Catalyst 6000平台上的WS-X6608-T1/E1數字網關卡問題解決

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簡介

Lennon卡(WS-X6608-T1/E1)是一個8埠數位閘道和/或數位訊號處理器(DSP)場，它使用瘦使用者端控制通訊協定(SCCP)與Cisco CallManager 3.0互動。

本檔案將深入概述**debug**和工程級命令，這些命令可用於診斷Lennon網關的問題。本文檔涵蓋從如何解決註冊問題到如何從860處理器和DSP直接獲取資訊的所有內容。

必要條件

需求

本文件沒有特定需求。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- WS-X6608-T1/E1數位閘道卡
- Cisco Catalyst 6000 系列交換器

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

慣例

如需文件慣例的詳細資訊，請參閱思科技術提示慣例。

使用Catalyst 6000 CLI進行故障排除

首先必須確保模組在機箱中識別、已通電且處於運行狀態。

確保使用**show env power**命令識別模組並接通電源。

```
evoice-cat6k-6a (enable) show env power 7
Module 7:
Slot power Requirement/Usage :

Slot Card Type           PowerRequested PowerAllocated CardStatus
Watts    A @42V Watts    A @42V
---- ------------------ ------- ------ ------- ------ ----------
3    WS-X6608-T1          83.16   1.98   83.16   1.98  ok
```

如果卡型別正確顯示，則識別模組。卡通電時，CardStatus欄位顯示other。最終顯示。如果卡顯示deny，則表示系統中沒有足夠的電源為模組供電。

接下來，使用**show version**命令的幫助檢查APP載入和DSP載入版本：

```
dtl7-1-cat6000-a (enable) show version 3
Mod Port Model               Serial #    Versions
--- ---- ------------------- ----------- -------------------------------------
3   8    WS-X6608-T1         SAD04380DAW Hw : 1.1
                                         Fw : 5.4(2)
                                         Sw : 6.1(1a)
                                         HP1: D004G300; DSP1: D005B300 (3.3.18)
                                         HP2: D004G300; DSP2: D005B300 (3.3.18)
                                         HP3: D004G300; DSP3: D005B300 (3.3.18)
                                         HP4: D004G300; DSP4: D005B300 (3.3.18)
                                         HP5: C001H300; DSP5: C002F300 (3.1.2)
                                         HP6: C001H300; DSP6: C002F300 (3.1.2)
                                         HP7: M001H300; DSP7: M002F300 (3.1.2)
                                         HP8: M001H300; DSP8: M002F300 (3.1.2)
```

HP代表主機處理器，是Lennon上的八個獨立的860處理器。後面的載入ID稱為應用程式載入。DSP欄位指示載入到八個DSP上該特定Lennon埠的DSP代碼的版本號（這樣總共有64個DSP）。如果當前正在更新DSP，則這些欄位可以為空。

應用載入版本還告訴您埠當前配置用於何種功能。三個有效設定是數字PRI網關、會議網橋或轉碼器/消息傳輸部分(MTP)。 載入檔案的前四個字元告訴您它是哪種檔案：

- **D004** =數位閘道應用負載**D005** =數字網關DSP負載
- **C001** =會議網橋應用程式負載**C002** =會議網橋DSP負載
- **M001** =轉碼器/MTP應用載入**M002** =轉碼器/MTP DSP負載

使用者從未配置DSP載入檔名。它直接繫結到特定的應用程式載入檔案。多個App載入檔案通常指向同一個DSP載入檔案，因為對DSP載入所做的更改較少。例如，D0040300、D004A300、D004B300應用載入檔案都可以使用DSP載入檔案D0050300。

