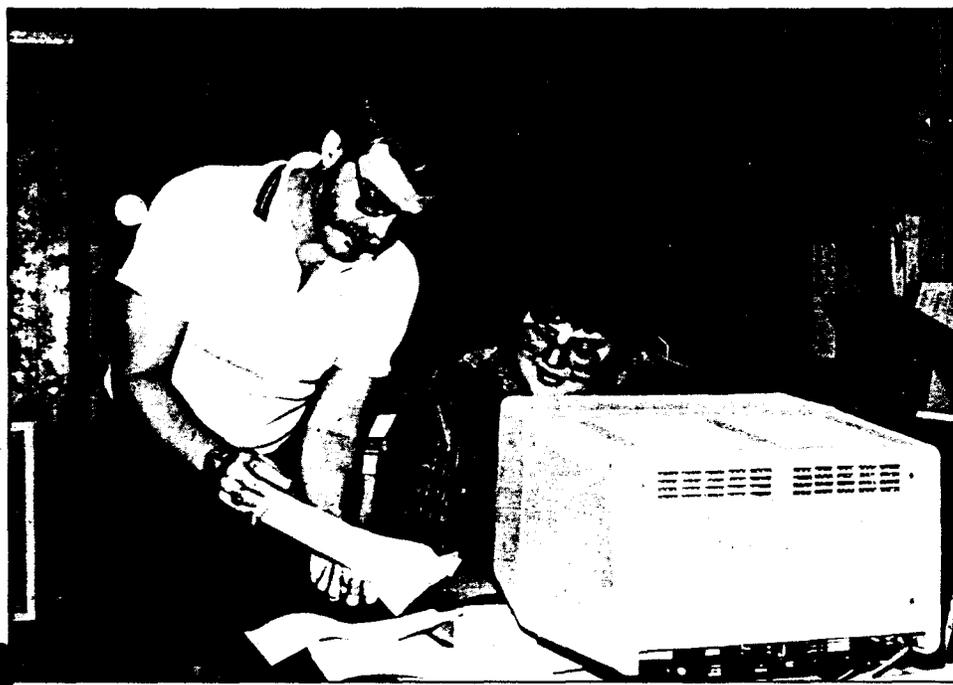# 90/30 TO SYSTEM 80 CONVERSION

Morris Bean & Co. data processing center.

What exactly is involved in the conversion from a SPERRY UNIVAC 90/30 to a SYSTEM 80? Rick Ruggles of Morris Bean and Co., in Yellowsprings, Oh., gives the following insights.

By RICK RUGGLES

First you should know the environment we are coming from so you can judge my comments. In the past five years the 90/30 has grown from a 65K, two-drive single density system to 262K, three-drive double density, with five terminals running IMS. Ours was a six-person operation before the economic slow down, now we have five people. The system is up 24-hours-a-day with utilization of only about 30 percent. We run 24 hours-a-day because it is necessary to have daily reports from the previous days activity in users' hands by 7 a.m. the next day. Also some program development goes on until 11:00 m.

The System 80 was chosen because the conversion would be the easiest possible; we did not want to learn a new system, and the price was right, about 20 percent less. Because our utilization is relatively low, we could handle the 80 being a little slower than the 90/30. (My best guess is 20 percent slower.) The 80 Model 5 consists of 1 meg, three 8417's (doubles the 8418 capacity), one 8419,0789 printer, two workstations plus the UTS-400's we moved over from the 90/30. The software is at Release 7.1 with SMC B7E installed.

FROM EXPERIENCE

We converted the COBOL-68 to COBOL-74 on the 90/30 so that would lessen the changes at machine change over. The only change to the 80, assuming the 90/30 used SAM & ISAM files, is to change ORGANIZATN to sequential or indexed.

This brings up a big consideration in file handling. The 80 (MIRAM) assumes the file will be EXTENDed unless the LFD has INIT. This holds true for RPG and BAL, but not for COBOL which gets its main direction from the OPEN verb. The OPEN OUTPUT takes precedence over the JCL. The OPEN EXTEND takes precedence unless the LFD is INIT which over rides the COBOL OPEN. You *must* use INIT for RPG and BAL when creating a new file. For COBOL usually the OPEN will do the trick.

