INTRODUCTION

The ALCS message trace facility is a problem determination aid which traces input and output messages to a wrap around on-line trace area for selected communication resources. You can run this facility either on your production system or on any test system.

The tracing will take place either before control is passed to an application (or to the ALCS command processor) after installation-wide exit USRCOM2 is (conditionally) called, or at the start of ROUTC or SEND-type monitor-request macro processing after installation-wide exit USRCOM4 is (conditionally) called.

GTFCC macro, CALLABLE SERVICES AND INSTALLATION-WIDE EXITS

IBM provides you with a special flavour of the GTFCC macro and with two callable services UMSGT1 and UMSGT2 in order to perform any additional tracing if such a requirement arises. With the help of two installation-wide ECB controlled exits (AMG1 and AMG2) the on-line trace message display can be customized

SCTGEN

You must specify in the ALCS system configuration table (SCTGEN) the message trace control parameters (see for more details the ALCS Installation and Customization manual).

ZTRAC Msg COMMAND

You can start, stop, or clear tracing of a resource from the Prime CRAS or from any AT1-16 CRAS authorized terminal, whereby the resource can be either generic or specific (see for more details the ALCS Operation and Maintenance manual).

You can display the on-line trace data from any CRAS authorized terminal. You also can display the totals. Note that the totals will include the callable service calls for a message (see for more details the ALCS Operation and Maintenance manual).

SCTGEN EXAMPLES

SCTGEN example # 1: (2MB page-able message trace area above the bar)

AMODE64=(VFA,MSGTRACE),
MSGTRACE=2M,
PAGE=MSGTRACE,

SCTGEN example #2 (70K page-fixed message trace area below the bar)

MSGTRACE=70K,
PAGE=NONE,

SCTGEN example #3 (*No message trace*)

MSGTRACE=NO,

Note that when you use a page-fixed message trace area above the BAR, then you must exclude 20% of your on-line real storage above 2GB as this real storage area needs to be reclaimable for use by z/OS at any time and therefore is not eligible for page-fixed ALCS storage.

FYI when it is not used by z/OS to back DAT structures, this storage is available for application or system use for pageable requests or for pagefix requests of swappable address spaces.

INSTALLATION-WIDE EXIT EXAMPLES

USRTCP2 and USRCOM4 show how the callable services UMSGT1 and UMSGT2 have to be coded. Note that the intention of the USRCOM4 example is to show the format of the traced data. You normally will not code this as we IBM already trace after calling installation-wide exit USRCOM4.

The installation-wide exits AMG1 and AMG2 are modified to show the displays in a slightly different format.

See tags SAMPLE1, SAMPLE2, SAMPLE3, SAMPLE4, SAMPLE5.

