        Digits to be collected before requesting CallerID
  category             Category signal
  country              Country Name
  debounce-time        Debounce Timer
  default              Set a command to its defaults
  dnis-complete        Send I-15 after DNIS digits for dial-out
  dnis-digits          Expected number of DNIS digits
  exit                 Exit from cas custom mode
  groupa-callerid-end  Send Group-A Caller ID End
  invert-abcd          invert the ABCD bits before TX and after rx
  ka                   kA Signal
  kd                   KD Signal
  metering             R2 network is sending metering signal
  nc-congestion        Non Compelled Congestion signal
  no                   Negate a command or set its defaults
  proceed-to-send      Suppress proceed-to-send signal for pulsed line signaling
  release-ack          Send Release Acknowledgment to Clear Forward
  release-guard-time   Release Guard Timer
  request-category     DNIS Digits to be collected before requesting category
  seizure-ack-time     Seizure to Acknowledge timer
  unused-abcd          Unused ABCD bit values
```

Per ulteriori informazioni sui parametri del comando **cas-custom**, consultare il documento sulla personalizzazione di E1 R2 con il comando **cas-custom**.

Esempio di rete

Nel documento viene usata questa impostazione di rete.



Configurazioni

Ai fini del presente documento, queste sono le tre diverse configurazioni di R2 mostrate nell'interfaccia E1:

- R2 Digitale non-forzato
- R2 Digitale semi-compattato
- R2 Impulso digitale ANI

Le configurazioni sono state modificate in modo da mostrare solo le informazioni discusse in questo documento.

eefje Configurato per R2 Digital Non-Compeled

```
hostname eefje
!
controller E1 0
 clock source line primary
 dso-group 1 timeslots 1-15 type r2-digital r2-non-
compelled
 cas-custom 1
!--- For more information on these commands !--- refer
to ds0-group  and cas-custom.

!
voice-port 0:1
 cptone BE
!--- The cptone command is country specific. For more !-
-- information on this command, refer to cptone .

!
dial-peer voice 123 pots
 destination-pattern 123
 direct-inward-dial
 port 0:1
 prefix 123
!
dial-peer voice 567 voip
 destination-pattern 567
 session target ipv4:2.0.0.2
!
```

eefje configurato per R2 Digital Semi-Compeled

```
hostname eefje
!
controller E1 0
 clock source line primary
 ds0-group 1 timeslots 1-15 type r2-digital r2-semi-
```

```
compelled
 cas-custom 1
!--- For more information on these commands !--- refer
to ds0-group  and cas-custom .

!
voice-port 0:1
 cptone BE
!--- The cptone command is country specific. For more !-
-- information on this command, refer to cptone .

dial-peer voice 123 pots
 destination-pattern 123
 direct-inward-dial
 port 0:1
 prefix 123
!
dial-peer voice 567 voip
 destination-pattern 567
 session target ipv4:2.0.0.2
!
```

eefje Configurato per R2 Digital Compeled ANI

```
hostname eefje
! controller E1 0 clock source line primary ds0-group
1 timeslots 1-15 type r2-digital r2-compelled ani cas-
custom 1
!--- For more information on these commands !--- refer
to ds0-group  and cas-custom .

voice-port 0:1 cptone BE
!--- The cptone command is country specific. For more !-
-- information on this command, refer to cptone .

dial-peer voice 123 pots destination-pattern 123 direct-
inward-dial port
0:1 prefix 123
!
dial-peer voice 567 voip destination-pattern 567 session
target ipv4:2.0.0.2
!
```

Verifica

Attualmente non è disponibile una procedura di verifica per questa configurazione.

Risoluzione dei problemi

Le informazioni contenute in questa sezione permettono di risolvere i problemi relativi alla configurazione.

Risoluzione dei problemi relativi agli errori E1 R2

Queste sono le informazioni utili per risolvere eventuali problemi con questa configurazione. Seguire queste istruzioni.

1. Verificare che il controller E1 0 sia attivo.In caso di guasto, controllare i frame, la codifica della linea, l'origine dell'orologio, gli allarmi, sostituire il cavo, riposizionare la scheda e così via . Utilizzare Personalizzazione E1 R2 con il documento Cas-custom Command come riferimento.
2. Se si utilizza un AS5300, verificare che i DSP siano installati correttamente con il **comando show vfc** *slot number* **interface**.
3. Configurare Direct Inward Dial (DID) sul peer POTS (Plain Old Telephone Service), in modo che le cifre ricevute vengano utilizzate per scegliere un peer in uscita.
4. Specificare **cptone** (**cptone** è specifico del proprio paese) sulle porte vocali.Affinché corrisponda al comando **cas-custom** *country*, è necessario configurare un comando *cptonecountry*. Il parametro `cptone` imposta i toni di avanzamento delle chiamate per un paese particolare e, cosa più importante, imposta la codifica su a-law o u-law, che dipende dal paese. La codifica predefinita per gli Stati Uniti è u-law.
5. Associare i dispositivi di segnalazione di linea e registro alla configurazione dello switch.
6. Attivare alcuni dei **debug** mostrati in questo documento e studiare gli output.
7. Verificare la comunicazione tra il router e il PBX o lo switch:La linea è bloccata?Il router riceve/invia cifre?Scoprite da quale parte la chiamata viene cancellata.Se possibile, utilizzare le versioni software Cisco IOS più recenti disponibili sul sito Cisco.com.

Comandi debug e show

Alcuni comandi **show sono supportati dallo** strumento Output Interpreter (solo utenti registrati); lo strumento permette di visualizzare un'analisi dell'output del comando **show.**

Nota: prima di usare i comandi di **debug**, consultare le informazioni importanti sui comandi di debug.

Nota: per il software Cisco IOS versione 12.0, utilizzare i seguenti **debug**:

- **debug cas** - Per la segnalazione della linea.
- **debug csm voice** - Per la segnalazione tra registri.
- **debug vtsp all**: per scambiare l'output di tutti i messaggi (cifre) tra il PBX e il router.

Per il software Cisco IOS versione 11.3, utilizzare questi comandi:

- **modem-mgmt csm debug-rbs**: per la segnalazione in linea (è necessario specificare prima il **servizio interno** in modalità di configurazione).
- **debug csm voice** - Per la segnalazione tra registri.
- **debug vtsp all**: per scambiare l'output di tutti i messaggi (cifre) tra il PBX e il router.

Per le piattaforme AS5400 e AS5350, utilizzare i seguenti debug:

- **debug sigsm r2** - Per segnalazione interregistro
- **debug vtsp all**: per scambiare l'output di tutti i messaggi (cifre) tra il PBX e il router.

Output di esempio del comando debug

Poiché in questo documento sono state illustrate tre configurazioni diverse, di seguito sono riportati tre **debug** diversi:

R2 Digitale non-forzato: Chiamata in arrivo a 567

Per una migliore comprensione dell'output del comando **debug**, consultare la teoria della segnalazione E1 R2.

