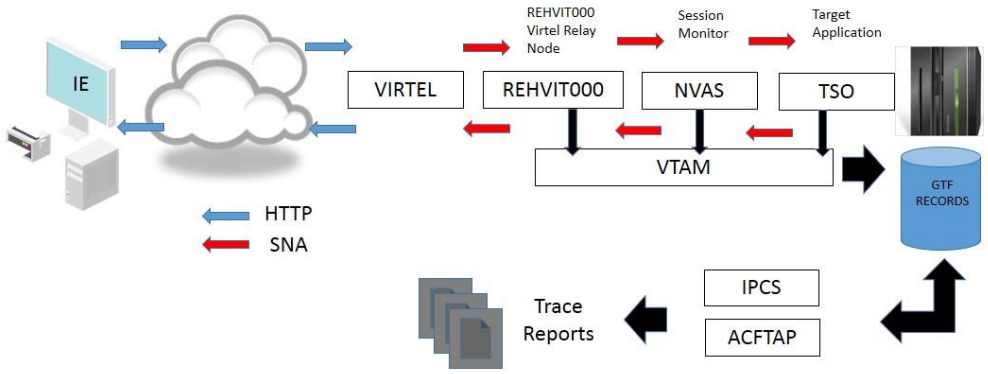
**SYSPERTEC z/OS Technical Newsletter**

2014/10

## Taking a VTAM trace

This newsletters provides details on how to take a VTAM buffer trace and print the details. In this scenario we are taking a trace between VIRTEL and TSO via the IBM network session monitor Netview Access (NVAS). In my example the VIRTEL prefix for the relay is REH. Yours will be different.




VTAM traces

### Types of traces.

There are two types of traces that are of interest, The VTAM buffer trace and the VTAM internal trace. Both will write GTF USR records to a GTF trace data set. Trace records can be identified as:-

Type FE1 VTAM INTERNAL TRACE
Type FEF VTAM BUFFER TRACE

Security
To see the user data in the buffer contents of a trace record, set CONFTXT=YES in the TSOKEY00 member of SYS1.PARMLIB before starting TSO/VTAM.

### Start GTF

First we need to start GTF. Use the following z/OS start command.

**S GTF.GTF**

By default all USR records will be traced. This is specified in the GTFPARM member of USER.PARMLIB. This member has the following statement:-

TRACE=USR

GTF will issue a WTO. Here, further trace options can be specified. Reply "U" to message AHL125A to activate the GTF trace. Here is an example from the console log of starting up GTF:-

```
S GTF.GTF
$HASP100 GTF      ON STCINRDR
IEF695I START GTF      WITH JOBNAME GTF      IS ASSIGNED TO USER START2
 , GROUP SYS1
$HASP373 GTF      STARTED
IEF403I GTF - STARTED - TIME=11.05.36
AHL121I  TRACE OPTION INPUT INDICATED FROM MEMBER GTFPARM  OF PDS
USER.PARMLIB
TRACE=USR
AHL103I  TRACE OPTIONS SELECTED --USR
81 AHL125A  RESPECIFY TRACE OPTIONS OR REPLY U
R 81,U
IEE600I REPLY TO 81 IS;U
U
AHL906I THE OUTPUT BLOCK SIZE OF     4096 WILL BE USED FOR OUTPUT 541
        DATA SETS:
          SYS1.TRACE
AHL080I GTF STORAGE USED FOR GTF DATA: 542
        GTFBLOCK STORAGE       40K BYTES (BLOK=        40K)
        PRIVATE STORAGE      1024K BYTES (SIZE=      1024K)
        SADMP HISTORY          40K BYTES (SADMP=       40K)
        SDUMP HISTORY          40K BYTES (SDUMP=       40K)
        ABEND DUMP DATA         0K BYTES (ABDUMP=       0K)
AHL031I GTF INITIALIZATION COMPLETE
```

**Starting the traces**

Now that GTF is running the VTAM LU tracing can be established. In this instance we are only interested in the VTAM Buffer trace against particular LUs. The following VTAM commands should be issued to start tracing against those relevant VTAM logical units.