接下來，檢查模組是否具有有效的IP配置資訊，以及是否已在Cisco CallManager中註冊。使用**show port**命令。

```
dtl7-1-cat6000-a (enable) show port 3
```

```
Port  Name               Status     Vlan       Duplex Speed Type
----- ------------------ ---------- ---------- ------ ----- ------------
 3/1                     connected  17           full 1.544 T1
 3/2                     connected  17           full 1.544 T1
 3/3                     connected  17           full 1.544 T1
 3/4                     connected  17           full 1.544 T1
 3/5                     enabled    17           full     - Conf Bridge
 3/6                     enabled    17           full     - Conf Bridge
 3/7                     enabled    17           full     - MTP
 3/8                     enabled    17           full     - MTP

Port     DHCP    MAC-Address       IP-Address      Subnet-Mask
-------- ------- ----------------- --------------- ---------------
 3/1     enable  00-01-c9-d8-55-74 10.192.17.98    255.255.255.0
 3/2     enable  00-01-c9-d8-55-75 10.192.17.107   255.255.255.0
 3/3     enable  00-01-c9-d8-55-76 10.192.17.108   255.255.255.0
 3/4     enable  00-01-c9-d8-55-77 10.192.17.109   255.255.255.0
 3/5     enable  00-01-c9-d8-55-78 10.192.17.110   255.255.255.0
 3/6     enable  00-01-c9-d8-55-79 10.192.17.93    255.255.255.0
 3/7     enable  00-01-c9-d8-55-7a 10.192.17.95    255.255.255.0
 3/8     enable  00-01-c9-d8-55-7b 10.192.17.96    255.255.255.0

Port     Call-Manager(s)   DHCP-Server     TFTP-Server     Gateway
-------- ----------------- --------------- --------------- ---------------
 3/1     172.18.112.17*    172.18.112.11   172.18.112.17   10.192.17.254
         172.18.112.18
 3/2     172.18.112.17*    172.18.112.11   172.18.112.17   10.192.17.254
         172.18.112.18
 3/3     172.18.112.17*    172.18.112.11   172.18.112.17   10.192.17.254
         172.18.112.18
 3/4     172.18.112.17*    172.18.112.11   172.18.112.17   10.192.17.254
         172.18.112.18
 3/5     172.18.112.17*    172.18.112.11   172.18.112.17   10.192.17.254
         172.18.112.18
 3/6     172.18.112.17*    172.18.112.11   172.18.112.17   10.192.17.254
         172.18.112.18
 3/7     172.18.112.17*    172.18.112.11   172.18.112.17   10.192.17.254
         172.18.112.18
 3/8     172.18.112.17*    172.18.112.11   172.18.112.17   10.192.17.254
         172.18.112.18
(*): Primary

Port     DNS-Server(s)     Domain
-------- ----------------- ------------------------------------------------
 3/1     161.44.15.250*    cisco.com
         161.44.21.250
 3/2     161.44.15.250*    cisco.com
         161.44.21.250
 3/3     161.44.15.250*    cisco.com
         161.44.21.250
 3/4     161.44.15.250*    cisco.com
         161.44.21.250
 3/5     161.44.15.250*    cisco.com
         161.44.21.250
 3/6     161.44.15.250*    cisco.com
         161.44.21.250
 3/7     161.44.15.250*    cisco.com
         161.44.21.250
 3/8     161.44.15.250*    cisco.com
         161.44.21.250
(*): Primary

Port     CallManagerState DSP-Type
-------- ---------------- --------
```

```
 3/1     registered       C549
 3/2     registered       C549
 3/3     registered       C549
 3/4     registered       C549
 3/5     registered       C549
 3/6     registered       C549
 3/7     registered       C549
 3/8     registered       C549

Port  NoiseRegen NonLinearProcessing
----- ---------- -------------------
 3/1  enabled    enabled
 3/2  enabled    enabled
 3/3  enabled    enabled
 3/4  enabled    enabled
 3/5  disabled   disabled
 3/6  disabled   disabled
 3/7  disabled   disabled
 3/8  disabled   disabled

Port   Trap      IfIndex
-----  --------  -------
 3/1   disabled  1262
 3/2   disabled  1263
 3/3   disabled  1264
 3/4   disabled  1265
 3/5   disabled  1266
 3/6   disabled  1267
 3/7   disabled  1268
 3/8   disabled  1269
```

在**show port**命令輸出中，確保IP位址、子網掩碼、閘道、DNS伺服器、網域和TFTP伺服器位址正確。此外，請確保連線埠位於正確的VLAN中。每個Lennon埠可以放在不同的子網中，並且獨立於同一模組上的其他埠運行。