SAMPLE1: HOW TO USE UMSGT1 (in USRCOM4)
SAMPLE2: HOW TO USE UMSGT2 (in USTRCP2)
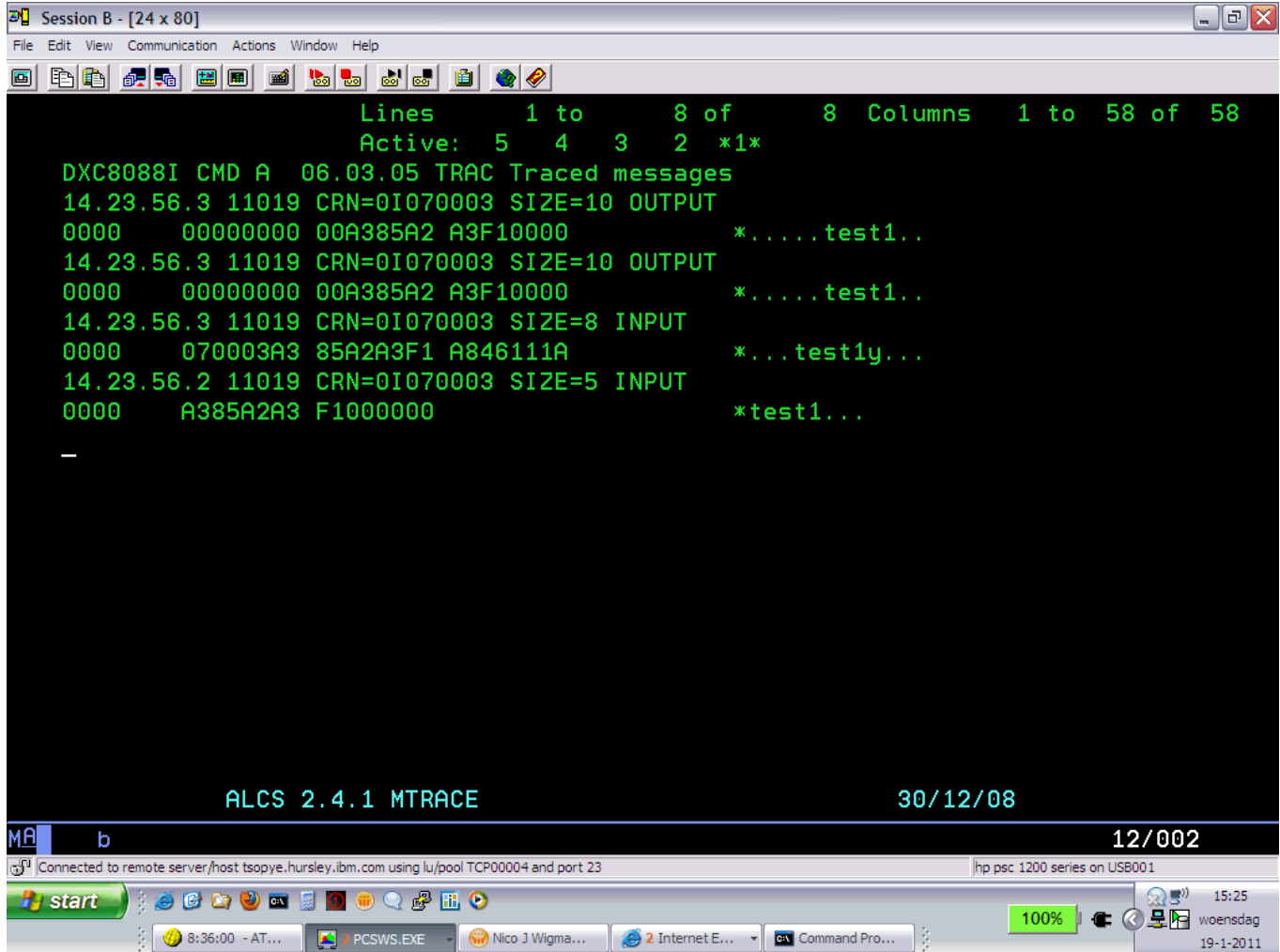SAMPLE3: HOW TO USE AMG1 (in AMG1S1)
SAMPLE4: HOW TO USE AMG2 (in AMG1S1)
SAMPLE5: HOW TO USE AMG2 (in AMG1S2)

ZTRAC Msg Display EXAMPLES with the USRTCP2 and USRCOM4 examples loaded

   (I) TCP/IP traffic (The ZTRAC Msg Start command is not typically shown)

1.1 - "ZTRAC Msg Display"

```
Session B - [24 x 80]                                              _ □ X
File  Edit  View  Communication  Actions  Window  Help

                Lines      1 to      8 of      8  Columns   1 to  58 of  58
                Active:   5    4    3    2   *1*
 DXC8088I CMD A  06.03.05 TRAC Traced messages
 14.23.56.3 11019 CRN=0I070003 SIZE=10 OUTPUT
 0000    00000000 00A385A2 A3F10000          *.....test1..
 14.23.56.3 11019 CRN=0I070003 SIZE=10 OUTPUT
 0000    00000000 00A385A2 A3F10000          *.....test1..
 14.23.56.3 11019 CRN=0I070003 SIZE=8 INPUT
 0000    070003A3 85A2A3F1 A846111A          *...test1y...
 14.23.56.2 11019 CRN=0I070003 SIZE=5 INPUT
 0000    A385A2A3 F1000000                   *test1...
 _




         ALCS 2.4.1 MTRACE                         30/12/08
MA    b                                                        12/002
Connected to remote server/host tsopye.hursley.ibm.com using lu/pool TCP00004 and port 23       hp psc 1200 series on USB001
```