**F VTAM,TRACE,TYPE=BUF,AMOUNT=FULL,ID=TSO** TSO
**F VTAM,TRACE,TYPE=BUF,AMOUNT=FULL,ID=EMSYAS01** NVAS

Next, we need to enable VTAM to write all trace records to GTF. Issue the following command:-

**F VTAM,TRACE,MODE=EXT,TYPE=VTAM,OPTION=ALL**

Note: We haven't issues a buffer trace against the Virtel Relay node because we haven't yet established a session between VIRTEL and NVAS. Virtel wouldn't have issued a OPNDST macro against the model VTAM definition REHVIT??? so no real LU exists. Once we connect to NVAS using Virtel the LU REHVIT000 will be created and the trace command can be issued.

Connect Virtel to NVAS and then issue the following command to buffer trace the Virtel Relay Session.

**F VTAM,TRACE,TYPE=BUF,AMOUNT=FULL,ID=REHVT000** Virtel

**Stopping GTF and VTAM traces**

Once the diagnostic work has been completed GTF and the traces need to be terminated. Issue the following commands:-

| | |
|---|---|
| **P GTF** | Stop GTF |
| **F VTAM,NOTRACE,TYPE=BUF,ID=x** | Stop VTAM buffer trace |
| **F VTAM,NOTRACE,TYPE=VTAM** | Stop VTAM tracing |

## Printing the trace records

## Using IPCS

The are two possibilities that can be considered when printing VTAM trace records. The first is to use IPCS to print the records. This assumes that you are set up with the necessary IPCS directory file. The following JCL will print the VTAM trace records that have been collected in the SYS1.TRACE GTF file.

```
//SPTHOLTD  JOB ACCT#,                                                  JOB05832
//             SPTHOLT,       **JOB STATEMENT GENERATED BY SUBMIT**
//             NOTIFY=SPTHOLT,CLASS=A,
//             MSGLEVEL=(1,1)
//* TRACE TYPES
//* FE1 VTAM INTERNAL
//* FEF VTAM BUFFER
//IPCSBAT  EXEC PGM=IKJEFT01,DYNAMNBR=20,REGION=0M
//IPCSDDIR DD DSN=SPTHOLT.DDIR,DISP=SHR
//IPCSPRNT DD SYSOUT=*
//TRACE    DD DSN=SYS1.TRACE,DISP=SHR
//SYSTSPRT DD SYSOUT=*
//SYSTSIN  DD *
 IPCS NOPARM
 DROPDUMP DDNAME(TRACE)
 SETDEF DDNAME(TRACE) NOCONFIRM
 GTFTRACE DDNAME(TRACE),USR(FEF),TERMINAL,NOPRINT
 END
```

