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SNA•ps 3287: VPS Print Utility and CPI Set Problem (5/93)

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TOPIC -----

I've installed SNA•ps 3287 version 1.1.1, but I'm having a problem. If the CPI (characters per inch) VPS printer keyword is set to anything other than 0, VPS returns the following error code:

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...SEND DATA FAILED RC=04 F2=04 SNS=1005
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If CPI=0 then the SPD (set print density) SCS control code is not sent to the printer. The "VPS Installation and Operation Manual" S010-0610-3 on page 3.84 states that, "printers that support the set print density control code (SPD), but not the specific value, will cause the message above to be issued". The VPS manual goes on to say that CPI can be between 0 and 99, but that values of 10, 12, 15, and 16 are most common. It even lists which 3270 printers support which default CPI settings:

CPI	Applicable IBM 3270 printer(s)
0	all
10	3268, 4224, 4234
12	4224
15	4224, 4234
16	3268

When CPI is set to 0, no VPS errors are generated, and the print job binds and prints. When CPI=10 (or 12 or 16), the "SNS=1005 VPS error" is generated; the print job binds, a few bytes of data are sent, then the job unbinds and times out without printing. I routinely use a default CPI of 10 on my Telex 1187 line printers to print 132 characters per line.

I haven't sent a "real" SCS-savvy print job to see if a CPI=0 would work, because at that setting VPS strips any SPD (set print density) commands that the application might send. Once again the VPS Installation and Operation Manual S010-0610-3 states:

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"CPI specifies the 'characters per inch' to be printed horizontally...you can use this keyword to select the print density to be used for all
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datasets printed by VPS. VPS will then send the SCS SPD control code to the printer prior to the dataset. If the print density is not specified or is specified as 0, VPS will not send the SCS SPD control code to the printer."

What I was expecting, and couldn't find, is something like the FORMAT... item that manages the characters per inch settings. Am I overlooking something? Does SNA•ps 3287 set CPI or SPD internally?

DISCUSSION -----

We suggest that you specify VPS print to use CPI=0 for the SNA•ps 3287 LU. The definition of "CPI=" is a hardware definition parameter in the configuration of VPS print. It is done on a per LU basis (does not effect any global parameters) and the value should be set to CPI=0 for SNA•ps 3287.

The CPI setting really has very little to do with how SNA•ps 3287 ultimately prints via postscript commands to an Apple LaserWriter. The emulation is happy with a CPI=0, and internally the emulation must pick Noiro 9-point font if host formatting (default formatting) is selected.

As the print file is directed to the LaserWriter, Page Set-up is critical to the actual CPI on the output page. The default font (Noiro) size can be scaled by a percent reduction and going to landscape print mode. To print 132 characters on a 8 1/2 X 11 page, select the following in Page Set-up for SNA•ps 3287:

Landscape and 85% reduction

The output will be very crisp and readable. If you want to use a different font size, then under FORMAT in the SESSION menu, choose custom formatting and select another size font and lines per inch vertically. You will notice that CPI is not configurable because it really does not matter since the page output is scaled by Page Setup and the font size selected in the emulation.

I ran some tests with SNA•ps 3287 using Custom Formatting with several font point sizes selected. Here are the results:

- 1) With 9-point Noiro font, there were 13-14 CPI at 100% reduction in page setup.
- 2) With 9-point Noiro font, there were 26-27 CPI at 50% reduction in page setup.
- 3) With 12-point Noiro font, there were 10-11 CPI at 100% reduction in page setup.

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