

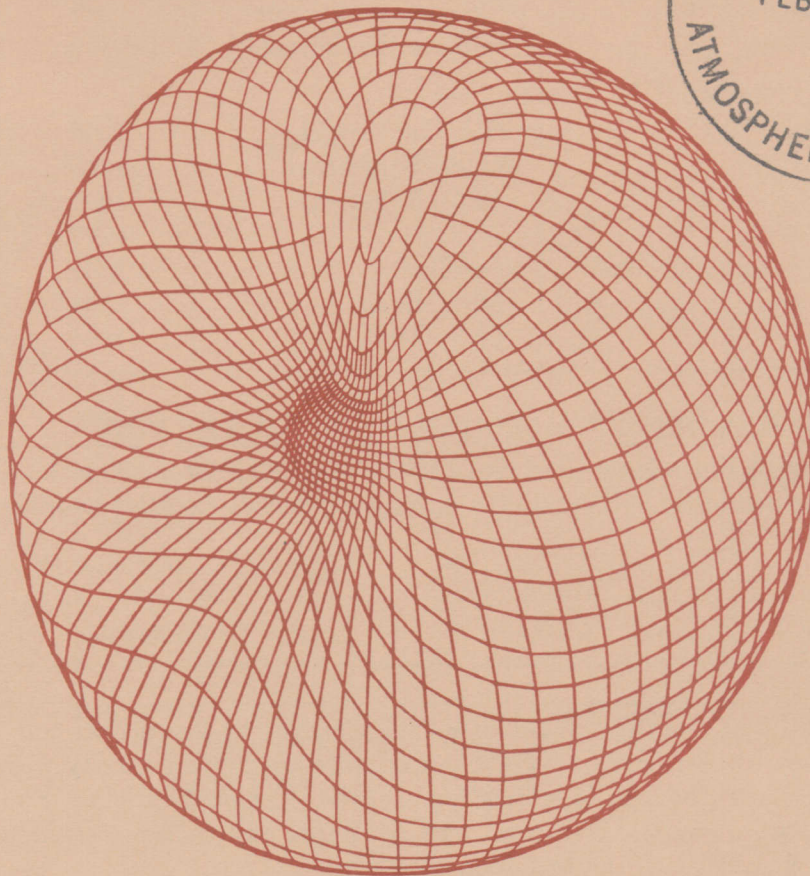
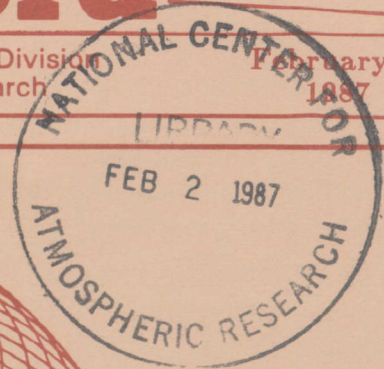
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Volume 8
Number 2

A Newsletter of the Scientific Computing Division
National Center for Atmospheric Research

February 1,
1987



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Site Licensing for Data Communications Software

13,000 Files to be Purged

SERVICES DIRECTORY

Direct dial prefix: (303) 497-

NCAR Operator: (303) 497-1000

Consulting Office: (303) 497-1278

NEW USER INFORMATION		extension	room #
Computing Resource Applications	Cicely Ridley	1211	119
	John Adams	1213	118
Project & User Number Assignment	Rosemary Mitchell	1235	4B
Document & Manual Distribution	Mary Buck	1201	6
REMOTE USER INFORMATION			
Data Communications (RJE)	Bill Ragin	1258	11C
US Telecom (TELENET)	Marla Sparn	1301	100
RJE Password Assignment	Rosemary Mitchell	1235	4B
Visitor Information	Belinda Housewright	1310	22A
OPERATIONAL INFORMATION			
Computer Operations	Bob Niffenegger	1240	7
Machine Room	Oper. Supervisor	1200	29
Graphics Operations	Andy Robertson	1241	31E
		1242	
Tape Librarian — ½-inch and MSS	Sue Long	1245	5
Software Distribution	Mary Buck	1201	6
Output Mailing	Mary Buck	1201	6

SCHEDULE OF MACHINE UNAVAILABILITY

All machines may be down from 07:00 until 08:30 daily for Systems Checkout.