## Example IPCS Output

```
USRFD FEF ASCB 00FB2480           JOBN VTAM
          BUFF    SPNET.EMSYAS01   /SPNET.VTAM          LRC(000,000)    OUTBOUND    COMPLETE SEGMENT
          VTAM    TH=40000000 00000000 0000000B 0000000B 1C0000AD 0001061C 0152  RH=0B8000
                                       81060100 4E000000 0000002F 010303B1 90308000  *a...+.............*
                                       0787F887 00028000 00000018 5000007E 000900C4  *.g8g........&..=...D*
                                       E4D4D4E8 E2D3E404 D5E5C1E2 0005001E B81C90F3  *UMMYSLU.NVAS.......3*
                                       08D9C5C8 E5E3F0F0 F0000000 000E01C0 6D000000  *.REHVT000........_...*
                                       80000018 5000007E 40FF0000 00000000 00000000  *....&..= ...........*
                                       00000000 00C4E4D4 D4E8D7D3 E4000000 00000000  *.....DUMMYPLU.......*
                                       00000000 00000000 00000000 00000000 00000000  *.....................*
                                       00000000 00000000 00000000 000D26E2 D5E7F3F2  *..............SNX32*
                                       F7F0F240 40404040 40404015 00010900 01010102  *702        .........*
                                       01030104 01050106 01070100 00151400 00000B00  *.....................*
                                       AD000000 0B0966E2 D7D5C5E3 4040400E 0FF3E2D7  *.......SPNET   ..3SP*
                                       D5C5E34B C5D4E2E8 C1E2F0F1 0E0FF3E2 D7D5C5E3  *NET.EMSYAS01..3SPNET*
                                       4BD9C5C8 E5E3F0F0 F0160E04 D5E5C1E2 08D9C5C8  *.REHVT000...NVAS.REH*
                                       E5E3F0F0 F02C0A01 08404040 40404040 402D0908  *VT000....        ...*
                                       E2D5E7F3 F2F7F0F2 6017CA7B 8B529B42 118B0EE2  *SNX32702-..#.......S*
                                       D7D5C5E3 4BE9C1D4 F1E2E2C3 D7640C81 060402C0  *PNET.ZAM1SSCP..a....*
                                       A85C2F82 02C1892F 03038040 3F0180             *y*.b.Ai.... ...     *
              GMT-04/08/2014 07:02:10.919391  LOC-04/08/2014 09:02:10.919391

USRFD FEF ASCB 00FB2480           JOBN VTAM
          BUFF    SPNET.VTAM       /SPNET.EMSYAS01       LRC(000,000)    INBOUND     COMPLETE SEGMENT
          VTAM    TH=40000000 00000000 0000000B 0000000B 1C000001 00AD061C 0006  RH=8B8000
                                       810601                                        *a..                *
              GMT-04/08/2014 07:02:10.923040  LOC-04/08/2014 09:02:10.923040

USRFD FEF ASCB 00FB8D00           JOBN NVAS
          BUFF    SPNET.REHVT000   /SPNET.NVAS          LRC(000,000)    OUTBOUND    COMPLETE SEGMENT
          VTAM    TH=40000000 00000000 0000000B 0000000B 1D000966 00ADDC9B 0074  RH=6B8000
                                       31010303 B1903082 008787F8 80000280 00000000  *.......b.gg8........*
                                       18500000 7E000004 D5E5C1E2 0005001E B81C9008  *.&..=...NVAS........*
                                       D9C5C8E5 E3F0F0F0 6017CA7B 8B529B42 118B0EE2  *REHVT000-..#.......S*
                                       D7D5C5E3 4BE9C1D4 F1E2E2C3 D70E0FF3 E2D7D5C5  *PNET.ZAM1SSCP..3SPNE*
                                       E34BC5D4 E2E8C1E2 F0F12C0A 01084040 40404040  *T.EMSYAS01....      *
                                       40402D09 08E2D5E7 F3F2F7F0 F2                 *  ...SNX32702       *
              GMT-04/08/2014 07:02:10.923780  LOC-04/08/2014 09:02:10.923780

USRFD FEF ASCB 00FB8D00           JOBN NVAS
          BUFF    SPNET.NVAS       /SPNET.REHVT000       LRC(000,000)    INBOUND     COMPLETE SEGMENT
          VTAM    TH=40000000 00000000 0000000B 0000000B 1D0000AD 0966DC9B 003B  RH=EB8000
                                       31010000 00000002 008087F8 80000000 00000000  *..........g8........*
                                       00000000 00000000 00000060 17CA7B8B 529B4211  *...........-..#.....*
                                       8B0EE2D7 D5C5E34B E9C1D4F1 E2E2C3D7           *..SPNET.ZAM1SSCP    *
```

**Using ACFTAP**

ACFTAP is a program distributed by IBM and can be found in SYS1.MIGLIB. It is used to process VTAM USR records in a GTF file. The following is an example of the JCL used to run the ACFTAP program. This can be found in SYS1.SAMPLIB.

