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A/UX: Printing to LaserWriter IINT From AT&T 3B2 (1/96)

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Revised:        1/25/96
Security:       Everyone
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Article Created: 8 August 1989
Article Reviewed/Updated: 25 January 1996

TOPIC ---

I am having a problem printing to a LaserWriter IINT from an AT&T 3B2
workstation.

I want to print from an AT&T 3B2 running System V Release 2. There are no
extensions (Berkeley or otherwise), and there are no Macintoshes and no network
involved in this configuration. I can "cat" a PostScript file through a port to
the LaserWriter IINT without problems.

When I "lp" the file through the standard AT&T spooler and the same port, the
LaserWriter IINT green light flashes for several minutes (about 3 to 5 minutes
beyond what the cat takes). The green light eventually goes to steady state
without printing anything. A check of the queue indicates that it was printed
without error; however, there is no output.

I eliminated: the cabling, XON/XOFF, data/start/stop bits, parity, the
PostScript file, the history of the LaserWriter IINT and the EEROM being set
incorrectly, and also the returned Control-D (EOF) somehow interfering as the
problem. There are no error messages or adverse log indications. I am now at
1200 baud to remove some possible problems associated with using 9600 baud.

I checked the output of the port between the cat and the LaserWriter IINT. It
appears that the LaserWriter IINT is adding or changing something. I do not
know exactly what because of the method used to observe and the lack of time to
set up for another (and more revealing) test. I can say that it is different,
and I assume this should NOT be the case.

What I don't know is:

1) Has anyone successfully connected the LaserWriter IINT to a 3B2 with a
   vanilla AT&T System 5 "lp" spool/queue (no Berkeley extensions)?

2) How does their queue script read? Can I get a copy?

3) What is there about a standard lp queue that could add to or alter the
   contents of a PostScript file passing through?

DISCUSSION ---

A/UX is AT&T System V Release 2 -- the same as the customer's AT&T 3B2 system.
If something works for the A/UX system, there should be a way to make it work
with the AT&T 3B2. Apple has successfully connected LaserWriter IINTs to A/UX
systems and used the A/UX lp print spooler. A/UX does not use the Berkeley
extensions for printing.

When printing to a PostScript device, A/UX uses a script located in
/usr/spool/lp/model/psinterface. The script used by the 3B2 should be similar,
if not identical, to the A/UX version.

The PostScript file going to the printer must have a first line that begins
with:

%!PS-Adobe-

or the LaserWriter IINT won't know what to do with it. Since using cat to send
the file directly to the printer works fine, we can assume that the original
file is OK and that the connection between the computer and the printer is
good.

An error is most likely to be introduced when the psinterface script assigns a
magic number to the file being printed. Normally, the magic number for a file
is derived from the first few characters of the file, which are then matched
against the /etc/magic file to return some information about the contents of the
file.

However, the psinterface script assigns its own magic number to the file being
printed. Psinterface cuts the first eleven characters from the file to be
printed and uses a case statement to assign a magic number to the file.
Depending on what that magic number is, psinterface does something different
with the file.

In the A/UX version of psinterface, this section of the script reads as:

case "$magic" in
%!PS-Adobe-) rev=1 ;;

Check the 3B2 version of the script and see if these lines match. If they
don't, try changing the 3B2 version to match the A/UX version.

Article Change History:
25 Jan 1996 - Changed title to reflect proper product name.
22 Aug 1995 - Made minor corrections.
08 Sep 1994 - Reviewed and reformatted.

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Tech Info Library Article Number:4052