SESSION REPORT

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MVS FOR SMALL SYSTEMS USERS

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INTRODUCTION

The University of Windsor is a small university with some 8,500 full-time and 4,500 part-time students. Almost all academic and administrative computing is performed in one data processing centre run by the Computer Centre department that is open seven days a week, twenty-four hours a day.

The Computer Centre is a small to intermediate size MVS user. This paper will describe the hardware and software environment in the Computer Centre, our experience with MVS, and our concerns as a small MVS user.

ENVIRONMENT

We currently have two IBM 3031's, one with 5 megabytes and the other one with 8 megabytes of memory. They each have three strings of DASD, all 3350 technology except one string of 3330-11's which can be sharable but normally is not. Disk storage is limited; for one CPU we have 4,400 megabytes, whereas the other contains 4,800 megabytes. Both CPU's share six tape drives, all unit record equipment (3 printers, 2 readers and 1 punch), and a 3705/06 communications controller for some 200 ASCII terminals. Each CPU has a dedicated 3274 to support some 50 3270-type terminals.

The 3031-5 operates with MVT under VM/SP. The 3031-8 runs with MVS/SP 1.3 in native mode. We are in our last stages of an MVT to MVS conversion which should be completed by the end of the year. At that time, both CPU's will run MVS/SP 1.3, with plans for the larger machine to run under VM/SP.

Come September, the MVS machine will support 15 CICS terminals for a Registrar's system, 15 TSO/SPF terminals for staff program development, some 60 to 80 concurrent WYLBUR (ASCII) terminals for our academic community, as well as a half dozen batch initiators. Currently, the WYLBUR terminals and half the batch initiators are not being supported under MVS. They are presently on the 3031-5 under MVT along with 30 data base terminals, more WYLBUR terminals, and other batch initiators.

The 3031-8 was installed this summer. Before that time, the 3031-5 ran VM/SP with MVT as the favoured production virtual machine, and MVS/SP 1.3 as a 'quasi-production' system. This was done only to expedite the conversion to MVS, and it is not a recommended practice.

MVS USER EXPERIENCE

Currently, the 3031-8 supporting CICS, TSO/SPF and batch initiators runs very well. The terminal response time is excellent. Paging is at a minimum. But when we tried the same functions on the 3031-5, the batch initiators affected the terminal response times quite dramatically. But we feel we could have improved the situation somewhat if the disks were not so limited and would have been set up just for that MVS system, not for VM and MVT as well. The difference of 3 megabytes of real memory was significantly apparent to us as well. Come September, when we add all the concurrent WYLBUR terminals to MVS on the 3031-8 system, we feel we will have to back off most of the batch initiators during the day shift to achieve good on-line response. As well, our on-line usage is not only from 9AM - 5PM, since the students use the WYLBUR terminals around the clock. To achieve good on-line response, some other users, normally batch, must be cut back.

When we ran both MVT and MVS under VM on the 3031-5, the on-line response on MVS was terrible. Two major factors affected this: we favoured MVT as our production machine, and we could not run MVS in a V=R environment since we only had 5 megabytes of real memory. Once we tried running MVS in a 4 megabyte V=R area, which allowed fairly good response on the MVS side, but MVT died.

CONCERNS AS A SMALL USER

As a small MVS user, I feel we have some unique concerns that are not always shared by the larger MVS users. I would like to outline some of them below.

In our installation, our budget is not always sufficient for our requirements. That could be true in most installations, but in smaller shops the percentage of the data processing budget required for software would always be higher than a larger installation, since basically all the same software is required. Because of this, either we do not always acquire the software we should have, or we support 'home-grown' or 'free' software which requires more maintenance. As an example, IBM over the last few years has added different program products to the full MVS IPO system. In themselves, some of these products are not that expensive and most large installations already have them. But in our case, each time we have to justify this new product. Currently, we use a segmented IPO, not the full IPO, because of this. As well, monies to send technical staff on courses and to make a regular commitment to conferences we should be attending is a problem.

Each systems programmer in a small MVS shop usually is responsible for the support of many different systems or products. There is not a situation where one or two people or even a group can specialize in a specific area. In this way, there is very little backup for a person, if any. It is very difficult to free staff for new projects because they are too busy, and if a programmer leaves, the shop usually is in difficulty for a given period of time. The software environment can also be just as complex as in larger MVS shops. These complex smaller shops may have more manpower than some other smaller shops, but here each individual is heavily relied on to support multiple systems as well.

Tuning an MVS system for a small user is different than for a large user. You have similar tuning concerns, but in a small shop you do not normally have all the tuning aids and monitors. Also, you do not have the luxury to dedicate volumes for swapping and paging. Usually you are restricted by a limited amount of DASD to perform the proper reconfigurations that you would like to make.

These are some of the concerns I have come across as a small MVS user.

CONCLUSION

In conclusion, we feel that MVS can run quite well on a 3031 CPU, but like any other CPU that MVS runs on, MVS' performance is very dependent on the amount of real memory the computer has and the amount of DASD available to properly lay out paging and swapping data sets, and application volumes. Without sufficient memory and with a limited amount of DASD, we found that we have to restrict the use of the computer resources, especially during the prime shift when you are trying to provide an acceptable on-line response for your terminal users. We have had to cut back on our batch users to provide this response. This implies execution of their jobs during off-shifts and a reduction in the number of jobs submitted.

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