ACFTAP JCL Example

```
//SPTHOLTA JOB 1,ASMSCEN,MSGCLASS=X,CLASS=A,NOTIFY=&SYSUID
//ACFTAP PROC
//ACFTAP EXEC PGM=ACFTAP,REGION=1M
//STEPLIB DD DSN=SYS1.MIGLIB,DISP=SHR
//SORTLIB DD DSN=SYS1.SORTLIB,DISP=SHR
//SORTIN DD DSN=&&SORTI,UNIT=3390,
// SPACE=(CYL,(10,5)),DISP=(NEW,DELETE),
// DCB=(RECFM=F,LRECL=364,BLKSIZE=364)
//SORTOUT DD DSN=&&SORTO,UNIT=3390,
// SPACE=(CYL,(10,5)),DISP=(NEW,DELETE),
// DCB=(RECFM=F,LRECL=364,BLKSIZE=364)
//SORTWK01 DD DSN=&&TEMPD5,UNIT=3390,
// SPACE=(CYL,(10,5),,CONTIG),
// DISP=(NEW,DELETE)
//SYSTEMP1 DD DSN=&&SORT1,UNIT=3390,
// SPACE=(CYL,(10,5)),DISP=(NEW,DELETE),
// DCB=(RECFM=F,LRECL=284,BLKSIZE=284)
//SYSTEMP2 DD DSN=&&SORT2,UNIT=3390,
// SPACE=(CYL,(10,5)),DISP=(NEW,DELETE),
// DCB=(RECFM=F,LRECL=284,BLKSIZE=284)
//SYSLDPRT DD SYSOUT=*
//SYSLSPRT DD SYSOUT=*
//SYSGSPRT DD SYSOUT=*
//SYSSDPRT DD SYSOUT=*
//SYSSSPRT DD SYSOUT=*
//SYSNEPRT DD SYSOUT=*
//SYSDTPRT DD SYSOUT=*
//SYSVTPRT DD SYSOUT=*
//SYSLUPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSIXPRT DD SYSOUT=*
//SYSNTPRT DD SYSOUT=*
//SYSNPPRT DD SYSOUT=*
//SYSCSPRT DD SYSOUT=*
//SYSCAPRT DD SYSOUT=*
//SYSFRPRT DD SYSOUT=*
//SYSTRACE DD DSN=SYS1.TRACE,DISP=SHR
//SYSOUT DD SYSOUT=*
// PEND
//STEP1 EXEC ACFTAP
//SYSIN DD DSN=USER.PARMLIB(ACFTAP),DISP=SHR
```

## ACFTAP Reports

ACFTAP has several different reports. It is best to set up a PARMLIB member and read the ACFTAP control statements from there. This way you have control over what reports to print.

Member ACFTAP in USER.PARMLIB

```
SSPRT=YES
NEPRT=NO
SUMMARY=NO
LSPRT=NO
RRSUP=NO
GSPRT=NO
CSPRT=NO
CAPRT=NO
PRINT=NO
DTPRT=NO
SDPRT=NO
VTPRT=NO
LONGPIU=YES
GO
QUIT
```