In addition, some machines will be down for Preventive Maintenance as follows:

CRAY,C1	06:00-08:00	Monday & Wednesday
CRAY,CX	06:00-09:00	Tuesday & Thursday
IBM 4381 (IO)	07:00-08:30	As needed

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Robert Nicol, Editor

Nancy Dawson, Guest Editor

Alan McClellan and Diane Huntrods, Editorial Assistants

Frieda Garcia and Karen Hack, SCDUG Minutes

JoAn Knudson, Computer Resources Allocated

Sylvia Darmour, Computer Statistics

Ken Hansen, Trouble/Design Reports

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Cover Graphic

The cover graphic is a visible line rendering of a contrived polar jet stream that was used to test and compare three different models for the shallow water equations. The models were developed by Jerry Browning (SCD), Jim Hack (Atmospheric Analysis and Prediction Division), and Paul Swarztrauber (SCD). The graphics were developed by Cicely Ridley (SCD) and Paul Swarztrauber as part of SPHEREPACK, which is a collection of programs for spherical harmonic analysis and synthesis. SPHEREPACK was developed by John Adams (SCD) and Paul Swarztrauber (see *The Record*, September 1986).

Software Change Articles

All articles about changes to software that affect the computing environment are now flagged with the triple Delta insignia, as shown in the example below.



Example of a Software Change Article Title

by An Author

These articles are also marked with a Delta sign in the Table of Contents above. Please check these flagged articles carefully for changes that affect your computing procedures.

Consulting Office Schedule for February 1987

Consulting Office hours are 08:30-11:30 and 13:00-16:00, Monday through Friday. Consultants may be reached by calling (303) 497-1278. If the lines are busy, please leave a message on the answering machine. Messages may also be sent to the CONSULT1 virtual machine on the IBM 4381 (IO) front-end computer.

All consultants attend a short meeting on the status of the SCD computers Tuesday and Thursday mornings from 08:40-08:55. The Consulting Office will be closed then.

Consultants for February are:

Ann Cowley Ken Hansen Barb Horner-Miller Mike Pernice

February 1987 Consulting Office Schedule						
Week of	Shift	Monday	Tuesday	Wednesday	Thursday	Friday
Feb 2	A.M.	Ann C.	Ken H.	Barb H-M.	Ken H.	Barb H-M.
	P.M.	Ann C.	Ken H.	Mike P.	Ken H.	Mike P.
Feb 9	A.M.	Ann C.	Ken H.	Barb H-M.	Ken H.	Barb H-M.
	P.M.	Ann C.	Ken H.	Mike P.	Ken H.	Mike P.
Feb 16	A.M.	HOLIDAY	Ken H.	Barb H-M.	Ken H.	Barb H-M.
	P.M.	HOLIDAY	Ken H.	Mike P.	Ken H.	Mike P.
Feb 23	A.M.	Barb H-M.	Ken H.	Barb H-M.	Ken H.	Mike P.
	P.M.	Barb H-M.	Ken H.	Mike P.	Ken H.	Mike P.

Documentation Update

SCD Documentation

"SSDLIN: A Collection of Out-of-Core Linear Algebra Software," by Michael Pernice. Version 1.0, January 1987. This document describes the new SSDLIN library and essential NCAR-specific information about its use. (See the SSDLIN article in this issue.)

"CRAY X-MP and Data-related Charges," by Pete Peterson. Version 1.2, January 1987. This document replaces earlier versions of "CRAY X-MP and Data-related Charges." The new document contains the charging algorithm adopted December 19, 1986 and discusses charges for use of the Mass Storage System.

To order SCD documentation, send electronic mail TO MARYB on the IBM 4381 (IO) front-end computer, or call Mary Buck at (303) 497-1201. Allow two weeks for delivery. Users at the Mesa Laboratory can obtain SCD documentation from the bookshelves and black filing cabinet in Room 22D of the SCD User Area.

Site Licensing for Data Communications Software (Correction to January Article)

The "Site License" information in the article, "Data Communications Software for NCAR Users," in the January issue of *The Record* (pp. 6-7) is incorrect. The correct site license information is listed below.

