Worldwide Response Center

HP 3000 APPLICATION NOTE #88

Native Mode Spooler

Questions And Answers

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RESPONSE CENTER APPLICATION NOTES

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Native Mode Spooler Questions and Answers

Introduction

This Application Note presents some common questions and answers on Native Mode Spooler.

The Native Mode Spooler was introduced on MPE/XL G.40.00 (2.1).

Q. I have notice a problem with the headers of my printers they
   are still on after a system startup. I have a HEADOFF command in
   my SYSSTART file for each of my printers.

   What is wrong? Why are the headers not being turned off?
   How can I get them off?

A. With the Native Mode Spooler, on MPE/XL G.40.00 (2.1) or later, there
   may be a timing problem between the time the STARTSPOOL takes effect and
   the time that the HEADOFF is issued. The spooling process must be
   completely running before a HEADOFF can be successfully issued.

   If the HEADOFF is issued before the process is running, it will not take
   effect. Including the HEADOFF command in the SYSSTART file may issue
   the command too soon.

   It is recommended that the HEADOFF command be placed in a separate job
   that the SYSSTART file can stream. This should ensure that the spooling
   processes are completely started before the command is issued.

                    # # # # # # # # #

Q. What is the order that spoolfiles print on the Native Mode Spooler?

A. Refer to the Native Mode Spooler Reference Manual (HP part
   number 32650-90166) pages 4-39:

   A spooled output device processes spoolfiles first in order of
   priority and then the time the spoolfile entered the READY state.

                    # # # # # # # # #

Q. Prior to MPE XL version A.41.00 (2.2) if I had multiple copies of two

spoolfiles, they would print with interleaving (that is one copy of the
first file, one copy of the second file, one copy of the first file,
etc.). As of 2.2, the spoolfiles do not interleave and all copies of
the first spoolfile are printed prior to printing any of the copies of
the second spoolfile. I have two spoolfiles that, together, comprise
one report. The interleaving function is necessary in order to
alleviate a lot of bursting and sorting of printouts. Is there a
workaround that would enable me to accomplish the interleaving function?

A. In order to accomplish the interleaving effect on version 2.2, you could
merge the two spoolfiles into one and then print the one spoolfile
multiple times. The following commands illustrate the necessary steps:

```
:BUILD MYFILE;REC=-132,1,F,ASCII;CCTL
:FCOPY FROM=O###.OUT.HPSPOOL;TO=MYFILE;CCTL          (first spoolfile)
:FILE MYFILE=MYFILE;ACC=APPEND
:FCOPY FROM=O###.OUT.HPSPOOL;TO=*MYFILE;CCTL         (second spoolfile)
:FILE LP;DEV=LP,1
:FCOPY FROM=MYFILE;TO=*LP;CCTL
:LISTSPF
:SPOOLF O###.OUT.HPSPOOL;COPIES=##                   (merged spoolfile)
:SPOOLF O###.OUT.HPSPOOL;PRINT
```

# # # # # # # # #

Q. How do I append a Native Mode spoolfile to an environment file?

A. To append a Native Mode Spoolfile use the following steps:

1. file x;dev=disc;rec=-132,,f,ascii;disc=nnn;cctl;std

2. fcopy from=onnn.out.hpspool;to=*x;cctl;new

3. editor   ---|
   / a .1 |
   .1 A |------> changes from post to pre spacing
   .2 // |
   / k x,unn   ----

4. file y;dev=lp;env=lp2.hpenv.sys (remove ;env if no env desired)

5. fcopy from=x;to=*y;cctl

   If you wanted to copy certain line numbers, step 2 would be:

   fcopy from=onnn.out.hpspool;to=*x;subset=(range);cctl;new

# # # # # # # # #

Q. How can I append spoolfiles on the Native Mode Spooler?

A. To append spoolfiles with the Native Mode Spooler, use the EDITOR
   subsystem. Once you are in EDITOR, issue the following commands:

   1. /TEXT 01.OUT.HPSPOOL
   2. /JOIN 02.OUT.HPSPOOL
   3. /KEEP filename
   4. /EXIT

   The above procedure will create a new disc file. The name of the file
   will be:

   filename.logon group.logon account

   To link the new disc file with the spooler, issue the following:

   :FILE LP;DEV=LP;CCTL
   :FCOPY FROM=filename.group.account;CCTL;TO=*LP;CCTL

   This will create a spoolfile that is a copy of 01.OUT.HPSPOOL with a
   copy of 02.OUT.HPSPOOL appended to it.

