PRINTER SETUP & TROUBLESHOOTING TIPS

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TOPICS

- Learn the two main types of printer definitions needed for Centricity Business printers on AIX
- How to use some Print Control Language (PCL) to manipulate print jobs
- Automation and time saving of utilizing expect scripting language.
- Troubleshooting steps for AIX print jobs

TWO PRINTER TYPES

generic print queue:

/usr/lib/lpd/pio/etc/piomkjetd mkpq_jetdirect -p 'generic' -D asc -q 'BRC016PR002' -h 'BRC016PR002' -x '9100‘

HP print queue:

/usr/lib/lpd/pio/etc/piomkjetd mkpq_jetdirect -p 'hplj-4000' -D pcl -q 'AOR012PR016' -h 'AOR012PR016' -x '9100‘

Change Lines Per Page:

/usr/lib/lpd/pio/etc/piochpq -q 'AOR012PR016' -d 'hp@AOR012PR016' -l '66‘

Turn off line wrapping:

/usr/lib/lpd/pio/etc/piochpq -q 'AOR012PR016' -d 'hp@AOR012PR016' -L '!'

PCL COMMANDS

Int String Format:

Esc=*27

Compress: Esc,”(s16.66H”

Legal: Esc,”&l3A” (after the & is a lower case L not a one)

Landscape: Esc, “&l1O”

Landscape/Compress: *27,"(s16.66H",*27,"&l1O",*27,"&l8D"

Claims Printing:

*27,"&l8C",*27,"&l2E",*27,"&a0L",*27,"&l35Z",*27,"&l-10U“

Pcl Tray Calls

Bypass Tray <ESC>&l2H

Tray 1 <ESC>&l251H

Tray 2 <ESC>&l252H

Tray 3 *27,"&l253H"

The l is a lowercase L

STEPS TO ADD A PRINTER IN CACHE

From UNIX prompt:
idxdb02]/home/lfoy> cache <enter>
%SYS> >D ^ZIDMIS

Device subtype is: C-VT220*P6
CLASS 2
TYPE 5
PAGES 6
WINDOWS
COL132
PAGE CONFIG
COLOR
NODECSEL 1
PRIMARY DA RESP ?6;
SECONDARY RESP

Override this specification? NO=> <Enter>

STEPS TO ADD A PRINTER IN CACHE CONT.

1) Add/edit/delete devices
2) Add/edit/delete subtypes
3) Add/edit/delete security codes
4) List devices and security codes
5) Purge temporary devices
6) Edit/list terminal query settings

Option: 1

Enter device mnemonic (or HELP): (Enter Printer Name Ex: ASHP4K)

Device mnemonic ASHP4K

STEPS TO ADD A PRINTER IN CACHE CONT.

Device name: /usr/bin/lpr –PASHP4K -h
Device type: TRM MT BT SPL RSP RMS LPR IPC OTH
Device subtype: P-DEC
Prompt code: 0 1 2
Security code:
Open parameters:
Auxilliary device A:
Auxilliary device B:
Temporary?
Class:
Type:
Pages:
Windows:
Columns:
Page Configuration:
Init String: (This Field determines the paper format, if blank, it defaults to printer setting)
Location: Brodie's cube/office
F7Q-Quit F10-File <HELP>-Help F11-Refresh F13-More keys
Hit F10 after entering printer information
Enter subtype name (or HELP): <Enter>

STEPS TO ADD A PRINTER IN CACHE CONT.

1) Add/edit/delete devices
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6) Edit/list terminal query settings

Option: <Enter>
%SYS>h <Enter>
[idxdb02]/home/donb>

HOW TO EDIT/DELETE/ADD/LOOKUP A PRINTER WITHIN DBMS

```
[idxusodb]/> cache -UUSO ^UDX
Your initials: idx
Select Function: 17
                    Manage Devices: Permanent
 Mnemonic       Device Name Type  SubType  Open Parameters     Location
_____________________________________________________________________

 AOR001PR001    /usr/bin/lp LPR   PK-DEC
 AOR001PR001_CF /usr/bin/lp LPR   PK-DEC
 AOR001PR001_EF /usr/bin/lp LPR   PK-DEC
 AOR001PR001_L  /usr/bin/lp LPR   PK-DEC
 AOR001PR001_LC /usr/bin/lp LPR   PK-DEC
 AOR001PR001_P  /usr/bin/lp LPR   PK-DEC
 AOR001PR001_PC /usr/bin/lp LPR   PK-DEC
 AOR001PR001_ST /usr/bin/lp LPR   PK-DEC
_____________________________________________________________________

  0  Selected  F7Q-Quit F10-OK  F15-Help  F13-More Keys <FIND>-Find
A-Add                D-Delete              E-Edit
F-Filter             L-Lookup entry        R-Reset
T-Type of Device     V-View
```

AUTOMATION OF PRINTER ADDS

Add the IP address and printer name to /etc/hosts file, but make a copy first.