檢查卡是否已在Cisco CallManager中註冊。如果卡未註冊且已在Cisco CallManager上配置，請參閱本文檔的註冊問題疑難解答部分。

show port命令也可用於檢查卡上各個連線埠的狀態。狀態列位會因連線埠的型別(Gateway/Conf/MTP)而異。

對於未在Cisco CallManager中註冊的任何埠，埠會根據該埠上配置的狀態處於`enabled`或`disabled`狀態。MTP和會議橋接器埠也顯示或。

已註冊的數字網關埠根據D通道的狀態顯示`connected`或`notconnected`。請記住，D通道在Cisco CallManager上終止，而不是Lennon卡。

呼叫建立後，**show port voice active**命令可用於收集有關系統中所有活動呼叫的資訊以及各個呼叫的詳細資訊。型別顯示對網關埠的、對會議埠的以及轉碼和MTP的。

```
dtl7-1-cat6000-a (debug-eng) show port voice active
Port  Type         Total Conference-ID/ Party-ID IP-Address
Transcoding-ID
----- ------------ ----- -------------- -------- ---------------
 3/1  call         2     -              -        10.192.17.115
                                                  10.192.17.93
 3/6  conferencing 1     1              6        10.192.17.98
                                        7        10.192.17.112
                                        5        10.192.17.114
```

```
 3/8  transcoding  1     2             9        172.18.112.109
                                      11       10.192.17.113
```

對單個埠發出**show port voice active**命令，以獲取其他詳細資訊。網關呼叫看起來與此輸出類似，欄位不言自明。

```
dtl7-1-cat6000-a (debug-eng) show port voice active 3/1
Port  3/1 :
  Channel #22:
    Remote IP address                       : 10.192.17.115
    Remote UDP Port:                          20972
    ACOM Level Current                      : 200
    Call State     :                          voice
    Codec Type     :                          G711 ULAW PCM
    Coder Type Rate:                          20
    ERL Level      :                          200
    Voice Activity Detection                : disabled
    Echo Cancellation                       : enabled
    Fax Transmit Duration (ms)              : 0
    Hi Water Playout Delay                  : 65
    Low Water Playout Delay                 : 65
    Receive Bytes  :                          0
    Receive Delay  :                          65
    Receive Packets:                          0
    Transmit Bytes :                          7813280
    Transmit Packets                        : 48833
    Tx Duration (ms)                        : 3597580
    Voice Tx Duration (ms)                  : 3597580
```

這是會議連線埠的相同命令輸出。每個會議顯示會議的參與者、使用的編解碼器和資料包大小。

```
dtl7-1-cat6000-a (debug-eng) show port voice active 3/6
Port  3/6 :
  Conference ID: 1
    Party ID: 6
      Remote IP address                     : 10.192.17.98
      UDP Port     :                          26522
      Codec Type   :                          G711 ULAW PCM
      Packet Size (ms)                      : 20
    Party ID: 7
      Remote IP address                     : 10.192.17.112
      UDP Port     :                          17164
      Codec Type   :                          G711 ULAW PCM
      Packet Size (ms)                      : 20
    Party ID: 5
      Remote IP address                     : 10.192.17.114
      UDP Port     :                          19224
      Codec Type   :                          G711 ULAW PCM
      Packet Size (ms)                      : 20
```

這是轉碼埠的輸出。這裡您可以看到兩個不同的轉碼編解碼器。如果埠只執行MTP而不進行轉碼，則兩個參與者的編解碼器型別相同。

```
dtl7-1-cat6000-a (debug-eng) show port voice active 3/8
Port  3/8 :
  Transcoding ID: 2
    Party ID: 9
      Remote IP address                     : 172.18.112.109
      UDP Port     :                          17690
      Codec Type   :                          G7231 HIGH RATE
      Packet Size (ms)                      : 30
```

```
    Party ID: 11
      Remote IP address                    : 10.192.17.113
      UDP Port     :                         18732
      Codec Type   :                         G729 B CS ACELP VAD
      Packet Size (ms)                     : 20
Total: 1
```

