michdesc

Using a teletype or 300 baud terminal connected to the 1

With special trace functions, we will show semantics monitoring concepts, noticing events, creating theories, and proposing words. 2

(The control component will be simulated by a human. 3

This will enable us to show more quickly all the points we wish to make. BBN Tenex System-A, we plan to demonstrate syntax and semantics processing a small word lattice, the output of the acoustics, lexical retrieval, and word matching components. 4

17267 Distribution
J. J. Wolf, Bonnie Nash-webber,

michdesc

(J17267) 18-JUN-73 07:35; Title: Author(s): Marilyn F. Auerbach/MFA;
Distribution: /JJW BN2; Sub-Collections: SRI-ARC; Clerk: MFA;
Origin: <AUERBACH>DEMODESC.NLS;1, 18-JUN-73 07:32 MFA ;

NLS (t) course

This text is being entered as a test of the TNLS text entering facility. No carraige returns are being entered, but instead, TENEX is supplying CR-LF characters. 1

It looks like the previouus test worked. I am now attempting to enter several statements in succession using the alt-mode as command terminator. 2

tthis text is being inserted after-the-fact of the previous text in this statement as a further test, and it has no relation to the previous sentence.he system typed an L: as a prompt. This is a "feature" that I would like to turn off since it is a pain to enter text and to constantly worry about filling in parameters. 3

There seems to be no way to turn this off, but I've been told that a new "novice" mode is to be implemented soon that will allow this. The L: is used to allow decending of ascending to the various levels of paragraphing. I'm not using this feature now, but apparantly it is used more than not by experienced users. 4

17271 Distribution
Eleanor H. Warnock,

NLS (t) course

(J17271) 18-JUN-73 07:41; Title: Author(s): William E. Merriam/WEM;
Distribution: /EHW2; Sub-Collections: NIC; Clerk: WEM;
Origin: <GUEST>EWMMEMO.NLS;1, 18-JUN-73 07:05 WEM ;

MDK 18-JUN-73 08:54 17272

Susan ...

I sent a brief note to John Iseli last week telling him of my revised travel plans. In particular, I could be at MITRE McLean on June 28, a week from Thursday, to discuss his and yours/Erica's desired extensions to the NIC/QUERY language. But I haven't heard back from John whether this is o.k., and I wonder if you could check it out for me.

I'm leaving Tuesday June 19 to help teach the NLS course at BBN, and then am going directly to Univ of Illinois to do the same. I plan to leave from Illinois on the 27th to visit you all. Would you ask John to send me a "sndmsg" telling me whether it's appropriate to come there on the 28th?

... Thanks. Mike Kudlick (KUDLICK@SRI-ARC) 1

17272 Distribution
Susan S. Poh,

(J17272) 18-JUN-73 08:54; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /SSP; Sub-Collections: SRI-ARC; Clerk: MDK;

NIC Report Production Schedule

This note records the results of a meeting Friday 15-June-73, between BAH, MDK, JCN. 1

It was agreed that the following four items will be given top priority by BAH: 2

1) Producing the NIC and ARC Journal Indexes on a weekly basis. 2a

2) Producing the NIC Directories on a monthly basis. 2b

3) Producing the NIC Catalog Indexes on a bi-monthly basis. 2c

3) Producing the NIC Catalog "proof" runs in coordination with MEJ's requests. 2d

It was agreed that the production of these documents is BAH's responsibility, in the sense that that responsibility includes 3

a) maintaining the file space needed to handle the files;
b) maintaining those files on line that are accessed through the NIC Locator;
c) maintaining the schedule agreed upon in the above cases, and seeing that all preliminary actions needed to ensure satisfactory running of the programs takes place 3a

(for example, setting it up with ARC operations so that an evening or evenings are reserved for running the programs, and so that a message is sent to the user community announcing when the programs are going to be run, and advising the users not to use the system, and using high priority to ensure as speedy as possible throughput of the programs); 3a1

d) responding to requests for special runs with an acknowledgement that they will be done by the date requested, or (with reasons given) that they will be done by date X or not at all;
e) informing MDK of any problems arising that affect keeping the schedule. 3b

It was agreed that there would be a review on June 29th to see what procedures have been established by BAH to put the above schedule in force; and if necessary to determine why any scheules cannot be met. 4

