

# technical memorandum

## Daresbury Laboratory

DL/CSE/TM 19

GRANT MONITORING SYSTEM - USERS GUIDE

by

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## 1. INTRODUCTION

GMS is a computerised database system containing details of grants awarded for use of the AS/7000 and CRAY-1S computers at Daresbury Laboratory. Details of all computer users and the resources they have used are maintained. The information in the database is updated on a monthly basis.

GMS uses the RAPPORT database management system on the Daresbury Laboratory AS/7000 computer. The RAPPORT software was obtained from LOGICA Limited, however certain machine dependent routines have been written by the Daresbury Systems group.

RAPPORT provides facilities for maintaining and interrogating a relational database. The data stored in the GMS database may be used to generate reports and for 'one off' type enquiries. These last are catered for by the RAPPORT QUERY language which allows interactive access to the database. Subsequent sections of this report describe the elements and structure of the database and the command procedures which may be used to access it both in batch mode and interactively.

Further details on RAPPORT are available from the following manuals (issued by LOGICA, obtainable from the DL User Support Group).

RAPPORT - User Manual

RAPPORT - Designing and using a database

RAPPORT - Interactive QUERY Language User Manual

Requests to draw on information held in the database should be addressed to the GMS database manager, Mrs. E.A. Bailey.

## 2. DISCLAIMER

The system in its present state is in no way seen as a final solution to the accounting problem on Daresbury's computers, rather it is seen as a framework to which further facilities can be added.

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### 3. EXTRACTING INFORMATION FROM THE DATABASE

It is possible to extract information from the database either by submitting a batch job or by online access. The first method is useful for producing reports for boards and also for listing large amounts of information (such as a list of all current grants). A number of clists have been written which enable the user to specify the exact information he wants to retrieve and the order in which it is to be sorted. When the appropriate clist is executed a batch job is submitted which produces the required report. The clists available are in GUS.CLIST and are described in detail in section (5) 'Generating Batch Reports'.

Online interrogation of the database is useful for quick enquiries and where only a small amount of information is required (such as a list of all grants awarded to a given grant holder). It is possible to obtain online access to the database by executing GUS.CLIST(GUQUERY) and this is described in detail in section (4) 'Online Interrogation'.

### 4. ONLINE INTERROGATION

Online access to the database is provided by means of the RAPPORT interactive QUERY language. To access the QUERY language from TSO it is necessary to execute GUS.CLIST(GUQUERY) which has no parameters. Note: a 350k TSO region must be used. After this clist has been executed, the following will be displayed on the screen:-

- a) Several messages concerning file names and the number of blocks which each file contains.  
Ignore these unless they report an error in which case the GMS Manager should be contacted.
- b) The question 'is backup required (Y/N)' - the answer must always be 'N' since the backup facility is not available in the GMS database.
- c) A Rapport Logo.
- d) The message 'Please submit your commands' followed by a colon which is the prompt for input.

From this point it is no longer possible to use ordinary TSO commands, since all input from the user is directed to the interactive QUERY program

and only QUERY commands can now be used. It is possible to put a sequence of commands together into what is known as a QUERY command sequence list (CSLIST) which can be executed by typing in the name given to the CSLIST when it was set up together with the value of any parameters. A number of CSLISTS have been set up in GMS and it is hoped that they will cover the majority of requests for information which will need to be made on the database. However, it is a relatively simple matter to write a new CSLIST should the need occur. All the information needed to do this is contained in the manual "RAPPORT - Interactive QUERY language user manual" (which is issued by Logica) and in appendix A of this document.

In order to obtain a list of command sequence names, type the command CSLIST.

Given below is a description of each command sequence list available:-

#### Summary

	CSLIST NAME	INPUT	OUTPUT
i)	AGRANT	File-name, account no	Grant details
ii)	ACCTIDS	Account no	Ids using given account
iii)	LGRANTS	File name, Location	Grant numbers
iv)	GNGRANT	Grant no	Grant details
v)	IDGRANTS	Id	Grant-numbers
vi)	HGRANT	Holder-name	Grant-numbers
vii)	NASTIME	Id	NAS times
viii)	CRAYTIME	Id	CRAY times
ix)	GNTIME	File-name, grant no	Time used on given grant

i) AGRANT: - to list the details of a grant given the unique account number associated with that grant and also the name of the file to be searched. If details of a CRAY grant are required then the name of the file to be searched will be CGRANT, if details of a NAS grant are required then the file name will be GRANT.

e.g. AGRANT GRANT,5008 will give details about the NAS part of the grant associated with the account number 5008.  
AGRANT CGRANT,5008 will give details about the CRAY portion of the above grant.

The details displayed are the grant number, the issuing board and committee, the start and end date of the grant, the total award (0 for CRAY grants) and the amount of the award to be used at Daresbury, the name of the grant holder and the holders' location.

Please note that details of the abbreviations used for the boards and committees are given in appendix C.

An example of part of a QUERY session is given below:-

```

:
agrant grant,5008
-----
GRANT ASSOCIATED WITH ACCOUNT 5008 IS GR/A/6088
DETAILS ARE AS FOLLOWS:.....
ISSUING BOARD                SB
ISSUING COMMITTEE            BS
START DATE                   8001
END DATE                     8109
TOTAL AWARD (0 FOR CRAY GRANTS) 180
AMOUNT OF AWARD ALLOCATED AT DL 180
NAME OF GRANT HOLDER         BLUNDELL
GRANT HOLDERS LOCATION       BIRKBECK
----- END OF EXECUTION -----

```

```

:
agrant cgrant,5028
-----
GRANT ASSOCIATED WITH ACCOUNT 5028 IS GR/B/25070
DETAILS ARE AS FOLLOWS:.....
ISSUING BOARD                SB
ISSUING COMMITTEE            BS
START DATE                   8001
END DATE                     8109
TOTAL AWARD (0 FOR CRAY GRANTS) 0
AMOUNT OF AWARD ALLOCATED AT DL 80
NAME OF GRANT HOLDER         FINNEY
GRANT HOLDERS LOCATION       BIRKBECK
----- END OF EXECUTION -----

```

ii) ACCTIDS:- to list all ids which are registered to use a given account number.

e.g. ACCTIDS 5008 will list the names and ids of all the people currently using account number 5008.

