

so that they issue an error message and cause a userabend (code 333) if they are called with 2, 2 or 3 arguments respectively.

Charles Wood - User Interface Group

12. COMPUTER STATISTICS

IBM SYSTEMS 24/1/83 - 20/2/83

Weekly availability is uptime/168.

SYSTEM AVAILABILITY - % of 672 hrs available

MVT - 98.0%, CMS - 99.2%, ELECTRIC - 90.0%.

MVT THROUGHPUT

Average jobs/week 11356
Average CPU hrs/week 150

TERMINAL SYSTEM USERS

Registered users 1000 CMS ELECTRIC
Active users 469 1202 AUS 360

SERVICE LEVELS

See article about new IBM turnaround guidelines.

USAGE

Cumulative totals are for 46 weeks.

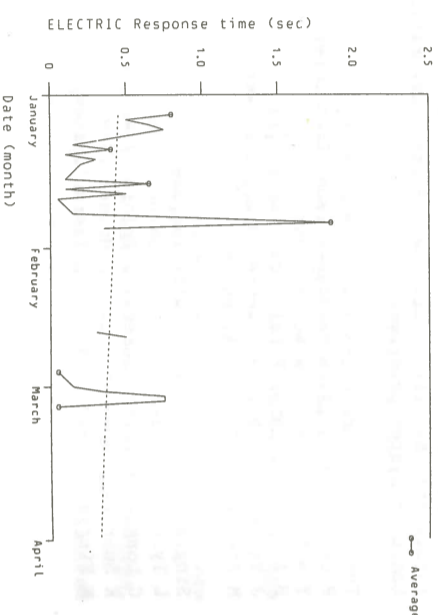
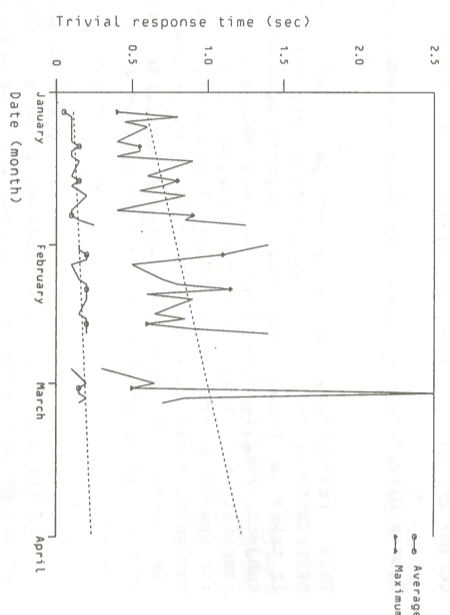
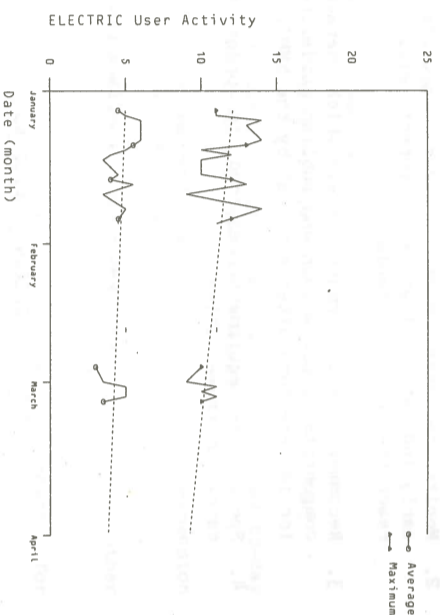
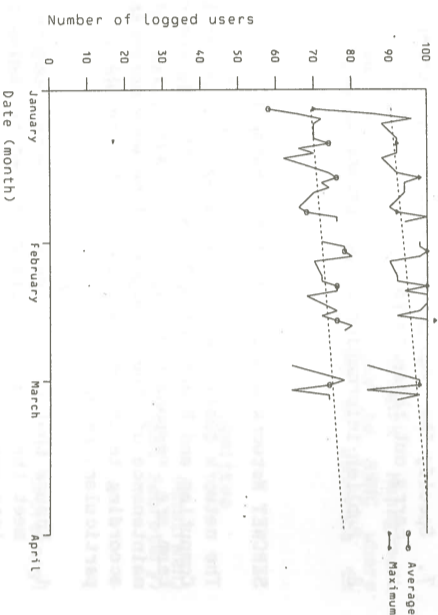
Board	MVT CPUs	ELECTRIC AUS	CMS AUS
ASR	340	340	649
Engineering	630	238	611
Nuclear Physics	5846	1895	3268
Science	757	539	1003
Central Funding	184	361	7317 *
MERC	123	87	304
External	99	281	281
Overheads	6	16	1459
TOTAL	7985	3567	14892

* These entries include some usage due to "service" functions which are strictly an overhead and should be accounted separately.