Note that on the 90/30 an LFD with INIT for an input file would do no harm, but on the 80 the file will be initialized when opened, resulting in an empty file. This is not true for COBOL if OPEN INPUT is used. For the proc that declares TEMPorary files (TEMPn) the problem of file reuse raises it's head. This is to say that if you create and use TEMP1 and then output to that file again it will be extended, something you may not want. The solution is to add a keyword parameter to the proc to indicate that the file should be INITed. I should say that the preceding problem is the worst we have faced, and knowing it ahead of time would have saved frustration.

Dump/restore has an enhancement that allows the input and output files to be different names. When dumping a 8417 to 8419 a file must be allocated that will hold *all* of the files dumped. This means that only dump/restore can retrieve data from that file and if multiply files are restored they must be done in the same order. Consider it a tape file that was sequentially created. Therefore if you forget the dump order, probability multiple passes would be needed to get all the files you need. The 8417 to 8417 dump allows normal restoring or your reading the dumped files directly.

Very few of the DD statements are documented for the 80. The BKSZ and RCSZ are notable in their absence. The OPNORWD and CLNORWD are likewise missing but they seem to work.

For those of us that did not have an editor on the 90/30 it surely is handy and leads the way to a cardless system. It can even read non-library files. It is convenient to read and selectively display data files without going to the printer. The problem is that you get so used to writing back the library elements and have it automatically erase the old element, that on data files you forget to say EXT = NO or INIT = YES which results in the file being extended and now you have twice the data!

Another ability is to show the library directory or only those that start with a

particular character sequence. Too bad it is not a full screen editor. This is a good place to note that the librarian (LIBS) does not have the ESC that allows you the read commands and data from a sequential file.

IMS is a very easy conversion. In the configuration the DTF'S are now RIB'S. This is where the speed really shows up when someone is at the terminal waiting. We have an indexed file that is periodically read from beginning to end. It consists of 900 records, 50 characters each with a 29-byte key. The 90/30 did all 900 in about 15 seconds. The 80 takes 75 seconds. The normal processing which is mainly random reads seem to be about the same speed. The problem with file sharing in a multiple update/add is resolved with ACCESS = SADD which allows IMS and a batch program to both update/add to the same file. The DD RECV = YES at file creation provides future automatic checking for file compromise. You can use the SORT and DD RECV = FCE to possibly recover a compromised file. If an IMS file uses ACCESS = EXCR and a batch job tries to open that file with EXCR the 90/30 gives you a DM88. For an IMS file you would do a ZZCLS and then a ZZOPN after the batch is done. The 80 does not give any automatic indication but a DI JS,jobname will indicate the job waiting for a file lock. Note that the default now for RPG and BAL is ACCESS = EXC.

When we went to run payroll checks we really got a surprise, the checks were *too* wide. How could that be? We do not print over 132 but the left side of the check has about 2½ inches from the tractor holes to the first print position. The 789 allows only 1½ inches clearance on either side of the actual printing.

The 719 card reader has switch in the bottom of the input hopper and anytime there are no cards in the hopper the reader goes off-line. Putting in data cards requires the operator to start the job, load the reader and press the start button when the system says the reader is off-line. Our solution was to tape the switch down and always have at least one or two extra cards behind the /* or // FIN. The system always thinks its ready and you can load cards as you did on the 90/30 and also use it as a "hot" reader.

There are some interactive commands (used from the console or workstation) that allow you to erase library elements and entire files. Allocating a new file can also be the same way.

For long running jobs the last indication of where it was may roll off the screen.

The console command STA J gives you the status of all jobs as to job name, memory size, step#, and program name.

The diskettes are convenient devices for storing data.

The reader can handle the single sided, single density and the double sided, double density.

A diskette for double sided has the index hole about ½ inch further to the right.

The single can hold about 300,000 bytes and is termed DATA SET LABEL (DSL). The double can hold about 1,100,000 bytes and is termed FORMAT LABEL. The double can be treated as if it were a disc, that is to say it can have multiple files, non-indexed and/or indexed. We were able to read and write a single sided diskette that a TRS-80 Model II could also read and write.