It was agreed that there would be a further review on July 13th to see what problems remain in the carrying out of the above scheule of runs. 5

The above agreements were made because of an expressed dissatisfaction by MDK with the manner in which these tasks have been handled to date. In particular, the scheduling of these runs is very

important and has been unsatisfactory; the timeliness of the output is crucial to the success of the NIC. Improvement is therefore mandatory, for ARC's sake and the NIC's sake. 6

17273 Distribution

Richard W. Watson, Douglas C. Engelbart, James C. Norton, Beauregard A. Hardeman,

NIC Report Production Schedule

(J17273) 18-JUN-73 09:20; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /RWW DCE JCN BAH; Sub-Collections: SRI-ARC; Clerk: MDK;
Origin: <KUDLICK>BEAU.NLS;3, 15-JUN-73 17:16 MDK ;

MDK 18-JUN-73 09:50 17274

NIC Report Production Schedule Agreements

Distributed to JCN, RWW, BAH, MEJ, MLK, JBN, MDK

NIC Report Production Schedule Agreements

It has been agreed by JCN, MDK, and BAH that the following four items will be given top priority by BAH: 1

1) Producing the NIC and ARC Journal Indexes on a weekly basis. 1a

2) Producing the NIC Directories on a monthly basis. 1b

3) Producing the NIC Catalog Indexes on a bi-monthly basis. 1c

4) Producing the NIC Catalog "proof" runs in coordination with MEJ's requests. 1d

The above agreements were made because the timeliness of the outputs is crucial to the success of the NIC. 1e

In order to make this a workable agreement, I suggest the following additional responsibilities. (Feedback on this is welcome.) 2

In addition to running the programs that produce the above reports, BAH's responsibility is to work out a schedule of dates each month that is consistent with the above schedule outline, and inform MDK, JBN, MEJ, MLK of that schedule through the journal. 2a

MEJ's responsibility is to inform BAH when she is ready to have a proof run made, and to inform him of whatever else is necessary for BAH to do his job correctly. BAH will schedule the proof runs at a time convenient to him, without jeopardizing the needs of the NIC. MEJ will inform BAH and MDK if the runs were made unsatisfactorily. 2b

MLK's responsibility is to inform BAH and MDK if there is any reason that the Directory runs should not be made on schedule, or were made unsatisfactorily. 2c

JBN's responsibility is to inform BAH and MDK if there is any reason the Catalog and/or Journal Index runs should not be made on schedule, or were made unsatisfactorily. 2d

17274 Distribution

James C. Norton, Richard W. Watson, Beauregard A. Hardeman, Mil E. Jernigan, Marcia Lynn Keeney, Jeanne B. North,

NIC Report Production Schedule Agreements

(J17274) 18-JUN-73 09:50; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /JCN RWW BAH MEJ MLK JBN; Sub-Collections: SRI-ARC; Clerk:
MDK;
Origin: <KUDLICK>NIC.NLS;2, 18-JUN-73 09:43 MDK ;

MDK Trips

I will be away from SRI from Tue 19-June till Fri 29-June:
- to teach the NLS/NIC course at BBN (June 20 thru 22) and at Univ of Illinois (June 25 thru 27).
- to discuss possible NIC/QUERY extensions with John Iseli at MITRE Corp,, McLean, Va (June 28).

... Mike

1

17275 Distribution

James E. (Jim) White, Jeanne B. North, Elizabeth J. (Jake) Feinler, Mil E. Jernigan, Marcia Lynn Keeney, Richard W. Watson, Douglas C. Engelbart,

MDK Trips

(J17275) 18-JUN-73 10:01; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /JEW JBN JAKE MEJ MLK RWW DCE; Sub-Collections: SRI-ARC;
Clerk: MDK;

A Thong (as in: The thong is gone, but the malady lingers on.)

It was late in the evening, 1
The guests were all leaving, 2
O'Leary was closing the bar. 3
He turned and he said to the lady in red, 4
"Get out. You can't stay where you are." 5
She shed a sad tear in her bucket of beer, 6
As she thought of the cold night ahead. 7
When a gentleman dapper stepped out of the crapper, 8
And these are the words that he said: 9
"her mother never told her 10
The things a young girl should know, 11
About the ways of college men, 12
And how they come and go (mostly go). 13
Now age has taken her beauty 14
And Sin has left its sad scar. 15
So remember your mothers and sisters, boys, 16
And let her sleep under the bar." 17

17276 Distribution
Joseph J. Passafiume, Michael D. Kudlick,

JJW 18-JUN-73 11:05 17276

A Thong (as in: The thong is gone, but the malady lingers on.)