ICF SYSTEMS

AU USAGE BY BOARD - Periods 8204-8302

Board	Prtime	GEC	DEC-10	TOTAL
ASR	174	223	42	440
Engineering	11460	4124	7396	22981
Nuclear Physics	190	176	0	367
Science	691	746	841	2279
Central Funding	7403	1568	1465	10437
System Overheads	10873	339	2376	13589
External	409	281	298	988
TOTAL	31200	7457	12418	51081



Newsletter of the SERC Central Computing Facility

No. 33 March 1983

1. ICL PRESS RELEASE ON PERQ

PNX - The UNIX Operating System for Perq

PNX is ICL's implementation of the UNIX multi-tasking operating system developed by Bell Laboratories. PNX is based on UNIX System III, the latest version of UNIX. The first release implements the majority of the tools of version 7 UNIX, which is a subset of System III.

PNX involves:

1. Microcode - PERQ has been re-microcoded as a C-machine and provides 32 bit addressing with paged virtual store
- single and double precision reals
- Rasterop graphics functions.

The standard UNIX C compiler is included in the software set; FORTRAN 77 will also be available shortly.

3. To cater for PERQ's unique graphics capabilities a Window Manager capable of creating multiple user windows which may be used independently or simultaneously is also included.

ICL PNX is available to all PERQ users from March 1983, and will run on any PERQ system with a minimum 512 Kbytes of memory.

This implementation of UNIX on PERQ is one of the first results of the collaboration between ICL and SERC.

2. INTRODUCTION TO CMS MANUAL

We have recently discovered that some users are still using the first edition of this manual, dated March 80, as their main source of information about CMS. This is now seriously out of date, and could mislead. Please destroy any copies of this edition that you still have available. The current recommended edition of this manual (Second Edition dated February 1981: RL-80-008) will be revised shortly (we hope to release a new edition in June 83). As this edition does not contain references to some of the more recent additions to CMS a cover note is available which briefly lists those topics of which new users should be aware. A copy of this cover note is enclosed with FORUM and will be

distributed to all new users of CMS. Additional copies can of course be obtained from the Documentation Officer (ext 5272).

Users are reminded that the Introduction Manual should only be used to gain familiarity with CMS. They should migrate to the RAL VM Reference Manual after initial use of CMS and not retain the Introductory Manual for long periods, since it is not our intention to issue updates to this document.

Dave Parker - User Interface Group

3. CMS BATCH MONITOR SYSTEM

We have obtained the batch monitor system offered as an installed User Product by IBM. This system provides a facility for scheduling and monitoring batch jobs in a VM/CMS environment. It is controlled by a supervising virtual machine, which dispatches and monitors other virtual machines to run the jobs. Commands are provided to submit or stop jobs and obtain status information.

The batch monitor can hold status information on many jobs at once including history records of previous jobs. A time window may be specified in which the job is to run, and one job can be submitted conditionally on the completion of another. This is done by making the job exec running in the batch machine submit the next one if it completes successfully. Job steps may be recorded by including the appropriate statements in the job exec - the job step reached will be reported in the reply to a status enquiry, and if the system were to restart the exec would continue from the step it had reached. Otherwise, on restart, jobs that were running at the time are restarted from the beginning.

The system allows for several classes of jobs to be defined by the installation depending on limits of cpu seconds, print and punch records and time windows. The batch server machines will be defined such that they can cope with jobs of one or more classes. Users specify the class required for their jobs when submitting them, and may change the limits for resource parameters by giving them on the command line. Other parameters that may be specified are a job name, the time window that a job may run in, the account number to be charged, and the priority the current job has over other jobs submitted by the same person.