Some examples of reports that can be produced by ACFTAP follow:-

## Example of SDPRT report.

```
         VTAM                                ADVANCED COMMUNICATIONS FUNCTION
                                                  TRACE ANALYSIS PROGRAM
         DATE: 04:08:2014                SYSTEMS NETWORK ARCHITECTURE DETAIL (SDPRT)                    PAGE: 00047
RECORD/    GROUP
ENTRY
 MESSAGE  SUMMARY                             D E S C R I P T I V E   A N A L Y S I S
SUMMARY
0171858
 0000107 DATA FLOW   40 00 00 00 00 00 00 00 00 00 00 0B 00 00 00 0B 1C 00 00 01 08 03 00 0A 00 06 8B 80 00 81 06 01
                     TIMESTAMP: 13.31.56.944086
         TH  00-02   FORMAT ID (FID):  4 * TG SWEP:OFF  MIG:OFF  PCI:OFF * NET PRI:OFF              IERN: 00 ERN: 00 *
         TH  03-04   VR NUMBER (VRN):  0 * VRCWI: INC  TG REORDR REQD: 0 * TP PRI:  0       TG SEQUENCE NUMBER:   000 *
         TH  04-06   VRCWRI: R VRRWI:  0 * NON-SEQENCD NON-SUPRVSRY DATA *                  VR SEQUENCE NUMBER:   000 *
         TH  06-     VR PACING: NONE     * ORIGIN: 0000000B 0803         *                 SNF SEQUENCE NUMBER:  000A *
         TH    -25   SEGMENT(MPF):ONLY   * DESTINATION: 0000000B 0001    * FLOW: NORMAL           COUNT (DCF): 00006 *
         RH  00-02   RU TYPE: FM DATA FLOW      +RESPONSE* RESPONSE/REQUEST: DR1              * CHAIN: ONLY ELEMENT   *
                     RU FORMAT:   FORMATTED              * PACING INDICATOR: OFF             *                       *
         RU  00-              LOGICAL SSCP SERVICES: 06 - SESSION SERVICES COMMAND: 01 - CONTROL INITIATE
CINIT
0171859
 0000108 DATA FLOW   40 00 00 00 00 00 00 00 00 00 00 0B 00 00 00 0B 1D 00 02 0E 08 03 DE D0 00 78 6B 80 00 31 01 03 03
                     B1 90 30 82 00 87 87 F8 87 00 02 80 00 00 00 00 00 00 00 00 03 00 00 08 C1 D7 D7 D3 C8 D6 D3 E3 00
                     05 00 7F 03 09 10 08 E2 C3 F0 E3 C3 D7 F0 F2 60 17 CA 7B 8B 52 9B 42 13 B5 0E E2 D7 D5 C5 E3 4B E9
                     C1 D4 F1 E2 E2 C3 D7 0E 0F F3 E2 D7 D5 C5 E3 4B C1 D7 D7 D3 C8 D6 D3 E3 2C 0A 01 08 40 40 40 40 40
                     40 40 40 2D 09 08 C4 F4 C3 F3 F2 E7 E7 F3
                     TIMESTAMP: 13.31.56.944916
         TH  00-02   FORMAT ID (FID):  4 * TG SWEP:OFF  MIG:OFF  PCI:OFF * NET PRI:OFF              IERN: 00 ERN: 00 *
         TH  03-04   VR NUMBER (VRN):  0 * VRCWI: INC  TG REORDR REQD: 0 * TP PRI:  0       TG SEQUENCE NUMBER:   000 *
         TH  04-06   VRCWRI: R VRRWI:  0 * NON-SEQENCD NON-SUPRVSRY DATA *                  VR SEQUENCE NUMBER:   000 *
         TH  06-     VR PACING: NONE     * ORIGIN: 0000000B 0803         *                 SNF SEQUENCE NUMBER:  DED0 *
         TH    -25   SEGMENT(MPF):ONLY   * DESTINATION: 0000000B 020E    * FLOW: EXPEDITED        COUNT (DCF): 00120 *
         RH  00-02   RU TYPE: SESSION CONTROL   REQUEST  * RESPONSE/REQUEST: DR1              * CHAIN: ONLY ELEMENT   *
                     RU FORMAT:   FORMATTED              * PACING INDICATOR: OFF             *                       *
                     BRACKET:                            * CHANGE DIRECTION INDICATOR: OFF    * CODE SEL:EBCDIC       *
         RU  00-     COMMAND: BIND      BIND SESSION           CMD DATA: 01 03 03 B1 90 30 82 00 87 87 F8 87 00 02      Q
BIND
 0000108 USER DATA  *......b.gg8g..............APPLHOLT..."....SC0TCP02-..#.......SPNET.ZAM1SSCP..3SPNET.APPLHOLT....*
                    *        ...D4C32XX3                                                                              *
0171860
 0000109 DATA FLOW   40 00 00 00 00 00 00 00 00 00 00 0B 00 00 00 0B 1D 00 08 03 02 0E DE D0 00 3B EB 80 00 31 01 00 00
                     00 00 00 02 00 80 87 F8 80 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 60 17 CA 7B 8B 52
                     9B 42 13 B5 0E E2 D7 D5 C5 E3 4B E9 C1 D4 F1 E2 E2 C3 D7
         VTAM                                ADVANCED COMMUNICATIONS FUNCTION
                                                  TRACE ANALYSIS PROGRAM
         DATE: 04:08:2014                SYSTEMS NETWORK ARCHITECTURE DETAIL (SDPRT)                    PAGE: 00048
RECORD/    GROUP
ENTRY
 MESSAGE  SUMMARY                             D E S C R I P T I V E   A N A L Y S I S
SUMMARY
```