Data Communications Software for NCAR Users

<i>Software Package</i>	<i>Site License Status</i>
Crosstalk	Institutions may purchase site license or users may purchase individual copies
EM4010	UCAR has a site license, so UCAR employees and SCD computer users who are employees of UCAR-member institutions may purchase at a reduced rate
FTP	UCAR has a site license, so UCAR employees only may purchase at a reduced rate
MAC Kermit	Public Domain; NCAR provides copy for a minimal handling fee
MS-DOS Kermit	Public Domain; NCAR provides copy for a minimal handling fee
Procomm	Public Domain
SIMPC	Institutions may purchase a site license or users may purchase individual copies
Simterm	UCAR has a site license, so UCAR employees and SCD computer users who are employees of UCAR-member institutions may get it for a minimal handling fee
Versaterm	Institutions and users may purchase individual copies only
VTERM	Institutions may purchase a site license or users may purchase individual copies
YTERM	UCAR has a site license, so UCAR employees and SCD computer users who are employees of UCAR-member institutions may get it for a minimal handling fee

In all cases, individual copies cost less if you purchase them through a site license.

If you have questions about data communications software, call Marla Sparn at (303) 497-1301 or Britt Bassett at (303) 497-1292.

SSDLIN: A Collection of Out-of-Core Linear Algebra Software

by Michael Pernice

A new library is available for use on both of NCAR's CRAY computers. SSDLIN is a collection of out-of-core linear algebra software, which was obtained by the Scientific Computing Division from Los Alamos National Laboratory.

SSDLIN can be used to solve systems of linear equations that are too large to fit in central memory. You can use SSDLIN on NCAR's CRAY X-MP in conjunction with the 256-million word Solid-state Storage Device (SSD) to solve such problems without the performance degradation that is usually associated with I/O-intensive applications. SSDLIN makes full three-dimensional simulations and high-resolution applications more readily accessible.

SSDLIN contains user entry points that can be used to

- Perform matrix multiplication
- Factor and solve block tri-diagonal systems of linear equations, for both out-of-core systems and memory-contained systems
- Factor and solve symmetric positive definite systems of linear equations
- Factor and solve general dense systems of linear equations

SSDLIN also contains user entry points to store and retrieve matrices stored in a packed, blocked format in files on an external device.

SSDLIN uses block matrix variations of classical direct methods for solving systems of linear equations. The algorithms are built around block matrix implementations of basic linear algebra operations (SAXPY operations, matrix-matrix and matrix-vector multiplications), which are implemented in highly optimized CAL modules. The main matrices that are needed are stored by the user in a blocked format on an external device (which can be either conventional disk drives or the SSD.)

Documentation

A comprehensive document that provides an overview of SSDLIN is available. This document contains details on the exact format of the files involved, how to create them, and some tips on general usage. Use the following GETDOC statement to obtain the complete documentation for SSDLIN:

```
GETDOC,LIB=SSDLIN,DOC=SSDLIN.
```

You should read the documentation before using SSDLIN.

Documentation for individual user entry points, which are listed in the above-mentioned SSDLIN document, is available on-line through use of the GETDOC utility. To obtain documentation for an individual subroutine, use the subroutine name as a value for the DOC keyword. For example, the following GETDOC statement can be used to obtain documentation for routines TAFA, TASLX, and PKPUT:

```
GETDOC,LIB=SSDLIN,DOC=(TAFA:TASLX:PKPUT).
```

The hardcopy documentation, "SSDLIN: A Collection of Out-of-Core Linear Algebra Software," is also available. To order a copy, send mail TO MARYB on the IBM 4381 front-

end computer, call Mary Buck at (303) 497-1201, or pick up a copy in Room 22D of the Mesa Lab.

Access

SSDLIN is available as an object library on the CRAY computers. To access the CRAY object library, include SSDLIN as a value to the LIB keyword on your SEGLDR or LDR control statement:

SEGLDR,CMD='LIB=SSDLIN'.

or

LDR,LIB=SSDLIN.

Source Code

Source code is available on-line through use of the GETSRC utility. Specify the name of the subroutine you wish to obtain as a value for the FILE keyword. For example, the following GETSRC statement can be used to obtain the source code for subroutine AXBXCX:

GETSRC,LIB=SSDLIN,FILE=AXBXCX.

SSDLIN also exists as an UPDATE program library on the Mass Storage System, which you can access with the AQPLMS utility.

Questions

Please direct any questions, problems, or suggestions to Michael Pernice at (303) 497-1238, or send electronic mail TO SPIKE on the IBM 4381 (IO) front-end computer.