- cp –p /etc/hosts /etc/hosts.old
- vi /etc/hosts
- add IP address and print name

Add the print name, ip, port, and description to the input script file

/home/prtscripts/localscripts/moreprinterqueues.txt

Remove printers currently in the file

Add new printers to the file

Example:

JTSLABEL 10.151.144.58 9100 <>

RRUCNRSE 10.151.160.80 9100 <Rio Rancho Urgent Care Nurse>

AUTOMATION OF PRINTER ADDS CONT.

Zero out the print command files add_reg_cmd
cd to /home/prtscripts/localscripts/
“ > add_reg_cmd ”

Run script add_prtsrv_queues
“ ./add_prtsrv_queues ”

Run the command files
“ ./add_reg_cmd ”

AUTOMATION OF PRINTER ADDS CONT.

The script add_prtsrv_queues contains the following information:

```
while read line
do
PORT=`echo $line|awk '{print $3}'`
if [[ $PORT = 9100 ]]
 then
  FORMQUEUE=`echo $line|awk '{print $1}'`
  CMD="/usr/lib/lpd/pio/etc/piomkjetd mkpq_jetdirect -p 'hplj-4000' -D pcl -q '$
      FORMQUEUE' -h '$FORMQUEUE' -x '9100'"
  CMD2="/usr/lib/lpd/pio/etc/piochpq -q '$FORMQUEUE' -d 'hp@$FORMQUEUE' -l '66'"
  CMD3="/usr/lib/lpd/pio/etc/piochpq -q '$FORMQUEUE' -d 'hp@$FORMQUEUE' -L '!'"
echo $CMD >> add_reg_cmd
echo $CMD2 >> add_reg_cmd
echo $CMD3 >> add_reg_cmd
 fi
done <moreprinterqueues.txt
```

AUTOMATION OF PRINTER ADDS CONT.

The file “add_reg_cmd” contains the following commands that adds the printers to the server.

/usr/lib/lpd/pio/etc/piomkjetd mkpq_jetdirect -p 'hplj-4000' -D pcl -q 'AOR012PR016' -h 'AOR012PR016' -x '9100'

/usr/lib/lpd/pio/etc/piochpq -q 'AOR012PR016' -d 'hp@AOR012PR016' -l '66'

/usr/lib/lpd/pio/etc/piochpq -q 'AOR012PR016' -d 'hp@AOR012PR016' -L '!'

AUTOMATION OF PRINTER ADDS CONT.

To add printer into Cache, the scripting language Expect is one of the most automotives ways to do so.

We use a script named add_cache_dev_P_cmd which calls another script add_cache_device_P that is an expect script to add the printers into Cache

AUTOMATION OF PRINTER ADDS CONT.

The file add_cache_dev_P_cmd contains the following:

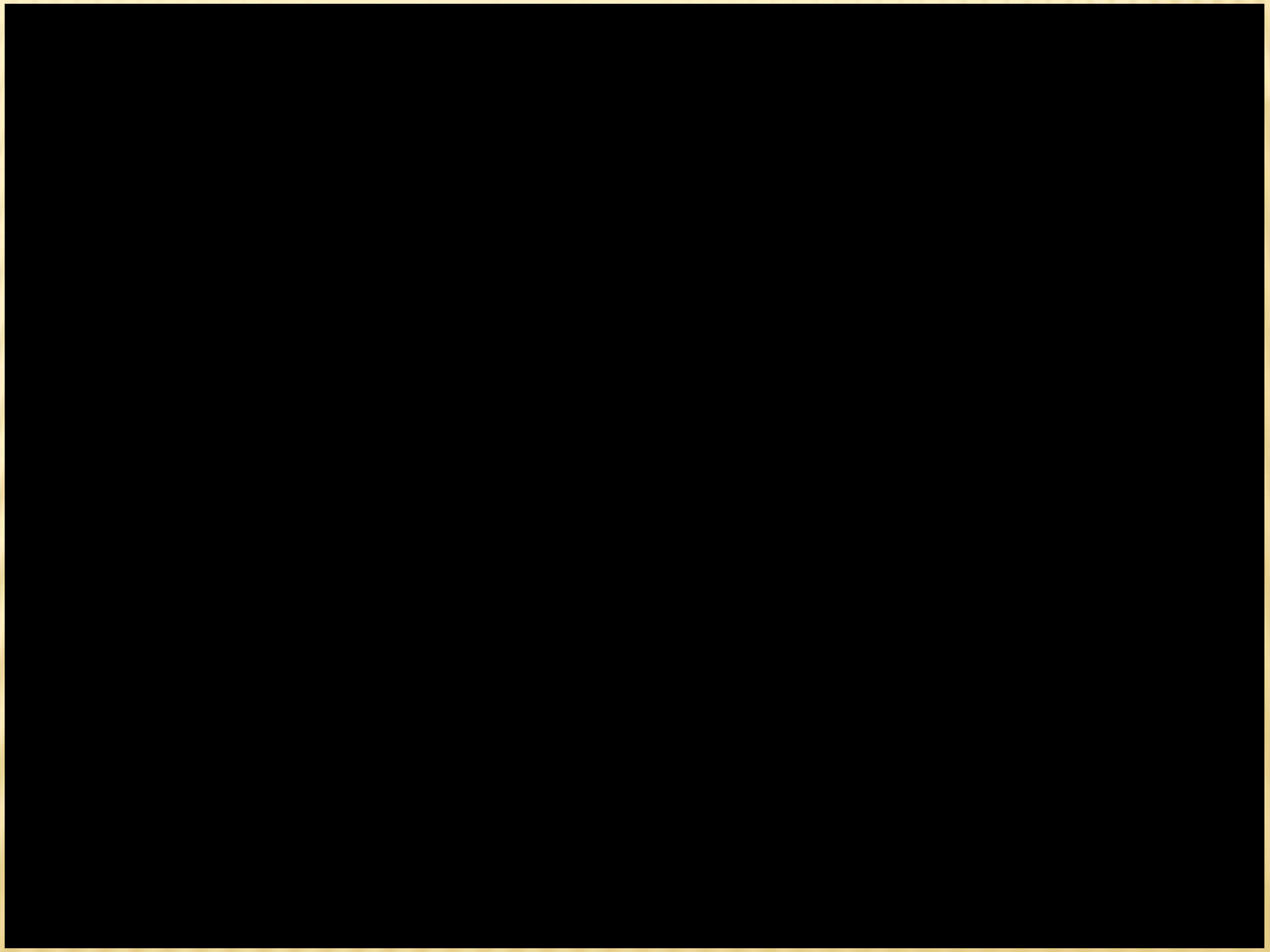
```
while read i
do
PORT=`echo $i|awk '{print $3}'`
if [[ $PORT = 9100 ]]
 then
  FORMQUEUE=`echo $i|awk '{print $1}'`
  PRINTER=`echo $i|awk '{print $1}'`
  DESCRIPT=`echo $i|cut -f2 -d "<"`
  FORMQUEUE=$FORMQUEUE\_P ## add the _P to the form queue name
newdesc=`echo $DESCRIPT|tr -d '<'`
DESCRIPT=`echo $newdesc|tr -d '>'`
./add_cache_device_P $FORMQUEUE $PRINTER $DESCRIPT
else echo $i >> non_9100a
fi
done <moreprinterqueues.txt
```

AUTOMATION OF PRINTER ADDS CONT.

File add_cache_device_P contains the following:

```
expect "%SYS>"
send -- "DO ^ZIDMIS\r"
expect "DO ^ZIDMIS\r"
send -- "\r"
expect "Terminal"
send -- "C-VT220\r"
expect "Override this
      specification? NO=> "
send -- "\r"
expect -exact "[?3l\r
\r
\r
1)  Add/edit/delete devices\r
2)  Add/edit/delete subtypes\r
3)  Add/edit/delete security
      codes\r
4)  List devices and security
      codes\r
5)  Purge temporary devices\r
6)  Edit/list terminal query
      settings\r
\r
Option: "
send -- "1\r"
expect "Enter device
      mnemonic (or HELP): "
send -- "[lrange $argv 0 0]\r"
expect " a permanent device?
      Yes=> "
send -- "YES\r"
send -- "/usr/bin/lpr -P[lrange
      $argv 1 1] -h\r"
send -- "[C"
send -- "[C"
send -- "[C"
send -- "[C"
send -- "[C"
send -- "[C"
send -- "\r"
send -- "PK-DEC\r“
send -- "\r"
send -- "\r“
send -- "\r"
send -- "\r"
send -- "\r"
send -- "\r"
send -- "\r"
send -- "\r"
send -- "\r"
send -- "\r"
send -- "\r"
send -- "\r"
send -- "\r"
send -- 0*27,"E",*27,")s2W"\r
send -- "[lrange $argv 2 $argc]\r"
send -- "\r"
send -- "[21~"
expect "Filing "
send -- "\r"
expect -exact "\r
\r
1)  Add/edit/delete devices\r
2)  Add/edit/delete subtypes\r
3)  Add/edit/delete security codes\r
4)  List devices and security codes\r
5)  Purge temporary devices\r
6)  Edit/list terminal query settings\r
\r
Option: "
send -- "\r"
expect "%SYS>"
```