排除註冊問題

遇到的最常見問題之一，是檢查卡是否已啟動並運行，並已通過DHCP或手動配置收到其IP地址。

show port命令會顯示Cisco CallManager IP位址資訊。確保IP資訊和TFTP IP地址正確。.這將提供Cisco CallManager的IP地址。如果Lennon埠無法獲得有效的DHCP資訊，可使用tracy實用程式來確定問題。從Catalyst 6000 CLI發出**tracy_start**mod port命令。

在本例中， Lennon是模組3。用於排除埠3/1故障的命令是**tracy_start 3 1**。

```
dtl7-1-cat6000-a (debug-eng)

      |            |
      |            |
     |||          |||
    |||||        |||||
..:|||||||:....:|||||||:..
C i s c o   S  y s t e m s
CAT6K Digital Gateway (Lennon)
APP Version : D004G300, DSP Version : D005B300, Built Sep 13 2000 15:06:02
Device Name : SDA0001C9D85577
02:38:26.620 (CFG) DHCP Timeout Waiting on Server, DHCPState = INIT
02:38:58.620 (CFG) DHCP Timeout Waiting on Server, DHCPState = INIT
02:39:02.620 (CFG) DHCP Timeout Waiting on Server, DHCPState = INIT
```

如果此超時消息繼續滾動，則聯絡DHCP伺服器時出現問題。首先檢查Lennon埠位於正確的VLAN中。此資訊在**show port**命令中。如果DHCP伺服器與Lennon埠不在同一個VLAN上，請確保已配置適當的IP幫助程式地址以將DHCP請求轉發到DHCP伺服器。Devtest中存在兩個錯誤，其中Lennon在VLAN編號發生更改後停滯在INIT狀態，直到Lennon被重置。在此狀態下，如果所有配置都正確，則重置Lennon。每當860重設時，都會丟失tracy作業階段。因此，您必須關閉活動會話並通過發出以下命令重新建立一個新會話：

```
tracy_close mod port
tracy_start mod port
```

檢查以確保網路管理處理器(NMP)也能與Lennon埠通訊。嘗試從NMP ping其內部IP地址。IP地址的格式為：

```
127.1.module.port
```

對於Lennon埠5/4:

```
Console (enable) ping 127.1.5.4
127.1.5.4 is alive
```

如果所有這些都檢查出來並且您仍然看到`DHCPState = INIT`消息，則確保DHCP伺服器正常工作。之後，獲取監聽器追蹤，檢視請求是否已傳送以及伺服器是否響應。

一旦DHCP正常運行，**tracy**命令的輸出需要顯示：

```
00:09:05.620 (CFG) DHCP Server Response Processed, DHCPState = REQUESTING
00:09:05.620 (CFG) DHCP Server Response Processed, DHCPState = BOUND
00:09:05.620 (CFG) Requesting DNS Resolution of CiscoCM1
00:09:05.620 (CFG) DNS Error on Resolving TFTP Server Name.
00:09:05.620 (CFG) TFTP Server IP Set by DHCP Option 150 = 10.123.9.2
```

下一步是確保TFTP伺服器IP地址正確並且Elvis從TFTP伺服器獲取其配置檔案。如果您在tracy輸出中看到此情況，您的TFTP服務可能工作不正常，或者Cisco CallManager上可能未配置Elvis:

```
00:09:05.620 (CFG) Requesting SAA00107B0013DE.cnf File From TFTP Server
00:09:18.620 (CFG) TFTP Error: Timeout Awaiting Server Response for .cnf File!
```

如果Lennon連線埠沒有取得組態檔，則會嘗試連線到與TFTP伺服器相同的IP位址。這沒問題，除非您處於群集環境中，而在此環境中，網關需要接收其冗餘思科呼叫管理器清單。如果卡未正確獲取其TFTP資訊，請檢查Cisco CallManager上的TFTP服務並確保其運行。此外，檢查Cisco CallManager上的TFTP跟蹤。

另一個常見問題是Cisco CallManager上的Lennon埠配置不正確。典型錯誤是錯誤地輸入Elvis的MAC地址。如果是這種情況，您可能會每兩分鐘在NMP控制檯上繼續收到此輸出：

```
2000 Apr 14 19:24:08 %SYS-4-MODHPRESET:Host process (860) 7/1 got reset asynchronously
2000 Apr 14 19:26:05 %SYS-4-MODHPRESET:Host process (860) 7/1 got reset asynchronously
2000 Apr 14 19:28:02 %SYS-4-MODHPRESET:Host process (860) 7/1 got reset asynchronously
```