An example of part of a QUERY session is given below:-

```

:
acctids 5008
-----
IDS USING ACCOUNT NUMBER 5008
NAME                                ID
SOMMERS                            L.J.  MODZ
WATSON                             F E   MO8
HANEEF                             I     MO7
FISHER                             G.R.  MODB
----- END OF EXECUTION -----

```

iii) LGRANTS:- to list all SERC supported grants which have been issued to people at a given location.

e.g. LGRANTS GRANT,BIRKBECK will list all the NAS grants in use at Birkbeck College

Please note that a list of all current user sites is given in appendix B. The information provided about each grant is the grant no. and the holder's name:

An example of part of a QUERY session is given below:-

```

:
lgrants grant,birkbeck
-----
SERC SUPPORTED GRANTS AT BIRKBECK
GRANT
GR/B/47027    PALMER
GR/B/72338    BLUNDELL
SBCC4E        CCP4
GR/B/73736    FINNEY
GR/B/64246    BLUNDELL
GR/A/6086     BLUNDELL
GR/A/6088     BLUNDELL
----- END OF EXECUTION -----

```

```

:
lgrants cgrant,birkbeck
-----
SERC SUPPORTED GRANTS AT BIRKBECK

  GRANT
GR/B/72838    BLUNDELL
SBCC4E        CCP4
GR/B/73736    FINNEY
GR/B/64246    BLUNDELL
D15           BLUNDELL
GR/B/25070    FINNEY
-----
END OF EXECUTION -----

iv) GNGRANT:- to give detailed information about a grant, given the grant
number.
e.g.  GNGRANT  GR/B/6088  will give information on both the NAS and
      CRAY parts of grant GR/B/6088

The information provided is the issuing board and committee, the account
number, the start and end date, the holder's name and location and the total
number of 195 and CRAY hours awarded. An example of part of a QUERY session
is given below.
:
gnggrant gr/a/6088
-----
DETAILS OF GRANT GR/A/6088
DETAILS OF THE NAS PART OF THE GRANT

ISSUING BOARD          SB
ISSUING COMMITTEE      BS
ACCOUNT NUMBER         5008
START DATE             8001
END DATE               8109
GRANT HOLDER           BLUNDELL
HOLDERS LOCATION       BIRKBECK
TOTAL 195 HOURS AWARDED 180
195 HOURS AT DL        180
-----
END OF EXECUTION -----

```

```

v) IDGRANTS:- to list all the grants which a given id is registered to
access.
e.g.  IDGRANTS  BLA  will give information about all those grants which
      id BLA is able to access.

The information displayed for each grant is the grant number, the holder's
name and the account number associated with the grant. An example of part
of a QUERY session is given below:-
:
idgrants bla
-----
BELOW IS A LIST OF GRANTS WHICH ID BLA IS ALLOWED TO ACCESS

  GRANT      HOLDER      ACCT
GR/B/49069   BLOW        5015
SBCC4A       CCP4        4540
-----
END OF EXECUTION -----

vi) HGRANT:- to list all grants awarded in a given name.
e.g.  HGRANT  SMITH  will give information about all grants awarded in
      the name of smith.

The information provided about each grant is the grant number and the account
number associated with it. An example of part of a QUERY session is given
below:-
:
hgrant blundell
-----
- BELOW IS A LIST OF ALL GRANTS AWARDED TO BLUNDELL

  GRANT      ACCT
GR/A/6088    5068
GR/B/6086    5008
GR/A/64246   9004
GR/A/72338   5067
-----
END OF EXECUTION -----

vii) NASTIME:- give details of time used on the NAS under a given user id
e.g.  NASTIME  BLA  will give details about the time used on the NAS
      under the id BLA.

The details given are the account number, the number of TSO sessions, the
amount of tso elapsed time, the amount of NAS cpu time used and the number

```

of batch jobs submitted. All the information is given month by month for the latest 12 months and will appear in a list where the first entry represents January, the second February and so on. For instance, if the current month is September then (since the database is updated once a month) the latest entry will have been in August so positions 1 to 8 in the list will represent January to August of the current year. Positions 9 to 12 will represent September to December of last year. So there will be a list of twelve entries under each of the following the headings:

- i) Number of TSO sessions
- ii) Amount of TSO elapsed time
- iii) Amount of CPU time
- iv) Number of batch jobs

All figures which represent computer time are given in hundredths of a second.

- NB: 1) Computer times refer to actual machine time (not for instance 195 hours).
- 2) Owing to the replacement of the IBM 370/165 by the AS/7000, times prior to July 1981 are in 165 hours.

nastime bla

-----  
ACCOUNT NUMBER 4540

NUMBER OF TSO SESSIONS=

0	84	43	0	0	0	4
0	0	2	0	0		

AMOUNT OF TSO ELAPSED TIME=

0	18090	3440	0	0	0	240
0	0	1298	0	0		

AMOUNT OF NAS CPUTIME=

0	0	0	0	0	0	88
23773	170609	35947	0	0		

NUMBER OF BATCH JOBS SUBMITTED=

0	0	0	0	0	0	1
29	190	23	0	0		

ACCOUNT NUMBER 4545

NUMBER OF TSO SESSIONS=

0	0	0	0	0	0	0
---	---	---	---	---	---	---

0	0	0	0	0
---	---	---	---	---

AMOUNT OF TSO ELAPSED TIME=

C

0	0	0	0	0	0	0
0	0	0	0	0		

AMOUNT OF NAS CPUTIME=

0	0	0	1575	0	0	0
0	0	0	0	0		

NUMBER OF BATCH JOBS SUBMITTED=

0	0	0	0	0	0	0
0	0	0	0	0		

ACCOUNT NUMBER 5015

NUMBER OF TSO SESSIONS=

143	131	88	112	72	59	27
24	85	42	86	91		

AMOUNT OF TSO ELAPSED TIME=

46026987	42263202	24292409	29919739	18702860	22205662	3823871
4715098	21631661	7945361	18340355	20472044		

AMOUNT OF NAS CPUTIME=

471674	497313	224705	508465	181450	502512	18890
14850	95004	85974	188804	187319		

NUMBER OF BATCH JOBS SUBMITTED=

C

386	244	184	242	158	215	35
7	117	68	161	121		

----- END OF EXECUTION -----  
(Please see Note (3))

viii) CRAYTIME:- to give details of time used on the CRAY under a given user id  
e.g. CRAYTIME HL will give details of all batch jobs run on the CRAY under the id HL in the last twelve months.

