For this reason, and others (following), users are recommended to underestimate, rather than overestimate document retention. Overestimation is very wasteful of computing charges.

The retention date of a document may be extended as desired by further use of SVnn. For example,

if a document currently has 10 days of retention remaining, SV5 will have no effect, but SV15 will extend the retention period to 15 days and will cause a charge for the additional 5 days to be made.

Automatic Archival

Documents with unexpired retention are copied to archival magnetic tapes by a system program which is (currently) run once a week, on Wednesday evenings.

If the retention given to a document is sufficient to cover two archival runs, then the document will be archived twice for security reasons. Once this has happened, the document may get flushed if the pressure for space in the document region becomes severe. If this happens, and the document has unexpired retention, then retrieval is automatic at no cost to the user (see Automatic Retrieval). If the retention has expired, then the retrieval must be performed by the user (see User Retrieval).

Archive tapes are kept for 99 days.

Automatic Retrieval

If a document with unexpired retention has been flushed, then there will be two copies of the document on archive tapes. Automatic retrieval of this document will take place if a main job is submitted with an EQUIP statement for the document:

*EQUIP,l=(document),RO,SV

in the jobhead.

Instead of starting the job, the system will make a retrieval request for the document. Retrieval requests are not executed immediately, but are batched and executed at hourly intervals so as to improve the

efficiency of retrievals from a number of requests to the same archive tape.

The user's job is run after his document has been retrieved.

User Retrieval

When a document is copied to an archive tape, an entry in the archive directory is made for the document containing all attributes of the document and the tape name and serial number. This information is available to users, through use of the ARCHLIST control statement:

*ARCHLIST

which will print a list of all documents belonging to the user which have been archived over the past 99 days.

The RETRIEVE statement may then be used to restore the document to the document region.

Disc Document Storage

The disc document store for the long term retention of documents in the system is being phased out as document retention and archival are introduced. A size restriction was introduced last month for document transfers between the document region and the disc document store, and further restrictions may be imposed, until in September 1973, when it is expected that the facility will be withdrawn.

DCR PUBLICATIONS

The following publications are now available.

DAD System Reference Manual. The following replacement pages have been issued.

C/3 (.6.), C/4 (.6.), C/8 (.5.), C/9 (.5.), 13/1 (.4.), 13/2 (.4.), 13/3 (.4.), 13/4 (.4.), 13/5 (.5.), 13/6 (.4.), 13/7 (.5.), 13/8 (.1.), Appendix 11 (.3.), A20/1 (.2.), A20/2 (.2.), A21/4 (.2.), A21/5 (.1.).

Technical Note 41, Data File Conversion for the Cyber 76, by E.H. Kinney. Describes the use of a set of subroutines to be provided in the Cyber 76 library, for the conversion of 3000 systems data files to the Cyber 76.

Software Specification M3, KOLLATE, Alphanumeric Comparisons, April 1973, edition 1, by R.J. Hurle. (See SRLIST).

Library Accession List 78, April 1973.

Copies of the above publications may be obtained from the Publications Assistant, DCR, Canberra.

CYBER 76 DOCUMENTATION

Users will find interesting a new Cyber 76 manual available from Control Data now:

The SCOPE 2.0 User's Guide
(603 726 00)

It describes, in a readable way, the main features of the SCOPE 2.0 operating system, making extensive use of examples and illustrations.

SRLIST

SRLIST is an auxiliary library stored on magnetic tape held at DCR, Canberra. The following routine has been added.

M3 KOLLATE. KOLLATE is a function, callable from a Fortran program, which enables the collating sequence between two alphanumeric quantities to be determined. It is table driven and the collating sequence may be set as desired. The initial sequence is internal BCD. (3600 binary deck available).

LINE PRINTER CARRIAGE CONTROL

The conventions used in the DAD system for line printer carriage control (DAD System Reference Manual, Section 4.2.1), differ from those in the SCOPE 2.0 system on the Cyber 76 (and those on the 200 User Terminal to the 6600).

In order to ease conversion of programs which make use of these control conventions (characters in column one) for the control of print format, it is proposed to provide a new mode of operation in the DAD line printer driver, and in all other printer drivers in the network with the exception of 3200 printers running under CSIDISC.

This mode will be available shortly, and will allow the use of the Cyber 76 conventions. The normal 3600 mode will be retained in parallel for approximately one year, and then discontinued.

3600 jobs will invoke the 3600 mode as default, and Cyber 76 and 6600 jobs (entered through CSIRONET) will invoke the new mode as default. It will, however, be possible to override the default.

Complete details will be provided in the June newsletter, or on request to DCR.

COMPUTING CHARGES (3600)

The way in which the chargeable time for a computer job is calculated was changed last month to achieve a more realistic estimate in terms of the actual CPU time used by the job. Formerly, charging was based on tenth of a second interrupts, and the computer job found to be using the CPU at those instances would be charged 0.1 seconds of CPU time. The new method, which uses 'system' time instead of CPU time, aims at reducing the statistical variations produced by the former method whilst resulting in a similar charge to the user.

System time is computed in the following way.

1 millisecond per millisecond of 'interrupts active' CPU time (i.e. the time spent doing arithmetic).

1 millisecond per monitor request generated by the program.

1 millisecond per 4 words read or written by the program (excepting on magnetic tape and random access drum and disc).

Also last month, the charges made for breakin and console jobs were reduced from

8+2s and 1+3s

to

4+1.5s and 1+2s

respectively (s is system time, in seconds).

newsletter

Number 92 **May, 1973**

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STAFF NEWS

B.N. Nagorcka joined the Division at Canberra last month as Experimental Officer. Mr Nagorcka gained a B.Sc degree with 1st class honours in physics from the Australian National University in 1970. Since then he has been working towards a Ph.D in experimental nuclear physics which he recently completed. He will assist Mr P. Benyon in the development of complex and biological systems and the exploration of the consequences of these models by computer simulation.

D.J. Cooper, Experimental Officer, left the Division at Sydney during April to join private enterprise.

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P.O. Box 1800, Canberra City,
A.C.T. 2601.

DOCUMENT RETENTION AND ARCHIVAL

It is now possible to retain documents in the document region for a period of up to 99 days. This is done using the SV declaration, either in an EQUIP statement or a MABEL request, appended with nn, where nn is a two-digit number 00-99 indicating the desired retention. For example:

(a) *EQUIP,10=(DATA),RO,SV10

(an input document to be retained for 10 days)

(b) *EQUIP,20=(RESULTS),SV3

(an output document to be retained for 3 days)

(c) *LC,,DOCUMENT,SV20

(locate a document at a console and retain for 20 days)

(d) */PL,,GRAPH,SV3/

(when logged into TED, plot a document and retain for 3 days)

Note that if nn is not given (or is zero), the document will remain in the document region for a minimum period of six hours after last being used.

A charge of 0.225 system seconds per sector per day of specified retention is made when the SVnn declaration is executed. (Note this differs from the way daily charges are made for documents on the disc document store.)