

10. COMPUTER STATISTICS  
IBM SYSTEMS 10/8/81 - 6/9 81

Weekly availability is uptime/168.  
MVT availability is based on 40% contributions from each 195 and 20% from the 3032.

SYSTEM AVAILABILITY

MVT - 83.5%, CMS - 85.1%, ELECTRIC 84.1%.

MVT THROUGHPUT

Average jobs/week 12611  
Average CPU hrs/week 198

TERMINAL SYSTEM USERS

CMS ELECTRIC  
Registered users 542 1267  
Active users 199 548

SERVICE LEVELS

Percentage of prime shift short jobs not turned round inside guideline:  
MVT Batch Core size P12 P10 P8

0 - 210K 6.0 9.9 4.6  
212K - 350K - 4.8 3.4  
352K - 560K - 2.9 3.7

TERMINAL SYSTEMS

Response to trivial command during peak period:

CMS Week 1 Week 2 Week 3 Week 4

% < 1 sec 99.8 100 99.8 99.9  
% < 3 secs 100 100 99.9 100  
ELECTRIC

% < 2 secs 55.7 63.0 69.6 77.5  
% < 5 secs 74.9 80.9 86.1 89.1

USAGE FOR CURRENT FINANCIAL YEAR - 23 weeks to date

Board	MVT 195hrs	ELECTRIC AUS	CMS AUS
ASR	330	395	47
Engineering	397	203	11
Nuclear Physics	3245	3157	965
Science	756	1087	458
Central Funding	94	531	3065 *
NERC	78	248	175
External	83	364	32
TOTAL	4983	5985	4753

\* This entry includes usage due to "service" machines which are strictly an overhead function and will be accounted separately.

ICF SYSTEMS

AU USAGE BY BOARD - periods 8104-8109

Board	Prime	GEC	DEC-10	TOTAL
ASR	95	159	22	276
Engineering	6170	2570	3130	11870
Nuclear Physics	0	1	0	1
Science	122	67	955	1144
Central Funding	4199	823	2415	7437
External	178	79	128	385
TOTAL	10764	3699	6650	21113

11. INDEX

List of articles in FORUM 13, 14 and 15

- 13.1 The 'SERC-NERC' networks
- 13.2 GENSTAT newsletter
- 13.3 CAD 82
- 13.4 Compeda's DRAGON
- 13.5 Jiffy bags
- 13.6 Upgraded sites meeting, 4/6/81
- 13.7 CMS-DISK, Users command list
- 13.8 Hitch hiker's guide to SRCNET
- 13.9 Interactive computer graphics course, Sept 81
- 13.10 IBM computer usage
- 14.1 Meeting notes of CCR meeting, 13/7/81
- 14.3 Computer statistics
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- 15.2 Questions raised at CCR Meeting, 13/7/81
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Newsletter of the SERC Central Computing Facility

No. 16 October 1981

1. INTRODUCTION

The last four FORUMS ( or should it be FORA? ) have been produced to our new monthly schedule and the last two have included some statistics. However, as with most such newsletters it is difficult to know whether the information inserted is of the right kind or pitched at the right level. It is tempting to assume that "no comment" implies perfection, but it could be an indication of something less! Since most of you, the users, have access to one of our systems which provides POST facilities to User Interface, we would like to hear from you on the subject, even if it is a mere "it's all right".

In addition we believe it would be helpful to publish letters from users. In order to do that, of course, we have to receive some! Again, automatic means of communicating with us are available and can be used for such a purpose. Our level of service in general can only be improved if our main method of contacting all our users is a two-way process.

2. CHANGES AT RAL

Dr G H Stafford CBE FRS relinquished his post as Director General of the Rutherford and Appleton Laboratories on 30 September 1981. With the completion of the merging of the two Laboratories, the RAL will in future be known as the Rutherford Appleton Laboratory. Dr G Manning will be the Director and Professor J T Houghton has been appointed as the Deputy Director with the title Director Appleton. Within the RAL there are now Associate Directors, each responsible for areas of work funded by the various SERC Boards. Professor Houghton will be responsible for the programmes funded by the Astronomy, Space and Radio Board within the Laboratory. Dr D B Thomas will be responsible for those of the Engineering Board and Dr J J Thresher for those of the Nuclear Physics Board. For the time being Dr Manning will be responsible for the programmes of the Science Board and for the Laboratory's technical services, including computing.

These changes have come into effect from the beginning of October 1981. They principally affect the manner in which communication between the RAL

and the Central Office is handled. Users of the computing facilities managed by RAL, whether IBM MVT batch, IBM CMS, or SERC ICF, should continue to deal with the Computing Division as hitherto.