The information given is the account number, the number of batch jobs and the amount of CPU time used. The format is the same as that used for NASTIME. The CPU time is given in hundredths of a second.

An example of part of a QUERY session is given below

;

craytime hl

-----  
ACCOUNT NUMBER 5120

NUMBER OF BATCH JOBS RUN ON THE CRAY=

0	0	66	199	141	424	221
239	72	0	0	0		

AMOUNT OF CPU TIME USED ON THE CRAY=

0	0	1012579	1888780	706209	2287425	1821212
2495602	298432	0	0	0		

ACCOUNT NUMBER 5027

NUMBER OF BATCH JOBS RUN ON THE CRAY=

0	25	1	0	0	0	0
0	0	0	0	0		

AMOUNT OF CPU TIME USED ON THE CRAY=

0	94382	0	0	0	0	0
0	0	0	0	0		

----- END OF EXECUTION -----

ix) GNTIME:- to give details of the total amount of time used on a given grant since the start date. It is necessary to specify which file the record is to be extracted from (i.e. CGRANT for a cray grant or GRANT for a NAS grant).

e.g. GNTIME GRANT,GR/B/6666 will give the total amount of time used on the NAS on Grant GR/B/6666

GNTIME CGRANT,GR/B/6666 will give the total amount of time used on the CRAY on grant GR/B/6666

The information given is the total time used (in hundredths of a second), the account number and the grant holders name.

NB: NAS times are given in 195 hours and not NAS hours. An example of part of a QUERY session is given below.

:  
gntime grant,gr/a/6088

-----  
CPU TIME USED SINCE THE BEGINNING OF THE GRANT= 82273493

ACCOUNT NUMBER ASSOCIATED WITH THE GRANT= 5008

GRANT HOLDER - BLUNDELL

----- END OF EXECUTION -----

## NOTES

- 1) If a CSLIST requires more than one parameter (eg AGRANT) then the parameters should be separated by commas.
- 2) If, after any of the CSLISTS have been invoked, the message 'FETCH failed to retrieve a record' appears or two dotted lines the width of the screen are displayed (possibly with a heading in between), then the information requested is not in the database.
- 3) If a command produces more than 20 lines of output the listing will halt after the first 20 lines and a bar will be displayed at the bottom left of the screen. The user now has 3 options as to what may be entered:-  
C - continue with the next 20 lines of output  
U - produce the rest of the listing with no pauses (except for the usual TSO end of page pauses)  
S - stop the output.  
It should be noted that these pauses after 20 lines of output are in addition to the usual TSO pauses. For instance if the TSO page length is set to 15 then a pause will occur after 15 lines and again after a further 5.
- 4) If after executing a command the message:- 'Transaction still in progress' is displayed then the following two commands should be typed one after the other:-

TEND

EX

The message 'Transaction ended' will then appear.

NB: This will only happen very occasionally and is caused by certain QUERY commands within the CSLISTS. It is not an error.

- 5) To terminate a QUERY session type:-  
ABANDON
- 6) The @Y command should not be used to interrupt a listing as this will cause the QUERY session to terminate, leaving the database in an inconsistent state.

## 5. GENERATING BATCH REPORTS

Three clists are available for generating reports from the database:-

- 1) GUS.CLIST(IBMREP) - generates reports in the format used by boards and committees for the NAS.

- ii) GUS.CLIST(CRAYREP) - generates reports in the format used by boards and committees for the CRAY.
- iii) GUS.CLIST(REPORT) - used to generate all other reports from the database.

i) GUS.CLIST(IBMREP)

GUS.CLIST(IBMREP) contains a clist which submits a batch job to create a report on the AS/7000 grants and usage figures for use by boards and committees. The report produced is in holder within committee within board order, totals being produced for each board and committee. Sample outputs are given in appendix D.

The clist has the following keyword parameters, default values being given in brackets.

ID(GUS) = The ID the job is to run under.  
 A(0030) = The account number the job is to run under.  
 JOB(PRINT) = The jobname.  
 T(0) = The number of CPU minutes allocated to each step of the job.  
       The seconds field for each step is 59.  
 CLASS(A) = The sysout class for output.  
 LM(01) = The first month of the first quarter on which usage figures are based.  
 N(GUS) = The name field of the job card.

Usage figures are given by the quarter. Month one in the database is January, month two February and so on to month 12. The parameter LM allows the user to determine which month within the database will correspond to the first month of the first quarter, e.g.

EXEC 'GUS.CLIST(IBMREP)' 'JOB(IBM) LM(05)'

produces a report in which the first quarter is of the months May (month 5), June and July. The second quarter is August, September and October. The third: November, December, January and the fourth: February, March and April.

ii) GUS.CLIST(CRAYREP)

GUS.CLIST(CRAYREP) contains a clist which submits a batch job to create a report on the CRAY grant and usage figures for use by boards and committees. The report produced is in holder within committee within board order, totals being produced for each board and committee. Output is in the same format as for the IBMREP command.

The clist has the following keyword parameters, default values being given in brackets.

ID(GUS) = The ID the job is to run under.  
 A(0030) = The account number the job is to run under.  
 JOB(PRINT) = The jobname.  
 T(0) = The number of CPU minutes allocated to each step of the job.  
       The seconds field for each step is 59.  
 CLASS(A) = The sysout class for output.  
 LM(01) = The first month of the first quarter on which usage figures are based.  
 N(GUS) = The name field of the job card.

Usage figures are given by the quarter. Month one in the database is January, month two February and so on to month 12. The parameter LM allows the user to determine which month within the database will correspond to the first month of the first quarter, e.g.

EXEC 'GUS.CLIST(CRAYREP)' 'JOB(CRAY) LM(05)'

produces a report in which the first quarter is of the months May (month 5), June and July. The second quarter is August, September and October. The third: November, December, January and the fourth: February, March and April.

iii) GUS.CLIST(REPORT)

GUS.CLIST(REPORT) contains a clist to provide for the generation of the following reports from the database:-

- list of ID's with associated names and accounts
- list of AS/7000 grants
- list of CRAY grants
- details of AS/7000 usage
- details of CRAY usage
- details of AS/7000 usage totaled over a specified range of account numbers
- details of CRAY usage totaled over a specified range of account numbers.

Sample prints of each of the above reports are given in appendix D. Details of how to generate the reports are given below.