```
eefje#show debug
CAS:
 Channel Associated Signaling debugging is on
CSM Voice:
Voice Call Switching Module debugging is on
Voice Telephony session debugging is on
Voice Telephony dsp debugging is on
Voice Telephony error debugging is on
eefje#
eefje#
eefje#
Jan 6 10:41:28.677: from NEAT(0): (0/0): Rx SEIZURE (ABCD=0001)
Jan 6 10:41:28.717: VDEV_ALLOCATE: failed to allocate a device
Jan 6 10:41:28.717: VDEV_ALLOCATE: 1/28 is allocated
Jan 6 10:41:28.721: csm_vtsp_init_tdm (voice_vdev=0x620BF874)
Jan 6 10:41:28.721: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm slot 2,
dspm 1, dsp 5, dsp_channel 1
Jan 6 10:41:28.721: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm stream 5,
channel 3, bank 1, bp_channel 4, BP_stream 255
Jan 6 10:41:28.721: CSM_RX_CAS_EVENT_FROM_NEAT:(cid0018): EVENT_CALL_DIAL_IN
at slot 2 and port 16
Jan 6 10:41:28.721: CSM_PROC_IDLE: CSM_EVENT_START_DIGIT_COLLECT at slot 2,
 port 16
Jan 6 10:41:28.721: csm_vtsp_start_digit_collect (voice_vdev=0x620BF874)
Jan 6 10:41:28.721:  Enter csm_connect_pri_vdev function
Jan 6 10:41:28.721: csm_connect_pri_vdev:tdm_allocate_BP_ts()call. BP TS allocated
 at BP_stream0, BP_Ch28,vdev_common 0x6 20BF8E4
Jan 6 10:41:28.721: to NEAT:(cid0018) EVENT_CHANNEL_LOCK for slot0 ctlr0 chan0
Jan 6 10:41:28.721: vtsp_do_call_setup_ind
Jan 6 10:41:28.721: vtsp_do_call_setup_ind: Call ID=65681, guid=61FAF610
Jan 6 10:41:28.721: vtsp_do_call_setup_ind: type=0, under_spec=0, name=, id0=0,
id1=0, id2=0, calling=, called=
Jan 6 10:41:28.721: vtsp_do_call_setup_ind: redirect DN = reason =
 0vtsp_open_voice_and_set_params
Jan 6 10:41:28.721: dsp_close_voice_channel: [0:1:0] packet_len=8 channel_id
 =8529 packet_id=75
Jan 6 10:41:28.721: dsp_open_voice_channel_20: [0:1:0] packet_Len=16 channel_id
 =8529 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0 time_slot=0
 serial_port=0
Jan 6 10:41:28.721: dsp_encap_config_20: [0:1:0] packet_Len=24 channel_id=8529
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 10:41:28.721: dsp_set_playout: [0:1:0] packet_Len=18 channel_id=8529
 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 6 10:41:28.721: dsp_echo_canceller_control: [0:1:0] packet_Len=10
channel_id=8529 packet_id=66 flags=0x0
Jan 6 10:41:28.721: dsp_set_gains: [0:1:0] packet_Len=12 channel_id=8529
packet_id=91 in_gain=0 out_gain=0
Jan 6 10:41:28.721: dsp_vad_enable: [0:1:0] packet_Len=10 channel_id=8529
packet_id=78 thresh=-38
Jan 6 10:41:28.721: dsp_voice_mode: [0:1:0] packet_Len=24 channel_id=8529
packet_id=73 coding_type=1 voice_field_size=80 V AD_flag=0 echo_length=64
comfort_noise=1 inband_detect=1 digit_relay=2
AGC_flag=0vtsp_do_r2_start_digit(): dsp_dtmf_mode()
 dsp_dtmf_mode(VTSP_TONE_R2_MF_FORWARD_MODE)
Jan 6 10:41:28.725: dsp_dtmf_mode: [0:1:0] packet_Len=10 channel_id=8529
 packet_id=65 dtmf_or_mf=1vtsp_do_r2_start_digit():fsm_push(vtsp_r2_state_table)
```

```
Jan 6 10:41:28.725: csm_vtsp_call_setup_resp (vdev_info=0x620BF874,
vtsp_cdb=0x621C5F3C)
Jan 6 10:41:28.725: csm_vtsp_call_setup_resp:vdev_common BP TS allocatedat
BP_stream0,BP_Ch28
Jan 6 10:41:28.725: csm_vtsp_call_setup_resp:dst_tdm_chnl call. BP TS allocatedat
 stream 5, chan 3,BP_stream 255, BP_ch 4
Jan 6 10:41:28.725: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 5, chan 3,BP_stream 0, BP_ch 28
Jan 6 10:41:28.725: CSM_PROC_IC1_COLLECT_ADDR_INFO: CSM_EVENT_MODEM_OFFHOOK
 (DNIS=, ANI=) at slot 2, port 16
Jan 6 10:41:28.725: R2 Incoming Voice(2/16): DSX (E1 0:0): STATE: R2_IN_IDLE R2
 Got Event R2_START
Jan 6 10:41:28.821: CSM_RX_CAS_EVENT_FROM_NEAT:(0018):EVENT_START_RX_TONE at slot 2
 and port 16
Jan 6 10:41:28.821: from NEAT(0): (0/0): TX SEIZURE_ACK (ABCD=1101)
!--- Digit 5 is sent: Forward Signal Group I-5. Jan 6 10:41:29.233: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_BEGIN: digit=5,
 rtp_timestamp=0x0CA95D43 dc_digit_up
Jan 6 10:41:29.233: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C) received digit (5)
Jan 6 10:41:29.233: CSM voice (2/16): Rcvd Digit detected(5)
Jan 6 10:41:29.233: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE: R2_IN_COLLECT_DNIS R2
 Got Event 5
Jan 6 10:41:29.365: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=5,
 duration=8321dc_digit
Jan 6 10:41:29.365: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (5)
Jan 6 10:41:29.365: CSM voice (2/16): Rcvd Digit detected(5)
Jan 6 10:41:29.365: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
!--- Digit 6 is sent: Forward Signal Group I-6. Jan 6 10:41:29.593: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_BEGIN: digit=6,
 rtp_timestamp=0x0CA95D43 dc_digit_up
Jan 6 10:41:29.593: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C) received digit (6)
Jan 6 10:41:29.593: CSM voice (2/16): Rcvd Digit detected(6)
Jan 6 10:41:29.593: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE: R2_IN_COLLECT_DNIS R2
 Got Event 6
Jan 6 10:41:29.725: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=6,
 duration=8321dc_digit
Jan 6 10:41:29.725: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (6)
Jan 6 10:41:29.725: CSM voice (2/16): Rcvd Digit detected(6)
Jan 6 10:41:29.725: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE: R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
!--- Digit 7 is sent: Forward Signal Group I-7. Jan 6 10:41:29.953: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_BEGIN:
digit=7, rtp_timestamp=0x0CA95D43 dc_digit_up
Jan 6 10:41:29.953: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C)
received digit (7)
Jan 6 10:41:29.953: CSM voice (2/16): Rcvd Digit detected(7)
Jan 6 10:41:29.953: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event 7
Jan 6 10:41:30.085: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:
digit=7, duration=8321dc_digit
Jan 6 10:41:30.085: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C)received digit (7)
Jan 6 10:41:30.085: CSM voice (2/16): Rcvd Digit detected(7)
Jan 6 10:41:30.085: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE: R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
!--- Timeout: 3 seconds (default timer - AS5300 assumes DNIS is finished). Jan 6 10:41:32.953:
R2 Incoming Voice(2/16): DSX (E1 0:0): STATE: R2_IN_COLLECT_DNIS R2 Got Event R2_TONE_TIMER
!--- Send digit 6: Backward Signal Group B-6 (subscriber's line free-charge). Jan 6
```

```
10:41:32.953: vtsp_r2_generate_digits: vdev_common=0x620BF8E4, string=567dc_dial()
vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = 6#