如果Lennon埠不在Cisco CallManager資料庫中，**tracy**命令的輸出將如下所示：

```
 |           |
      |            |
     |||          |||
    |||||        |||||
..:|||||||:....:|||||||:..
C i s c o   S  y s t e m s
CAT6K Digital Gateway (Lennon)
APP Version : D004G300, DSP Version : D005B300, Built Sep 13 2000 15:06:02
Device Name :
00:00:00.020 (XA) MAC Addr : 00-01-C9-D8-55-77
00:00:00.020 NMPTask:got message from XA Task
00:00:00.020 (NMP) Open TCP Connection ip:7f010101
00:00:00.030 NMPTask:Send Module Slot Info
00:00:00.030 NMPTask:get DIAGCMD
00:00:00.030 NMPTask:send DIAGCMD TCP ack
00:00:00.030 SPAN: Transmit clock slaved to span 3
00:00:00.030 SPAN: Transmit clock set to internal osc.
00:00:00.580 (DSP) Test Begin -> Mask<0x00FFFFFF>
00:00:01.570 SPAN: Transmit clock slaved to span 3
00:00:01.570 SPAN: Transmit clock set to internal osc.
00:00:01.570 (DSP) Test Complete -> Results<0x00FFFFFF/0x00FFFFFF>
00:00:01.810 NMPTask:get VLANCONFIG
00:00:02.870 (CFG) Starting DHCP
00:00:02.870 (CFG) Booting DHCP for dynamic configuration.
00:00:03.170 (CFG) DHCP Request or Discovery Sent, DHCPState = INIT
00:00:03.170 (CFG) DHCP Server Response Processed, DHCPState = REQUESTING
00:00:03.170 (CFG) DHCP Server Response Processed, DHCPState = BOUND
00:00:03.170 (CFG) Requesting DNS Resolution of CiscoCM1
```

```
00:00:16.170 (CFG) DNS Server Timeout on Resolving TFTP Server Name.
00:00:16.170 (CFG) TFTP Server IP Set by DHCP Option 150 = 172.18.112.17
00:00:16.170 (CFG) Requesting SDA0001C9D85577.cnf File From TFTP Server
00:00:16.170 (CFG) TFTP Error: .cnf File Not Found!
00:00:16.170 (CFG) Requesting SDADefault.cnf File From TFTP Server
00:00:16.170 (CFG) .cnf File Received and Parsed Successfully.
00:00:16.170 (CFG) Updating Configuration ROM...
00:00:16.620 GMSG: GWEvent = CFG_DONE --> GWState = SrchActive
00:00:16.620 GMSG: CCM#0 CPEvent = CONNECT_REQ --> CPState = AttemptingSocket
00:00:16.620 GMSG: Attempting TCP socket with CCM 172.18.112.17
00:00:16.620 GMSG: CCM#0 CPEvent = SOCKET_ACK --> CPState = BackupCCM
00:00:16.620 GMSG: GWEvent = SOCKET_ACK --> GWState = RegActive
00:00:16.620 GMSG: CCM#0 CPEvent = REGISTER_REQ --> CPState = SentRegister
00:00:16.770 GMSG: CCM#0 CPEvent = CLOSED --> CPState = NoTCPSocket
00:00:16.770 GMSG: GWEvent = DISCONNECT --> GWState = SrchActive
00:00:16.770 GMSG: CCM#1 CPEvent = CONNECT_REQ --> CPState = AttemptingSocket
00:00:16.770 GMSG: Attempting TCP socket with CCM 172.18.112.18
00:00:16.770 GMSG: CCM#1 CPEvent = SOCKET_NACK --> CPState = NoTCPSocket
00:00:16.770 GMSG: GWEvent = DISCONNECT --> GWState = Rollover
00:00:31.700 GMSG: GWEvent = TIMEOUT --> GWState = SrchActive
00:00:31.700 GMSG: CCM#0 CPEvent = CONNECT_REQ --> CPState = AttemptingSocket
00:00:31.700 GMSG: Attempting TCP socket with CCM 172.18.112.17
00:00:31.700 GMSG: CCM#0 CPEvent = SOCKET_ACK --> CPState = BackupCCM
00:00:31.700 GMSG: GWEvent = SOCKET_ACK --> GWState = RegActive
00:00:31.700 GMSG: CCM#0 CPEvent = REGISTER_REQ --> CPState = SentRegister
00:00:31.850 GMSG: CCM#0 CPEvent = CLOSED --> CPState = NoTCPSocket
00:00:31.850 GMSG: GWEvent = DISCONNECT --> GWState = SrchActive
00:00:31.850 GMSG: CCM#1 CPEvent = CONNECT_REQ --> CPState = AttemptingSocket
00:00:31.850 GMSG: Attempting TCP socket with CCM 172.18.112.18
00:00:31.850 GMSG: CCM#1 CPEvent = SOCKET_NACK --> CPState = NoTCPSocket
00:00:31.850 GMSG: GWEvent = DISCONNECT --> GWState = Rollover
```