(J17276) 18-JUN-73 11:05; Title: Author(s): J. J. Wolf/JJW;
Distribution: /JJP2 MDK; Sub-Collections: NIC; Clerk: JJW;
Origin: <BBN-TENEX>FOO.NLS;4, 18-JUN-73 10:16 JJW ;

MDK 18-JUN-73 11:16 17277

Minutes for Subcommittee on Global Naming, Accounting, and Security

Here is a DRAFT of the minutes from the Resource Sharing Workshop Subcommittee on Global Naming, Accounting, and Security. I would appreciate receiving your comments and feedback soon so that a final version can be issued. Mail can be sent through the journal to MDK or through sndmsg to KUDLICK@SRI-ARC. Thanks. ...Mike

Minutes for Subcommittee on Global Naming, Accounting, and Security

INTRODUCTION 1

These notes are the minutes of a subcommittee meeting held at Bolt Beranek and Newman on 18-May and 19-May 1973 (the RSEXEC Workshop). This subcommittee dealt with the following subjects: 1a

GLOBAL NAMES
ACCOUNTING
BIDDING AND RESPONSES
SECURITY 1a1

The subcommittee members are: 1b

Pete Alsberg ...	... Univ of Illinois
Robert Blanc ...	... NBS
Ken Bowles ...	... UCSD
Frank Brignoli	... NSRDC
Jerry Burchfiel	... BBN-TENEX 1b1
Bernie Cossell	... BBN-TIP
Dave Crocker ...	... UCLA
Jake Feinler ...	... NIC
Jean Iseli ...	... MITRE
Peter Kirstein	... Univ of London 1b2
Mike Kudlick ...	... NIC
Ken Pogran ...	... MIT-MULTICS
Nathan Sternberg	... Army Materiel Command
Doug Wells ...	... MIT Proj MAC 1b3

The present notes are organized as follows: 1c

First Day's Meeting: Definition of Terms
Second Day's Meeting: Concepts and Proposals
Network Accounting Systems Study. 1c1

FIRST DAY'S MEETING: DEFINITION OF TERMS 2

The first meeting was chaired by Pete Alsberg (U. of Illinois). For openers, we agreed to this set of goals: 2a

Identification (and Definition) of Terms and Problems
Classes of Users and Their Needs
Relative Importance (priority list) of the Problems
Models and Scenarios
Proposals and Solutions 2a1

We were then able, in the time available, to agree on the following definitions: 2b

Principal Investigator 2b1

This person has the "signature authority" to spend money, and to decide --- i.e., make policy on --- how the money shall be spent. Therefore, this is the person to whom computer usage bills are sent. 2b1a

Principal (= User) 2b2

This is an entity (the "user") that consumes or wants to consume computer resources. There exist user "I.D.'s", or reference names, that were independently and previously entered into the computer system to help identify any given user. 2b2a

Account 2b3

A billable entity. 2b3a

Project 2b4

A convenient work-related, goal-related grouping of people (orthogonal to "account"). 2b4a

Site 2b5

Any location on the ARPA Network where there is an IMP. 2b5a

Host 2b6

EITHER that location where the next layer of protocol beyond that of an IMP is executed, OR the terminal handling facility that is attached to a TIP. A host has a unique host I.D. 2b6a

Process 2b7

The essence of a process is its "oneness". It is asynchronous with other processes, but not asynchronous with itself. 2b7a

Other terms introduced but not defined were: 2c

name
file
path
stream
facility (wholesale, retail)
broker

price
cost
subsidy
authentication 2c1

We also recognized the following requirements attendant to GLOBAL NAMES: 2d

creation and issuance of names 2d1

custodian (issuer) function for names
attributes of a named entity 2d1a

the name space 2d2

standardization of names
uniqueness of names
definition and recognition of illegal names 2d2a

need for a "name authenticator" process 2d3

SECOND DAY'S MEETING: CONCEPTS AND PROPOSALS 3

On NAMES AND AUTHENTICATION 3a

Jed Donnelly/Bernie Cossell suggested that there be a network "authenticator" process that validates the "password" stream. The authenticator may, but need not, be invoked at any step in processing. For example, each system could pass the authentication string along to the next system, thereby providing an option to reauthenticate at each such transition point. 3a1