Jan 6 10:41:32.953: dsp_dtmf_dialing: [0:1:0] packet_Len=36 channel_id=8529
packet_id=90 string=6# digits=2, time_on=150, time_off=30
Jan 6 10:41:32.953:&   digit=e, components=2, freq_of_first=900,
freq_of_second=780, amp_of_first=8192, amp_of_second=8192
Jan 6 10:41:32.953:    digit=o, components=2, freq_of_first=0,
freq_of_second=0, amp_of_first=1, amp_of_second=1
Jan 6 10:41:33.313: vtsp_process_dsp_message:
MSG_TX_DIALING_DONE dc_dialing_done()
Jan 6 10:41:33.313: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE:R2_IN_ANSWER_PULSE R2
 Got Event R2_DIGITS_GENR2_ALERTING
Jan 6 10:41:34.313: R2 Incoming Voice(2/16): DSX (E1 0:0):
STATE: R2_IN_ANSWER_PULSE R2
 Got Event R2_TONE_TIMER
Jan 6 10:41:34.313:  R2_IN_IDLE:2 r2_in_connect called
Jan 6 10:41:34.313: CSM_PROC_IC1_COLLECT_ADDR_INFO:
 CSM_EVENT_ADDR_INFO_COLLECTED (DNIS=567, ANI=) at slot 2, port 16
Jan 6 10:41:34.313: vtsp_tsp_call_accept_check (sdb=0x61B8F0E0, calling_number=
 called_number=567): peer_tag=0
Jan 6 10:41:34.313: VDEV_ALLOCATE: failed to allocate a device
Jan 6 10:41:34.313: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 10:41:34.313: VDEV_ALLOCATE: failed to allocate a device
Jan 6 10:41:34.313: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 10:41:34.313: VDEV_ALLOCATE: failed to allocate a device
Jan 6 10:41:34.313: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 10:41:34.313: CSM_PROC_IC3_WAIT_FOR_RES_RESP: CSM_EVENT_RESOURCE_OK at slot 2,
 port 16
Jan 6 10:41:34.313: vtsp_ic_switch : (voice_vdev= 0x620BF874)
Jan 6 10:41:34.313: vtsp_tsp_call_switch_ind (cdb=0x621C5F3C, tsp_info=0x620BF874,
 calling_number= called_number=567 redir ect_number=):
peer_tag=123dc_switch: fsm_pop()
Jan 6 10:41:34.313: vtsp_do_call_setup_ind
Jan 6 10:41:34.313: vtsp_do_call_setup_ind: Call ID=65683, guid=61FAF610
Jan 6 10:41:34.313: vtsp_do_call_setup_ind: type=0, under_spec=0,
 name=ab^Lx, id0=1, id1=0, id2=0, calling=123, called=567
Jan 6 10:41:34.317: dsp_cp_tone_off: [] packet_Len=8 channel_id=8529 packet_id=71
Jan 6 10:41:34.317: dsp_idle_mode: [] packet_Len=8 channel_id=8529 packet_id=68
Jan 6 10:41:34.317: dsp_close_voice_channel: [] packet_Len=8 channel_id=8529
packet_id=75
Jan 6 10:41:34.317: vtsp_timer_stop: 67475758
Jan 6 10:41:34.317: csm_vtsp_call_setup_resp (vdev_info=0x620BF874,
 vtsp_cdb=0x621C5F3C)
Jan 6 10:41:34.317: csm_vtsp_call_setup_resp:vdev_common
BP TS allocatedat BP_stream0,
 BP_Ch28
Jan 6 10:41:34.317: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 5, chan 3,BP_stream 0, BP_ch 28
Jan 6 10:41:34.317: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 5, chan 3,BP_stream 0, BP_ch 28vt sp_open_voice_and_set_params
Jan 6 10:41:34.317: dsp_close_voice_channel: [0:1 (54)] packet_Len=8 channel_id=8529
 packet_id=75
Jan 6 10:41:34.317: dsp_open_voice_channel_20: [0:1 (54)] packet_Len=16
channel_id=8529
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0 time_slot=0
serial_port=0
Jan 6 10:41:34.317: dsp_encap_config_20: [0:1 (54)] packet_Len=24 channel_id=8529
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 10:41:34.317: dsp_set_playout: [0:1 (54)] packet_Len=18 channel_id=8529
 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 6 10:41:34.317: dsp_echo_canceller_control: [0:1 (54)] packet_Len=10
channel_id=8529
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```
 packet_id=66 flags=0x0
Jan 6 10:41:34.317: dsp_set_gains: [0:1 (54)] packet_Len=12
channel_id=8529 packet_id=91
 in_gain=0 out_gain=0
Jan 6 10:41:34.317: dsp_vad_enable: [0:1 (54)] packet_Len=10
channel_id=8529 packet_id=78
 thresh=-38act_proceeding
Jan 6 10:41:34.321: csm_vtsp_call_proceeding:DST_tdm_chnl call.
BP TS allocatedstream 5,
 chan 3,BP_stream 0, BP_ch 28act_alert
Jan 6 10:41:34.345: vtsp_ring_noan_timer_start: 67475761
Jan 6 10:41:34.345: csm_vtsp_call_alert (vtsp_cdb=0x621C5F3C)act_bridge act_caps_ind
Jan 6 10:41:34.589: act_caps_ind:Encap 1, Vad 2, Codec 0x4, CodecBytes 20,
    FaxRate 2, FaxBytes 20 SignalType 0
    DtmfRelay 1, Modem 1act_caps_ack
Jan 6 10:41:34.589: dsp_idle_mode: [0:1 (54)] packet_Len=8
channel_id=8529 packet_id=68
Jan 6 10:41:34.589: act_caps_ack: codec = 15, ret = 1
Jan 6 10:41:34.589: dsp_cp_tone_off: [0:1 (54)] packet_Len=8 channel_id=8529
  packet_id=71
Jan 6 10:41:34.589: dsp_idle_mode: [0:1 (54)] packet_Len=8
channel_id=8529 packet_id=68
Jan 6 10:41:34.589: dsp_encap_config_20: [0:1 (54)] packet_Len=24 channel_id=8529
  packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 10:41:34.589: dsp_voice_mode: [0:1 (54)] packet_Len=24 channel_id=8529
 packet_id=73 coding_type=20 voice_field_size=20 VAD_flag=1 echo_length=64
 comfort_noise=1 inband_detect=1 digit_relay=2 AGC_flag=0act_alert_connect
Jan 6 10:41:36.857: vtsp_ring_noan_timer_stop: 67476012
Jan 6 10:41:36.857: dsp_cp_tone_off: [0:1 (54)] packet_Len=8 channel_id=8529
  packet_id=71
Jan 6 10:41:36.857: csm_vtsp_call_connect (vtsp_cdb=0x621C5F3C,
voice_vdev=0x620BF874)
Jan 6 10:41:36.857: CSM_IC5_WAIT_FOR_SWITCH_OVER: CSM_EVENT_MODEM_OFFHOOK
  at slot 2, port 16
Jan 6 10:41:36.917: CSM_RX_CAS_EVENT_FROM_NEAT:(0018):  EVENT_CHANNEL_CONNECTED
  at slot 2 and port 16
Jan 6 10:41:36.917: CSM_PROC_IC6_WAIT_FOR_CONNECT: CSM_EVENT_DSX0_CONNECTED
  at slot 2, port 16
Jan 6 10:41:36.921: from NEAT(0): (0/0): TX ANSWERED(ABCD=0101)
eefje#
```

R2 Digitale semi-compattato: Chiamata in arrivo a 567

Per una migliore comprensione dell'**output del comando debug**, consultare la teoria della segnalazione E1 R2.

```
eefje#show debug
CAS:
 Channel Associated Signaling debugging is on
CSM Voice:
Voice Call Switching Module debugging is on
Voice Telephony session debugging is on
Voice Telephony dsp debugging is on
Voice Telephony error debugging is on
eefje#
eefje#
eefje#
Jan  6 09:53:42.389: from NEAT(0): (0/2): Rx SEIZURE(ABCD=0001)
Jan 6 09:53:42.433: VDEV_ALLOCATE: failed to allocate a device
Jan 6 09:53:42.433: VDEV_ALLOCATE: 1/27 is allocated
Jan 6 09:53:42.433: csm_vtsp_init_tdm (voice_vdev=0x620BF320)
Jan 6 09:53:42.433: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm slot 2, dspm 1,
```