Mail:REPLY
Replying to Ken May <KM@BRGA>
Text:
: Yes I'll certainly forward it. Thanks for
: keeping me in touch with developments.
: 77
: Send now? YES
Message sent and filed
Mail:COMPOSE CC:
To: John Doe
Cc: Dave Glotz, Geoff Davey@SNGA
Subject: Working Party Agenda
Text:
: Ken just sent me a missive saying that Fred is
: late with the agenda but will send it to me
: a.s.a.p. and I will forward you a copy.
: Pete
: 77
: Send now? YES
Message sent and filed
Mail:END
Ready

MAIL has an extensive set of selection criteria for looking-up old messages stored in a folder (a folder is a file of messages). These include searching by status (eg new, old or deleted messages), position (eg last, first ten, next six) or content (eg from="User Support", before="10/2/82").

OS4000 MAIL has facilities for supporting mail distribution lists and printing of incoming MAIL on a paper medium. Users may set up their own private directories for outgoing mail to provide mailing lists, aliases (nick-names) or to hold entries with their PSS password. If a PSS password is placed in this directory it does not appear on the message that is sent to the recipient. It is possible to specify that a PSS MAIL message is "reply-paid"; this is documented in the PSS gateway guide, written by A.S.Dunn and available from RAL.

Jonathan Mills - Systems Group

6. RELOCATION OF CRAY-1S TO ULCC

It is planned to relocate the CRAY-1S currently at SERC Daresbury Laboratory at ULCC about Easter 1983. The exact date depends upon several factors, the most important of which are the completion date of the ULCC building extension (planned to be during March) and the successful linking and testing of the SERC network into the ULCC new telecommunications system.

The Amdahl 470/V8 computer at ULCC will be used to support the Cray. The operating system on the 470/V8 is MVS and the user interface is IBM JCL, TSO and a portable subset of the Universality of Cambridge PHOENIX. The disc space available for all user data sets (including ULCC supported data sets) will be approximately 10,000 Megabytes on the 470/V8, once the full configuration of discs have been installed (planned for Easter 1983), and approximately 4000 Megabytes on the Cray. It should be noted that the ULCC does not support private disc facilities. It is expected that an archiving facility will be available on the 470/V8 by early summer of this year.

The Amdahl 470/V8 was sized to support about 120 concurrent keyboard terminal sessions to be used principally for file editing and job submission, and intended for those user sites without interactive services and remote batch submission facilities of their own. In the initial months of the service based upon the new telecommunications protocols, it is expected that the number of concurrent keyboard terminal sessions will be limited to about 50. Users should as far as is possible use the remote job entry facilities available at their University to submit jobs to ULCC.

Users who have an allocation of disc space on the 470/V8 and/or Cray must not exceed their allocations. Although a disc space control system based upon that in use at the University of Cambridge will be installed on both systems in the near future, the initial control will be one of purging data sets if allocation is exceeded. Users are responsible for keeping backup copies of their disc data sets, (on magnetic tape) so that they can recreate their disc data sets if these are accidentally lost or corrupted. Although ULCC endeavours not to lose data sets, the Centre cannot and does not accept responsibility for the loss of data sets and gives no guarantees to reinstate data sets.

The user interface to the systems at ULCC will differ in some respects from that in use in the Daresbury Laboratory.

The user identifier or user registration number in use throughout the University of London computer services consists of seven alphanumeric characters. In general the identifier reflects the institutional and departmental affiliation of the user. The identifier is used on the JOB statement for 470/V8 or Cray batch jobs, in logging into the system from a keyboard terminal, and as an identifier on disc data sets. Details will be made available in ULCC documentation on the services. When the Cray is moved to ULCC there will be about four weeks interruption in access to the Cray. This time is required to physically relocate the hardware, carry out tests to ensure that the system is satisfactory, and integrate the system with the 470/V8. The user data sets on the Cray discs will have been dumped to tape before the transfer and will be reinstated when the system is ready for use. Users should ensure that they can recreate their own data sets on the Cray discs if necessary. Users will be responsible for moving to ULCC those data sets currently kept on the NAS or on magnetic tape which they require to use on the Cray at ULCC. The ULCC tape drives will accept nine track tapes written at 1600 or 6250 bpi, either unlabelled or with standard IBM labels.

Telecommunication access to ULCC facilities is being based upon the X25 network protocol using the Job Transfer and Manipulation Protocol (JTMP) for remote job entry and 'triple-X' standards to handle interactive terminals. Protocol converters are being implemented to allow existing RJE and keyboard terminals to connect to the new facilities and so ensure a continuity of access to both old and new services.