1.2 - "ZTRAC Msg Display" with also **AMG**1 and AMG2 LOADED (version AMG1S1)

```
Session B - [24 x 80]
File  Edit  View  Communication  Actions  Window  Help

              Lines      1 to      8 of      8  Columns   1 to  58 of  58
              Active:   5    4    3    2   *1*
   DXC8088I CMD A   06.06.34 TRAC Traced messages
   14.23.56.3 11019 CRN=0I070003 SIZE=10 OUTPUT
   0000    00000000 00A385A2 A3F10000         *.....test1..
   14.23.56.3 11019 CRN=0I070003 SIZE=10 OUTPUT UCOM4
   0000    00000000 00A385A2 A3F10000         *.....test1..
   14.23.56.3 11019 CRN=0I070003 SIZE=8 INPUT
   0000    070003A3 85A2A3F1 A846111A         *...test1y...
   14.23.56.2 11019 CRN=0I070003 SIZE=5 INPUT  UTCP2
   0000    A385A2A3 F1000000                   *test1...
   _




              ALCS 2.4.1 MTRACE                         30/12/08

MA    b                                                                12/002
Connected to remote server/host tsopye.hursley.ibm.com using lu/pool TCP00004 and port 23      hp psc 1200 series on USB001
start        8:39:58 - AT...    PCSWS.EXE    ALCS Messag...   2 Internet E...   Command Pro...   100%    15:29  woensdag  19-1-2011
```

1.3 - "ZTRAC Msg Display **User=C**" with also AMG1 and **AMG2** LOADED (version AMG1S1) Note the user parameter.

```
                      Lines      1 to      9 of      9  Columns   1 to  59 of  59
                      Active:   5   4   3   2  *1*
   DXC8088I CMD A  06.08.55 TRAC Traced messages
   14.23.56.3 11019 CRN=0I070003 SIZE=10 OUTPUT
   0000     00000000 00A385A2 A3F10000         *.....test1..
   #EOM NOT FOUND IN NEXT MESSAGE - COMPLETE MESSAGE DISPLAYED
   14.23.56.3 11019 CRN=0I070003 SIZE=10 OUTPUT UCOM4
   0000     00000000 00A385A2 A3F10000         *.....test1..
   14.23.56.3 11019 CRN=0I070003 SIZE=8 INPUT
   0000     070003A3 85A2A3F1 A846111A         *...test1y...
   14.23.56.2 11019 CRN=0I070003 SIZE=5 INPUT  UTCP2
   0000     A385A2A3 F1000000                   *test1...
   _



                 ALCS 2.4.1 MTRACE                        30/12/08
```

1.4 - "ZTRAC Msg Display User=1" with also **AMG1 and AMG2** LOADED (version AMG1S2)

```
Session B - [24 x 80]
File  Edit  View  Communication  Actions  Window  Help

                    Lines      1 to      2 of      2  Columns    1 to  58 of   58
                    Active:   5    4    3    2   *1*
   DXC8088I CMD A  06.10.56 TRAC Traced messages
   14.23.56.3 11019 CRN=0I070003 SIZE=10 OUTPUT UCOM4
   0000    00000000 00A385A2 A3F10000        *............
   _




                    ALCS 2.4.1 MTRACE                      30/12/08

MA      b                                                           06/002
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```

(II) 3270 traffic

2.1 - "ZTRAC Msg Display" with also **AMG1 and AMG2** loaded (version AMG1S2)

```
Session B - [24 x 80]                                                    _ 回 X
File  Edit  View  Communication  Actions  Window  Help