# # # # # # # # #

Q. I am trying to look at my output file using the new Native Mode (NM)
   spooler. The instructions in the NM Spooler Reference Manual
   (HP part number 32650-90166) are:

   :Run EDITOR
   /SET VARIABLE
   /t Onn.OUT.HPSPOOL

   When I do this, only columns 1 to 72 are displayed. How can I see
   the entire output record?

A. There are two ways to view the entire output record using

   EDITOR:

   1. Do not issue the SET VARIABLE command and ignore
      the warning which appears when the file is texted in:

         WARNING RECORD SIZE TRUNCATED TO 255 BYTES.

      (You can ignore the warning because spoolfile records

are rarely greater than 255 bytes in length.)

Or:

2. After you SET VARIABLE, issue a SET LENGTH=nn SET RIGHT=nn
where nn equals size of your output records.

Both methods will result in the entire output record being
displayed with wraparound.

# # # # # # # #

Q. How do I reset the DFID numbers on the Native Mode Spooler?

A. There are two ways to accomplish this:

1. Issue the :SPOOLF @;DELETE command, which will delete
all output spoolfiles. Then, simply do a START NORECOVERY.

If you need those spoolfiles, make sure you save them to tape via
STORE/RESTORE first so that you can bring them back when the system
comes up.

With the introduction of the Native Mode spooler (MPE/XL version 2.1),
the maximum possible DFID number on spoolfiles has been increased from
32,767 to 9,999,999. This is due to the DFID field being increased from
16 bits to 32 bits.

2. Install.

# # # # # # # #

Q. When I issue a LISTFTEMP @.@.@,2 in a batch job on my MPE XL
A.41.00 (2.2) system, I get the following files:

TEMPORARY FILES FOR USER.ACCOUNT,PUB

ACCOUNT= 3000devs   GROUP= DEVICES

FILENAME	CODE	------------LOGICAL RECORD-----------		----SPACE----	
		SIZE	TYP	EOF	LIMIT	R/B	SECTORS	#X	MX
00016384*	1516	1008B	VACS	0	2097151	1	2048	1	*
00016385*	1515	1008B	VAS	2	1	1	16	1	*

What is the purpose of these files?

A. Starting with A.40.00 (2.1), the STDIN is 00016384.DEVICES.3000devs and
   the STDLIST is 00016385.DEVICES.3000devs. These are virtual device
   files and they represent a number higher than the highest possible ldev
   that can be configured on the system. The WHO intrinsic also returns
   00016385 as the terminal number.

                        # # # # # # # # #

Q. I am trying to text in a large Native Mode Spoolfile with EDITOR.
   However, I am having problems if the spoolfile is > 99,999 records.
   EDITOR should be enhanced to handle spoolfiles larger than 99,999
   records.
A. EDITOR is capable of numbering the records from
   00000.001 to 99999.999 incrementing each line .001.

   The default numbering scheme for EDITOR, however, is to start the
   line numbering at 1 and increment each line by 1. This allows for
   only 99,999 records.

   To change the defaults, the EDITOR SET command can be used. For
   example:

     :EDITOR
     /SET DELTA=.001
     /SET FROM=.001
     /T 0962.OUT.HPSPOOL

                        # # # # # # # # #

Q. I have recently run out of permanent disk file space. Now when I
   stream a job, I receive the following console message:

       CAN'T FOPEN $STDLIST FOR "user.acct,group", ON LDEV #10. (js 76)

   and the job goes into the WAIT state. After freeing up some disk space,
   the jobs are still in the WAIT state. I have attempted to do an
   :OPENQ ldev command on each printer device, but I receive the following
   error message:

       SPOOLING QUEUE OPENED FOR DEVICE 00000006, BUT NOT IN EFFECT SINCE
       SPOOLING QUEUES ARE GLOBALLY DISABLED. (CIWARN 4625)

   How can I get my jobs to log on?