Acknowledgments

The author would like to thank H.A. Passi, formerly of SCD, for her efforts in bringing SSDLIN to NCAR; G. Branstator of the Atmospheric Analysis and Prediction Division for his participation as a friendly user in evaluating SSDLIN; and P. Krueger of SCD for his assistance in measuring performance of some entries in SSDLIN.

Michael Pernice is a programmer and consultant in the User Services Section of SCD.

Missing the December Issue?

Several bundles of the December issue of *The Record* got lost somewhere in the holiday mail. A replacement copy was sent to all subscribers in the states of Washington and Alaska. If you haven't received a copy of the December issue, send mail TO MARYB on the IBM 4381 (IO) front-end computer or call Bob Nicol at (303) 497-1249.

Computer Resources Allocated in December 1986

SCIENTIST	PROJECT TITLE	GAU	
		Request	Alloc.
Dr. Szu-cheng Ou University of Utah	Two-dimensional cirrus cloud modeling	10.0	10.0
Dr. Jean L. Bell Colorado School of Mines	TCL and multitasking of scientific programs	5.0	5.0

Note: A request may be supported at a lower level than requested because

1. It exceeds the five-hour limit above which Panel review is required, or
2. Reviewers consider the amount of time requested to be excessive.

Summary of NCAR Computer Use for November 1986

The December statistics were not available by publication date because of the changes made to the charging algorithm on December 19. The December statistics will be published next month.

Mass Storage System News: Purge of 13,000 Data Files

Approximately 13,000 data files on the Mass Storage System (MSS) were renamed on February 2, 1987. The files will be retained under their new name until March 9, when they will be purged. These files have not been accessed in any way by any user in the 120 days preceding Feb. 2. The files are ones that SCD staff transferred from the old TBM system to the MSS.

When any file is renamed, the first character of the user ID is changed to a lowercase letter. For example, /MSS/TBM/xxxxxx becomes /mSS/TBM/xxxxxx when it is renamed.

If you want to keep any of these renamed files that you own, rename them now and move them to one of your MSS directories. If you have any problems, please contact Marc Nelson at (303) 497-1262.

FILES THAT HAVE NOT BEEN RENAMED WILL BE PURGED FOREVER ON MARCH 9!

Trouble/Design Report

December 1986

CRAY Report No. 155

TROUBLE: COS fails to close record-addressable datasets under certain conditions.

In order to use the CRAY library routines READDR or WRITDR for record-addressable I/O, the dataset must first be opened by a call to the CRAY library routine OPENDR. You must provide an integer array as an argument to OPENDR to serve as a master index of the records in the dataset.

The *CRAY Programmer's Library Reference Manual*, (SR-0113) specifies that the master index array must have a certain minimum length: if NREC is the number of records in the dataset, then the master index array must be at least NREC or 2*NREC words long, depending on whether or not alphanumeric record keys are desired.

When you close the record-addressable dataset with a call to CLOSDR, the master index array is appended to the end of the dataset. Problems may arise because COS appends entire 512-word blocks of data to the random access dataset when closing it, beginning at the first word address of the master index array. Consequently, a portion of the user code and data area beyond the end of the master index array may be appended to the end of the record-addressable dataset.

Depending on where the master index array is located in the user code and data area, and depending on the declared length of the master index array, this may cause a problem when closing the dataset.

See the example on the next page.

EXAMPLE:

PROGRAM RECADDR

```
C
  Parameter ( NREC=200, IUNIT=1 )
  Integer INARR ( NREC )
C
  Call OPENDR ( IUNIT, INARR, NREC, 1 )
C
C This call to OPENDR opens Unit 1 as a random-access,
C record-addressable dataset, provides INARR as space
C for the master index consisting of NREC words, and
C specifies that records will be synchronously referenced
C with a record number between 1 and NRECS.
C
      :
      :
      (Perform I/O with calls to READDR/WRITDR)
      :
      :
  Call CLOSDR ( IUNIT )
  Stop
  End
```

COMMENTS:

This program may abort in CLOSDR. One way this problem has identified itself is with the following error message:

AB181 - DSP LIMIT POINTER LESS THAN FIRST

SOLUTION:

The declared length of the master index array as specified in the COS Library Reference Manual should be rounded upward to the next multiple of 512.

Cray Research, Inc. is currently revising the Library Reference Manual to reflect this.