```
 dsp 4, dsp_channel 4
Jan 6 09:53:42.433: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm stream 7, channel 0,
 bank 4, BP_channel 3, BP_stream 255
Jan 6 09:53:42.433: CSM_RX_CAS_EVENT_FROM_NEAT:(cid0017): EVENT_CALL_DIAL_IN
 at slot 2 and port 15
Jan 6 09:53:42.433: CSM_PROC_IDLE: CSM_EVENT_START_DIGIT_COLLECT
 at slot 2, port 15
Jan 6 09:53:42.433: csm_vtsp_start_digit_collect (voice_vdev=0x620BF320)
Jan 6 09:53:42.433:  Enter csm_connect_pri_vdev function
Jan 6 09:53:42.433: csm_connect_pri_vdev:tdm_allocate_BP_Ts()call. BP TS allocated
 at BP_stream0, BP_Ch27,vdev_common 0x6 20BF390
Jan 6 09:53:42.433: to NEAT:(cid0017) EVENT_CHANNEL_LOCK for slot0 ctlr0 chan2
Jan 6 09:53:42.433: vtsp_do_call_setup_ind
Jan 6 09:53:42.433: vtsp_do_call_setup_ind: Call ID=65675, guid=61FAF610
Jan 6 09:53:42.433: vtsp_do_call_setup_ind: type=0, under_spec=0, name=, id0=0,
 id1=0, id2=0, calling=, called=
Jan 6 09:53:42.433: vtsp_do_call_setup_ind: redirect DN = reason =
 0vtsp_open_voice_and_set_params
Jan 6 09:53:42.433: dsp_close_voice_channel: [0:1:2] packet_Len=8 channel_id=8516
 packet_id=75
Jan 6 09:53:42.433: dsp_open_voice_channel_20: [0:1:2] packet_Len=16
channel_id=8516
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0
time_slot=1 serial_port=1
Jan 6 09:53:42.433: dsp_encap_config_20: [0:1:2] packet_Len=24 channel_id=8516
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 09:53:42.433: dsp_set_playout: [0:1:2] packet_Len=18 channel_id=8516
 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 6 09:53:42.433: dsp_echo_canceller_control: [0:1:2]
packet_Len=10 channel_id=8516
 packet_id=66 flags=0x0
Jan 6 09:53:42.437: dsp_set_gains:[0:1:2] packet_Len=12
channel_id=8516 packet_id=91
 in_gain=0 out_gain=0
Jan 6 09:53:42.437: dsp_vad_enable: [0:1:2] packet_Len=10 channel_id=8516
 packet_id=78 thresh=-38
Jan 6 09:53:42.437: dsp_voice_mode: [0:1:2] packet_Len=24 channel_id=8516
 packet_id=73 coding_type=1 voice_field_size=80 VAD_flag=0 echo_length=64
 comfort_noise=1 inband_detect=1 digit_relay=2 AGC_flag=0vtsp_do_r2_start_digit():
 dsp_dtmf_mode() dsp_dtmf_mode(VTSP_TONE_R2_MF_FORWARD_MODE)
Jan 6 09:53:42.437: dsp_dtmf_mode: [0:1:2] packet_Len=10 channel_id=8516
 packet_id=65 dtmf_or_mf=1vtsp_do_r2_start_digit(): fsm_push(vtsp_r2_state_table)
Jan 6 09:53:42.437: csm_vtsp_call_setup_resp (vdev_info=0x620BF320,
vtsp_cdb=0x621C5F3C)
Jan 6 09:53:42.437: csm_vtsp_call_setup_resp:vdev_common BP
TS allocatedat BP_stream0,
 BP_Ch27
Jan 6 09:53:42.437: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 7, chan 0,BP_stream 255, BP_ch 3
Jan 6 09:53:42.437: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 7, chan 0,BP_stream 0, BP_ch 27
Jan 6 09:53:42.437: CSM_PROC_IC1_COLLECT_ADDR_INFO: CSM_EVENT_MODEM_OFFHOOK
 (DNIS=, ANI=) at slot 2, port 15
Jan 6 09:53:42.437: R2 Incoming Voice(2/15): DSX (E1 0:2): STATE:R2_IN_IDLE R2
 Got Event R2_START
Jan 6 09:53:42.533: CSM_RX_CAS_EVENT_FROM_NEAT:(0017):EVENT_START_RX_TONE
 at slot 2 and port 15
Jan 6 09:53:42.533: from NEAT(0): (0/2): TX SEIZURE_ACK (ABCD=1101)
!--- Digit 5 is sent: Forward Signal Group I-5. Jan 6 09:53:42.641: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_BEGIN: digit=5, rtp_timestamp=0x9330B42B dc_digit_up Jan 6 09:53:42.641:
csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C) received digit (5) Jan 6 09:53:42.641: CSM voice
(2/15): Rcvd Digit detected(5) Jan 6 09:53:42.641: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event 5
```

!--- Digit 1 sent (pulse): Backward Signal Group A-1 (Send next digit) !--- "#" this indicates that it is a pulse). Jan 6 09:53:42.641: vtsp_r2_generate_digits: vdev_common=0x620BF390, string=5dc_dial() vtsp_dial_nopush **dsp_dtmf_dialing(): dial_string = 1#**

Jan 6 09:53:42.641: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516
 packet_id=90 string=1# digits=2, time_on=150, time_off=30
Jan 6 09:53:42.641:   digit=`, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 6 09:53:42.641:   digit=o, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
Jan 6 09:53:42.741: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=5,
 duration=8291dc_digit
Jan 6 09:53:42.741: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (5)
Jan 6 09:53:42.741: CSM voice (2/15): Rcvd Digit detected(5)
Jan 6 09:53:42.741: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
!--- Digit 6 is sent: Forward Signal Group I. Jan 6 09:53:42.881: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=6, rtp_timestamp=0x9330B42B dc_digit_up Jan 6 09:53:42.881: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C)received digit (6) Jan 6 09:53:42.881: CSM voice (2/15): Rcvd Digit detected(6) Jan 6 09:53:42.881: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2 **Got Event 6**
!--- Digit 1 sent (pulse): Backward Signal Group A-1. (Send next digit.) Jan 6 09:53:42.881: vtsp_r2_generate_digits: vdev_common=0x620BF390, string=56dc_dial() vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 1#

Jan 6 09:53:42.881: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516
 packet_id=90 string=1# digits=2, time_on=150, time_off=30
Jan 6 09:53:42.881:   digit=`, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 6 09:53:42.881:   digit=o, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
Jan 6 09:53:42.981: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=6,
 duration=8291dc_digit
Jan 6 09:53:42.981: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (6)
Jan 6 09:53:42.981: CSM voice (2/15): Rcvd Digit detected(6)
Jan 6 09:53:42.981: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
!--- Digit 7 is sent: Forward Signal Group I-7. Jan 6 09:53:43.121: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_BEGIN:
 digit=7, rtp_timestamp=0x9330B42B dc_digit_up
Jan 6 09:53:43.121: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C)received digit (7)
Jan 6 09:53:43.121: CSM voice (2/15): Rcvd Digit detected(7)
Jan 6 09:53:43.121: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event 7
!--- Send digit 1 (pulse): Backward Signal Group A-1. Jan 6 09:53:43.121:
vtsp_r2_generate_digits: vdev_common=0x620BF390, string=567dc_dial() vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 1#

Jan 6 09:53:43.121: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516
 packet_id=90 string=1# digits=2, time_on=150, time_off=30
Jan 6 09:53:43.121:   digit=`, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 6 09:53:43.121:   digit=o, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
Jan 6 09:53:43.221: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=7,
 duration=8291dc_digit
Jan 6 09:53:43.221: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C) received digit (7)
Jan 6 09:53:43.221: CSM voice (2/15): Rcvd Digit detected(7)

```
Jan 6 09:53:43.221: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
Jan 6 09:53:43.489: vtsp_process_dsp_message: MSG_TX_DIALING_DONEdc_dialing_done()
!--- Timeout is 3 seconds. Jan 6 09:53:46.121: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_TIMER
!--- Digit 3 sent(pulse): Backward Signal Group A-3. !--- (Address-complete, changeover to
reception of Group-B signals). Jan 6 09:53:46.121: vtsp_r2_generate_digits:
vdev_common=0x620BF390, string=567dc_dial() vtsp_dial_nopush dsp_dtmf_dialing(): dial_string =
3# Jan 6 09:53:46.121: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516 packet_id=90
string=3# digits=2, time_on=150, time_off=30 Jan 6 09:53:46.121: digit=b, components=2,
freq_of_first=1020, freq_of_second=900, amp_of_first=8192, amp_of_second=8192 Jan 6
09:53:46.121: digit=o, components=2, freq_of_first=0, freq_of_second=0, amp_of_first=1,
amp_of_second=1 !--- Digit 1 is sent: Forward Signal Group II-1 !--- (subscriber without
priority). Jan 6 09:53:46.361: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN:
digit=1, rtp_timestamp=0x9330B42B dc_digit_up
Jan 6 09:53:46.361: csm_vtsp_digit_ready_up (vtsp_cdb=0x621C5F3C)
received digit (1)
Jan 6 09:53:46.361: CSM voice (2/15): Rcvd Digit detected(1)
Jan 6 09:53:46.361: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_CATEGORY R2
 Got Event 1
Jan 6 09:53:46.361:  r2_comp_category:R2_ALERTING
!--- Digit 6 sent (pulse): Backward Signal Group B-6 !--- (the subscriber line free of charge).
Jan 6 09:53:46.361: vtsp_r2_generate_digits: vdev_common=0x620BF390, string=567dc_dial()
vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = 6#

Jan  6 09:53:46.361: dsp_dtmf_dialing: [0:1:2] packet_Len=36 channel_id=8516
 packet_id=90 string=6# digits=2, time_on=150, time_off=30
Jan 6 09:53:46.361:    digit=e, components=2, freq_of_first=900,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 6 09:53:46.361:    digit=o, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
Jan 6 09:53:46.461: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:digit=1,
 duration=8291dc_digit
Jan 6 09:53:46.461: csm_vtsp_digit_ready (vtsp_cdb=0x621C5F3C)received digit (1)
Jan 6 09:53:46.461: CSM voice (2/15): Rcvd Digit detected(1)
Jan 6 09:53:46.461: R2 Incoming Voice(2/15): DSX (E1 0:2): STATE:R2_IN_COMPLETE R2
 Got Event R2_TONE_OFF
Jan 6 09:53:46.729: vtsp_process_dsp_message: MSG_TX_DIALING_DONEdc_dialing_done()
Jan 6 09:53:47.461: R2 Incoming Voice(2/15): DSX (E1 0:2):
STATE:R2_IN_WAIT_GUARD R2
 Got Event R2_TONE_TIMER
Jan 6 09:53:47.461:  R2_IN_IDLE:2 r2_in_connect called
Jan 6 09:53:47.461: CSM_PROC_IC1_COLLECT_ADDR_INFO: CSM_EVENT_ADDR_INFO_COLLECTED
(DNIS=567, ANI=) at slot 2, port 15
Jan 6 09:53:47.461: vtsp_tsp_call_accept_check (sdb=0x61B8F0E0,calling_number=
 called_number=567): peer_tag=0
Jan 6 09:53:47.461: VDEV_ALLOCATE: failed to allocate a device
Jan 6 09:53:47.461: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 09:53:47.461: VDEV_ALLOCATE: failed to allocate a device
Jan 6 09:53:47.461: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 09:53:47.461: VDEV_ALLOCATE: failed to allocate a device
Jan 6 09:53:47.461: VDEV_ALLOCATE_ALMOST_READY: failed to allocate a non-idle modem
Jan 6 09:53:47.461: CSM_PROC_IC3_WAIT_FOR_RES_RESP: CSM_EVENT_RESOURCE_OK at slot 2,
 port 15
Jan 6 09:53:47.461: vtsp_IC_switch : (voice_vdev= 0x620BF320)
Jan 6 09:53:47.461: vtsp_tsp_call_switch_ind (cdb=0x621C5F3C,tsp_info=0x620BF320,
 calling_number= called_number=567 redirect_number=):
peer_tag=123dc_switch: fsm_pop()
Jan 6 09:53:47.461: vtsp_do_call_setup_ind
Jan 6 09:53:47.461: vtsp_do_call_setup_ind: Call ID=65677, guid=61FAF610
```