# Example of SSPRT report

```
                                                TRACE ANALYSIS PROGRAM
          DATE: 04:08:2014                SYSTEMS NETWORK ARCHITECTURE SUMMARY (SSPRT)                    PAGE: 00005
            *********SDLC********** **********TRANSMISSION HEADER*********  **********REQUEST
HEADER********************
            ....-SDLC ADDRESS       .-FORMAT IDENTIFIER (FID)               .-REQUEST(Q) / RESPONSE(S) .-PACING INDICATOR
            |||| .-CMND/RESP        | .-F/M/L/( =ENTIRE)SEGMENT  **FID3**   | .-SC/DFC/NC/( =FMDATA)RU | .-BEGIN BRACKET
INDICATOR
DIRECTION-. |||| | .-POLL/FINAL     | | .-EXPEDITED                           | | .-FORMATTED            | | .-END BRACKET
INDICATOR
          | |||| | | .-RECEIVE      | | |                       LSID---.   | | | .-F/M/L( =ONLY)CHAIN | | | .-CHANGE
DIRECTION IND
  TYPE--. | |||| | | |   .-SEND     | | |              FROM/TO SSCP--. |   | | | |                    | | | | .-ALT CODE
------- | | |||| | | |   |   .-TYPE | | |    NETWORK    FROM/TO PU--. | |   | | | |                    | | | | |
*********RU********
MESSAGE | | |||| | | |   |   | CMND | | |   ADDRESSES   SEQNO COUNT | | |   | | | | REQUEST/RESPONSES  | | | | |  COMMAND
SENSE
NUMBER  V V VVVV V V V   V   V ____ V V V _____________ _____ _____ V V V   V V V V _________________  V V V V V _________
________
0000103 B I                           4     0000000B 0001 20C1  00008        +S   F   DR1                            INIT-OTHER
                                            0000000B 0112
0000104 B I                           4     0000000B 0112 20C0  00010        -S   F   DR1     EXCEPTION              CINIT
0842FFFF
                                            0000000B 0001
0000105 B I                           4     0000000B 0112 20C2  00006        +S   F   DR1                            NOTIFY
                                            0000000B 0001
0000106 B O                           4     0000000B 0001 000A  00346         Q   F   DR1                            CINIT
                                            0000000B 0803
0000107 B I                           4     0000000B 0803 000A  00006        +S   F   DR1                            CINIT
                                            0000000B 0001
0000108 B O                           4   E 0000000B 0803 DED0  00120         Q S F   DR1                            BIND
                                            0000000B 020E         PLU(APPLHOLT         ) SLU(SC0TCP02         )
PCID(CA7B8B529B4213B5)
0000109 B I                           4   E 0000000B 020E DED0  00059        +S S F   DR1                            BIND
                                            0000000B 0803
0000110 B O                           4     0000000B 0803 000B  00051         Q   F                                  SESSST
                                            0000000B 0001
0000111 B O                           4   E 0000000B 0803 DED1  00004         Q S F   DR1                            SDT
                                            0000000B 020E
0000112 B I                           4   E 0000000B 020E DED1  00004        +S S F   DR1                            SDT
                                            0000000B 0803
0000113 B O                           4     0000000B 0803 0001  00004         Q D F   DR1               P            BID
                                            0000000B 020E
0000114 B I                           4   E 0000000B 020E 0001  00006        +S                        P            IPR/IPM
                                            0000000B 0803
0000115 B I                           4     0000000B 020E 0001  00004        +S D F   DR1                            BID
                                            0000000B 0803
0000116 B O                           4     0000000B 0803 0002  00009         Q       DR1     EXCEPTION  P B   S
                                            0000000B 020E
0000117 B I                           4   E 0000000B 020E 0002  00006        +S                        P            IPR/IPM
                                            0000000B 0803
0000118 B I                           4     0000000B 020E 0001  00195         Q       DR1     EXCEPTION  P     S
                                            0000000B 0803
0000119 B O                           4   E 0000000B 0803 0001  00006        +S                        P            IPR/IPM
                                            0000000B 020E
0000120 B O                           4     0000000B 0803 0003  00806         Q       DR1     EXCEPTION      E S
  F1=HELP   F2=SPLIT   F3=END   F4=RETURN   F5=IFIND   F6=BOOK   F7=UP   F8=DOWN   F9=SWAP  F10=LEFT  F11=RIGHT  F12=RETRIEVE
```