ORIGINATOR:

Michael Pernice

Minutes of the SCD Users Group Meeting

December 15, 1986

Ray Bovet called the meeting to order and introduced Doug Lilly from the University of Oklahoma, who was here to attend an SCD SPEC Panel meeting. There were no additions or corrections to the November minutes. Ray thanked Bernie O'Lear (SCD) for adding some new annexes to the meeting minutes, which answered many questions raised at the last meeting.

Report from the SCD Acting Director — (Pete Peterson — Acting)

Pete Peterson (SCD) gave the report for Margaret Drake. He reported that as of November 25, the CRAY X-MP had passed the acceptance period. The computer was also paid for on December 5.

The CRAY X-MP encountered a problem Friday night at 8:00 p.m. and the CRAY engineers were unable to detect the problem. An engineer arrived from Chippewa Falls on Saturday around 2:00 p.m., and the problem was resolved by 6:00 p.m. There were apparently several concurrent problems.

Status of Graphics Package

Pete also reported that SCD has put a hold on the distribution of the graphics package until May 1987. The reason is to give User Services time to fix known bugs, do some additional testing, and upgrade the documentation.

Ray Bovet asked how SCD plans to proceed with the NCAR graphics. He wondered if there is an intent to restaff that project or just provide less services. Dee Copelan (SCD) said that the User Services section plans to do less, and plans to suspend the distribution of the old graphics utilities because they proved to be of poor quality. With their limited staff, they plan to make the current utilities work better. In the meantime, they are deciding on a future plan. They are looking at corporate collaboration with industry that might help them to get the resources to develop some new utilities. They will develop priorities for the next six years and are taking some cues from the report of the UCAR/NCAR Ad Hoc Committee on Strategic Planning of Computing Activities. Ray asked who was currently involved in the graphics area. Dee said that, in the December issue of *The Record*, there were nine pages on the current status of the project, and the people involved are Bob Lackman, who is heading the project, Dave Kennison, Fred Clare, John Szajgin, and Donna Converse, a graduate student.

Changes to The Record

User Services is trying to change the format of *The Record* to short news articles, rather than long feature articles, in order to increase readability. In addition to a format change, they are also considering changing the name of *The Record*. If anyone has any suggestions, they can contact Dee Copelan (ext. 1225), Ginger Caldwell (ext. 1229), or Bob Nicol (ext. 1249).

TBM

Regarding the TBM outflow, SCD is now off-loading data from the TBM onto the cartridges. This procedure seems to be moving along very well. Eighty percent of the data that SCD is required to copy is done. After they are finished with the required data, there are approximately two terabits of additional data to copy onto the 3480 cartridges.

C Compiler

Kent Sieckman (ACD) asked about the current status of the C Compiler from Cray Research, Inc. Pete replied that, a week ago, SCD received a non-disclosure agreement from Cray Research for NCAR to sign. SCD found no problems with the agreement and passed it on to the Contracts Office. Kent then asked if Pete knew of a delivery date and Pete said no. Ray Bovet asked if SCD has budgeted funds for the C Compiler and whether it will be available on both the CRAY X-MP and the CRAY-1A. Pete said that it is a CRAY product and it doesn't appear it will cost NCAR anything.

SCD Directorship

Ron Gilliland (HAO) asked if Pete Peterson could comment on the status of the SCD directorship. Pete said that he has not been kept informed as to the status. Doug Lilly mentioned that he believed the selection committee is meeting today. Dick Sato said he thinks they will meet in January and also observed that Paul Swarztrauber (SCD), who is on the committee, is out of town. Doug Lilly feels the committee is aiming for a decision before the February meeting of the Board.

Status of the X-MP

Gene Schumacher (SCD) commented that there is nothing much new to report. They are still working out little bugs and implementing some of their own procedures.

Ray Bovet said he heard that HAO has had a number of programs bomb using the FORTRAN compiler Version 1.15 and went back to using Version 1.14. He wondered if that was still a problem. Gene said there have been a few corrections made to Version 1.15 and, as far as he knows, it is working fine now.

Status of the Charging Algorithm

Ray Bovet noted that, at the last meeting, the algorithm was not totally defined, so Pete deferred talking about it until this month. It wasn't to be implemented until January 1, but since X-MP usage had been so high, SCD started charging on December 1.