3. CENTRAL COMPUTER PROCUREMENT

FORUM 14 gave a brief note on the Computer Review Working Party Report and its recommendations for the replacement of the Central Computers at Rutherford Appleton Laboratory. An Operational Requirement has now been produced for the central computer replacement plan. Essentially it proposes:

1. An IBM-compatible system which can handle at least the batch load currently run on both our 360/195s. This would enable the 360/195s to be replaced and in time a move made to manufacturer-supported Operating Software (MVS).
2. An IBM-compatible system to replace the 3032 by a product which is at least 1.5 times the power and which is upgradeable. This would enable the front-end service to be extended and MVS development to begin.

The SERC Central Computing Committee has agreed that an invitation to tender, based on this requirement, should be issued as soon as possible. Although the Five Year Forward Look makes no significant finance available until April 1983, the replacement programme will be brought forward if any funds can be made available before this time. A development plan for the transition to the MVS system will be produced early next year and this will begin as soon as suitable hardware can be installed.

4. IBM VS FORTRAN PROGRAM

The IBM VS Fortran Compiler (Release 1.0) has been installed on CMS. This compiler contains support for the ANSI Fortran standard known as Fortran 77. The compiler contains an option to indicate deviations from the ANSI standard and also has the capability of compiling programs written in the

Fortran 66 standard (set compiler option LANGVL(66)).

As the compiler requires a very large amount of virtual storage, it can only be run in the CMSBATCH virtual machine at present. It is hoped to be able to run the compiler in users' own machines eventually, after some software modification has taken place.

To invoke the VS Fortran compiler use the BATCH EXEC as follows: BATCH fn (FORTVS)

See HELP BATCH for full details of the BATCH EXEC. Details of the compiler options available can be found in HELP FORTVS. A new system library containing I/O routines etc must be connected to your machine at LOAD time. This library is called VFORTLIB. It is connected to a user machine via GLOBAL TXLIB VFORTLIB CMSLIB etc and must be used instead of the old Fortran library FORTLIB. Note that the libraries are not interchangeable. Additional libraries such as MACLIB and RHELIB etc can be used in their present form.

A complete set of reference documentation for this compiler and library is available in the Program Advisory Office. Compilation messages are prefixed with the code IFX and are considered to be self-explanatory. Library messages are prefixed with the code IFY and are again self-explanatory in most cases.

The compiler as delivered by IBM does not support any optimisation levels (NOOPTIMIZE only permitted). It is expected that a compiler supporting at least some of the optimisation levels will be available during the last quarter of 1981.

A list of suspected bugs discovered by CERN and RAL in this compiler can be found by issuing the command NEWS FORTVS.

The compiler and library have been tested under MVT at RAL and found to work but the compiler required a large region. It is not designed for running under MVT. Consequently it has been decided not to provide this compiler under MVT at the moment, particularly as it contains no optimisation levels. It may be possible under MVT to license the library only if users consider this a requirement.

5. EXTRACT FROM MINUTES OF PRIME USER MEETING HELD AT ATLAS CENTRE 3/9/81

A meeting of user representatives was held at RAL on 3 September 1981 and the following items from the minutes may be of interest to readers.

Reorganisation of the ICF

A new committee structure has been implemented. The Central Computing Committee is now responsible for all hardware on all machines while the Engineering Committee handles all application software. C M Trowbridge is the RAL representative. UMIST is now in charge of PRIME User Support Services.

User Support

UMIST have now taken over Central Support for PRIME computers. All queries at each site are entered into a local GRIPE file held in NEWS. The site manager provides first line support for these queries and UMIST access the GRIPE file weekly to answer unsolved problems. This method provides UMIST with an overall view of the types of problems arising, highlighting where improvements in documentation on the system could be made. A representative from UMIST is prepared to come out on call to a site and normally tries to visit each site at least twice a year. Documentation is now prepared by UMIST. They are currently writing PRIME manual version 5 and updating the HELP system which should be ready by the release of REV 18. UMIST are prepared to run courses for users, such as the Advanced Fortran course held at RAL in May. Information about courses are supplied in the UMIST newsletter. It is proposed that relevant items from the newsletter and details of courses should be inserted in FORUM in future.

Systems

Most sites now run a version of PRIMOS REV 17.3. REV 18 should be available in 2-3 months but is awaiting the manpower to test it. The most noticeable change will be the introduction of CPL - the new Command Processing Language to replace the Macro system. For the first year MACRO and CPL will run in parallel but MACRO will not be supported from REV 18. Documentation about CPL will be available to users on request and will replace the MACRO scheme in the manual.