Roy Baker - User Support, ULCC

7. DIARY

GEC MEETINGS
MANAGERS' From March 28-29th at Bradford University.

SITE USERS' Monday April 11th at the Atlas Centre, RAL. Please contact Kevin Duffey, User Interface Group (ext. 6252) for details.

8. SERCNET MANAGEMENT

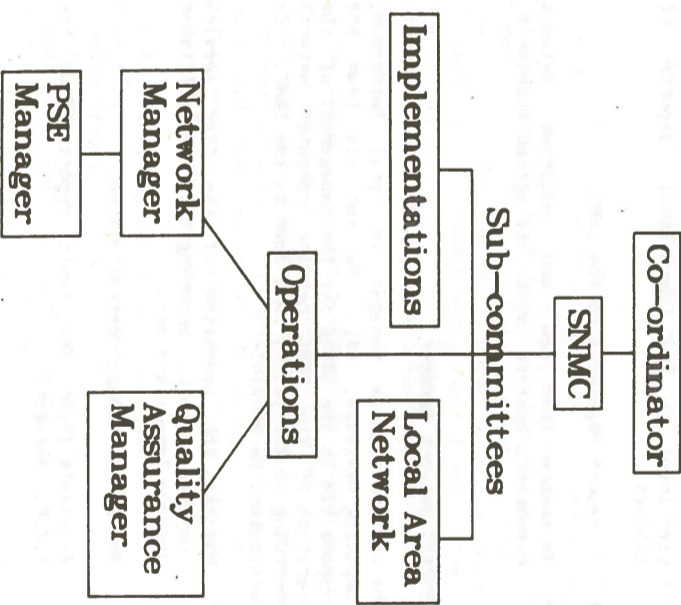
SERCNET is up and running. It has been for several years, and is still growing at a considerable rate. It is also evolving into a National Academic Network under the aegis of the Computer Board and the Research Councils.

SERC users have an interest in the management of SERCNET and its descendants. The right sort of basic services (interactive, file transfer, job submission, etc) and value added services (mail servers, name servers, print servers) must be provided. Quality of service must be maintained. Service levels must be acceptable.

This article shows how the SERCNET is managed and how it relates to the wider network which is evolving. We hope to publish further articles on other aspects of SERCNET.

Management Structure

The following figure shows the principle bodies involved in the management of SERCNET. The



Computing Coordinator is Dr Manning, Director RAL. The main committee is the SERC Network Management Committee. Its current list of members is shown below:

P S Kummer	DL	(Chairman)
P M Girard	RAL	
D G House	RAL	
P E Bryant	RAL	
M R Jane	DL	
E Owen	DL	
B J Charles	JNT	

Its terms of reference are as follows:

It will advise the Computing Coordinator on the management, operation and development of the SERC service computer network within the overall financial and policy guidelines established by Council and its Central Computing Committee. Specifically the SNMC will:-

1. Formulate and keep under review future policy and technical options for the SERC service computer network, evaluate possible alternatives and make appropriate recommendations to the Computer Coordinator for incorporation into a rolling programme.
2. Coordinate any necessary development required by the programme.
3. Supervise the operation of the SERC service network.
4. Consider and decide on:
 - (a) All requests for connection to the network.
 - (b) All proposals for enhancements and the provision of additional facilities.
5. Plan for the transfer of the wide-area connection to the national academic network, taking into account the requirement for minimal service disruption to SERC users. Provide a focus for SERC input to the Network Management Committee of the national academic network.
6. Report to the SERC Computer Coordinator and refer issues to the Coordinator where agreement cannot be reached or where guidance is required.

The SERC service computer network is defined to consist of:

 - (a) All SERC Wide Area Network (WAN) arrangements
 - (b) All Local Area Network (LAN) arrangements on SERC sites
 - (c) All SERC funded LAN on non-SERC sites

where these arrangements are intended to provide a service to users. Most users are likely to be familiar with some aspect of (a) but in the next few years (b) and (c) will be major growth areas.

The service network does not include any arrangements specifically intended for network research.

The subcommittees of SNMC are listed below together with their terms of reference.