Pete Peterson said that they have still been unable to gather sufficient information on how the algorithm is working. However, there are certain areas of known problems. The first is with respect to calculations of the time that a job is in memory. There are two problems with this calculation as it is currently being handled.

1. The amount of time on average is much greater than the charging committee expected, so people are being charged more than they should, and
2. The calculation is very variable.

The same job gets charged differently each time it is run because the charge reflects how long

that job is sitting and waiting for a CPU to become available and that depends on the machine load. It is their plan to adjust the calculations of time in memory, so that the calculation will not be affected by the amount of time the job is waiting for a CPU.

Another problem area is that those users who are using the Solid-state Storage Device (SSD) are being overcharged, primarily because they are being charged for I/O requests. This was not intended in the original design of the charging algorithm. The CRAY operating system cannot distinguish between a SSD request and a DD-49 request at the user level. SCD is unable to correct this and their only solution at this time is to remove I/O requests from the charging algorithm, so that users will be charged solely for data transfers. Pete expects that within a week changes will be made to the charging algorithm to solve these two problems. *Editor's Note: The charging algorithm was changed December 19. See the article in the January Record, pp. 7-8.* There probably won't be any more changes made until the new allocations are made at the end of March. At that time, Pete will have to make a report to the NCAR Director on what the new estimate is for the total number of available GAUs.

Ann Cowley (SCD) asked if SCD is charging real GAUs for usage of the IBM 4381 (IO) front-end computer. Pete replied yes and no. He said SCD has always charged real GAUs for the IBM 4381 (IO) computer. However, its use is not included in the users allocation and, therefore, is not deducted from the user's allocation. The reason is that the use of the front-end computer is not uniform throughout the total user community. There are some divisions within NCAR that use it heavily and there are others that don't use it at all. There are also many non-NCAR users who can't use it. Ann asked if SCD will notify users before they change their charging policy, and Pete replied yes. Ray Bovet asked if SCD plans to credit the people who were overcharged. Pete said no because the overcharges are small compared to the free GAUs that were available for two months beginning October 1.

Ray Bovet asked who pays for machine time in real dollars. Pete said those people who are not funded by NSF.

John Merrill (SCD) asked what will happen to datasets on the Mass Storage System (MSS) without project numbers on them, or to new ones for which the project numbers expire. Pete said that, for data related to an NCAR project, they will continue to charge a division even though a project number may be expired. Marc Nelson (SCD) stressed that it is not and will never be SCD's policy to get rid of someone's data because they are not sure whom to charge; if all else fails, the bill will go to Marc. Pete went on to say that, for data that belongs to universities, they will notify the owner to transfer the data to a legitimate project number or make other arrangements. SCD is flexible in the case of someone who has a request in for new resources when there is a time gap before the request is approved.

Pete suggested that this topic be scheduled again for next month, since there will probably be additional reactions to the charging algorithm.

Discussion of the Mono-processing 2 (MP2) Job Class

Bernie O'Lear noted that this topic is covered in Annex D of the November SCDUG meeting minutes. Ray Bovet added that he thought the topic is similar to what was mentioned in the last meeting. The problem is how to handle users coming into the machine about ten minutes before the class time allocation is about to end. In such a situation, there is only time to load data into memory and it stays there until the class is reopened the next day. Bernie suggested that users call in their comments to him at ext. 1268 if they have any suggestions on how to handle this problem.

Ray Bovet said he felt it was important for users to know how much lead time they have when the sense switch is set before the class is closed. Bernie said they would have about 15 to 20 minutes to close. SCD has no feel yet for how this should be done and they are studying the process.

Mark Nelson (SCD) asked if Bernie has a feeling for how many people or how often the MP2 class will be used. Bernie indicated that there would be 10-15 people initially, even though it is a very expensive class. Pete added that it can be less expensive than regular classes, which is one reason to continue to refine the charging process. A user may see a lower charge because the memory charge for the Mono-processing class could be less than it would be in a regular class.

Ray Bovet said he felt this was the class to use when doing new science where you need 6-million words of space. He asked if there have been any complaints about the 6-million word limit. Bernie replied that so far they have only had complaints from inside SCD.