```
Jan 6 09:53:47.461: vtsp_do_call_setup_ind: type=0, under_spec=0, name=AB^Lo, id0=3,
 id1=0, id2=0, calling=123, called=567
Jan 6 09:53:47.465: dsp_cp_tone_off: [] packet_Len=8 channel_id=8516 packet_id=71
Jan 6 09:53:47.465: dsp_idle_mode: [] packet_Len=8 channel_id=8516 packet_id=68
Jan 6 09:53:47.465: dsp_close_voice_channel: [] packet_Len=8 channel_id=8516
packet_id=75
Jan 6 09:53:47.465: vtsp_timer_stop: 67189073
Jan 6 09:53:47.465: csm_vtsp_call_setup_resp (vdev_info=0x620BF320,
 vtsp_cdb=0x621C5F3C)
Jan 6 09:53:47.465: csm_vtsp_call_setup_resp:vdev_common
BP TS allocatedat BP_stream0,
 BP_Ch27
Jan 6 09:53:47.465: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 7, chan 0,BP_stream 0, BP_ch 27
Jan 6 09:53:47.465: csm_vtsp_call_setup_resp:DST_tdm_chnl call. BP TS allocatedat
 stream 7, chan 0,BP_stream 0, BP_ch 27vtsp_open_voice_and_set_params
Jan 6 09:53:47.465: dsp_close_voice_channel: [0:1 (52)] packet_Len=8 channel_id=8516
 packet_id=75
Jan 6 09:53:47.465: dsp_open_voice_channel_20: [0:1 (52)]
packet_Len=16 channel_id=8516
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0
time_slot=1 serial_port=1
Jan 6 09:53:47.465: dsp_encap_config_20: [0:1 (52)] packet_Len=24
channel_id=8516
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 09:53:47.465: dsp_set_playout: [0:1 (52)] packet_Len=18 channel_id=8516
 packet_id=76 mode=1 initial=60 min=4 max=200  fax_nom=300
Jan& 6 09:53:47.465: dsp_echo_canceller_control: [0:1 (52)] packet_Len=10
channel_id=8516
 packet_id=66 flags=0x0
Jan 6 09:53:47.465: dsp_set_gains: [0:1 (52)] packet_Len=12 channel_id=8516
 packet_id=91 in_gain=0 out_gain=0
Jan 6 09:53:47.465: dsp_vad_enable: [0:1 (52)] packet_Len=10 channel_id=8516
 packet_id=78 thresh=-38act_proceeding
Jan 6 09:53:47.469: csm_vtsp_call_proceeding:DST_tdm_chnl call. BP TS
allocatedstream 7,
 chan 0,BP_stream 0, BP_ch 27act_alert
Jan 6 09:53:47.493: vtsp_ring_noan_timer_start: 67189076
Jan 6 09:53:47.493: csm_vtsp_call_alert (vtsp_cdb=0x621C5F3C)
act_bridge act_caps_ind
Jan 6 09:53:47.737: act_caps_ind:Encap 1, Vad 2, Codec 0x4, CodecBytes 20,
 FaxRate 2, FaxBytes 20 SignalType 0
 DtmfRelay 1, Modem 1act_caps_ack
Jan 6 09:53:47.737: dsp_idle_mode: [0:1 (52)] packet_Len=8 channel_id=8516
packet_id=68
Jan 6 09:53:47.737: act_caps_ack: codec = 15, ret = 1
Jan 6 09:53:47.737: dsp_cp_tone_off: [0:1 (52)] packet_Len=8 channel_id=8516
 packet_id=71
Jan 6 09:53:47.737: dsp_idle_mode: [0:1 (52)] packet_Len=8 channel_id=8516
 packet_id=68
Jan 6 09:53:47.737: dsp_encap_config_20: [0:1 (52)] packet_Len=24 channel_id=8516
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 6 09:53:47.737: dsp_voice_mode: [0:1 (52)] packet_Len=24 channel_id=8516
 packet_id=73 coding_type=20 voice_field_size= 20 VAD_flag=1 echo_length=64
 comfort_noise=1 inband_detect=1 digit_relay=2 AGC_flag=0act_alert_connect
Jan 6 09:53:49.461: vtsp_ring_noan_timer_stop: 67189273
Jan 6 09:53:49.461: dsp_cp_tone_off: [0:1 (52)] packet_Len=8 channel_id=8516
  packet_id=71
Jan 6 09:53:49.461: csm_vtsp_call_connect (vtsp_cdb=0x621C5F3C,
voice_vdev=0x620BF320)
Jan 6 09:53:49.461: CSM_IC5_WAIT_FOR_SWITCH_OVER: CSM_EVENT_MODEM_OFFHOOK
  at slot 2, port 15
Jan 6 09:53:49.617: CSM_RX_CAS_EVENT_FROM_NEAT:(0017):  EVENT_CHANNEL_CONNECTED
  at slot 2 and port 15
```

```
Jan 6 09:53:49.617: CSM_PROC_IC6_WAIT_FOR_CONNECT: CSM_EVENT_DSX0_CONNECTED
  at slot 2, port 15
Jan 6 09:53:49.621: from NEAT(0): (0/2): TX ANSWERED(ABCD=0101)
eefje#
eefje#
```

R2 Impulso digitale ANI: Chiamata in arrivo a 567

Per una migliore comprensione dell'output del comando **debug**, consultare la teoria della segnalazione E1 R2.

```
eefje#debug csm voice
Voice Call Switching Module debugging is on
eefje#debug cas
Channel Associated Signaling debugging is on
Jan 7 10:00:02.907: from NEAT(0): debug-cas is on
Jan 7 10:00:02.907: from NEAT(0): special debug-cas is offg vtsp all
Voice telephony call control all debugging is on
eefje#
eefje#
Jan 7 10:00:23.883: from NEAT(0): (0/8): Rx SEIZURE (ABCD=0001)
Jan 7 10:00:23.927: VDEV_ALLOCATE: failed to allocate a device
Jan 7 10:00:23.927: VDEV_ALLOCATE: 1/2 is allocated
Jan 7 10:00:23.927: csm_vtsp_init_tdm (voice_vdev=0x61F19688)
Jan 7 10:00:23.927: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm slot 1,
dspm 3, dsp 4,
 dsp_channel 1
Jan 7 10:00:23.927: csm_vtsp_init_tdm: dsprm_tdm_allocate: tdm stream 5,
channel 13,
 bank 0, BP_channel 15, BP_stream 255
Jan 7 10:00:23.927: CSM_RX_CAS_EVENT_FROM_NEAT:(cid0007):
EVENT_CALL_DIAL_IN at slot 1
 and port 60
Jan 7 10:00:23.927: CSM_PROC_IDLE: CSM_EVENT_START_DIGIT_COLLECT at slot 1, port 60
Jan 7 10:00:23.927: csm_vtsp_start_digit_collect (voice_vdev=0x61F19688)
Jan 7 10:00:23.927:  Enter csm_connect_pri_vdev function
Jan 7 10:00:23.927: csm_connect_pri_vdev:tdm_allocate_BP_Ts() call. BP
TS allocated at BP_stream0, BP_Ch8,vdev_common 0x6205E5F8
Jan 7 10:00:23.927: to NEAT:(cid0007) EVENT_CHANNEL_LOCK for slot0 ctlr0 chan8
Jan 7 10:00:23.927: vtsp_do_call_setup_ind
Jan 7 10:00:23.927: vtsp_do_call_setup_ind: Call ID=65579, guid=62031A88
Jan 7 10:00:23.927: vtsp_do_call_setup_ind: type=0, under_spec=0,
name=, id0=0, id1=0,id2=0, calling=, called=
Jan 7 10:00:23.927: vtsp_do_call_setup_ind: redirect DN =  reason =
 0vtsp_do_r2_start_digit(): fsm_push(vtsp_r2_state_table)