show port命令會將Lennon連線埠顯示為notregistered，如下輸出所示：

```
dtl7-1-cat6000-a (debug-eng) show port 3/4
Port  Name               Status     Vlan       Duplex Speed Type
----- ------------------ ---------- ---------- ------ ----- ------------
 3/4                     enabled    17           full     - unknown

Port     DHCP    MAC-Address       IP-Address      Subnet-Mask
-------- ------- ----------------- --------------- ---------------
 3/4     enable  00-01-c9-d8-55-77 10.192.17.109   255.255.255.0

Port     Call-Manager(s)   DHCP-Server     TFTP-Server     Gateway
-------- ----------------- --------------- --------------- ---------------
 3/4     -                 172.18.112.11   172.18.112.17   10.192.17.254

Port     DNS-Server(s)     Domain
-------- ----------------- ------------------------------------------------
 3/4     161.44.15.250*    cisco.com
         161.44.21.250
(*): Primary

Port     CallManagerState DSP-Type
-------- ---------------- --------
 3/4     notregistered    C549

Port  NoiseRegen NonLinearProcessing
----- ---------- -------------------
 3/4  -          -

Port   Trap      IfIndex
-----  --------  -------
```

```
 3/4   disabled  1265
```

如果載入資訊不正確或載入檔案損壞，則也可能出現另一個註冊問題。如果TFTP伺服器無法正常工作，也會發生問題。在這種情況下，tracy顯示TFTP伺服器報告檔案未找到：

```
00:00:07.390 GMSG: CCM#0 CPEvent = REGISTER_REQ --> CPState = SentRegister
00:00:08.010 GMSG: TFTP Request for application load D0041300
00:00:08.010 GMSG: CCM#0 CPEvent = LOADID --> CPState = AppLoadRequest
00:00:08.010 GMSG: *** TFTP Error:  File Not Found ***
00:00:08.010 GMSG: CCM#0 CPEvent = LOAD_UPDATE --> CPState = LoadResponse
```

在這種情況下，列儂會請求應用載入D0041300，儘管正確的載入名稱為D0040300。當新的應用載入也需要獲得其對應的DSP載入時，也會出現相同的問題。如果未找到新的DSP負載，將顯示類似消息。

檢查Lennon上的物理層統計資訊

最初，只能通過此命令從配置為T1/E1網關的Lennon埠獲取第1層統計資訊。此選項僅適用於T1埠，因為E1上沒有設施資料鏈路(FDL)的設定。

```
cat6k-2 (enable) show port voice fdl 3/1

Port  ErrorEvents       ErroredSecond     SeverlyErroredSecond
      Last 15' Last 24h Last 15' Last 24h Last 15' Last 24h
----- -------- -------- -------- -------- -------- -----------
 3/1  65535    65535    900      20864    900      20864
Port  FailedSignalState FailedSignalSecond
      Last 15' Last 24h Last 15' Last 24h
----- -------- -------- -------- ---------
 3/1  1        1        900      20864
Port         LES               BES               LCV
      Last 15' Last 24h Last 15' Last 24h Last 15' Last 24h
----- -------- -------- -------- -------- -------- --------
 3/1  0        0        0        0        0        0
```