VIDEO OF EXPECT SCRIPT PRINTER ADD



TROUBLESHOOTING TIPS

If a user is not able to print.

Check the status of the printers:

```
[nmdcpt03]/> lpstat -oRRFMCSC
Queue   Dev   Status    Job Files          User       PP %   Blks  Cp Rnk
------ ---- ------ --- ---------- -------- ---- -- ---- --- ---
RRFMCSC hp@RR RUNNING   446 STDIN.25493786    lovelace@i   3 100    2   1   1
```

Check to see if the printer is on the network:

```
[nmdcpt03]/> ping RRFMCSC
PING RRFMCSC: (10.151.160.60): 56 data bytes
--- RRFMCSC ping statistics ---
4 packets transmitted, 0 packets received, 100% packet loss
```

Clear print queue then check status:

```
[nmdcpt03]/> cancel RRFMCSC
[nmdcpt03]/> lpstat -oRRFMCSC
Queue   Dev   Status    Job Files          User       PP %   Blks  Cp Rnk
------ ---- ------ --- ---------- -------- ---- -- ---- --- ---
RRFMCSC hp@RR READY
```

HOW TO SEND A PRINT JOB FROM WITHIN CACHE'

The %ZIDIS will Open the device, then you can print a test string to it by using the following. When you "C IO" it will send it to the printer device.

```
[idxdb02]/home/lfoy> cache

Node: idxdb02, Instance: CACHE

%SYS>D ^%ZIDIS

Device: HPLASER26   Right margin: 132=>

%SYS>U IO W "THIS IS A TEST FROM INSIDE CACHE"

%SYS>c IO

%SYS>
```

HOW TO FIND & VIEW THE LOCATION OF A PRINT JOB TEMP FILE

```
[idxoldb]/home/lfoy> disable AMD12
[idxoldb]/home/lfoy> echo “Print your job now" | lp -dAMD12
[idxoldb]/home/lfoy> lpstat -oADM12 -t
 Queue   Dev   Status    Job     Name          From          To
                    Submitted       Rnk Pri       Blks  Cp         PP %
 ------ ----- ------- -------       --- ---      ----- --        ---- --
 ADM12   @marp DOWN
             QUEUED    300     STDIN.20578554 lfoy          lfoy
                    09/23/14 16:04:22    1  15         1   1
                         /var/spool/qdaemon/t4WapEa
 ADM12   ADM12 READY
[idxoldb]/home/lfoy> cat /var/spool/qdaemon/t4WapEa
Print Your job now
[idxoldb]/home/lfoy> enable AMD12
```

REFERENCE DOCUMENT

GE has **Printer Documentation** on the portal with the following topics

REFERENCE DOCUMENT CONT

REFERENCE WEBSITE

http://www.ahinc.com/aix/printer.htm

- Print Devices & Queues - General information
- Spool Directories - location
- chque Changes the name of a printer queue
- chquedev - Changes the name of a printer device
- chvirprt - Changes the virtual printer definition
- lpstat - Monitor print spooler
- lssrc - Display status of a spool system
- lpq - Monitor print queue
- enq - Control print jobs
- lp - Start a print job
- lpr - Start a print job
- cancel - stop a print job
- qpri - Set priority of a print job
- enscript - Converts a text file to Post Script
- pr - Control print format
- DTR - Flow control
- Remote Printing
- lsvirprt - Display attributes for a virtual printer or print queue
- lsquedev - List the name of printer queue attributes stored in /etc/qconfig
- digest - Convert **/etc/qconfig** from ASCII to binary
- startsrc -s qdaemon - Start print spooler
- stopsrc -s qdaemon - Stop print spooler
- disable - Disable a print queue
- enable - Enable a print queue
- lptest - Send a print test
- Lock Files

QUESTIONS