When requesting a print from the database the user may use one of a standard set of command cards available or alternatively may create his own. In order to understand the way in which the report program works and decide whether the standard control files available will meet his requirements the user must study the remainder of this section with some care. The standard control cards are contained in control files as detailed in table 1 below.

The particular report(s) to be generated is/are specified in a control file which is a member of PDS GUS.DATA. Each control file consists of one

or more command cards, each being of the format:-

KEYWORD parameters

where KEYWORD indicates the report to be produced. The available keywords are listed below and the parameters are used to control the options available with the report. The parameters are all numeric. The supplementary information cards associated with TUSAGE/TCUSAGE commands do not have this format. In the control file each command keyword must start on the first column of its card. Each keyword indicates one report to be generated:

USER - report listing ID's, names and accounts  
 GRANT - report on AS/7000 grants  
 CGRANT - report on CRAY grants  
 USAGE - report on AS/7000 usage  
 CUSAGE - report on CRAY usage  
 TUSAGE - totals report on AS/7000 usage  
 TCUSAGE - totals report on CRAY usage  
 STOP - optional last card to indicate end of control file

With the exception of TUSAGE and TCUSAGE cards (see below) the second field on the card specifies the order in which the report is to be printed, the default being order 1. Listed below are the various keywords, available parameters, corresponding sort order and the member of GUS.DATA containing cards appropriate to this command.

TABLE 1

Keyword	Value of Parameter 1	Sort order	Standard Command Files (members of GUS.DATA)
USER	1	ID order	USER1
	2	Account order	USER2
	3	Location order	USER3
	4	Name order	USER4
GRANT	1	Account order	GRANT1
	2	Board/Holder order	GRANT2
CGRANT	1	Account order	CGRANT1
	2	Board/Holder order	CGRANT2
USAGE	1	Account order	USAGE1 (see below)
	2	ID/account order	USAGE2 (see below)

CUSAGE	1	Account order	CUSAGE1(see below)
	2	ID/account order	CUSAGE2(see below)

For USAGE/CUSAGE reports the following further options are available:-

field 3 : The first months details to go into the report  
 field 4 : The last months details to go into the report  
 \* field 5 : Minimum CPU time for details to be reported  
 \* field 6 : Maximum CPU time for details to be reported  
 \* field 7 : Minimum TSO elapsed time for details to be reported  
 \* field 8 : Maximum TSO elapsed time for details to be reported  
 field 9 : If set to 1 only totals for each ID/account combination will be printed. The default, 0, gives full details for each month in the specified range.  
 \*entered in 1/100ths of a second.

To obtain the default value for any parameter specify 0.

Note the default values used with pairs of range parameters are such as to include all records in the print.

All fields up to and including the last one which is not to take the default value must be specified, e.g. to obtain a USAGE print in order 2 giving totals only the card would be of the form:

USAGE 2 0 0 0 0 0 0 1

Note: the standard control files USAGE1, USAGE2, CUSAGE1 and CUSAGE2 are of the format above, i.e. Details are not given month by month but are totaled over 12 months for each id/account combination.

When the TUSAGE or TCUSAGE keyword is specified the following parameters are required:

field 1 : The first account number for which usage is to be totaled  
 field 2 : The last account number for which usage is to be totaled

A TUSAGE or TCUSAGE card must be followed by a card containing a heading to go with the accumulated totals.

e.g. DARESBURY INTERNAL PROJECTS

To make a non-standard report (i.e. more than one report, or different fields in USAGE and CUSAGE) a new control file must be written using the TSO editor. The control file will be a member of GUS.DATA. When creating a new control file please give it a name which will identify it, for instance your initials or TSO ID. When the required reports have been generated please delete the file.

Two possible files with explanations are given below:

#### Example 1

```
GRANT 2          a)
USAGE 1 0 0 6000 0 0 0 1 b)
TUSAGE 3000 3150 c)
DARESBURY INTERNAL PROJECTS TOTAL d)
STOP            e)
```

- a) Reports on AS/7000 grants in Board/Holder order
- b) Reports on AS/7000 usage totals over 60 secs of CPU time in account order.
- c) Total AS/7000 usage for all accounts between 3000 and 3150 inclusive.
- d) Title for TUSAGE report
- e) End of control file

#### Example 2

```
USER 2          f)
CGRANT 1        g)
CUSAGE 1  8 8 0 0 0 0 1 h)
TCUSAGE  6590 6600 i)
DARESBURY CRAY USAGE TOTALS j)
                k)
```

- f) Reports on AS/7000 users in account order
- g) Reports on CRAY grants in account order
- h) Reports on CRAY usage totals for month 8 in account order
- i) Total on CRAY usage for all accounts between 6590 and 6600 inclusive.
- j) Title for TCUSAGE report
- k) STOP card assumed.

Sample outputs for these examples are given in appendix D.

To run the job execute GUS.CLIST(REPORT). The clist has the following keyword parameters, default values being shown in brackets.

```
JOB(PRINT) : Appended to the ID parameter this gives a jobname to the job
              submitted (no more than 5 characters permitted)
A(0030)    : The account number the job is to run under.
ID(GUS)    : Prefixed to the JOB parameter this gives a jobname to the job
              submitted.
T(0)       : Total CPU time for the jobs (&T,59).
DC(PRINT)  : The member of GUS.DATA containing the control cards.
```

#### Examples

- a) when logged on as GUS  
REPORT JOB(USAGE) DC(USAGE1)
- b) when logged on under other ID's  
EXEC 'GUS.CLIST(REPORT)' 'JOB(USAGE) A(acct) ID(id) DC(USAGE1)'

where 'acct' and 'id' are the users account number and ID.

NB: 1) Most reports will take much less than one minute CPU time. Jobs using USER with sort options 1, 3 or 4, however, take more CPU time and entering T(10) is recommended.

2) When using the TUSAGE/TCUSAGE commands account ranges greater than 5000 may lead to overflow in the TSO elapsed time field.

3) The USAGE and CUSAGE commands may produce large printouts unless totals only are specified.