Report on the CRAY X-MP Job Scheduler

Dick Sato (SCD) reported that in order to study the performance of the X-MP, he and Gerry Browning (SCD) are working with Gene Schumacher (SCD) and Tom Engel from Cray Research, Inc. They are submitting a mix of jobs in a controlled environment to analyze the performance of the machine. An evaluation of the job scheduler, which entails about 60 pages of CAL code, is a part of this project. The behavior of the scheduler is quite complicated on the CRAY-1A and is even more complicated on the X-MP because of the multi-processor organization. Therefore, one of the objectives of this investigation is to see if all the tuning parameters are set correctly. The testing will be done between 7:00 and 8:00 a.m. Wednesday and Friday mornings, so the X-MP will be down during this time. Cray Research will visit NCAR in January to consult with his group on their progress.

Greg Woods (HAO) questioned what effect priorities assigned to a job really have, as defined in the recent table of job classes. For example, Express Class costs twice as much as Foreground B, but the priority is only one or two notches higher. He wondered if a user is supposed to get twice as fast turnaround. Dick Sato replied that it is not proportional. The job scheduler has a number of constraints, such as memory management, and therefore throughput cannot be proportional. The decision on how much of a time slice you get is also very complicated. The objective of tuning the scheduler is to try to balance things like total system throughput with the response time of small, high priority jobs.

Discussion of UNICOS

Ron Gilliland (HAO) asked if there were plans for implementing UNICOS at some point. Bernie O'Lear said that this is something that should be discussed. He doesn't see it happening within the next 12 months, as it would involve a massive conversion. Ray Bovet said he thought he had read somewhere that it definitely is the path that CRAY has in mind. Bernie said the political problems that CRAY has with that is that DOE labs prefer to use CTSS and that is the group to be swayed first. If the DOE labs move over to it, then it is a possibility that NCAR will. As of last June, there are still problems in the UNIX portion. NCAR has a couple of front-end computer scenarios in the works. Gary Jensen said that, in a document he gave Dee Copelan (SCD, User Services) comparing UNICOS and COS, a large percentage of the instructions in use at NCAR are supported in UNICOS. Bernie said one of the problems is our local code for the Mass Storage Network. Pete Peterson wondered, when UNICOS does become available, if it would be possible to install it on just one processor. Gene Schumacher

said this is one of the problems with UNICOS as it is currently designed and makes it a little difficult for a transition. (*Editor's Note: UNICOS would be installed on just one processor. The problem is that the processor would then no longer run COS. See the discussion in the CRAY User Group Meeting article in the December issue of The Record.*) He said that there is a possibility that CRAY may consider releasing a version of UNICOS for the CRAY-1A. This would be a more desirable scenario since NCAR would gain experience with the operating system without giving up 25% of the resources on the X-MP.

Ray Bovet said one of the benefits of UNICOS would be the ability to use something like TCP/IP or OSI network protocols over the NCAR HYPERchannel. Bernie O'Learn said the development of those protocol is at the University of Illinois for the CTSS system. Gordon Bell (NSF/CISE) would like all the NSF centers to run the same operating system. The next question would be if all the centers were to run CTSS, would Pittsburgh be allowed to continue to run COS. And there are also questions regarding vendor support. He doesn't think NCAR will have to worry about it this year. There would have to be a NSF-wide ruling, and the order would likely have to come from Erich Bloch's office. Ray indicated it would be worthwhile to get more information on UNICOS.

Suggestions and Problems

Ray Bovet said that all of the problems brought up in the last meeting are dealt with in the Annexes to the November minutes fairly completely. Ray noted that very shortly after the last meeting, the problem with retention time was fixed. Marc Nelson (SCD, ext. 1262) requested that users please contact him if they are still having any problems with retention time. He has some slight indications that there may still be some problems, but nothing concrete.

Future Agenda

Pete Peterson will give some accounting statistics at the next meeting.

Next SCDUG Meeting

The next SCDUG meeting will be on Monday, January 26, 1987, at 1:30 p.m. in the Damon Room.

Summary of Daily Bulletin Items

Mass Storage System

The MSCP date was set at December 24 instead of December 22. Therefore, some datasets that should have been purged December 29 were purged December 22. If this creates a problem for you, call the Consulting Office at (303) 497-1278 for recovery instructions.

Miscellaneous

SCD User Area Moved to Rooms 22A and 22D of the Mesa Lab, January 9

Public terminals - Room 22A

Microfiche and Microfilm Readers/Printers - Room 22D

Documentation - Room 22D

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