A. When the NM SPOOLER cannot FOPEN $STDLIST for whatever reason, in
   this case because of lack of disk space, it globally shuts the spooling
   queues down, similar to a :SHUTQ @ command.

   To globally enable the spooling queues, issue the following command:

      :OPENQ @

                    # # # # # # # # #

Q. I have just updated my MPE XL system to A.40.00 (2.1) which includes the
   native mode spooler.

   I often have to realign special forms or suspend a print job
   to allow an urgent spoolfile to print. What is the procedure to
   suspend the spooler and later resume at the beginning of my spoolfile?

A. Issue the following command to suspend the spooler and set the offset to
   the beginning of the spoolfile:

      :SPOOLER LP;SUSPEND;OFFSET=1

   Using the 'OFFSET=1' at the time you suspend the spooler will assure
   that the offset is set to the beginning of the spoolfile, The
   default is to set the offset according to the last completed page of
   output. If you suspend the spooler and take the default of KEEP the
   'OFFSET=1' can be specified when the spooler is resumed.

      :SPOOLER LP;RESUME;OFFSET=1

   If you take the default of KEEP and do not specify 'OFFSET=1' when you
   suspend the spooler and you decide to print a higher priority spoolfile
   you can use 'OFFSET=1' when you RELEASE the spoolfile.

      :SPOOLER LP;RELEASE;OFFSET=1

   If you specify the NOKEEP option when you suspend the spooler, always
   specify 'OFFSET=1' if you want the spoolfile to print at the beginning.

   If you want to confirm if the spooler was suspended with a KEEP or
   NOKEEP option, issue a SHOW on the spooler.

      :SPOOLER LP;SHOW
      LDEV DEV   SPSTATE   QSTATE   OWNERSHIP   SPOOLID

         6 00000006 SUSPEND   OPENED   OUT SPOOLER   #0321

   If a SPOOLID exists then the KEEP option was used and the spooler will
   activate that spoolfile when a RESUME is issued, unless the spoolfile is

released or deleted.

For further information, please use the Online Help Facility

    :HELP SPOOLER ALL

or review chapter 3 in the NATIVE MODE SPOOLER REFERENCE MANUAL,
(HP part number 32650-90166).

                    # # # # # # # #

Q. How can I change the content of a spoolfile on A.40.00 (2.1) MPE XL

A. In order to change the content of a spoolfile on 2.1 MPE XL, do the
   following:

    1) Copy the spoolfile from OUT.HPSPOOL (group.account) to a flat file.

        (Let us assume that the spoolfile is 010.OUT.HPSPOOL)

        :COPY 010.OUT.HPSPOOL,newfile

        (where newfile is a filename of your choice)

    2) Using EDITOR, make the necessary changes to the newfile.

        :EDITOR
        /T newfile
        (Make the changes)
        /KEEP;EXIT
        *** WARNING *** NEW SERIAL FILE WILL REPLACE OLD SPOOL FILE.
        newfile ALREADY EXISTS - RESPOND YES TO PURGE OLD AND KEEP NEW
        PURGE OLD?Y

    3) Create another new file, which will be used as the new spoolfile.

        (The SPOOL parameter is used to assign spoolfile attributes
         to the new file)

        :BUILD newspool;DISC=#records;SPOOL

    4) FCOPY the edited newfile to the newspool file.

        :FCOPY FROM=newfile;TO=newspool

        HP32212A.03.30 FILE COPIER (C) HEWLETT-PACKARD CD. 1990
        *200*WARNING: FROM FILE RECSIZE IS 1276 BYTES,
        TOFILE RECSIZE IS 1008 BYTES.
        CONTINUE OPERATION (Y OR N) ?Y

(use FCOPY as opposed to COPY so that the newspool will
keep it is spoolfile attributes)

5) Use the SPOOLF command to send the spoolfile to the printer.
:SPOOLF newspool;PRINT;DEV=LP

\# \# \# \# \# \# \# \# \#

Q. How is the parameter SELEQ= for the LISTSPF command used?

A. In order to use the SELEQ= for the LISTSPF command, do the following:

```
:LISTSPF spoolid;SELEQ= ^indirect_file
                            [select_eq]
                             ^          ^
                             !          !
                             !          !
            You must include the brackets
```
Examples:

1) List all spoolfiles that have been sent to class LP for all
   users

   :LISTSPF 0@;SELEQ=[DEV=LP AND OWNER=@.@]

2) List all spoolfiles that are in the PRINT state

   :LISTSPF 0@;SELEQ=[STATE=PRINT]

3) List all spoolfiles selected on $stdlist

   :LISTSPF 0@;SELEQ=[FILEDES=$STDLIST]

4) List all spoolfiles with priority of 8

   :LISTSPF 0@;SELEQ=[PRI=8]

5) List all spoolfiles in the SPSAVE state that were
   created on 11/20

   :LISTSPF 0@;SELEQ=[(STATE=SPSAVE AND DATE=11/20/90)]

The complete syntax for the LISTSPF command is shown below:

```
LISTSPF [[IDNAME=] { spoolid                    }]
                   {(spoolid [,spoolid ]...)}
        [[;SELEQ=] {[select-eq]     }]
                   {^indirect_file }
```

```
            [{;DETAIL}]
             {;STATUS}
```

# # # # # # # # #

Q. How can I redirect the output of a command, such as LISTSPF, to a file?

A. Issue the following command:

        :LISTSPF(or other command) >filename

This will create a temporary file. You can see the file by issuing:

        :LISTFTEMP filename

You can save this as a permanent file by issuing:

        :SAVE filename

# # # # # # # # #

Q. How can I print a file that has entered the SPSAVE state?

A. In order to print a file in the SPSAVE state you need to issue the
   following command:

        :SPOOLF filename.OUT.HPSPOOL;PRINT

Note   The file name must be fully qualified.

# # # # # # # # #

Q. What is the 3000DEVS account?

A. The 3000DEVS account is used to store configuration information for
   the Native Mode Spooler. This account will only exist on versions of
   MPE/XL 2.1 or later.

   This account is used by the Native Mode Spooler and is not accessible
   by other users.

   This file is not stored on the SLT or the STORE tape, it is created

everytime the system is bootup.

\# \# \# \# \# \# \# \#

Q. In SYSGEN under MISC there is a new command IO. What is this
and what happened to the SPOOL command?

A. The MISC SPOOL command was obsoleted when the Native Mode Spooler
was introduced with MPE/XL version 2.1 (A.40.00). The IO command is
listed as replacing the SPOOL command. There are three parameters to
the IO command as listed below:

```
io  (io)   [maxdyninput  = dynamic input devs]
           [maxdynoutput = dynamic output devs]
           [maxdynio     = dynamic I/O devs]
```

The Communicator for 2.2 INCORRECTLY states that these are the same as
the IDD, ODD, XDD respectfully.

The maxdyninput and maxdynoutput are NOT used by MPE XL. The
maxdynio is the maximum number of possible virtual terminal sessions.
This is not to be changed unless HP tells you to change it!

So, in fact the IO command is nothing like the SPOOL command !!

The SHOW command will list the settings. The value under CURRENT is the
currently configured amount.

```
misc> show io

IO command            parameter        MAX        MIN        CURRENT
------------------    -----------      ----------  ----------  ----------
DYNAMIC INPUT DEVS    maxdyninput          999          0           2
DYNAMIC OUTPUT DEVS   maxdynoutput         999          0           4
DYNAMIC IO DEVS       maxdynio             999          0         332
```

\# \# \# \# \# \# \# \#

Q. How can I print part of a spool file using the native mode spooler?

A. There is a utility called PRINTSPF.PUB.SYS which will print a spool
file to $STDLIST. Below is how to send the output from this utility
to a printer:

```
:FILE LP;DEV=LP  (Use which ever printer you desire)
:RUN PRINTSPF.PUB.SYS;INFO="FILE=O###.OUT.HPSPOOL;START=###;&
END=###";STDLIST=*LP
```

The O### is the spool file name. The ### after START is the number
of the first record to be displayed. The ### after END is the number
of the last record to be displayed.