# APPENDIX A - DATABASE STRUCTURE

The database consists of 6 RAPPORT files, as follows:

NAME - User details  
ACCOUNT - ID/account combinations  
GRANT - AS/7000 grant details  
CGRANT - CRAY grant details  
USAGE - AS/7000 usage details  
CUSAGE - CRAY usage details

Details of the contents of each file are given in the following tables:

Note that:-

- PKEY indicates the field is a prime key
- the bracket figures under the NOTES column refer to expanded comments which follow the table
- the lengths of the fields are in words
- type is either CHAR for character or BIN for binary
- the field column refers to the field name within the DDF file

FILE NAME : ACCOUNT

RECORDS 2501

CHANNEL 15

FIELD	QUERY NAME	TYPE	LENGTH/ REPETITION	NOTES
LTID	ID	CHAR	1	PKEY (1)
LTACCT	ACCT	BIN	1	PKEY, INDEX (5) Users Account number

FILE NAME : NAME

RECORDS 2001

CHANNEL 16

FIELD	QUERY NAME	TYPE	LENGTH/ REPETITION	NOTES
LUID	ID	CHAR	1	PKEY (1)
LUINIT	INITIALS	CHAR	2	(2)
LUNAME	NAME	CHAR	5	INDEX (3)
LULOC	PLACE	CHAR	5	(4) Users location

FILE NAME : GRANT

RECORDS 201

CHANNEL 17

FIELD	QUERY NAME	TYPE	LENGTH/ REPETITION	NOTES
LGBORD	BOARD	CHAR	1	(6) issuing board
LGCTEE	COMM	CHAR	1	(7) committee, INDEX
LGRANT	GRANT	CHAR	3	PKEY (8)
LGDACT	ACCT	BIN	1	INDEX (5) Account number
LGSAD	START	BIN	1	(9) grant start date
LGSTDT	STOP	BIN	1	(10) grant stop date
LGTUNS	TOTAL	BIN	1	(11) Total award
LGDUNS	TIME	BIN	1	(12) Award at DL
LGHOLD	NAME	CHAR	5	(13) grant holder, INDEX
LGHLOC	PLACE	CHAR	5	(14) Holders location
LGCOH1	NAME2	CHAR	5	(15) grant co-holder
LGCOH2	NAME3	CHAR	5	(15) grant co-holder
LGCONT	CONTACT	CHAR	5	(16) contact name
LGCLCOC	LOCATION	CHAR	5	(17) contact location
LGCODE	CODE	CHAR	1	unused
LGSUM	SUM	BIN	1	(18) CPU Total
LGSPAR	-	BIN	8	unused

FILE NAME : CGRANT

RECORDS 201

CHANNEL 17

FIELD	QUERY NAME	TYPE	LENGTH/ REPETITION	NOTES
LRBORD	BOARD	CHAR	1	(6) issuing board
LRCTEE	COMM	CHAR	1	(7) INDEX COMMITTEE
LRRANT	GRANT	CHAR	3	PKEY (8)
LRDACT	ACCT	BIN	1	INDEX (5) account number
LRSAD	START	BIN	1	(9) Grant start date
LRSTDT	STOP	BIN	1	(10) Grant stop date
LRTUNS	TOTAL	BIN	1	(11) unused
LRDUNS	TIME	BIN	1	(12) award or DL
LRHOLD	NAME	CHAR	5	INDEX (13) grant holder
LRHLOC	PLACE	CHAR	5	(14) holders location
LRCON1	NAME1	CHAR	5	(15) grant co-holder
LRCON2	NAME2	CHAR	5	(15) grant co-holder
LRCONT	CONTACT	CHAR	5	(16) contact name
LRCLCOC	LOCATION	CHAR	5	(17) contact location
LRCODE	CODE	CHAR	1	unused
LRSUM	SUM	BIN	1	(18) CPU time total
LRSPAR	-	BIN	8	unused

FILE NAME : USAGE

RECORDS 2001

CHANNEL 18

FIELD	QUERY NAME	TYPE	LENGTH/ REPETITION	NOTES
LAIID	ID	CHAR	1	PKEY (1)
LAACCT	ACCT	BIN	1	PKEY (5)
LATSOS	TSOS	BIN	12	(19) TSO Sessions
LATSOE	TSOE	BIN	12	(20) TSO elapsed time
LACPUT	CPU	BIN	12	(21) CPU time
LAJOBS	JOBS	BIN	12	(22) number of batch jobs

FILE NAME : CUSAGE

RECORDS 401

CHANNEL 18

FIELD	QUERY NAME	TYPE	LENGTH/ REPETITION	NOTES
LCID	ID	CHAR	1	PKEY (1)
LCACCT	ACCT	BIN	1	PKEY (5)
LCTSOS	TSOS	BIN	12	(19) Not applicable
LCTSOE	TSOE	BIN	12	(20) Not applicable
LCCPUT	CPU	BIN	12	(21) CPU time
LCJOBS	JOBS	BIN	12	(22) number of batch jobs

(1) ID

This is the ID a user uses for TSO sessions and identifying batch jobs. It may be up to 4 characters long, e.g. XBD, EM, USG, OPER.

(2) Initials

A users initials (and possibly title) e.g. GD, EM, DE, PROF. Up to 8 characters may be used.

(3) Name

This is the users surname e.g. FIRTH, BAILEY, SMITH and may be up to 20 characters long.

(4) Location

This is the site at which the user is based e.g. DARESBUY for Daresbury Laboratory, BIRKBECK for Birkbeck College London. See appendix B for full list of sites. Up to 20 characters may be used.

(5) Account

The account number a user uses for TSO sessions and running batch jobs. Up to 4 digits, e.g. 30, 4320, 410.

(6) Board

This is the board responsible for issuing the grant, e.g. SB for Science Board. See appendix C for a full list of abbreviations. Up to 4 characters long.

(7) Committee

This is the committee responsible for issuing the grant, e.g. BS Biological Sciences. See appendix C for a full list of abbreviations. Up to 4 characters long.

(8) Grant

This is the code for the grant e.g. GR/A/12345. It may be up to 12 characters long.

(9) Start Date

The date from which a grant is to run in YYMM format e.g. 8004 represents April 1980. NB: The grant will run from the first day of the month. The date must consist of 4 digits, the first 2 representing the year, the second 2 representing the month.

(10) Stop Date

The date on which the grant is to terminate in YYMM format, e.g. 8303 represents March 1983. NB: The grant runs until the last day of the month. The date must consist of 4 digits, the first 2 representing the year, the second 2 representing the month.

(11) Total Units

This is the total number of CPU hours for which the grant is awarded. Note that some of this grant may be for computers other than those at Daresbury Laboratory, for instance time may also be awarded for use of the Rutherford Laboratory computers. For the AS/7000 this figure is given in 195 hours (for an IBM 360/195), where one 195 hour is equivalent to 2.0 AS/7000 hours.

