# Student use of CPC VAX Systems

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This note describes use of the Computing Centre VAX systems
by undergraduate users, including the scheduled class controls.

## Contents



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Cost £0.20

# 1 Introduction

Any undergraduate ( except members of School SYS ) may register to use the VAX cluster node CPCMC ( Computing Centre MicroVAX C ). Forms are available from Computing Centre Reception . A student registration card is needed as proof of identity. Undergraduates in SYS are allocated to other systems as part of their course registration procedure.

Students are registered in year of entry groups ( e.g. CHE_1989 for a 1989 Chemistry entrant ). These groups together with all related files are normally removed from the system after 3 years. Usernames allocated are the student registration number with a 'U' prefix.

Individual accounts need to be reset with a new password at the start of each academic year and will expire automatically on the 30th June . Access from July to October is possible by special request to CPC.

# 2 Terminal access

CPC terminals can access any of the VAX nodes on the local network. Instructions for connecting to the required node are displayed beside each terminal. In general connections are made through a MICOM switch ( initial prompt: Which Service ? ) and/or through an Ethernet terminal server ( initial prompt: Local > ).

# 3 Local documentation and online help

A series of locally written notes are available for a small charge from CPC reception. The index to these notes ( CPC Note 0 ) is free.
CPC Note 40 " An introduction to VAX/VMS at UEA" is recommended for anyone unfamiliar with the VAX/VMS operating system.

When you are logged in to the VAX an extensive online help system is available from the **HELP** command. For local changes see **HELP @UEA** .

# 4 User Budgets

Each registered student user is allocated two main quotas which control use of the system.

## 4.1 Interactive Demand Quota

This quota is not a traditional charge back system but is just intended to limit usage at times of high demand to maintain reasonable response times. The aim of this system is to encourage you to use off peak times for your casual computing when demand is high. Students logged in as members of a scheduled class are not subject to these controls.

The quota is allocated daily and you can hold a maximum of 3 days credit. When the system becomes busy your credit is reduced by an amount depending both on your usage and the overall demand placed on the system by others. If your credit becomes negative you will not be allowed to log in again until the following day ( except as a member of a scheduled class ).

The system load is displayed as a 'Demand Factor' and this can vary throughout the day from 0.0 ( typical early morning and late evening ) through 0.1 - 0.3 ( typical day-time values ) to 1.0+ ( overload ) .

You can examine your current status with the command **BUDGET** and the demand factor with **DEMAND**. The demand factor is also displayed in the system announcement seen when you initially connect to the VAX.

A history of recent jobs and resources used is available from the command **BUDGET/HISTORY** ( see **HELP BUDGET/HISTORY** for details ).

If the demand factor changes while you are logged in as a casual user ( i.e. not as a member of a scheduled class ) you will receive a broadcast message as in the following example:-

**Demand factor now 0.3 ( change +0.1 ) your credit 46**

These messages can be suppressed with the command

**$ SET BROADCAST=(NOUSER2,NOUSER3)**

which may be necessary to prevent unwanted messages appearing on the screen when you are using applications which do not trap broadcasts.

Students using more than one VAX in the cluster are subject to credit checks at login for both current node credit and cluster wide credit. The command **BUDGET/CLUSTER** will display cluster status.

Additional details of the **BUDGET** command are available from the local help files using the command **HELP BUDGET** .

## 4.2 Disk Quota

This is a static quota against which your disk space used is debited. It is measured in blocks of 512 bytes. You can examine your current status with the command **BUDGET/DISK** . If you use up your quota you must either delete some files to regain space or request a quota increase from your course organiser ( or Computing Centre reception if you are a casual user ).

# 5 Scheduled Class controls

## 5.1 User Groups

Each user is a member of one or more groups which may be used for allocating timetabled sessions. You can examine your group membership with the command **STUDENT/GROUPS** .

All students are members of group STUDENT and a registration/year of entry group. Additional group membership will depend on the courses you are currently taking.
A full list of groups registered on the system ( apart from year of entry groups ) may be obtained from the command **GET/RIGHTS** .

The timetable of scheduled classes may be listed in full by the command **TIMETABLE** or a selective search on group or day/time may be made as in the examples below:

**$ TIM** MON would display all entries for Monday

**$ TIM** CMP255 would display all entries for group CMP255

Other useful commands related to scheduled classes are:

**$ STUDENT/GROUPS/USER=***username* group membership of another user

**$ STUDENT/LOGINS** to show group membership of logged in users

**$ STUDENT** to show current classes in progress & counts

**$ GET/HOLDER=***group_name* to show members of specified group

## 5.2 Login Controls

The number of student users logged in as members of a scheduled class and the numbers logged in as casual users is displayed in the pre-login system announcement. The command **STUDENT** will show the current login counts and scheduled classes in progress together with any groups currently excluded. e.g.

```
$ STUDENT
CMP255A class in progress
Maximum casual students     = 16
Actual  casual students     = 0
Class students              = 3
```

Casual users are allowed to log in up to the casual student limit. A user joining a scheduled class may log in and displace a casual user if the total student population exceeds the casual student limit. Casual users so displaced receive a one minute warning before being logged out.