"WHO YOU ARE" would consist of three main attributes ---
(1) user identity
(2) account authorization
(3) project authorization 3a1a

Around the Network there would be "attribute centers" containing a directory of pointers to attribute lists, such as whom to bill, where to send the bill, etc. The authenticator process would have access to these attribute centers. Its primary parameter for access could be user's last name, or something similarly mnemonic. 3a2

The attribute centers would live in one or more ultra-secure systems, which need not coincide with any particular system that exists for general use. 3a3

The function of authenticator itself might be a distributed one --- there might be N authenticators. The main provision would be that both the vendor and the user would have to "trust" the authenticator process that was in use. 3a3a

This leads to the possibility of different schemes for implementation, such as a hierarchy of authenticators. But no conclusions were reached on this aspect of the problem. 3a3b

Maintenance of these ultra-secure data might be modeled after the 24-hour update cycle that most banks use and that UCSD uses now (suggested by Ken Bowles). 3a4

Peter Kirstein pointed out that banks provide for immediate updates on ACCESS privileges, but overnight updates of an account's DOLLAR status. 3a4a

Ken Bowles also pointed out that an up-to-the-minute unofficial account total is possible using a temporary daily transaction file, and that this should be satisfactory in most cases, especially where small incremental usage occurs. 3a4b

Ken Pogran added that there could be a thresh-hold over which immediate account updating would take place, for any given situation. 3a4c

On ACCOUNTING 3b

Ken Bowles suggested that accounting should be done at a central facility (on-line) which would summarize and issue bills to the "Principal Investigator" or whomever he designated. That is, accounting should be done at a "clearing house" to which funds are paid and from which bills are issued. 3b1

The concept of the clearing house would make it possible for each single host to have to exchange funds with only one location. This would result in a simplification of the voucher/billing methods. 3b1a

There would be a small but well-defined transaction entity. Accounting would be done not in real-time, but on a reasonable periodic basis. Accounting files from each of the hosts would be sent to the clearing house via FTP or some similar mechanism. 3b2

It was recognized that output from the clearing house must satisfy the expected needs of each Principal Investigator, who would probably want summary information for recent usage (perhaps weekly) and a billing summary (perhaps monthly). 3b3

Ken Bowles suggested that we look at the problem as one of a wholesaler/retailer setup, where the wholesaler --- a global clearing house --- provides facilities to one or more retailers (service sites), who in turn make direct arrangements with customers. 3b4

Jerry Burchfiel pointed out that in addition to billing problems, there is the problem of "access control", as the following example shows: 3b5

> If a user at BBN uses a service on the Network, that service must then ask BBN if access by that user is permissible, as well as if the dollars exist. 3b5a

Burchfiel commented that there must be independent verification for accounts and for users. There was some discussion, and agreement was reached on these points: 3b6

> (1) a user who logs on needs authentication for his user i.d. and/or password
> (2) he needs separate authentication for the account he wishes to use
> (3) there must therefore be an "authorized access" list stored with each account's "attributes". 3b6a
>
> > That is, the authenticator would have access to a list of authorized accounts PER USER. 3b6a1

Bowles suggested that maintenance of the accounting information should be a separate function from maintenance of the accounts/users authentication lists. 3b7

There were several unresolved questions raised at this point: 3b8

> how to handle overhead incurred by the accounting checks;
> what functions to split between centralized and localized accounting checks;
> how maintenance should be done --- by an accounting service ? overnight ? 3b8a

On BIDDING AND RESPONSES 3c

Several aspects of this problem were discussed very briefly, with no conclusions reached. 3c1

Nathan Sternberg noted that there may need to be priority systems within a given computer that allow that computer to ration its resources. For example, there may be a contract

that provides guaranteed resources to given users in given time spans. 3c2

Bob Blanc noted that the Illiac system rations CPU cycles. Mike Kudlick pointed out that the NIC's system rations terminal access (that is, the number of users that can login is restricted and depends on what "group" a given user belongs to, and what time of day it is). 3c2a

Sternberg also pointed out that a computer must be able to say to the Network (or to some network process) "my system is up, I am ready to receive users". 3c3