Jan 7 10:00:23.927: csm_vtsp_call_setup_resp (vdev_info=0x61F19688,
vtsp_cdb=0x61B5BFF8)
Jan 7 10:00:23.927: csm_vtsp_call_setup_resp:vdev_common
BP TS allocatedat BP_stream0,
 BP_Ch8
Jan 7 10:00:23.927: csm_vtsp_call_setup_resp:DST_tdm_chnl call.
BP TS allocatedat stream
 5, chan 13,BP_stream 255, BP_ch 15
Jan 7 10:00:23.927: csm_vtsp_call_setup_resp:DST_tdm_chnl call.
BP TS allocatedat stream
 5, chan 13,BP_stream 0, BP_ch 8
Jan 7 10:00:23.927: CSM_PROC_IC1_COLLECT_ADDR_INFO: CSM_EVENT_MODEM_OFFHOOK
(DNIS=, ANI=) at slot 1, port 60

Jan 7 10:00:23.931: R2 Incoming Voice(1/60): DSX (E1 0:8): STATE: R2_IN_IDLE
R2 Got Event R2_START
```

```
Jan 7 10:00:24.027: CSM_RX_CAS_EVENT_FROM_NEAT:(0007):  EVENT_START_RX_TONE
at slot 1 and port 60
Jan 7 10:00:24.027: from NEAT(0): (0/8): TX SEIZURE_ACK
(ABCD=1101)dc_init_dsp
 vtsp_open_voice_and_set_params
Jan 7 10:00:24.151: dsp_close_voice_channel: [0:1:8] packet_Len=8 channel_id=4929
 packet_id=75
Jan 7 10:00:24.151: dsp_open_voice_channel_20: [0:1:8] packet_Len=16
channel_id=4929
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0
time_slot=0 serial_port=0
Jan 7 10:00:24.151: dsp_encap_config_20: [0:1:8] packet_Len=24 channel_id=4929
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0 r_vpxcc=0x0
Jan 7 10:00:24.151: dsp_set_playout: [0:1:8] packet_Len=18 channel_id=4929
 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 7 10:00:24.151: dsp_echo_canceller_control: [0:1:8]
packet_Len=10 channel_id=4929
 packet_id=66 flags=0x0
Jan 7 10:00:24.151: dsp_set_gains: [0:1:8] packet_Len=12
channel_id=4929 packet_id=91
 in_gain=0 out_gain=0
Jan 7 10:00:24.151: dsp_vad_enable: [0:1:8] packet_Len=10
channel_id=4929 packet_id=78
 thresh=-38
Jan 7 10:00:24.151: dsp_voice_mode: [0:1:8] packet_Len=24
channel_id=4929 packet_id=73
 coding_type=1 voice_field_size=80 VAD_flag=0 echo_length=64
comfort_noise=1
inband_detect=1 digit_relay=2 AGC_flag=0dsp_dtmf_mode
(VTSP_TONE_R2_MF_FORWARD_MODE)

Jan 7 10:00:24.151: dsp_dtmf_mode: [0:1:8] packet_Len=10 channel_id=4929
packet_id=65dtmf_or_mf=1
!--- Digit 5 is sent: Forward Signal Group I-5 (First DNIS digit). Jan 7 10:00:24.203:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=5,
 rtp_timestamp=0x04030000 dc_digit_up
Jan 7 10:00:24.203: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)received digit (5)
Jan 7 10:00:24.203: CSM voice (1/60): Rcvd Digit detected(5)
Jan 7 10:00:24.203: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_PRE_CALLERID R2
 Got Event 5
!--- Send Backward Signal Group A-5 (caller category request). Jan 7 10:00:24.203:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 5
Jan 7 10:00:24.203: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929packet_id=90
 string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:24.203:    digit=, components=2, freq_of_first=1020,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:24.303: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:digit=5,
 duration=30dc_digit
Jan 7 10:00:24.303: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (5)
Jan 7 10:00:24.303: CSM voice (1/60): Rcvd Digit detected(5)
Jan 7 10:00:24.303: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event R2_TONE_OFF

Jan 7 10:00:24.303: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=5dc_dial()
 vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:24.303: dsp_dtmf_dialing: [0:1:8] packet_Len=24 channel_id=4929
 packet_id=90 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:24.303:    digit=, components=2, freq_of_first=0, freq_of_second=0,
```

```
 amp_of_first=1, amp_of_second=1
!--- Caller Category Forward Signal Group II-1 is sent. Jan 7 10:00:24.403:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=1,
 rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:24.403: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)received
digit (1)
Jan 7 10:00:24.403: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:24.403: R2 Incoming Voice(1/60): DSX (E1 0:8): STATE:R2_IN_CALLERID R2
 Got Event 1
!--- Send Backward Signal Group A-5 (Caller ID request). Jan 7 10:00:24.403:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial() vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 5
Jan 7 10:00:24.403: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:24.403:    digit=, components=2, freq_of_first=1020, freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:24.503: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=1,
 duration=30dc_digit
Jan 7 10:00:24.503: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (1)
Jan 7 10:00:24.503: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:24.503: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event R2_TONE_OFF
Jan 7 10:00:24.503: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=5dc_dial()
 vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:24.503: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:24.503:    digit=, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- First ANI digit is sent: Forward Signal Group I-1. Jan 7 10:00:24.603:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN:
digit=1, rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:24.603: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8) received digit (1)
Jan 7 10:00:24.603: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:24.603: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event 1
!--- Send Backward Signal Group A-5 (Caller ID request). Jan 7 10:00:24.603:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 5

Jan 7 10:00:24.603: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:24.603:    digit=, components=2, freq_of_first=1020,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:24.703: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=1,
 duration=30dc_digit
Jan 7 10:00:24.703: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (1)
Jan 7 10:00:24.703: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:24.703: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
 Got Event R2_TONE_OFF
Jan 7 10:00:24.703: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
 string=5dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:24.703: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:24.703:    digit=, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
```

!--- Second ANI digit is sent: Forward Signal Group I-2. Jan 7 10:00:24.803:
vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN:digit=2,**
rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:24.803: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (2)
Jan 7 10:00:24.803: CSM voice (1/60): Rcvd Digit detected(2)
Jan 7 10:00:24.803: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
Got Event 2
!--- Send Backward Signal Group A-5 (Caller ID request). Jan 7 10:00:24.803:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 5

Jan 7 10:00:24.803: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929packet_id=90
string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:24.803: digit=, components=2, freq_of_first=1020,
freq_of_second=780,
amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:24.903: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=2,
duration=30dc_digit
Jan 7 10:00:24.903: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (2)
Jan 7 10:00:24.903: CSM voice (1/60): Rcvd Digit detected(2)
Jan 7 10:00:24.903: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID
R2 Got Event R2_TONE_OFF
Jan 7 10:00:24.903: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=5dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:24.903: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:24.903: digit=, components=2, freq_of_first=0,
freq_of_second=0,
amp_of_first=1, amp_of_second=1
!--- Third ANI digit is sent: Forward Signal Group I-3. Jan 7 10:00:25.003:
vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN: digit=3,**
rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:25.003: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (3)
Jan 7 10:00:25.003: CSM voice (1/60): Rcvd Digit detected(3)
Jan 7 10:00:25.003: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
Got Event 3
!--- Send Backward Signal Group A-5 (Caller ID request). Jan 7 10:00:25.003:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 5

Jan 7 10:00:25.003: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
string=5 digits=1, time_on=65435, time_off=30
Jan 7 10:00:25.003: digit=, components=2, freq_of_first=1020,
freq_of_second=780,
amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:25.103: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:digit=3,
duration=30dc_digit
Jan 7 10:00:25.103: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (3)
Jan 7 10:00:25.103: CSM voice (1/60): Rcvd Digit detected(3)
Jan 7 10:00:25.103: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_CALLERID R2
Got Event R2_TONE_OFF
Jan 7 10:00:25.103: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=5dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:25.103: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90