## Example of DTPRT report

```
         VTAM                                ADVANCED COMMUNICATIONS FUNCTION
                                                 TRACE ANALYSIS PROGRAM
         DATE: 04:08:2014                     NETWORK DATA TRAFFIC (DTPRT)                          PAGE: 00008
RECORD/    GROUP
ENTRY
MESSAGE   SUMMARY                                  M E S S A G E  D A T A
SUMMARY
/0171857
0000106  USER DATA  *084E0000  00000000  33010303  B1903080  000787F8  87000280  00000000 *.+.............g8g.......*
CINIT
                   *00000000  03000900  C4E4D4D4  E8E2D3E4  08C1D7D7  D3C8D6D3  E3000500 *........DUMMYSLU.APPLHOLT...*
                   *7F030910  F308E2C3  F0E3C3D7  F0F20000  00000E01  C06D0000  00800000 *"...3.SC0TCP02....._......*
                   *00000000  0340FF00  00000000  00000000  00000000  0000C4E4  D4D4E8D7 *..... .............DUMMYP*
                   *D3E40000  00000000  00000000  00000000  00000000  00000000  00000000 *LU..........................*
                   *00000000  00000000  00000000  00000D26  C4F4C3F3  F2E7E7F3  40404040 *.............D4C32XX3    *
                   *40404040  15000109                                          *    ....                  *
/0171859
0000108  USER DATA  *010303B1  90308200  8787F887  00028000  00000000  00000003  000008C1 *......b.gg8g.............A*
BIND
                   *D7D7D3C8  D6D3E300  05007F03  091008E2  C3F0E3C3  D7F0F260  17CA7B8B *PPLHOLT..."....SC0TCP02-..#.*
                   *529B4213  B50EE2D7  D5C5E34B  E9C1D4F1  E2E2C3D7  0E0FF3E2  D7D5C5E3 *......SPNET.ZAM1SSCP..3SPNET*
                   *4BC1D7D7  D3C8D6D3  E32C0A01  08404040  40404040  402D0908  C4F4C3F3 *.APPLHOLT....        ...D4C3*
                   *F2E7E7F3                                                    *2XX3                     *
/0171860
0000109  USER DATA  *01000000  00000200  8087F880  00000000  00000000  00000000  00000000 *.........g8.................*
BIND
                   *00006017  CA7B8B52  9B4213B5  0EE2D7D5  C5E34BE9  C1D4F1E2  E2C3D7   *..-..#.......SPNET.ZAM1SSCP *
/0171861
0000110  USER DATA  *01150C00  00000B08  03000000  0B020E1E  03000000  6017CA7B  8B529B42 *.....................-..#....*
SESSST
                   *13B50EE2  D7D5C5E3  4BE9C1D4  F1E2E2C3  D7                           *...SPNET.ZAM1SSCP           *
/0171865
0000114  USER DATA  *000007                                                      *...                      *
IPR/IPM
/0171868
0000116  USER DATA  *F3000501  FF02                                              *3.....                   *
/0171869
0000117  USER DATA  *000007                                                      *...                      *
IPR/IPM
/0171870
0000118  USER DATA  *88001781  81010000  84003401  00D30320  009E0258  070C0780  001181A6 *h..aa...d....L............aw*
                   *00000B01  00005000  18008400  34001681  86000800  F4F1F1F2  F2F3F3F4 *......&...d....af...41122334*
                   *F4F5F5F6  F6F7F700  0D818704  00F0F1F1  F2F2F4F4  00078188  00010200 *4556677..ag..0112244..ah....*
                   *06819900  00001B81  85820007  0C000000  00070000  0002B904  170100F1 *.ar....aeb.................1*
                   *03C30136  003F818F  0000E3C3  D7F3F2F7  F040E5C9  E2E3C140  40400401 *.C....a...TCP3270 VISTA   ..*
                   *000025FF  02060000  C0D59D50  00000000  0000284E  6F742079  6574206C *.........N.&.......+?......%*
                   *6F676765  6420696E  212900                                  *?......>...              *
```