            Lines      1 to     18 of    18  Columns   1 to  63 of  63
            Active:   5    4    3    2   *1*
  DXC8088I CMD A  06.13.24 TRAC Traced messages
  14.34.18.0 11019 CRN=PYEYTC05 SIZE=36 OUTPUT
  0000    02026061 80F0F6F1 F340F3F0 C4C5C340  *.....0613 30DEC *
  0010    D3D6D515 C7C5D540 D4E2C740 40404040  *LON.GEN MSG     *
  0020    F0156E4E 00000000                    *0.......
  14.34.18.0 11019 CRN=PYEYTC05 SIZE=36 OUTPUT UCOM4
  0000    02026061 80F0F6F1 F340F3F0 C4C5C340  *.....0613 30DEC *
  0010    D3D6D515 C7C5D540 D4E2C740 40404040  *LON.GEN MSG     *
  0020    F0156E4E 00000000                    *0.......
  14.34.18.0 11019 CRN=PYEYTC05 SIZE=11 INPUT
  0000    020260D8 C3D461D3 D6D54E00           *...QCM.LON..
  14.34.13.5 11019 CRN=PYEYTC05 SIZE=27 OUTPUT
  0000    02026061 87E3D9C1 D5E2C1C3 E3C9D6D5  *....gTRANSACTION*
  0010    40C9C7D5 D6D9C5C4 156E4E00           * IGNORED....
  14.34.13.5 11019 CRN=PYEYTC05 SIZE=27 OUTPUT UCOM4
  0000    02026061 87E3D9C1 D5E2C1C3 E3C9D6D5  *....gTRANSACTION*
  0010    40C9C7D5 D6D9C5C4 156E4E00           * IGNORED....
  14.34.13.4 11019 CRN=PYEYTC05 SIZE=5 INPUT
  0000    020260C9 4E000000                    *...I....
  _

        ALCS 2.4.1 MTRACE                          30/12/08
MA     b                                                          22/002
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```

2.2 "ZTRAC Msg Display Top=Old" with also **AMG1 and AMG2** loaded (version AMG1S2)

```
Session B - [24 x 80]
File  Edit  View  Communication  Actions  Window  Help

                     Lines     1 to     18 of     18  Columns   1 to  63 of  63
                     Active:   5   4   3   2  *1*
    DXC8088I CMD A  06.15.56 TRAC Traced messages
    14.34.13.4 11019 CRN=PYEYTC05 SIZE=5 INPUT
    0000    020260C9 4E000000                 *...I....
    14.34.13.5 11019 CRN=PYEYTC05 SIZE=27 OUTPUT UCOM4
    0000    02026061 87E3D9C1 D5E2C1C3 E3C9D6D5  *....gTRANSACTION*
    0010    40C9C7D5 D6D9C5C4 156E4E00         * IGNORED....
    14.34.13.5 11019 CRN=PYEYTC05 SIZE=27 OUTPUT
    0000    02026061 87E3D9C1 D5E2C1C3 E3C9D6D5  *....gTRANSACTION*
    0010    40C9C7D5 D6D9C5C4 156E4E00         * IGNORED....
    14.34.18.0 11019 CRN=PYEYTC05 SIZE=11 INPUT
    0000    020260D8 C3D461D3 D6D54E00         *...QCM.LON..
    14.34.18.0 11019 CRN=PYEYTC05 SIZE=36 OUTPUT UCOM4
    0000    02026061 80F0F6F1 F340F3F0 C4C5C340  *.....0613 30DEC *
    0010    D3D6D515 C7C5D540 D4E2C740 40404040  *LON.GEN MSG     *
    0020    F0156E4E 00000000                 *0.......
    14.34.18.0 11019 CRN=PYEYTC05 SIZE=36 OUTPUT
    0000    02026061 80F0F6F1 F340F3F0 C4C5C340  *.....0613 30DEC *
    0010    D3D6D515 C7C5D540 D4E2C740 40404040  *LON.GEN MSG     *
    0020    F0156E4E 00000000                 *0.......
    _
              ALCS 2.4.1 MTRACE                        30/12/08

MA    b                                                      22/002
Connected to remote server/host tsopye.hursley.ibm.com using lu/pool TCP00004 and port 23    hp psc 1200 series on USB001
```

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