Implementation Subcommittee

P M Girard RAL
 R T Braden UCL
 P E Bryant RAL
 B J Charles JNT
 A S Dunn RAL
 K R Farvis Edinburgh
 P S Kummer DL
 V Pucknell York
 J D Service NERC
 A Voss

Terms of Reference

1. To recommend which protocols should be used in or across SERCnet and to monitor the implementation or development of these in the various types of equipment.
2. To recommend what additional facilities should be provided for running the network, and in particular to consider requests from the SNMC Operations Subcommittee.

3. To decide how technical problems arising out of existing implementations should be resolved.
4. To report to the SERC Network Management Committee.

Local Area Network Subcommittee

P E Bryant RAL (Chairman)
 P J S Gladstone RAL
 C S Cooper RAL
 B V McNally ROE
 W P Sharpe RAL-DCS
 R Tasker DL
 N Parker RGO
 M W Johnstone SNS
 W Pulford SNS
 E Owen DL

Terms of Reference

1. To locate all Local Area Network activities funded by the SERC. To note their objectives and monitor their progress.
2. To prevent duplication of effort when directed toward the provision of a service network and to make representations to ensure this.
3. To adopt or define the local area standards to be used in the SERC service network.
4. To assess the requirements for new local area networks or extensions to existing ones, and to recommend how these requirements should be met.
5. To identify common requirements and coordinate approaches to manufacturers to meet these requirements.
6. To obtain information from and to coordinate the SERC's approach to the various external bodies involved with the development of local area network equipment, software and standards.
7. To recommend the developments where required.

8. To report to the SERC Network Management Committee and refer issues to SNMC where agreement cannot be reached or guidance is required.

SERC Network Operations Sub-Committee

D G House RAL (Chairman)
 C Balderson RAL (Joint Secretary)
 P M Girard RAL
 R E Thomas RAL
 M R Jane RAL
 R Cooper RAL
 I L Smith DL (Joint Secretary)
 P S Kummer DL
 H Sherman DL
 J Hopkins DL
 G Petmezes DL

Terms of Reference

1. To carry out the instructions of the SNMC.

2. To control and maintain the day-to-day operations of the SERC network.
3. To recommend the rationalisation and expansion of the SERC network.
4. To interface at operational level with other organisations and P.S.E. sites.
5. To evaluate and recommend equipment for standardisation purposes.
6. To determine actual service levels.
7. To ensure user liaison and to act as a focus for user input on the operational aspects of SERCnet.
8. To report regularly to the SNMC.
9. To ensure that new and modified network components conform with the agreed standards.

SERCNET Network Manager

The current network manager is Cyril Balderson, Computing Division, RAL. He and his team are responsible to the SNOSC for the management of the operation of the SERC service computer network according to the policy laid down by the SNMC. In particular, he should:-

1. Maintain the operation of the SERC service computer network, ensuring that the published service levels are met.
2. Manage the Change Control system.
3. Provide a focus for fault reports from the P.S.E. managers.
4. Plan and coordinate the installation of new network components.
5. Assign network addresses and register titles.
6. Provide the training and documentation required by the P.S.E. managers and their teams.

7. Specify the equipment required in order to carry out these tasks.
8. Publish information on performance.

SERCNET Network Quality Assurance Manager

The network quality assurance manager is Ian Smith, Computing and Electronics Division, DL. He and his team are responsible to the SNOSC for the maintenance of the quality of network components according to the policy laid down by the SNMC. In particular, he should:-

1. Ensure that new and changed network components meet the required standard before being put into service.
2. Monitor new developments in order to provide an early indication that a component will not reach the required standard.
3. Recommend the performance levels which network components should attain and publish guidelines for implementors after approval by the SNMC.
4. Specify the equipment required in order to carry out these duties.

Jed Brown - User Interface Group

9. COMPUTER SPEECH PROCESSING

SERC/CREST-ITG Advanced Course
 Corpus Christi College, Cambridge 11-22 July 1983
 Course Director: Dr F Fallside (Univ of Cambridge)

This residential course forms part of the SERC/CREST initiative in information engineering. It takes a broad, cross-disciplinary view of the subject, ranging from phonetics, psycholinguistics, computational linguistics and language processing for speech understanding to speech analysis, speech recognition and speech synthesis. A major item of the course is to form links between the first more abstract group and the second more applied group of topics.