# # # # # # # # #

Q. I have an HP 3000 960 that is on MPE/XL 2.1. I have a user on the system who
has the following capabilities: AM, AL, GL, ND, SF, BA, IA, OP. This
user is presently able to read Native Mode Spooler spoolfiles that were
created in other accounts. I thought that users with AM, Account
Manager, capability would only be able to read spoolfiles created by
users in their own accounts. Why is this user able to access spoolfiles
beyond her own account?

A. A user that has OP, System Supervisor, capability will be able to
access Native Mode Spooler spoolfiles that were created by users in
other accounts. Do not give users OP capability if you wish to restrict
their ability to access spoolfiles in other accounts. For more
information on the Native Mode Spooler, refer to the Communicator
3000/XL for XL Release 2.1, part number 5957-7024.

# # # # # # # # #

Q. I just updated to MPEXL 2.2 with the Native Mode Spooler. Now I notice
that all Spool Files I create always go to LDEV 1. I looked at my class
configuration in SYSGEN, and all of my disc drives have device class
SPOOL on them, yet all spool files still go only to ldev 1. What might
be causing this and how can I get spool files to go to my other disc
drives?

A. The problem in this case is most likely due to the way Volume Class
SPOOL is defined in Volutil.

The problem is if volume class 'SPOOL' exists anywhere, spool files will
only go to devices in this volume class. However, if SPOOL is not set up
as a volume class, spool files will get spread to all DISC devices.

In other words, volume class SPOOL should either include ALL discs that
are to be used for spooling, or NONE of the discs.

The VOLUME CLASS defined in VOLUTIL is different than the DEVICE CLASS
defined in SYSGEN, and that is where most of the confusion arises.

Whether or not this is the problem can easily be verified with Volutil
and the following commands:

```
mpexl:   VOLUTIL
Mirvutil A.00.01, (C) Hewlett-Packard Co. 1989. All Rights Reserved.
volutil: SHOWCLASS SPOOL;INFO=VOLUMES

Volume name:              Index:
-----------               -----

  MEMBER1                    1
```

As in the above example, if only ldev 1 has volume class 'spool' on it,
all spool files will be created only on ldev 1.

This situation can be corrected by expanding volume class 'spool' to
include all disc drives that you wish to have spool files on.

For example, to add MEMBER2 to Volume Class Spool, enter the following:

```
    volutil:  EXPANDCLASS MPEXL_SYSTEM_VOLUME_SET:SPOOL (MEMBER2)
```

It should also be noted that even though MPEXL uses the Volume Class to
determine where to place files, the Device Class 'spool' must also exist
in SYSGEN on at least one device (it does not matter which one). This is
due to the fact the MPE XL checks to make sure that 'SPOOL' is a valid
Device Class before checking for which devices are in the Volume Class.

                      # # # # # # # # #

Q. What are the P1 and P2 values that are displayed by the PRINTSPF
   command?

A. These parameters are holdovers from MPE/V spooling and were
   originally used for the ATTACHIO calls. P1 is for carriage control and
   has the following meaning:

   Value contained
         in P1   Meaning
   ----------------- -------
   Equal to 1   The first byte of the output record is the carriage
                      control byte
   Not equal to 1   P1 itself contains the carriage control byte.

   P2 is used for printer control. It has the following meanings:

   P2 Value   Meaning
   --------   -------
   If ODD   Data record is to be printed in prespace mode
   If EVEN   Data record is to be printed in postspace mode
   Bit 14 on   No perforation skip
   Bit 14 off Skip over perforation area if necessary.
```

For more information, please refer to the Native Mode Spooler Reference
Manual, (HP part number 32650-90166).


# # # # # # # #


Q. I just updated my HP3000 900 series system to MPE XL A.40.00 (2.1).
   I also have an MPE V/E system and I need to transfer spoolfiles from
   one system to another.  I used to use SPOOK to OUTPUT the spoolfiles
   to tape.  How do I do this with the NATIVE MODE SPOOLER?

A. Since the SPOOK utility is no longer available on 2.1, there is
   a new utility called SPFXFER that provides compatibility with
   the MPE V/E spooler.  There are four commands in SPFXFER.
   They are HELP and EXIT, which are  self explanatory, and
   INPUT and OUTPUT.  The INPUT and OUTPUT commands follow the
   same syntax as in the SPOOK utility.

# Published Application Notes

## HP 3000

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