(12) Daresbury Units

The number of hours of Daresbury computer time for which the grant is made. For the AS/7000 this figure is in 195 hours (see 11 above). For the CRAY this figure will constitute the full award. E.g. Professor Smith may have been allocated 100 195 hours (this is his total award) of which 50 hours are at Rutherford and 50 hours are at Daresbury. Thus the figure recorded in the Daresbury units field is 50. This will entitle him to use 95 hours CPU time on the AS/7000 at Daresbury.

(13) Grant Holder

The surname of the person to whom the grant is issued, which need not be the person actually doing the work. E.g. SMITH. Up to 20 characters long.

(14) Place

The site at which the grant holder is situated. E.g. BIRKBECK, LIVERPOOL. See appendix B for a full list of sites. Up to 20 characters long.

(15) Co-holder

Some grants are held by more than one person, so co-holder names must be stored, e.g. JONES. Up to 20 characters long.

(16) Contact Name

The person actually doing the work when this is not the grant holder, e.g. BROWN. Up to 20 characters long.

(17) Contact Location

The site of the person actually doing the work when this is not the grant holder, e.g. LIVERPOOL. See Appendix B for a full list of sites. Up to 20 characters long.

(18) Sum

This is the total amount of CPU time used against the grant to date, stored in 1/100ths of a second.

(19) TSO Sessions

There is one entry for each of the last twelve months, each entry containing the number of TSO sessions completed under this ID/account combination during the month. NB: These are calendar months.

(20) TSO Elapsed Time

There is one entry for each of the last twelve months, each entry containing the total time the ID/account combination was logged on to TSO during the month in 1/100ths of a second. The months are calendar months.

(21) CPU Time

There is one entry for each of the last twelve months, each entry containing the total CPU time used by the ID/account combination during the month. The figure is in 1/100ths of a second and includes time for batch jobs and TSO sessions. The months are calendar months.

(22) Jobs

There is one entry for each of the last twelve months, each entry containing the number of batch jobs submitted by the ID/account combination during the month. The months are calendar months.

APPENDIX B - USER SITES

Abingdon	Liverpool
ACSL	LOGICA
Bangor	London
Bath	London Poly
Belfast	Mancaster
Bidston	Manchester
Birkbeck	Oxford
Birmingham	Portsmouth
Bracknell	Queen Mary College
Bradford	Reading
Brighton	Runcorn
Bristol	Rutherford
Bury	St. Andrews
Cambridge	Salford
CRAY	Sheffield
Daresbury	Southampton
Durham	Spires
East Kilbride	Surrey
Edinburgh	Sussex
Exeter	Swindon
Geneva	Tennessee
Glasgow	Texas
Grenoble	ULCC
IBM	Ulster
Imperial	UMIST
Juelich	University College
Keele	Warrington
Kings College	Warwick
Lancaster	Warmley
Leeds	Wokingham
Leicester	York

# APPENDIX C - BOARDS AND COMMITTEES

Abbreviation	Title
ASR	Astronomy Space and Radio
AI	Astronomy 1
AII	Astronomy 2
SS	Solar System
EB	Engineering Board
EC	Environment
EPC	Engineering Processes
IEC	Information Engineering
MC	Materials
MPC	Machines and Power
NP	Nuclear Physics Board
SB	Science Board
BS	Biological Sciences
C	Chemistry
M	Mathematics
NB	Neutron Beam
P	Physics
SBA	Science Based Archaeology
NBRC	NBRC
LFC	Laser Facility
SRFC	SRFC

# APPENDIX D - Sample prints

In order to understand fully how the sample prints were produced the descriptions in chapter 5 should be read.

Example of output produced by GUS.CLIST(IBMREP)

GUS20 GRANT HOLDER	GRANTS AND USERS - LOCATION	REFERENCE	DURATION (MONTHS)	START DATE	STOP DATE	AWARD (195 HRS)	ALLOCATION AT DL (195 HRS)	PAGE HOURS USED EACH QUARTER	1 DATE 22/01/82	2	3	4	NOTES
ASTRONOMY II SEATON	UCL	SG/C/11856	18	8104	8209	150	50	1 12 8 0	20				
		TOTALS FOR ASTRONOMY II				150	50	1 12 8 0					
UUUU BURKE KAISER	BELFAST SHEFFIELD	SG/D/03209 SG/D/04312	36 36	7910 8007	8209 8306	124 13	123 13	4 18 14 12 0 0 0 0	74 0				
		TOTALS FOR UUUU				137	136	4 18 14 12					
GUS20 GRANT HOLDER	GRANTS AND USERS - LOCATION	REFERENCE	DURATION (MONTHS)	START DATE	STOP DATE	AWARD (195 HRS)	ALLOCATION AT DL (195 HRS)	PAGE HOURS USED EACH QUARTER	1 DATE 22/01/82	2	3	4	NOTES
ENC BRANDEN	DURHAM	GR/A/97691	36	8002	8301	90	90	6 0 3 2	11				
		TOTALS FOR ENC				90	90	6 0 3 2					
MATERIALS HALL	UNIST	GR/B/77376	12	8201	8212	2	2	0 0 0 0	0				
		TOTALS FOR MATERIALS				2	2	0 0 0 0					
		TOTALS FOR ENGINEERING BOARD				92	92	6 0 3 2					

Example of output produced by GUS.CLIST(CRAYREP)

GUS20 GRANT HOLDER	GRANTS AND USERS - LOCATION	REFERENCE	DURATION (MONTHS)	START DATE	STOP DATE	AWARD (195 HRS)	ALLOCATION AT DL (195 HRS)	PAGE HOURS USED EACH QUARTER	1 DATE 25/01/82	2	3	4	NOTES
ASTRONOMY I ERAN	MANCHESTER	SG/B/03311	15	8105	8207	0	30	0 0 0 0	1				
		TOTALS FOR ASTRONOMY I				0	30	0 0 0 0					
ASTRONOMY II JAMES SEATON	MANCHESTER UCL	SG/C/11108 SG/C/11856	24 18	8101 8104	8212 8209	0 0	100 75	3 5 5 1 0 0 0 0	19 1				
		TOTALS FOR ASTRONOMY II				0	175	3 5 5 1					
SOLAR SYSTEM BURKE REES	BELFAST UCL	SG/D/04756 SG/D/04954	24 12	8101 8104	8212 8203	0 0	104 15	20 30 27 3 0 0 0 0	80 1	F			
		TOTALS FOR SOLAR SYSTEM				0	119	20 30 27 3					
UUUU SELLWOOD	CAMBRIDGE	D27	0	0	0	0	4	0 0 0 0	0				
		TOTALS FOR UUUU				0	4	0 0 0 0					
		TOTALS FOR ASTRONOMY, SPACE AND RADIO				0	328	23 35 32 4					

