

ACM is attempting to encourage and maintain greater participation in the various standardization activities which are related to the areas of professional interest of the ACM membership. The main thrust of this activity will be to provide direct communication to interested members about standards activities at an early date, and provide an easy means for direct input to standardization activities during the development phase.

The focal point for such activities within ACM will be the SIGs and SICs as the bodies primarily responsible for concentration of technical activities. Elliott C. Nohr has been appointed liaison representative from the SIG/SIC committee to the ACM Standards committee, with the goals of encouraging active participation of the ACM membership in the standardization process, by involving the SIGs and SICs more directly in that process, and of providing communication paths to insure that the ACM Standards Committee can obtain the technical evaluations of proposed standards needed to help determine the ACM position on issues coming before the committee.

Although there are no USASI subcommittees devoted to management standards as such, members of SICCOSIM who participate on such subcommittees are encouraged to report their activities to the editor for inclusion in the Newsletter.

Evaluating EDP Operations *

By Terry Miller

THE advent of computers with sophisticated operating systems is making most computer operations managers aware of the importance of good operations personnel in the overall computer system. Any computer system requires systems analysis, programming and computer operations. Each segment is equally important, and a failure in any of them can be disastrous.

Unfortunately, many companies and certain segments of the Federal Government have been slow to give equal partnership in this triumvirate to computer operations personnel! The fact that operations have been the forgotten segment is reflected in generally lower salaries, lower entrance levels, deficiencies in training and lessened advancement opportunities as compared to the systems and programming fields.

While new operating systems may make the operator less of a card, tape or disc handler than before, the concept of the job is changing with the addition of new planning functions. Thus, there is a need in the field to reclassify operations positions to ensure professional standards and development. This is necessary because all computer installations need to ensure maximum output of programmers and maximum utilization of hardware.

Inevitably, installations find that the fast new machine is being used around the clock. It is easy in operations to blame this on workload. However, operations personnel

must look at, and analyze, both staff and workload.

In examining their computer time problem, the staff should first ensure that certain critical observations are made. All new jobs should be examined to ensure that the most profitable jobs are installed in order of the payoff priority. This avoids loading the machine with marginal functions.

All reruns should be examined with the view that in each instance a lesson can be derived and possible procedural improvements made.

Scheduling must be given a great deal of thought so that the system has a high degree of concurrent operations.

Finished form

All new jobs accepted for production should be placed on the machine in finished form. This includes chaining all runs to call the successor and allocating facilities for a minimum of tape changing or plugboard manipulation. Production series should have item counts, extensive program error

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checks and built-in jettison facilities for all conceivable catastrophic error conditions. This will eliminate much of the cause for reruns.

Production schedules should be periodically reviewed and perhaps adjusted for changes in priorities and volumes of input. A job run with small input often requires considerably more tape passing time than the same job with much more input.

Operations must constantly search for or revise utility routines to allow more effective debugging time or correcting frequently encountered snags. Each system must be checked to ensure that recovery is possible in the event that any tape in the system cannot be reread.

The programing operations, both in-house and open-shop, must be controlled to ensure that someone is not wastefully employing the wrong language on a job (i.e., Fortran rather than assembly language).

When management changes to a new system, in many instances the operations staff is in an ideal position to assist the systems people with new production systems design. This is because the operating systems are complex and often not understood by systems analysts as well as they should be. This means that systems, programing and operations should all play a part in the original systems design. How often does a new sys-

tem go into production and then have to be changed for operational efficiency?

Greater burden

The trend for today's programmers to use higher level languages such as Fortran and Cobol, combined with the requirements of new operating systems designed to increase machine efficiency, place a greater burden on operations personnel. The former means, generally, that debugging is taken out of the hands of programmers and performed instead by operations personnel. This saves time and permits more effective scheduling.

In many instances today the programmer could not debug a program himself even if he desired, because new programmers no longer know how to operate the machine. Another problem is that programmers no longer know source coding and hence could not correct a malfunction on the spot. This means that a sharp operations person must be able to determine if a program hang-up is the fault of the system or of the program. He must be able to describe the problem correctly for the programmer, and do so quickly.

The true test of an operator's skill is not routine production work, but how well he can handle the debugging process and the unusual occurrence in a production cycle. When a production series runs into trouble, the skilled operator can often retrieve a run

which, if blown, may require considerable rerun time. Thus, if you pay such an operator a 20 percent higher salary, your organization is more than repaid by the amount of machine efficiency achieved.

If, on the other hand, operations is not looked on as a desirable career, but only as a stepping stone to programing and systems or as a dead end, then undue operations problems, backlogs and bottlenecks, due to the quality of the people you can retain, are likely to occur.

Professional view

Thus, the third generation of computers has brought about a situation where part of the original programing function is being transferred to operations (the debugging process), and where the system payoff is much more dependent on efficient operational planning than in older systems. This makes it imperative to view operations as a professional field with attendant salary, training and promotion advantages. ■

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