Ken Pogran commented that in planning to use a highly interactive system, a user may want to know what the turnaround (response) time is likely to be, and what the cost for this is. Consequently, systems must be able to provide this information. 3c4

Doug Wells pointed out that there are two different types of services on the Network, profit-making services (service-bureau types) and cost-recovery services (university types). 3c5

It was obvious that because of the diversity of accounting schemes, there is little present hope of standardizing charging algorithms (and probably little desire to do so). 3c6

On SECURITY 3d

Ken Bowles identified the dimensions of the security problem, as follows: 3d1

Authentication Problems
Integrity of the Network and Its Facilities (for example, the IMP programs)
Eavesdropping
Handling of Sensitive Data. 3d1a

Bernie Cossell commented that in transmitting sensitive data, there are two main problems, the first of which is relatvely easy to solve, the second not so. 3d2

1) the data requires security during transmission;
2) there must be a guarantee that the data is received at a given time. 3d2a

Other problems include reliability of the network, and access control provisions. 3d3

In particular, there is the problem of knowing when to

refuse data access to a process: If the user of a process is not able to access some data WITHOUT that process, then (perhaps?) he shouldn't be able to access them WITH that process. 3d3a

Ken Bowles commented that the ultimate authorization mechanism would be through "counter signatures". 3d3b

One question raised was, how to authenticate the authenticator's access to ultra-secure data. 3d3c

It was agreed that a reasonable next step would be for a small subset of this group to get together to begin the design of an authenticator. The meeting ended on this note. 3d3d

NETWORK ACCOUNTING SYSTEMS STUDY 4

Bert Sutherland gave a presentation on the Network Accounting System Study currently underway. The essence of his presentation is summarized here. 4a

The main steps in the research management "cycle" are: 4b

Allocation of Funds
Reservation for Resource Utilization
Establishment of Access Control Mechanisms
Accounting
Status Information 4b1

The main parameters involved are: 4c

Identification
Project Authorization
Credit Dollars 4c1

Some issues being discussed by the systems study group: 4d

- how wide a community is to be encompassed
- how are questions of reliability (or lack of it) to be handled
- should there be a central billing facility
- should the billing facility be used by ARPA users only, or by all Network users
- on what time scale should the Network accounting mechanism operate
- how should it handle the "subsidies" represented by government owned machines

- how should the so-called "funny money" of computer usage transactions be distinguished from the real money that is the basis of research contracts 4d1

MDK 18-JUN-73 11:16 17277

Minutes for Subcommittee on Global Naming, Accounting, and Security

(J17277) 18-JUN-73 11:16; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /RPB KLB FGB JDB BPC DHC JAKE JI KP DMW; Sub-Collections:
SRI-ARC; Clerk: JAKE;
Origin: <KUDLICK>USING.NLS;8, 18-JUN-73 11:05 JAKE ;

17277 Distribution

Robert P. Blanc, Kenneth L. Bowles, Frank G. Brignoli, Jerry D. Burchfiel, Bernie P. Cosell, David H. Crocker, Elizabeth J. (Jake) Feinler, Jean Iseli, Kenneth T. Pogran, Douglas M. Wells,

RLL 18-JUN-73 12:05 17278

archive command - how does it work?

dirk, is there a way to find out what files a particular directory has archived? also, how do the 4 or 5 subcommands of archive work? and what do they (supposedly)do? thanks for any help, robert l of nsrdc (rll).

1

17278 Distribution
Dirk H. Van Nouhuys, James C. Norton,

RLL 18-JUN-73 12:05 17278

archive command - how does it work?

(J17278) 18-JUN-73 12:05; Title: Author(s): Robert N. Lieberman/RLL; Distribution: /DVN JCN; Sub-Collections: NIC; Clerk: RLL;

MLM 18-JUN-73 14:26 17279

col perry

jim,unable to send message to perry. 1

17279 Distribution
James C. Norton,

col perry

(J17279) 18-JUN-73 14:26; Title: Author(s): Michael L. Marrah/MLM;
Distribution: /JCN; Sub-Collections: NIC; Clerk: MLM;

How To Make a SYSGD

This file includes 1) instructions for making a new SYSGD, and 2) an L10 program which is an integral part of the process.