Examples of output produced by GUS.CLIST(REPORT)

Before each report the control card used to produce it is given

a) GRANT 2										PAGE	1 DATE 12/01/82
CU200 BOARD	GRANT	GRANTS AND USERS - ACCOUNT	1BM GRANT REPORT - ACCOUNT	STOP DATE	TOTAL DATE	GRANT/HOLDER ORDER DARESBURY HOLDER	UNITS	LOCATION			
ASR	SG/C/11092	8002	8101	8112	0	0	0	BLACKWELL			
ASR	SG/D/03209	5000	7910	8209	124	123	0	BURKE			
ASR	SG/D/04756	8010	8101	8212	0	0	0	BURKE			
ASR	SG/C/11108	8001	8101	8212	0	0	0	JAMES			
ASR	SG/D/04312	8000	8007	8306	13	13	0	KAISER			
ASR	SG/B/03311	8020	8105	8207	0	0	0	KHAN			
ASR	SG/D/04060	8003	8004	8103	0	0	0	REES			
ASR	SG/D/04954	8015	8104	8103	0	0	0	REES			
ASR	SG/C/11856	8005	8104	8209	150	50	0	SEATON			
ASR	D27	8022	0	0	0	0	0	SELLWOOD			
DISC	D17	6300	0	0	0	0	0	CULHAM			
DISC	D17B	6301	0	0	0	0	0	CULHAM			
EB	D24	7020	0	0	0	0	0	ALTMAN			
EB	GR/B/48697	5054	8007	8306	0	0	0	ATKINS			
EB	GR/A/97691	7004	8002	8301	90	90	0	BRANDSEN			
EB	GR/B/46822	5058	8101	8112	0	0	0	DIXON			
EB	D11	7005	0	0	0	0	0	EASTHAM			
EB	GR/B/66666	7015	8110	8409	0	0	0	GRANHAM			
EB	GR/B/87025	7010	8106	8305	0	0	0	HARVEY			
EB	GR/B/23601	7003	8001	8212	0	0	0	PERROTT			
EB	GR/B/48369	7025	8011	8310	0	0	0	RAMSON			
EB	D9	7001	8009	0	0	0	0	THORBRIDGE			
EB	GR/B/31130	7002	8008	8306	0	0	0	WALDEN			
EB	GR/B/26381	7000	8001	8012	0	0	0	WATSON			
EB	D16	7006	0	0	0	0	0	YOUNG			
NERC	NERC2	6220	8111	8203	0	0	0	ANDERSON			
NERC	NERC4	6202	8111	8203	0	0	0	DAVIES			
NERC	NERC10	6230	8111	8203	0	0	0	GILL			
NERC	NERC3	6201	8111	8203	0	0	0	HOSKINS			
NERC	NERC9	6224	0	0	0	0	0	HYDROLOGY			
NERC	NERC5	6001	8104	8203	0	0	0	IOS			
NERC	NERC5A	6003	8104	8203	0	0	0	IOS			
NERC	NERC15	6232	8201	8203	0	0	0	KENNETT			
NERC	NERC1	5048	8001	8012	0	0	0	MILLER			
NERC	NERC8	6222	0	0	0	0	0	SKOKOSZ			
NERC	NERC 6210	6210	0	0	0	0	0	WEBB			

b) USAGE 1 0 0 6000 0 0 0 1

ACCOUNT ID ORDER										PAGE	2 DATE 12/01/82
CU200 USER ID	GRANTS AND USERS - ACCOUNT MONTH	CPUTIME	NUMBER OF BATCH JOBS	SESSIONS	ISO	ELAPSED	TIME				
PH	10 1-12	17.17.39	4432	0	0	0	0				
PJ	10 1-12	1.19.12	415	1	0	0	2.46				
RL	10 1-12	0.5.59	653	0	0	0	0				
SCOP	10 1-12	78.15.6	11049	0	0	0	0				
SCOP	12 1-12	2.8.35	371	0	0	0	0				
CSMP	30 1-12	0.9.56	336	5	0	0	12.24				
RA	30 1-12	0.41.22	66	138	54	0	52				
DEMO	30 1-12	0.1.3	0	11	3	6	18				
DT	30 1-12	0.10.56	21	65	18	37	58				
EH	30 1-12	5.51.54	947	488	420	56	15				
FD	30 1-12	0.49.47	127	271	166	57	40				
GUS	30 1-12	14.36.11	1525	271	129	8	36				
JC	30 1-12	0.6.39	26	2	0	51	56				
MP	30 1-12	0.12.5	55	0	0	0	0				
RA	30 1-12	0.9.25	74	91	29	34	53				
RO	30 1-12	10.25.34	708	734	393	28	31				
RU	30 1-12	1.39.52	80	343	254	11	37				
US	30 1-12	2.29.43	135	675	407	15	44				
USG	30 1-12	8.18.26	2644	1171	932	35	37				
USM	30 1-12	1.58.22	919	579	271	6	43				
USPA	30 1-12	1.30.33	400	342	159	24	13				
USPA	30 1-12	0.30.36	5	153	65	13	3				
USPC	30 1-12	1.41.1	36	340	278	47	18				
USPD	30 1-12	0.1.19	0	12	6	15	36				
USS	30 1-12	2.55.24	598	626	324	13	9				
WH	30 1-12	8.29.51	2190	426	950	23	2				
WY	30 1-12	2.30.56	1079	192	240	11	42				
WYR	31 1-12	0.2.41	7	74	10	31	13				
WE	40 1-12	12.2.6	1610	771	278	26	13				
RD	40 1-12	0.9.34	54	62	26	19	22				
FC	41 1-12	0.4.2	40	33	38	23	34				
FGC	41 1-12	0.8.41	42	99	31	51	58				
FD	41 1-12	0.39.21	147	117	69	22	23				
LJ	41 1-12	1.37.49	453	498	279	13	10				
OK	41 1-12	0.6.49	33	79	34	43	34				
WS	41 1-12	0.40.10	95	309	105	9	23				