It is aimed at research workers in speech science both in the academic and industrial sectors. This rapidly growing area has been picked out as a major component of advanced information technology by the Alvey and SERC initiatives in the UK, by ESPRIT in Europe and by the Japanese Fifth Generation Computer System programme.

The main lecture courses will be given by:
 P Ladefoged (UCLA) W Marsden-Wilson (Cambridge)
 Y Wilks (Essex) W Woods (BBN)
 B Atal (Bell Labs) F Fallside (Cambridge)
 J Vaisstiere (CNET) B Lowerre (Hewlett Packard)
 M Stella (CNET) J Allen (MIT)

Single Lecture speakers will include:
 L Tyler (Nijmegen) C Galand (IBM)
 C Longuet-Higgins (Sussex) J Bridle (JSRU)
 K Sparck-Jones (Cambridge) J Holmes (JSRU)
 N Kingsbury (Marconi) S Isard (Sussex)

There will also be a series of after-dinner speakers from government, industry and the academic sector.

Grants will be available for SERC and CREST supported research students to cover the whole cost of the course and for university research workers and younger academics to cover the course fee.

The course fee is £370 and the standard accommodation fee is £232 (excluding 16-17 July) or £275 (including 16-17 July). There is no VAT charge.

Further information and registration forms from Mrs M Barber, Cambridge University Engineering Department, Trumpington Street, Cambridge CB2 1PZ, Tel (0223) 66466.

10. CENTRAL IBM SYSTEM JOB MEMORY SIZE AND TURNROUND

The job turnaround guidelines were last revised in 1977. Since then the 1975 have been replaced by the 3081, we are running VM, and the short job time limit has been increased from 90 seconds to 5 minutes. We have therefore decided to review the guidelines and relate them to the changed store boundaries. Remember that the aim is to turn round 90% of jobs within the guidelines. The new guidelines are:

MEMORY SIZE	P12	P10	P8	P6	P4
0-210K	15 min	1 hr 2 hr	overnight	weekend	
212K-560K	15 min	1 hr 3 hr	overnight	weekend	
562K-1.5M	-	1 hr 3 hr	overnight	weekend	
1.5M-3.5M	-	overnight	overnight	weekend	

SHORT JOBS - SETUP	P10	P8	P6	P4
MEMORY SIZE				
0-210K	1 hr	2 hr	overnight	weekend
212K-560K	2 hr	3 hr	overnight	weekend
562K-1.5M	2 hr	3 hr	overnight	weekend
1.5M-3.5M	overnight	overnight	overnight	weekend

LONG JOBS (>5 MINUTES CPU)
 Priority >=6 overnight
 =4 weekend
 There is no guideline for turnaround of priority 1 jobs.

Turnaround will be closely monitored and the guidelines reviewed if they are not being met. The guidelines will probably be reconsidered when the Atlas 10 is introduced.

Paul Thompson - Operations Manager

11. CHANGE TO THE CERN LIBRARY

The third stage in the rationalisation of routines common to RHELIB and CERNLIB has been implemented. The routines BZERO, UBLANK and UFTLL in SYS1.CERNLIB and KERNELIB TXLIB have been modified

INTRODUCTION TO CMS - COVER NOTE TO RL-80-008

The Introduction to CMS Manual (Second Edition) is currently being revised. This note briefly guides new users to facilities that are at present not described in the manual but of which they should be aware.

XPLANT

You are recommended to skip Chapter 5 of the manual as a new facility called XPLANT is now available to provide very powerful generation and parameterisation facilities. This can be used to create files of JCL, Fortran, etc, with contents controllable by the user and is equivalent to the ELECTRIC edit system. Details of this facility can be found via HELP XPLANT MENU and by invoking the XPLANTDC EXEC which will provide a lineprinter copy of the current XPLANT documentation.

VPRINT and VPUNCH

The EXECs VPRINT and VPUNCH should be used for printing/punching CMS files at either VNET or HISP controlled workstations (the direct use of NPRINT/VPUNCH is not required for this task).

Standard PROFILE

The default PROFILE EXEC now invokes a file called STANPROF EXEC R which new users should examine to see what commands are invoked automatically for them.

Batch job output

Job output from MVT jobs submitted from CMS is routed by default to the virtual reader of your machine (see HELP ROUTING and HELP VROUTE to change the default).