Users in a scheduled class are given a higher priority on the system and are not subject to demand quota debits. They may also log in while overdrawn once the scheduled class is in progress.

### 5.3 The pre-login system announcement

*UEA Computing Centre CPC780*

*Logins 15 : Demand factor 0.1*

*Class 8 : Casual 4 ( 12 free )*

In the above example the first line displays the network node name of the system you have just connected to, CPC780 .

The second line displays the total number of users logged in ( students and others ) and the current demand factor.

On the third line 'Class 8' indicates 8 users logged in to a scheduled class. 'Casual 4' indicates 4 users logged in and not members of a scheduled class. '12 free' is the number of free slots which could be taken by casual users. The casual student limit is then 8+4+12 = 24 with 8 slots taken by scheduled class users.

Scheduled class users could take all of the casual slots and more ( i.e. above the casual student limit ) up to the system limit for logged in users . Any login of a scheduled class user which takes the total student population above the casual student limit will displace a casual user if possible.

For example if the display reads:

*Class 12 Casual 12 ( 0 free )*

then a casual user cannot log in but if a class user logs in then one of the existing casual users will be logged out.

## 6 Printing Files

Printers available are of two types:

a) Directly connected to a VAX node.
b) Connected to a network terminal server.

You can use the standard VMS **PRINT** command ( see **HELP PRINT** ) to printers of type b) from any VAX.

Printers of type a) can be used with **PRINT** if you are logged in to the node directly connected to the printer or if the VAX node is a cluster member and your filestore is available to the node serving the printer ( normally true ).

## 7 Mail Names

Electronic mail is possible between all registered users on the local network. Users are registered with a mail name of *initial.surname* which may be used in place of the username allocated. In the case of duplicate names a second initial will be used if available. If there is no second initial or there is still duplication then the username provides a unique mail name. The mail name entry can be checked with the command **$AMAIL/NAME=***initial.surname* and the Username entry with **$AMAIL/NAME=***username* . Useful commands for making further checks on identity are **$GET/USER=***username* and **$WHOIS** *name* ( where name can be a surname or part of a name )

e.g. to check mail names

**$AMAIL/NAME**=N.KINNOCK returns username equivalent
**$AMAIL/NAME**=U9123456 returns name & forwarding address if any.

to look up names

**$GET/USER**=U9123456 returns name/school details
**$WHOIS** KINN returns all registered entries containing 'KINN'

to send mail

**$ MAIL**
*MAIL*> SEND
*To:* N.KINNOCK

or *To:* U9123456 in the username format

## 7.1 Mail to other Universities using JANET

The use of wide area electronic mail using the Joint Academic Network ( JANET ) is described in CPC Note 12.

JANET is intended as a tool for research and learning. Do not abuse it by trying to break into other systems --- that contravenes the law and University regulations. Access to JANET will be denied if it is used for purposes unconnected with your course .

### Sending mail:

Use **MAIL> SEND** to an address of the form:

JANET::CBS%*sitename*::*name*

e.g.
JANET::CBS%UK.AC.ASTON::KSMITHSON

Note that this form of address uses a local relay VAX node for sending the mail.

**Receiving mail:**

The form of address for remote users to contact you should be:

*name*@UK.AC.UEA

*name* can either be *Initial.Surname* or your VAX *Username.*

e.g.
F.Bloggs@UEA or U9174632@UEA

It may not be possible to use **MAIL> REPLY** to JANET mail since the incoming message is unlikely to have the local relay information in it.

## 8 Batch Queues

Jobs may be submitted to batch queues SHORT,MEDIUM or LONG. These queues have different limits for the processor time used. To display the queue limits use the command

**$ SHOW QUEUE/FULL** *queuename*

The LONG queue is normally only run as an overnight service. The batch queues and print queues can be listed in a common format using the command

**$ GET/QUEUE=***queuename*

## 9 Disk filestore and directory names

In general all filestore disks are available to all nodes in the cluster. This means that whichever node you log in to your default directory and the set of files you can access will always be the same. The command SHOW DEFAULT will display your home disk and directory and the general format for student users is
DISKNAME:[SCHOOL_YEAR.USERNAME] .

e.g. DISK2:[CMP_1991.U9174632]

Disk names prefixed by a VAX node name are serviced by that node only and access then depends on that node being available
e.g. CPCMC_DISK1 is only available if CPCMC is running.

## 10 CPC VAX Cluster

The Computing Centre VAX Cluster used for general research and teaching consists of ten VAX systems with the following node names and main usage.

| | |
|---|---|
| CPCMA | Communications Gateway ( no user service ) |
| CPCMB | Undergraduate teaching ( mainly SYS ) |
| CPCMC | Undergraduate teaching ( not SYS school ) |
| CPCMD | SYS undergraduate teaching |
| CPCME | UEA Information System ( log in to username INFO ) |
| CPCMF | Research users ( staff and postgraduates ) |
| CPCMG | Research users ( staff and postgraduates ) |
| CPCMH | Research users ( staff and postgraduates ) |
| CPC865 | Research users ( staff and postgraduates ) |
| CPC780 | SYS undergraduate teaching |

The software available is not common to all nodes and some packages such as INGRES and POWERHOUSE are restricted to particular nodes.