C) TUSAGE 3000 3150

DATE 12/01/82

GRANTS AND USERS - GROUP USAGE TOTALS

DARESURY INTERNAL PROJECTS TOTAL

ACCOUNT NUMBER RANGE 3000 TO 3150

	MONTHS 1 TO 12	CPU TIME	64.43	76.1	66.22	34.38	39.31	21.32	52.11	65.50	67.41	112.2	76.30	57.59
BATCH JOBS	1555	1613	1566	1270	1240	580	1551	1378	1906	1378	1378	1119	1028	616
TSO SESSIONS	1472	1336	1328	1168	492	1314	1551	1119	1281	907	1451	1281	907	907
TSO TIME	519.26	528.50	692.43	560.16	520.39	234.23	564.8	744.28	563.33	559.0	516.18	311.16		

2) USER 2

PAGE 1 DATE 12/01/82

GRANTS AND USERS - NAME AND ACCOUNT REPORT

INITIALS NAME LOCATION ACCOUNT

EV	G	EVANGELIDES	DARESURY	0
GE	BT	MCGRONE	DARESURY	0
IG	IC	REDDING	DARESURY	0
ICJ	J.A.	GLEAVE	DARESURY	0
JF	JFL	HOPKINSON	DARESURY	0
HJ	M J	BLEACH	DARESURY	0
HU	M	BUTLER	DARESURY	0
PD	P	SMITH	DARESURY	0
PII	T	DANIELS	DARESURY	0
PIA	A	SHYR	DARESURY	0
PHK	R.	KIRK	DARESURY	0
PO	CSE	POSTBOX	DARESURY	0
QB	A.D.	BURNS.	DARESURY	0
SCOP	SCOP	SCOP	DARESURY	0
SY	GROUP	SYSTEM	DARESURY	0
SYR	M	PICKERING	DARESURY	0
SYS	GROUP	SYSTEMS	DARESURY	0
S370	370 SOUR	SYSTEM	DARESURY	0
WH	WH	PURVIS	DARESURY	0
XI	PE	HAVERCAN	DARESURY	0
RAP	LOGICA	LOGICA	DARESURY	1
RAQ	FOX	FOX	LONDON	1
CA	A.S.	DAVIES	DARESURY	10
FLOP	RH	HOPKINS	DARESURY	10
HA	J	HOPKINS	DARESURY	10
MAA	LS	HOPKINS	DARESURY	10
NAT	TAN	TAN	DARESURY	10
OPAR	A	RAILEY	DARESURY	10
OPBW	BR	WILLIAMS	DARESURY	10
OPCH	C	HASKALL	DARESURY	10
OPCQ	C	QUINN	DARESURY	10
OPEA	E	AUSTIN	DARESURY	10
OPER	370	OPERATORS	DARESURY	10
OPJA	I	BUTTERWORTH	DARESURY	10
OPJA	J	ATHERTON	DARESURY	10
OPMR	MW	BUTLER	DARESURY	10

g) CCRANT 1

PAGE 1 DATE 12/01/82

GRANTS AND USERS - GRAY GRANT REPORT - ACCOUNT ORDER

DATE STOP TOTAL DARESURY UNITS HOLDER

NP	NP3	2210	8104	8203	0	20	MORIARTY	RIC
NP	NPI	2300	8104	8203	0	60	MAGARAJAN	DARESURY
NP	NJO	3014	8104	8203	0	2	TWIN	LIVERPOOL
NP	NP2	3024	8104	8203	0	40	IRVINE	MANCHESTER
NR	HG/09631	3025	8104	8203	0	10	GOLDFARS	MANCHESTER
NP	NPIA	3112	8104	8203	0	0	NS THEORY	DARESURY
SN	SRCC128	4100	8104	8203	0	0	SOLIN STATE THEORY	DARESURY
SB	SRCC11A	4300	8104	8203	0	5	PROGRAM PACKAGE	DARESURY
SB	SRCC10	4340	8104	8203	0	10	LATTICE SIMULATION	DARESURY
SR	SRCC12A	4400	8104	8203	0	70	SRS THEORY	DARESURY
SR	SRCC1A	4510	8004	8103	0	25	CCP1	DARESURY
SB	SRCC1B	4511	8104	8203	0	0	CCP1	YORK
SR	SRCC1C	4512	8104	8203	0	25	CCP2	DARESURY
SR	SRCC2A	4520	8004	8103	0	0	CCP2	BELFAST
SR	SRCC2B	4521	8104	8203	0	0	CCP2	UCL
SR	SRCC2C	4522	8104	8203	0	0	CCP2	RIC
SR	SRCC2D	4523	8104	8203	0	0	CCP2	DURIAM
SN	SRCC2E	4524	8104	8203	0	0	CCP2	OXFORD
SB	SRCC2F	4525	8104	8203	0	25	CCP3	DARESURY
SR	SRCC3A	4530	8004	8103	0	0	CCP3	DARESURY
SB	SRCC3B	4531	8104	8203	0	0	CCP3	LIVERPOOL
SB	SRCC3C	4532	8104	8203	0	0	CCP3	LIVERPOOL
SB	SRCC3D	4533	8104	8203	0	0	CCP3	COLERAIN
SB	SRCC3E	4534	810	8203	0	0	CCP3	YORK
SN	SRCC3F	4535	8104	8203	0	0	CCP3	WARWICK
SR	SRCC3G	4536	8104	8203	0	0	CCP3	DARESURY
NP	SRCC3H	4537	8104	8203	0	0	CCP3	SHEFFIELD
SR	SRCC3I	4538	8104	8203	0	0	CCP3	OXFORD
SB	SRCC4A	4540	8104	8203	0	25	CCP4	YORK
SB	SRCC4B	4541	8104	8203	0	0	CCP4	BIRKBECK
SB	SRCC4C	4542	8104	8203	0	0	CCP4	SHEFFIELD
SR	SRCC4D	4543	8104	8203	0	0	CCP4	DARESURY
SB	SRCC4E	4544	8104	8203	0	0	CCP4	RIC
SB	SRCC4G	4546	8104	8203	0	15	CCP5	
SB	SRCC5A	4550	8104	8203	0	0	CCP5	
SR	SRCC5B	4551	8104	8203	0	0	CCP5	