Utility jobs

A facility is available to generate utility jobs (like TPCOPT, XTAPE etc) and submit them to MVT (see HELP OSUTIL MENU).

Compilers

The VS Fortran, VS Pascal and VS Cobol Compilers are available in CMS (HELP FORTVS, NEWS FORTRAN, HELP PASCALVS, HELP COBOL).

The Fortran H Extended Plus compiler has been replaced by the Fortran H Extended compiler.

Freedisk

A CMS equivalent of the MVT Freedisk facility is available (HELP FREEDA MENU).

Archiving

CMS files can be archived (HELP ARCHIVE).

UDISK

User supplied files (non-RAL CD supported) are available via the UDISK (HELP UDISK).

WHOIS

The WHOIS facility allows you to locate user identifiers/surnames.

XEDIT macros

Several XEDIT macros are available to help users, particularly those using ASCII terminals (HELP XEDIT TP, HELP XEDIT TC, HELP XEDIT TL).

Other XEDIT Macros available include CAPPEND, CURSLAST, DELWORD, AFTER, BEFORE, GROUP, PAR, SCL, DELETE, PARSE, SELECT, SPJ, UNDER, XX, YY (see relevant HELP XEDIT topic or HELP XEDIT HELP).

++H substitutes

A set of EXECs is available to simulate the function of the ++H commands which keep track of batch jobs (HELP HCAN, HELP HLIST, HELP HRAIT, HELP HRESE, HELP HROUT and HELP HSTAT).

Graphics

Jobs producing graphical output may be run interactively in CMS. Graphics output can be sent to the FR80 without using an MVT batch job (HELP GRAPHICS and HELP GRAPHICS MENU). Fiche, microfilm and graphical hardcopy can be produced on the FR80 from CMS files (HELP NFLIST).

MAIL

A new MAIL facility is available (see HELP NOTE, HELP NAMES, HELP NOTEBOOK, HELP NAMEFIND, HELP TELL and HELP SENDFILE).

Mugwump Graphics files

CMSSELEC can read Mugwump Graphics files (HELP CMSSELEC).

Virtual Reader files

The command RDRLIST will display what files are on your virtual reader.

RECEIVE will transfer these files onto your mindisks.

PEEK will display the contents of these reader files (as will BROWSE).

RDR will display the characteristics of the next file on your virtual reader.

Listing information about files

FILELIST will display information on a list of files.

CP commands

EXECIO will execute CP commands and stack the results. It will also allow transfers between stack and file and file and stack.

Debugging

The CA/SYMBUG interactive debug package is available (HELP SYMBUG).

Libraries

The CERN Libraries and Nag Library are available in CMS (HELP CERNLIB, HELP NAGLIB).

FTP

A file transfer scheme is available to send files from and to CMS (see HELP FTP and HELP FTPQ).

SENDFILE

The RAL command SENDFILE has been renamed as GIVEFILE so that it does not clash with the IBM command SENDFILE.

VNET

A virtual machine called VNET now controls several of the IBM workstations and gradually the remaining HASP controlled workstations are being moved to VNET control (HELP VNET MENU for details of commands available to control VNET workstations).

CMSBATCH

The QBATCH command displays the jobs in CMSBATCH's queue.

Tapes

Details of tapes in the TDMS database can be found via the command QVOL.

Abends

The command ABEND will provide information on MVT abend codes.

HELP

Remember that when you issue the HELP command you go into the XEDIT environment so you can make use of any XEDIT command to move around the helpfile as well as taking a copy of that file for subsequent printing.

Accessing CMS

Access to VM/CMS from the Network is now via the call !RLIB.

From PACX the access is via CLASS CMS (which is the same as RLIB).

File Serialisation

Files created by XEDIT and of filetype FORTRAN are serialised by default. The XEDIT command SET SERIAL OFF can be used to suppress the serialisation of Fortran files. This command can be included in a file called USERPROF XEDIT. XEDIT has its own profile file called PROFILE XEDIT and this will invoke a file called USERPROF XEDIT if present.

Virtual machine size

The current default virtual machine size is 512K and the maximum is 1Mb.

Machine environment

VM/SP with CMS in individual virtual machines is run on the 3081D computer; both FEM and CEM are currently on the 3081 running MVT, the BEM system runs native MVT on the 3032. The 360/195 computers have been removed from service.