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ABS Tech Note: SNA•ps05 3287 Performance Tips (4/93)

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TOPIC -----

This technical note discusses several tips to optimize the performance of SNA•ps 3287.

DISCUSSION -----

Introduction

The SNA•ps 3287 printer emulator can be configured and used in a variety of ways, depending on the behavior of your host system and applications, and your Macintosh setup. This tech note discusses several methods to help you use it as desired.

Preview Window

SNA•ps 3287 has a feature called the Preview Window that shows what the printed page will look like before it prints. However, drawing the preview window requires CPU cycles. If you don't need to preview the printer data, close the preview window and your print job will print faster.

Timeouts

Each session can have its own timeout settings, which are set via the Timeouts command on the Session menu. The default timeout setting is 30 seconds. If the host application sends an End Of Bracket signal at the end of each print job, turn on the End Of Bracket timeout, and SNA•ps 3287 won't have to wait 30 seconds to print. Some host applications are known to send an End Of Bracket after each line of data, however, which causes SNA•ps 3287 to put each line on a separate page if End Of Bracket timeout is turned on. In this case, lower the default timeout value to 10 or 15 seconds.

Memory Usage

There is a memory overhead for accumulated unprinted data because the session document keeps a small amount of information in memory for each page of data that is accumulated on disk. When available memory becomes exhausted, SNA•ps 3287 simply stops receiving data until some memory is freed by pages being printed. In order to prevent running out of memory,

increase SNA•ps 3287's memory partition size by using the Finder's Get Info command on the SNA•ps 3287 icon.

Each unprinted page takes up 512 bytes in memory (i.e. 100 pages takes approximately 50 KBytes of memory). Each connected session uses about 50 KBytes. The application itself uses 400KBytes.

Here is a formula for the amount of memory SNA•ps 3287 uses:

$$\begin{aligned} \text{Available memory} &= 400\text{K} + (50 \text{ KByte} * \text{number of sessions}) \\ &\quad + (1 \text{ KByte} * \text{number of accumulated pages}) \end{aligned}$$

SNA•ps 3287 Font Usage

The SNA•ps 3287 application disk includes a font suitcase containing the Noiro font (pronounced nwah-ro). It contains a TrueType version and several bitmap sizes. Drag it to the System Folder under System 7, or use the Font/DA Mover under System 6. Noiro, the font that SNA•ps 3287 uses by default, is monospaced, i.e. characters will line up correctly from row to row. However, unlike other monospaced fonts such as Courier and Monaco, its boldface characters are the same width as its plain characters, so that characters will still line up even if some of them are boldface.

Another benefit of Noiro is that all of its characters have correct character widths, unlike some fonts that have uneven widths for some characters, and can give overlapping characters. Noiro contains all of the characters defined in the Apple 3270 API Character Set, so any IBM CECP EBCDIC character sent from the host will be drawn correctly.

Viewing the Entire Page

To avoid experimenting with Page Setup in an attempt to fit everything on a LaserWriter page, here are some settings that have been found to work well. When using the Noiro 9-point font, a Landscape (sideways) 76% reduction will fit all 132 columns and all 66 lines on a page.

To see the entire page at once on a 640x480 monitor such as the AppleColor 13" RGB monitor, try a Landscape 150% reduction, but set the font to 6-point Noiro (150% means that the on-screen page will be blown up by 150% when printed, so it is important to use a font size that when blown up 150%, will print as 9-point). The whole page will be visible.

Viewing Text File Output

When outputting to a text file, make sure not to open the text file (from another application) while SNA•ps 3287 is still using it. Otherwise the other application may give an error message about the file being locked or in use, or may not display the data correctly. To open the text file from another application, make sure SNA•ps 3287 doesn't have the file open. Do this by either closing the SNA•ps 3287 session that was using the text file, or changing the session so that it outputs to a different text file, to the printer, or to the preview window only.

Background Printing and Direct-Connect Printers

Because SNA•ps 3287 is a printer emulator, it doesn't print the same way as a typical Macintosh application. As mentioned in the "Timeouts" section above, it opens a connection to the printer for the duration of a print job. To prevent the user from doing anything while printing to a "foreground" printer like the ImageWriter, SNA•ps 3287 puts up a "Press command-period to cancel printing" dialog for the duration of a print job. This prevents using the Chooser or other applications that might cause problems during printing.

There is no way for SNA•ps 3287 to determine whether the chosen printer is performing foreground printing like the ImageWriter. What can legitimately be determined is whether the chosen printer's driver is for a networked printer or a direct-connect printer. Therefore, SNA•ps 3287 looks at the printer driver's file type. Unfortunately, with the LaserWriter LS, which is a direct-connect printer but supports background printing, the dialog appears even though it's not necessary.

SNA•ps v1.1.1 Changes

The interface to the Macintosh Printing Manager was modified so that the entire print job is now printed modally, with background printer spoolers such as PrintMonitor providing optimal response time. Previously, the connection to the Printing Manager was established as soon as the session had data to print, and not closed until the print job timed out (a potentially long interval); The change in 1.1.1 is to wait until the job times out, and then open the Printing Manager connection, print the entire job, and close the connection. This eliminates the long interval during which the Printing Manager connection was kept open on direct-connect printers even if they supported print spooling.

The default timeout setting was changed to include a 200 page timeout limit. At the default memory size of 512K, SNA•ps 3287 can guarantee having enough memory to accumulate and then print 200 pages without running out of memory. The changed Printing Manager interface means that SNA•ps 3287 can accumulate data until an entire job has arrived (as opposed to printing each page as it arrives). The new default setting simply guarantees that SNA•ps 3287 can be installed and used without fine-tuning the timeout settings even if print jobs arrive continuously.

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