How to make a sysgd: 1

1) In the exec, go into the subsystem UNTRACE 1a

2) X[ref] CR 1b

3) [symbol file:] FILENAME CR (ALT gives default of running system) 1c

4) C[reate] S[ys-guide] CR CR 1d

5) [output file:] FILENAME CR 1e

it takes about 30 seconds of CPU time 1e1

6) Q[uit] CR 1f

7) Q[uit] CR 1g

you should now be back in the exec 1g1

8) You now have a sequential file. Go into NLS and create a null file. Then do Input Sequential. That will take about 2 minutes of CPU time. 1h

9) Then, run this program. It takes a long time (i.e. 3 hrs. real time at night)! It will fill in those names having more than six characters and insert formal parameters and comments as substatements. 1i

If it runs into a bad file, it will bomb out. You may have to look up a few by hand. Then delete the "PROCEDURE LINK" statement (,1) at the head of the plex. Insert a statement beginning with "HALT" at the end af the plex and move all the statements done so far to after the HALT. The program will stop when it encounters HALT at the beginning of a statement. Then start the program again. 1i1

10) Finally, sort plex 1.

1j

FILE sysgdform % L10 <meyer>sysgdform % 2

% This program takes the sysgd produced after fillname is run and adds the formal parameters and a peice of the comment if it can. It takes 2 buffer pages, and a hell of a long time to run. % 2a

