

UNIVERSITY OF QUEENSLAND

Computer Centre

NEWSLETTER - SPECIAL EDITION

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NEW BATCH SYSTEM

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On ~~Monday, 23 August~~, a new batch processing system will be implemented on the PDP-10. This provides batch users with a wider range of facilities, but does introduce some differences to the earlier batch operation.

1. NEW FACILITIES

With a few exceptions, all the facilities available to remote terminal users are now available to batch users. For full details of available facilities and services, users are referred to the System User's Guide and Computer Centre Bulletins Vol. 4 Nos 1-7.

The exceptions (detailed below) arise because of the non-interactive nature of batch processing.

1.1 Commands

All commands detailed in Chapter 6 of the System User's Guide are now available via Batch, and operate as described.

In respect of commands the following points should be noted.

- (a) The default job input and job output devices are the card reader and line printer.
- (b) LOGIN and FINISH do not operate via batch. Their equivalents are JOB and EOJ.
- (c) EOJ automatically deletes any files from the user's area that have not been specifically KEPT. If there are too many KEPT files, EOJ deletes enough files to get below the limit starting with the youngest files first.

- (d) The TYPE command is not available via Batch. The equivalent function can be obtained by the COPY command using the default job output device.

example:

COPY FROM = RANFL ; to the line printer is assumed

- (e) Because of its detailed interactive nature, DDT is not suitable for Batch. It is recommended that users exercise extreme caution in any attempt to use DDT via Batch.
- (f) The LIMIT command can only be used to alter the cost limit for a task, phase of tasks or a job while the batch job is running. It cannot be used to reset the job limit when that limit is exceeded. In Batch, exceeding the job cost limit will result in automatic termination of the job.

1.2 Differences to Previous Batch

There are three important command changes that the new batch system will introduce.

- (a) The default option in a FORTRAN command is now NOLIST (See System User's Guide section 6.4.12). Thus .FORTRAN will not produce a listing. If an output listing is required it must be specifically requested with the LIST option.

i.e. .FORTRAN(LIST)

- (b) The default option in a RUN command is now NOMAP. If either a MAP or SYMBOL map is required they must be specifically requested (See System User's Guide section 6.4.21).
- (c) The OVERLAY command now uses AREA and NAME as options. Hence these must be enclosed in round brackets.

```
.OVERLAY AREA = 1, NAME = FRST
```

under the earlier Batch, now becomes

```
.OVERLAY(AREA=1, NAME=FRST)
```

(See System User's Guide section 6.4.17).

This allows specification of files to be included on the OVERLAY command.

1.3 File Storage

The permanent file storage allocated to each batch project is 12.5 Kwords. This will enable the batch user to keep relocatable binary program files in the system. Hence programs need not be recompiled on each run.

In addition, a job, while running, will have available 128 Kwords of scratch file space.

2. DECK SETUP

The deck setup required for a batch job is the same as at present, and is documented in Chapter 7 of the System User's Guide.

3. CHARGES

The charges for batch processing are now levied on the same basis as for remote terminal processing. Thus batch work is charged in accordance with the schedule of charges given in Appendix B.2 of the System User's Guide.

While this increases the number of categories for which charges are made, users will find that because of the new facilities available (e.g. keeping binary program files on disk) overall computing costs should be substantially reduced.

4. NEW BATCH AND REMOTE TERMINAL USERS

With the implementation of the new Batch, remote terminal users will be able to access their files through their terminal and through Batch. Program files can be created via Batch, debugged via the terminal and then run from Batch. The permanent file storage space available to terminal-batch projects is 37.5 Kwords.

As all line printer output (from both Batch and remote terminals) is now controlled by the line printer symbiont, remote terminal users should experience improved availability of their printer listings.

Although this new version of Batch has been extensively tested, there is always the possibility that undetected errors still exist in the system. Users are requested to check their results carefully and report any significant discrepancies to the Centre.

5. NEW COBOL OPTIONS

Two new options are now available for COBOL and they work through terminals and the new Batch. These options are STD and NONSTD and they refer to the presence or absence of sequence numbers in a source program.

STD is the COBOL standard, i.e. source programs are assumed to have sequence numbers. This is a default option.

NONSTD implies that there are no sequence numbers in the source program. This is generally the case with programs prepared via Teletypes. NONSTD can be abbreviated to NS.

The command format for COBOL is as follows:

```
COBOL (BIN LIST MACRO,MAP,STD  
      NOBIN,NOLIST,NONSTD)
```

```
{IN=}filename-1,{BIN=}filename-2,{LST=}filename-3
```

filename-1 is the name of the source file

filename-2 is the name of the resulting relocatable file

filename-3 is the name of the list file

6. TERMINATION OF FILE CREATION SERVICE

Since the release of remote terminals in January this year, the Centre has provided a service to create disk files from terminal users' card decks. As the user can now create files via the new batch system, the File Creation Service has been discontinued.