但是，從應用載入D004S030.bin開始，可以使用CLI調試選項**tracy_send_cmd**從Lennon埠獲取更詳細的統計資訊，如以下輸出所示：

```
cat6k-2 (debug-eng) tracy_start 3 1
cat6k-2 (debug-eng) tracy_send_cmd
Usage: tracy_send_cmd <modN> <portN> " <taskID> <enable/set/get> <cmd>[options]
<level>/[level] "
```

Tracy調試也可以通過在PC上運行「DickTracy」應用程式並通過IP會話訪問Lennon上的HP860主機處理器來完成。如果您使用「DickTracy」應用程式，一旦使用860建立IP會話，請使用選單選項將幀任務ID設定為16並執行這些命令。

- **show config**

```
00:00:51.660 SPAN: CLI Request --> Show Span Configuration
      Applique type is Channelized E1
      Line Encoding -------> HDB3
      Framing Format ------> CRC4
      Signaling Mode ------> ISDN
      Facility Data Link --> NONE (Disabled)
      D-channel ----------> Enabled
      Timing Source -------> slaved to Span 0 Rx Clock
      Line Loopback Type --> No Loopback
      Span Description ---->
```

```
(or for T1 example)
00:01:11.020 SPAN: CLI Request --> Show Span Configuration
      Applique type is Channelized T1
      Line Encoding -------> B8ZS
      Framing Format ------> ESF
      Signaling Mode ------> ISDN
      Facility Data Link --> AT&T PUB 54016
      Yellow Alarm Mode ---> F-bit Insertion
      Line Buildout -------> 0dB
      D-channel -----------> Enabled
      Timing Source -------> Internal Osc.
      Line Loopback Type --> No Loopback
      Span Description ---->
```

- **顯示狀態**

```
00:00:36.160 SPAN: CLI Request --> Show Span Summary Status
    E1 6/1 is up
      No alarms detected.
    Alarm MIB Statistics
      Yellow Alarms -------> 1
      Blue Alarms ---------> 0
      Frame Sync Losses ---> 0
      Carrier Loss Count --> 0
      Frame Slip Count ----> 0
      D-chan Tx Frame Count ----> 5
      D-chan Tx Frames Queued --> 0
      D-chan Tx Errors ---------> 0
      D-chan Rx Frame Count ----> 5
      D-chan Rx Errors ---------> 0
(or for T1 example)
00:00:51.310 SPAN: CLI Request --> Show Span Summary Status
    T1 6/1 is down
      Transmitter is sending Remote Alarm
      Receiver has AIS Indication
    Alarm MIB Statistics
      Yellow Alarms -------> 1
      Blue Alarms ---------> 2
      Frame Sync Losses ---> 2
      Carrier Loss Count --> 0
      Frame Slip Count ----> 0
      D-chan Tx Frame Count ----> 43
      D-chan Tx Frames Queued --> 0
      D-chan Tx Errors ---------> 0
      D-chan Rx Frame Count ----> 0
      D-chan Rx Errors ---------> 0
```

- **show fdlintervals 3** — 數字3是要顯示的間隔數，顯示間隔數來自最近的背面。

```
00:01:21.350 SPAN: CLI Request --> Dump local FDL 15-min interval history
  0 Complete intervals stored.
  Data in current interval (78 seconds elapsed):
    1 Line Code Violations, 0 Path Code Violations, 0 Received E-bits
    0 Slip Secs, 3 Fr Loss Secs, 1 Line Err Secs
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs, 0 Unavail Secs
  24-Hr Totals:
    0 Line Code Violations, 0 Path Code Violations, 0 Received E-bits
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs
```

- **show dtefdl 3** — 數字3是間隔數。此命令使用FDL提供遠端統計資訊。因此，僅當FDL工作正常且請求由CO提供服務時，才適用於T1。

相關資訊

- 語音技術支援
- 語音和IP通訊產品支援
- Cisco IP電話故障排除
- 技術支援 - Cisco Systems