```
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:25.103:    digit=, components=2, freq_of_first=0,
freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- Digit 15 is sent: Forward Signal Group I-15 (end of ANI digit). Jan 7 10:00:25.203:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=15, rtp_timestamp=0x001E0010
dc_digit_up Jan 7 10:00:25.203: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8) received digit (*)
Jan 7 10:00:25.203: CSM voice (1/60): Rcvd Digit detected(*) Jan 7 10:00:25.203: R2 Incoming
Voice(1/60): DSX (E1 0:8): STATE:R2_IN_CALLERID R2
 Got Event 15
!--- Send Backward Signal Group A-1 (next DNIS digit). Jan 7 10:00:25.203:
vtsp_r2_generate_digits: vdev_common=0x6205E5F8, string=5dc_dial()vtsp_dial_nopush
dsp_dtmf_dialing(): dial_string = 1
Jan 7 10:00:25.203: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=1 digits=1, time_on=65435, time_off=30
Jan 7 10:00:25.203:    digit=, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:25.303: vtsp_process_dsp_message:
MSG_TX_DTMF_DIGIT_OFF: digit=15, duration=30dc_digit Jan 7 10:00:25.303: csm_vtsp_digit_ready
(vtsp_cdb=0x61B5BFF8) received digit (*) Jan 7 10:00:25.303: CSM voice (1/60): Rcvd Digit
detected(*) Jan 7 10:00:25.303: R2 Incoming Voice(1/60): DSX (E1 0:8): STATE:R2_IN_COLLECT_DNIS
R2
 Got Event R2_TONE_OFF
Jan 7 10:00:25.303: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
 string=5dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:25.303: dsp_dtmf_dialing: [0:1:8] packet_Len=24 channel_id=4929
 packet_id=90 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:25.303:    digit=, components=2, freq_of_first=0, freq_of_second=0,
 amp_of_first=1, amp_of_second=1
!--- Second DNIS digit is sent: Forward Signal Group I-6. Jan 7 10:00:25.391:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=6,
 rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:25.391: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (6)
Jan 7 10:00:25.391: CSM voice (1/60): Rcvd Digit detected(6)
Jan 7 10:00:25.391: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_COLLECT_DNIS
 R2 Got Event 6
!--- Send Backward Signal Group A-1. Jan 7 10:00:25.391: vtsp_r2_generate_digits:
vdev_common=0x6205E5F8, string=56dc_dial() vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = 1