A new file naming convention will be introduced at REV 18 and documentation is available on request. There will be an increase in memory from 1 October for all PRIME 750s to 2 Mbytes and all PRIME 400s and PRIME 550s will be increased to 0.75 Mbytes. SOFTWARE TOOLS will be purchased for any site requesting it. It runs with PRIMOS and has a screen editor for suitable terminals. It behaves like UNIX shell.

Batch jobs running on PRIME A and PRIME B at RAL and on UMIST PRIME will be charged at 0.8 of the current rate except overnight when the rate will remain at 0.1.

Three proposals for improving PRIME security were made.

1. The command STATUS USERS will only be available when logged in.

2. All users will automatically be given a password when issued with a username. A null password will not be allowed.

3. Non-owners will have no file access by default.

Applications and Special Interest Groups

The eight Special Interest Groups are:

- Electromagnetics, Finite Elements, Digital and Analogue Circuit Design, Central Engineering, Artificial Intelligence, Tools for Interactive Programming, Computer Aided Architecture Design and Time Series Analysis, which last may be set up.

Each group provides information and software packages about specialised topics.

There are two ways of obtaining PRIME documentation:

1. By private purchase from PRIME. Any user wishing to purchase manuals from PRIME should tell his manager or documentation officer who can order from PRIME (the user meeting the cost).

2. Free from site manager. RAL produces photocopies of all manuals and sends to site managers on request.

PRIME User Group meetings are held twice a year, the next being in March at UMIST.

6. QUESTIONS RAISED AT CCR MEETING 13/7/81

Q25. How do you make a comparison between an ELECTRIC AU and a CMS AU?

A25. Subjectively we feel that the CMS service is twice as good as ELECTRIC and therefore we have introduced a factor of 2 between the respective AUS (1 CMS AU = 2x1 ELECTRIC AU). (M R Jane)

Q26. Could the charging factor be reduced on public holidays? Could it be reduced after 5pm?

A26. The charging factor is reduced on public holidays. The charging factor is not static and may be varied in the light of experience. (M R Jane)

Q27. In installations where there is a mix between internally and externally funded people do you seek to sell as much time as possible?

A27. We are only permitted to sell spare time and are not allowed to act like a commercial bureau. (M R Jane)

Q28. Our AUS run out every week. What can we do about it?

A28. By the beginning of September when we begin policing these allocations, we expect (in collaboration with Category Representatives and users) to have got them reasonably correct. Any errors will be investigated immediately. Problems which indicate inadequate allocations should be addressed to your Category Representative. (M R Jane)

Q29. Is there a minimum allocation of AUS per week?

A29. Yes. CMS AUS are allocated per 4 week accounting period. Minimum allocation for these is 0.5 AU. Any inadequacies should be taken up with the Category Representative. In future Grant Applications will have to request CMS and ELECTRIC allocations. This will mean a particular grant will have its own allocation subject to an annual minimum equivalent to 0.5 AU per Accounting Period. (M R Jane)

Q30. Wasn't July/August a bad trial period to use when choosing time periods as this is a time of low usage?

A30. The parameters in the algorithms for calculating the CMS and ELECTRIC allocation units

are in no way hard and fast. They will be continually monitored and modified if necessary after giving adequate notice to users. (M R Jane)

Q31. If users are allowed to login outside prime shift when their allocation is exhausted, how does this tie in with the charging algorithm? A31. They will still be charged. (M R Jane)

7. COURSES

An Introductory Course to the IBM System which covers the MVT system (but not ELECTRIC), CMS, data management and graphics will be held on two occasions, provided there is sufficient demand. The dates are 16-19 November and 14-17 December, starting and finishing at lunchtime. Applications should be sent to Miss J E Barker, User Interface Group, Computing Division, Atlas Centre. Applicants should give their names, identifiers, date of first use of the system and indicate which dates are preferred and whether accommodation will be required.

8. DIARY OF FUTURE MEETINGS

USER MEETINGS

GEC User Group - 25 November 1981 (provisional) at Atlas Centre

IBM Representatives - January 1982 in RAL Lecture Theatre

Prime User Group - March 1982 at UMIST

9. ANY OFFERS?

Here is a list of tapes held by the Tape Librarian for which she would like owner information. If you recognise any of the tapes as yours please contact her on Ext 333 at RAL. If the tapes are not claimed by the end of November 1981 the Tape Librarian will dispose of them.

230331	84CC03	12347
230516	EHP091	KK1081
230514	HEB002	84CC01
FA1733	101644	JUM444 (SLAC DST)
111129	9CAR85	SCLEPW (HRV10)
18971R	980080	12812U
36552W	22502M	12814W
98820U	22226M	31331L
84044M	22401P	

The following tapes are of the CERN type: