



STANFORD
MEDICAL
CENTER

Computing Newsletter

Published Irregularly by the ACME Staff

Vol. 6, No. 7

November 18, 1971

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1. Performance Tests on New Bulk Core

A timing analysis comparing system performance with our newly installed Ampex core against performance under the IBM bulk core has been completed. The results of the study are summarized below. A detailed report will be published as ACME Note WCTR. The new core is currently undergoing a 30-day acceptance test period.

It has been confirmed that the Ampex core does run with a 2.5 microsecond cycle time. Fixed point operations execute 2 to 3 times faster; floating point operations roughly 1 1/2 times faster than in 8 microsecond core.

Total time savings is heavily dependent upon the nature of a PL/ACME program. Terminal-bound or otherwise I/O dependent programs will see little increase in execution speed. Compute-bound programs may execute as much as 2 1/2 times faster.

The time slice allocated to each executing program remains as before. Thus terminal response time will in many cases be the same, but since more computation is possible within each time slice, total execution time for a program will decrease. A sample of PL/ACME programs executes from 18 to 60% faster. The average was 36.5%.

While some improvement is realized for disk file operations, the gain may be unnoticed due to the yield to the commutator (other users) at the start of each I/O operation and the resultant wait by a user until his turn again arrives.

The maximum 1800/360 transmission rate has increased by about 15%. A greater increase was not expected since the 360 communications program had already been located in 2 microsecond core.

2. New Text Editing Features

ACME text editing features have been augmented with the addition of two new commands -- LIST and CHANGE -- together with a few minor changes to the operation of the MODIFY and DELETE commands.

LIST serves two functions. First, it duplicates the PUT TEXT command. Second, the syntax:

LIST 3 to 13 @LOOKUP1@LOOKUP2! is allowed and means that only those lines which contain each of the LOOKUP-fields are printed. This command has NOTEXT (linenumber only) and CLEAN (no linenumber) options available:

```
LIST CLEAN 4!
```

CHANGE is essentially identical to MODIFY except that the altered lines are printed and put into the file without prompting. It has NOTEXT, NOLIST, and CLEAN options:

```
CHANGE NOLIST 7 @OLD@NEW!
```

Among the minor changes are:

- (1) For all the editing commands, the first line in a range (LN TO LN2) need not exist.
- (2) "ALL" stands for ".001 TO 9999.99".
- (3) If no lines are in a range or no matches are in a range, an error message is generated.

See new ACME Note LM-5 for complete description.

3. ACME Program Library DATACOPY: Reproducing a Complete or Partial Data File

DATACOPY reproduces a data file or will copy a part of a file into another location of another file for cosmetic purposes. At the conclusion of a copy cycle, COPYDATA will show you the number of records copied and the last record number written, and then prompt "Continue COPYDATA with files (in, out, both, diff, or no) = ?" to which you can cause a new referral to the present input or output files or both or different input/output set without the need of restarting the program. If no further work on the files, so state, and the program will stop. See ACME Note EDQ for more information.

4. Realtime EVENT Function

A PL/ACME function is now provided whereby a program can determine if input has been received from a realtime device. Ordinarily, if no input has been transmitted to the 360 from a device connected to the 1800 or PDP-11, a PL/ACME program will wait at the CALL READ or READSTR statement until input data has been received. No further processing or interrogation of other devices is possible until the read is satisfied. EVENT provides a simple way by which you can check multiple input devices and issue the CALL READ only when a buffer has been filled. See ACME Note UEVT for details.

5. User Tape Services

A few changes have been made to the user tape dump service.

A large tape rack has been installed in the ACME machine room. It is intended as permanent storage space for user tapes and as temporary storage for tapes whose job requests are in process.

If your tape is in the input rack in the user area, then no job has been submitted by an ACME programmer for your request. A tape is placed in the output rack only when the job has been completed and checked for accuracy.

If you wish you may give your tapes to the ACME operator who will log and place them in the storage rack. We recommend that you do so because several tapes have been damaged apparently due to an inadequate storage environment.

6. New Character String Function

A new function CAPSONLY provides the features of CAPTTALS as well as a cleanup of the given string. This cleanup eliminates all characters that are not alphabetic or numeric.

Example:

```
      CAPSONLY(' Auro my-cin. ')
gives      'AUROMYCIN'
```

This function can be useful to establish normalized versions of names in files and file lookups.

7. Names of PUBLIC Programs

All names of programs on the PUBLIC file are now in capitals. Because of that the name specified in a PROGRAM xyz PUBLIC statement will be internally automatically capitalized so that the programs can be requested spelled in lower or uppercase characters, similar to the way that ACME now allows sub-routines to be referenced.

8. New Information on LOGOFF

The LOGOFF message has been modified to show the number of times that a time slice has been used. This number is equivalent to the number of times the green light blinks, except that due to the relative slowness of transmission green lights are frequently missed. After the count, a percentage appears which shows how many of the available time slices this represented. Fewer time slices will be available during busy hours, but the figure is mainly a measure of how intensive the usage of the processor portion of the ACME computer was.

9. Tape Pickup Reminder

There are input and output racks for tapes in the ACME machine room (S101). ACME is not responsible for lost tapes. If you have requested any dumping or restoring of files onto tape, please be sure to pick up your tape from the racks about three days after you have turned in your request.

10. New and Updated ACME Notes Since Last Newsletter

New:

- EDQ-1 ACME Program Library DATACOPY: Reproducing a Complete or Partial Data File (G. Wiederhold), November 15, 1971.
- EIRP-1 Information Retrieval Program (Radiation Therapy Department) (J. Hu), November 18, 1971.
- KB-1 Using the Beehive Terminals on ACME (G. Wiederhold), November 19, 1971.

Revised:

- AFE-12 IBM Field Engineering (F.E.), Data Processing (D.P.) and Office Products (O.P.) Divisions (C. Wiley), November 5, 1971.
- CPT-3 Using the Paper Tape Punch and Reader (L. Hundley), November 12, 1971.
- CT-15 ACME Terminal Listing (C. Class), November 1, 1971.
- FA-7 ACME File System -- Data Sets (R. Frey), November 18, 1971.
- KL-5 Tables in ACME Dependent on System Parameters (S. Girardi/G. Wiederhold), November 15, 1971.
- LM-5 Edit Commands (J. Berman), November 19, 1971.
- NC-8 Character String Storage Organization and Handling (G. Breitbard/G. Wiederhold), November 12, 1971.
- OR-13 Procedure for Writing File Restore Tapes (C. Class), November 15, 1971.
- PR-10 Prologue (C. Granieri/G. Wiederhold), November 12, 1971.
- WYD-4 ACME Subroutine YIELD to Commutator: Subroutine YSET - Set ENTRY2 (D. Cummins/C. Granieri), November 15, 1971.