Jan 7 10:00:25.391: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=1 digits=1, time_on=65435, time_off=30
Jan 7 10:00:25.391:    digit=, components=2, freq_of_first=1020,
freq_of_second=1140,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:25.491: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF:digit=6,
 duration=30dc_digit
Jan 7 10:00:25.491: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8) received digit (6)
Jan 7 10:00:25.491: CSM voice (1/60): Rcvd Digit detected(6)
Jan 7 10:00:25.491: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE: R2_IN_COLLECT_DNIS R2
 Got Event R2_TONE_OFF
Jan 7 10:00:25.491: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=56dc_dial() vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:25.491: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:25.491:    digit=, components=2, freq_of_first=0,
freq_of_second=0,
 amp_of_first=1, amp_of_second=1
```

!--- Third DNIS digit is sent: Forward Signal Group I-7. Jan 7 10:00:25.583:
vtsp_process_dsp_message: **MSG_TX_DTMF_DIGIT_BEGIN: digit=7,**
rtp_timestamp=0x001E0010 dc_digit_up
Jan 7 10:00:25.583: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (7)
Jan 7 10:00:25.583: CSM voice (1/60): Rcvd Digit detected(7)
Jan 7 10:00:25.583: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_COLLECT_DNIS R2
Got Event 7
!--- Send Backward Signal Group A-1. Jan 7 10:00:25.583: vtsp_r2_generate_digits:
vdev_common=0x6205E5F8, string=567dc_dial()vtsp_dial_nopush **dsp_dtmf_dialing(): dial_string = 1**

Jan 7 10:00:25.583: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
string=1 digits=1, time_on=65435, time_off=30
Jan 7 10:00:25.583: digit=, components=2, freq_of_first=1020,
freq_of_second=1140,
amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:25.683: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=7,
duration=30dc_digit
Jan 7 10:00:25.683: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8)
received digit (7)
Jan 7 10:00:25.683: CSM voice (1/60): Rcvd Digit detected(7)
Jan 7 10:00:25.683: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_COLLECT_DNIS R2
Got Event R2_TONE_OFF
Jan 7 10:00:25.683: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=567dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:25.683: dsp_dtmf_dialing: [0:1:8] packet_Len=24
channel_id=4929 packet_id=90
string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:25.683: digit=, components=2, freq_of_first=0,
freq_of_second=0,
amp_of_first=1, amp_of_second=1
Jan 7 10:00:25.835: vtsp_process_dsp_message: MSG_TX_DIALING_DONEdc_dialing_done()
!--- Timeout is 3 seconds. Jan 7 10:00:28.583: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_COLLECT_DNIS R2
Got Event R2_TONE_TIMER
!--- Send Backward Signal Group A-3: address-complete, changeover !--- to reception of group-B signal. Jan 7 10:00:28.583: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=567dc_dial()vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = 3# Jan 7 10:00:28.583:
dsp_dtmf_dialing: [0:1:8] packet_Len=36
channel_id=4929 packet_id=90
string=3# digits=2, time_on=150, time_off=30
Jan 7 10:00:28.583: digit=, components=2, freq_of_first=1020,
freq_of_second=900,
amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:28.583: digit=, components=2, freq_of_first=0, freq_of_second=0,
amp_of_first=1, amp_of_second=1
!--- Forward Signal Group II-1 is sent: subscriber without priority. Jan 7 10:00:28.831:
vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=1, rtp_timestamp=0x001E0003 dc_digit_up
Jan 7 10:00:28.831: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8) received digit (1) Jan 7
10:00:28.831: CSM voice (1/60): Rcvd Digit detected(1) Jan 7 10:00:28.831: R2 Incoming
Voice(1/60): DSX (E1 0:8): STATE:R2_IN_CATEGORY R2 **Got Event 1**
Jan 7 10:00:28.831: CSM_PROC_IC1_COLLECT_ADDR_INFO:
CSM_EVENT_ADDR_INFO_COLLECTED
(DNIS=567, ANI=123) at slot 1, port 60
Jan 7 10:00:28.831: vtsp_tsp_call_accept_check (sdb=0x61DADEE0,
calling_number=123
called_number=567): peer_tag=0
Jan 7 10:00:28.835: VDEV_ALLOCATE: failed to allocate a device
Jan 7 10:00:28.835: VDEV_ALLOCATE_ALMOST_READY: failed to allocate
a non-idle modem
Jan 7 10:00:28.835: VDEV_ALLOCATE: failed to allocate a device

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Jan 7 10:00:28.835: VDEV_ALLOCATE_ALMOST_READY: failed to allocate
a non-idle modem
Jan 7 10:00:28.835: VDEV_ALLOCATE: failed to allocate a device
Jan 7 10:00:28.835: VDEV_ALLOCATE_ALMOST_READY: failed to allocate
a non-idle modem
Jan 7 10:00:28.835: CSM_PROC_IC3_WAIT_FOR_RES_RESP: CSM_EVENT_RESOURCE_OK
at slot 1,
 port 60
Jan 7 10:00:28.835: vtsp_IC_switch : (voice_vdev= 0x61F19688)
Jan 7 10:00:28.835: vtsp_tsp_call_switch_ind (cdb=0x61B5BFF8,
tsp_info=0x61F19688,
 calling_number=123 called_number=567 redirect_number=):
peer_tag=123dc_switch: fsm_pop()
Jan 7 10:00:28.835: vtsp_do_call_setup_ind
Jan 7 10:00:28.835: vtsp_do_call_setup_ind: Call ID=65581,
guid=62031A88
Jan 7 10:00:28.835: vtsp_do_call_setup_ind: type=0, under_spec=0,
name=b`, id0=9,
 id1=0, id2=0, calling=123, called=567
Jan 7 10:00:28.835: dsp_cp_tone_off: [] packet_Len=8 channel_id=4929
packet_id=71
Jan 7 10:00:28.835: dsp_idle_mode: [] packet_Len=8 channel_id=4929
packet_id=68
Jan 7 10:00:28.835: dsp_close_voice_channel: [] packet_Len=8
channel_id=4929 packet_id=75
Jan 7 10:00:28.835: vtsp_timer_stop: 7063006
Jan 7 10:00:28.839: csm_vtsp_call_setup_resp (vdev_info=0x61F19688,
vtsp_cdb=0x61B5BFF8)
Jan 7 10:00:28.839: csm_vtsp_call_setup_resp:vdev_common BP TS
allocatedat BP_stream0,
 BP_Ch8
Jan 7 10:00:28.839: csm_vtsp_call_setup_resp:DST_tdm_chnl call.
 BP TS allocatedat stream 5, chan 13,BP_stream 0, BP_ch 8
Jan 7 10:00:28.839: csm_vtsp_call_setup_resp:DST_tdm_chnl call.
 BP TS allocatedat stream 5, chan 13,BP_stream 0, BP_ch
8vtsp_open_voice_and_set_params
Jan 7 10:00:28.839: dsp_close_voice_channel: [0:1 (17)]
packet_Len=8 channel_id=4929
 packet_id=75
Jan 7 10:00:28.839: dsp_open_voice_channel_20: [0:1 (17)] packet_Len=16
channel_id=4929
 packet_id=74 alaw_ulaw_select=1 associated_signaling_channel=0
time_slot=0 serial_port=0
Jan 7 10:00:28.839: dsp_encap_config_20: [0:1 (17)] packet_Len=24
channel_id=4929
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0t_vpxcc=0x0
r_vpxcc=0x0
Jan 7 10:00:28.839: dsp_set_playout: [0:1 (17)] packet_Len=18
channel_id=4929 packet_id=76 mode=1 initial=60 min=4 max=200 fax_nom=300
Jan 7 10:00:28.839: dsp_echo_canceller_control: [0:1 (17)]
packet_Len=10 channel_id=4929
 packet_id=66 flags=0x0
Jan 7 10:00:28.839: dsp_set_gains: [0:1 (17)] packet_Len=12
channel_id=4929 packet_id=91
 in_gain=0 out_gain=0
Jan 7 10:00:28.839: dsp_vad_enable: [0:1 (17)] packet_Len=10
channel_id=4929 packet_id=78
 thresh=-38act_proceeding
Jan 7 10:00:28.839: csm_vtsp_call_proceeding:DST_tdm_chnl call.
BP TS allocatedstream 5,
 chan 13,BP_stream 0, BP_ch 8act_alert
Jan 7 10:00:28.867: vtsp_ring_noan_timer_start: 7063009
Jan 7 10:00:28.867: csm_vtsp_call_alert (vtsp_cdb=0x61B5BFF8)
Jan 7 10:00:28.867:  csm_vtsp_call_alert: CSM_EVENT_ALERTING_RECEIVED
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Jan 7 10:00:28.867: CSM_IC5_WAIT_FOR_SWITCH_OVER:  at slot 1, port 60
Jan 7 10:00:28.867: CSM_EVENT_ALERTING_RECEIVED:
Jan 7 10:00:28.867:  calling alerting_start_event
!--- Note: For modems, Backward Signal !--- Group B-6 (subscriber's line free, charge) !--- is
sent immediately. !--- For voice, it is delayed until alerting is received. !--- Notice that
"R2_REJECT" is printed instead of R2_ALERTING. !--- This printing issue is solved in Cisco IOS
Software Release 12.1T.

Jan 7 10:00:28.867: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE:R2_IN_IDLE R2
 Got Event R2_REJECT
Jan 7 10:00:28.867:  R2_ALERTING: r2_comp_idle
Jan 7 10:00:28.867: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=567act_bridge
Jan 7 10:00:28.867: dsp_voice_mode: [0:1 (17)] packet_Len=24
channel_id=4929 packet_id=73
 coding_type=1 voice_field_size=80 VAD_flag=0 echo_length=64
comfort_noise=1
 inband_detect=1 digit_relay=2 AGC_flag=0dsp_dtmf_mode
(VTSP_TONE_R2_MF_FORWARD_MODE)
!--- Answer signal (B-6) is sent after alerting is received. !--- Send Backward Signal Group B6
signal (Subscriber's line free, charge). Jan 7 10:00:28.871: dsp_dtmf_mode: [0:1 (17)]
packet_Len=10 channel_id=4929 packet_id=65 dtmf_or_mf=1vtsp_r2_dial vtsp_r2_dial():
fsm_push(vtsp_r2_state_table)  dsp_dtmf_dialing(): dial_string = 6

Jan 7 10:00:28.871: dsp_dtmf_dialing: [0:1 (17)] packet_Len=24
channel_id=4929
 packet_id=90 string=6 digits=1, time_on=65435, time_off=30
Jan 7 10:00:28.871:    digit=, components=2, freq_of_first=900,
freq_of_second=780,
 amp_of_first=8192, amp_of_second=8192
Jan 7 10:00:28.923: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_BEGIN: digit=1,
 rtp_timestamp=0x001E0006 dc_digit_up
Jan 7 10:00:28.923: csm_vtsp_digit_ready_up (vtsp_cdb=0x61B5BFF8)
received digit (1)
Jan 7 10:00:28.923: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:28.923: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE: R2_IN_COMPLETE
 R2 Got Event 1
Jan 7 10:00:28.971: vtsp_process_dsp_message: MSG_TX_DTMF_DIGIT_OFF: digit=1,
 duration=30dc_digit
Jan 7 10:00:28.971: csm_vtsp_digit_ready (vtsp_cdb=0x61B5BFF8)
received digit (1)
Jan 7 10:00:28.971: CSM voice (1/60): Rcvd Digit detected(1)
Jan 7 10:00:28.971: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE: R2_IN_COMPLETE R2
 Got Event R2_TONE_OFF
Jan 7 10:00:28.971: vtsp_r2_generate_digits: vdev_common=0x6205E5F8,
string=567dc_dial()
 vtsp_dial_nopush dsp_dtmf_dialing(): dial_string = #
Jan 7 10:00:28.971: dsp_dtmf_dialing: [0:1 (17)] packet_Len=24
channel_id=4929
 packet_id=90 string=# digits=1, time_on=150, time_off=30
Jan 7 10:00:28.975:    digit=, components=2, freq_of_first=0,
freq_of_second=0,
 amp_of_first=1, amp_of_second=1ds_dialing_defaultds_dialing_default
Jan 7 10:00:29.127: vtsp_process_dsp_message:
MSG_TX_DIALING_DONEdc_dialing_done()
Jan 7 10:00:29.971: R2 Incoming Voice(1/60): DSX (E1 0:8):
STATE: R2_IN_WAIT_GUARD R2
 Got Event R2_TONE_TIMER
Jan 7 10:00:29.971:  R2_IN_IDLE:2 r2_in_connect called
Jan 7 10:00:29.971: R2_IN_CONNECT: call end dial
Jan 7 10:00:29.971:  pop the dial state machine
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Jan 7 10:00:29.971: vtsp_r2_end_dial: vdev_common=0x6205E5F8,
string=567ds_end_dial():
 fsm_pop() act_caps_ind
Jan 7 10:00:29.971: act_caps_ind:Encap 1, Vad 2, Codec 0x4,
CodecBytes 20, FaxRate 2,
 FaxBytes 20 SignalType 0 DtmfRelay 1, Modem 1act_caps_ack
Jan 7 10:00:29.971: dsp_idle_mode: [0:1 (17)] packet_Len=8
channel_id=4929 packet_id=68
Jan 7 10:00:29.971: act_caps_ack: codec = 15, ret = 1
Jan 7 10:00:29.971: dsp_cp_tone_off: [0:1 (17)] packet_Len=8
channel_id=4929 packet_id=71
Jan 7 10:00:29.971: dsp_idle_mode: [0:1 (17)] packet_Len=8
channel_id=4929 packet_id=68
Jan 7 10:00:29.971: dsp_encap_config_20: [0:1 (17)] packet_Len=24
channel_id=4929
 packet_id=92 TransportProtocol 2 t_ssrc=0x0 r_ssrc=0x0 t_vpxcc=0x0
r_vpxcc=0x0
Jan 7 10:00:29.971: dsp_voice_mode: [0:1 (17)] packet_Len=24
channel_id=4929 packet_id=73
 coding_type=19 voice_field_size=20 VAD_flag=1 echo_length=64
comfort_noise=1
 inband_detect=1 digit_relay=2 AGC_flag=0act_alert_connect
Jan 7 10:00:30.255: vtsp_ring_noan_timer_stop: 7063148
Jan 7 10:00:30.255: dsp_cp_tone_off: [0:1 (17)] packet_Len=8
channel_id=4929 packet_id=71
Jan 7 10:00:30.255: csm_vtsp_call_connect (vtsp_cdb=0x61B5BFF8,
voice_vdev=0x61F19688)
Jan 7 10:00:30.255: CSM_IC5_WAIT_FOR_SWITCH_OVER:
CSM_EVENT_MODEM_OFFHOOK at slot 1,
 port 60
Jan 7 10:00:30.607: CSM_RX_CAS_EVENT_FROM_NEAT:(0007):
EVENT_CHANNEL_CONNECTED at slot 1
 and port 60
Jan 7 10:00:30.607: CSM_PROC_IC6_WAIT_FOR_CONNECT:
CSM_EVENT_DSX0_CONNECTED at slot 1,
 port 60
Jan 7 10:00:30.607: from NEAT(0): (0/8): TX ANSWERED (ABCD=0101)
eefje#
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Informazioni correlate

- Segnalazione E1 R2 per Voice over IP sul server di accesso Cisco AS5300
- Segnalazione E1 R2 per i router Cisco serie 3620 e 3640
- Personalizzazione di E1 R2 con il comando cas-custom
- Configurazione E1 R2 e segnalazione associata a canale
- Segnalazione E1 R2 per i server di accesso Cisco AS5300 e Cisco AS5200
- Supporto alla tecnologia vocale
- Supporto ai prodotti voce e Unified Communications
- Risoluzione dei problemi di Cisco IP Telephony
- Documentazione e supporto tecnico – Cisco Systems