## Example of VTAM Internal Trace report

```
         DATE: 04:08:2014                     VTAM INTERNAL TRACE REPORT (VTPRT)                        PAGE: 03479
13.31.56.968767  C3C3D600 1F546000 1DFAF3E0 C9D5C6F1  9EA62110 0000000B 020E0000 000B0001  *  CCO...-
...3.INF1.w.............  *
13.31.56.968767  C3C3F254 81068010 42020200 00C4F4C3  F3F2E7E7 F3F308E2 C3F0E3C3 00000000  *
CC2.a........D4C32XX33.SC0TC....  *
13.31.56.968767  E2D9E3C6 1F00010A 00000000 000B020E  9EB99996 1F40A470 E2D7D5C5 E3404040  *  SRTF.............ro. u.SPNET
*
13.31.56.968767  E2D9E3C6 1F000000 E2C3F0E3 C3D7F0F2  9EB254B6 1F465270 40404040 40404040  *  SRTF....SC0TCP02........
*
13.31.56.968767  E2D9E3C6 1F000000 C1D7D7D3 C8D6D3E3  9EB254E0 1F3F33B0 40404040 40404040  *  SRTF....APPLHOLT........
*
13.31.56.968767  E2D9E3C1 1F00000D CA7B8B52 9B4213B5  9EB13C14 1F403FF0 E2D7D5C5 E3404040  *  SRTA.....#.......... .0SPNET
*
13.31.56.968767  E2D9E3C6 1F006014 E9C1D4F1 E2E2C3D7  9EB14C42 1F2C6D90 E2D7D5C5 E3404040  *  SRTF..-.ZAM1SSCP..<..._.SPNET
*
13.31.56.968767  E2D9E3C6 1F000000 E2C3F0E3 C3D7F0F2  9EBAE6B8 1F465270 E2D7D5C5 E3404040  *  SRTF....SC0TCP02..W.....SPNET
*
13.31.56.968767  E2D9E3C6 1F000000 C1D7D7D3 C8D6D3E3  9EBA2322 1F3F33B0 E2D7D5C5 E3404040  *  SRTF....APPLHOLT........SPNET
*
13.31.56.968767  E2D9E3C6 1F04000E C1D7D7D3 C8D6D3E3  9EB19C32 00000000 E2D7D5C5 E3404040  *  SRTF....APPLHOLT........SPNET
*
13.31.56.968767  E2D9E3C6 1F000000 C1D7D7D3 C8D6D3E3  9EBAE734 1F3F33B0 E2D7D5C5 E3404040  *  SRTF....APPLHOLT..X.....SPNET
*
13.31.56.968767  C3C9F100 1F540000 1EE2A9E0 E2E2E9E4  9EBF312C 0000000B 020E0000 000B0001  *
CI1.....Sz.SSZU.............  *
13.31.56.968767  C3C9F254 81068010 42020200 00C4F4C3  F3F2E7E7 F3F308E2 C3F0E3C3 00000000  *
CI2.a........D4C32XX33.SC0TC....  *
13.31.56.968767  C3C9F300 1F2AF310 CA7B8B52 9B4213B5  C1D7D7D3 C8D6D3E3 E2C3F0E3 C3D7F0F2  *
CI3...3..#.....APPLHOLTSC0TCP02  *
13.31.56.968767  E2D9E3C6 1F00000E E5C9D9E3 C5D3C5C8  9EB19C32 1F404330 E2D7D5C5 E3404040  *  SRTF....VIRTELEH..... ..SPNET
*
13.31.56.968767  C7D5C1D4 1F000104 E5C9D9E3 C5D3C5C8  9EBA4C52 02000000 00000005 1DFAF010  *
GNAM....VIRTELEH..<...........0.  *
13.31.56.968767  C7D5C1F2 00000000 CA7B8B52 9B4213B5  E2D7D5C5 E3404040 C1D7D7D3 C8D6D3E3  *  GNA2.....#......SPNET
APPLHOLT  *
13.31.56.968767  C7D5C1D4 1F000504 E5C9D9E3 C5D3C5C8  9EBA4D3C 02000000 00000000 1DFAF010  *
GNAM....VIRTELEH..(...........0.  *
13.31.56.968767  C7D5C1F2 00000001 CA7B8B52 9B4213B5  E2D7D5C5 E3404040 C1D7D7D3 C8D6D3E3  *  GNA2.....#......SPNET
APPLHOLT  *
13.31.56.968767  D9C3C5C6 1F001201 1DF9004C 00000000  9EB1B460 008C5750 1EA340B0 00000000  *  RCEF.....9.<.......-...&.t
.....  *
13.31.56.968767  E2D9E3C6 1F00010A 00000000 000B020E  9EB8CA34 1F40A470 E2D7D5C5 E3404040  *  SRTF................. u.SPNET
*
13.31.56.968767  D9C3C5C6 1F001201 1DF9004C 00000000  9EB1B460 008C5750 1EA340B0 00000000  *  RCEF.....9.<.......-...&.t
.....  *
```