DECLARE filnum ; 2b

```
DECLARE STRING sname[30], file[30], last[30] ;                    2c
(sysgdform) PROCEDURE ;                                           2d
   % declarations %                                               2d1
      LOCAL da, comfg, parfg, char, addflg ;                      2d1a
      LOCAL TEXT POINTER sf, se, n1, n2, n3, n4, f1, f2 ;         2d1b
      LOCAL STRING st[70], params[300], comment[2000] ;           2d1c
      REF da ;                                                    2d1d
      last.L ← comment.L ← filnum ← 0 ;                           2d1e
   % initial feedback %                                           2d2
      IF nlmode=typewriter THEN                                   2d2a
         BEGIN                                                    2d2a1
         crlf();                                                  2d2a2
         typeas($"SYSGD formatter -- running ");                  2d2a3
         END                                                      2d2a4
      ELSE %display%                                              2d2b
         BEGIN                                                    2d2b1
         dn($"");                                                 2d2b2
         af();                                                    2d2b3
         DSP (< SYSGD formatter running);                         2d2b4
         END;                                                     2d2b5
   % get to statement zero %                                      2d3
      &da ← dsparea( lcda() );                                    2d3a
      sf ← da.dacsp ;                                             2d3b
      sf.stpsid ← origin ;                                        2d3c
      sf[1] ← 1 ;                                                 2d3d
```

```
    *st* ← " PROCEDURE  LINK" ;                                          2d3e
    sf ← cis (sf, $st, down) ;                                           2d3f
  % for each next statement in sysgd file %                              2d4
    UNTIL (sf ← getsuc(sf)).stpsid = origin DO                           2d4a
      BEGIN                                                              2d4a1
      IF FIND sf > '( ↑n1 $LD ↑n2 /'(/ ↑f1 $LD ↑f2 ', ↑n3 $LD
      ↑n4 CH ↑se THEN                                                    2d4a2
        BEGIN                                                            2d4a2a
        *sname* ← n1 n2 ;                                                2d4a2b
        % open file if necessary %                                       2d4a2c
          *file* ← "<NLS>", f1 f2, ".NLS" ;                              2d4a2c1
          IF *file* # *last* THEN %new file%                             2d4a2c2
            BEGIN                                                        2d4a2c2a
            %close old file%                                             2d4a2c2b
              close(filnum);                                             2d4a2c2b1
            %open new file%                                              2d4a2c2c
              ON SIGNAL                                                  2d4a2c2c1
                =errsig:                                                 2d4a2c2c1a
                  BEGIN                                                  2d4a2c2c1a1
                  filnum ← 0;                                            2d4a2c2c1a2
                  *last* ← NULL;                                         2d4a2c2c1a3
                  ST se se ← "  **Couldn't open ",
                  *file*, "**" ;                                         2d4a2c2c1a4
                  REPEAT LOOP;                                           2d4a2c2c1a5
                  END;                                                   2d4a2c2c1a6
                ELSE;                                                    2d4a2c2c1b
```

```
            filnum ← open(0, $file) ;                          2d4a2c2c2
            ON SIGNAL ELSE;                                    2d4a2c2c3
            *last* ← *file* ;                                  2d4a2c2c4
         END;                                                  2d4a2c2d
      % go to origin of file %                                  2d4a2d
      nl ← 0 ;                                                  2d4a2d1
      nl.stpsid ← origin ;                                      2d4a2d2
      nl.stfile ← filnum ;                                      2d4a2d3
      nl[1] ← 1 ;                                               2d4a2d4
      % jump to named statement %                               2d4a2e
      addflg ← FALSE ;                                          2d4a2e1
      *st* ← *sname* ; %lookup changes string%                  2d4a2e2
      IF lookup($nl, $st, name) = endfil THEN                   2d4a2e3
         BEGIN                                                  2d4a2e3a
         IF sname.L=6 THEN                                      2d4a2e3b
            BEGIN                                               2d4a2e3b1
            % set pointer to origin %                           2d4a2e3b2
               nl ← 0;                                          2d4a2e3b2a
               nl.stpsid ← origin ;                             2d4a2e3b2b
               nl.stfile ← filnum ;                             2d4a2e3b2c
               nl[1] ← 1 ;                                      2d4a2e3b2d
            % look for name with those first six chars %
                                                                2d4a2e3b3
               UNTIL (nl ← getnxt(nl) ) = endfil DO             2d4a2e3b3a
                  IF getnmf(nl) AND (FIND SF(nl) !(
                  *sname* ↑f1 $LD ↑f2 !) ) THEN                 2d4a2e3b3a1
```

```
                    BEGIN                                   2d4a2e3b3a1a
                    addflg ← TRUE;                          2d4a2e3b3a1b
                    EXIT LOOP;                              2d4a2e3b3a1c
                    END;                                    2d4a2e3b3a1d
                END;                                        2d4a2e3b4
            IF n1 = endfil THEN                             2d4a2e3c
                BEGIN                                       2d4a2e3c1
                ST n3 n4 ← NULL ;                           2d4a2e3c2
                cis (sf, $"data declaration", down);        2d4a2e3c3
                REPEAT LOOP;                                2d4a2e3c4
                END;                                        2d4a2e3c5
            END;                                            2d4a2e3d
        % get st num, replace name in link, add rest of name % 2d4a2f
            comment.L ← 0 ;                                 2d4a2f1
            fechno (n1, $comment) ;                         2d4a2f2
            ST n3 n4 ← *comment* ;                          2d4a2f3
            IF addflg THEN ST n2 n2 ← f1 f2 ;               2d4a2f4
        % find parameters, comments, if any %                2d4a2g
            params.L ← comment.L ← 0 ;                      2d4a2g1
            comfg ← parfg ← 0;                              2d4a2g2
            FIND SF(n1) [')'] $NP ;                         2d4a2g3
            CASE READC OF                                   2d4a2g4
                =!%:                                        2d4a2g4a
                    BEGIN                                   2d4a2g4a1
                    IF comfg THEN %have comment, so just skip% 2d4a2g4a2
```

```
        IF NOT FIND ['%] THEN                          2d4a2g4a2a
           BEGIN                                       2d4a2g4a2a1
           nl ← getnxt(nl);                            2d4a2g4a2a2
           CCPOS SF(nl) ;                              2d4a2g4a2a3
           REPEAT CASE('%) ;                           2d4a2g4a2a4
           END                                         2d4a2g4a2a5
        ELSE REPEAT CASE;                              2d4a2g4a2b
     UNTIL comment.L = comment.M DO                    2d4a2g4a3
        CASE char←READC OF                             2d4a2g4a3a
           =ENDCHR, ='%: EXIT LOOP;                    2d4a2g4a3a1
           ENDCASE                                     2d4a2g4a3a2
              BEGIN                                    2d4a2g4a3a2a
              *comment* ← *comment*, char ;            2d4a2g4a3a2b
              END;                                     2d4a2g4a3a2c
     comfg ← TRUE;                                     2d4a2g4a4
     IF NOT parfg THEN                                 2d4a2g4a5
        IF char # '% THEN REPEAT CASE ('%)             2d4a2g4a5a
        ELSE REPEAT CASE;                              2d4a2g4a5b
     END;                                              2d4a2g4a6
  ='(:                                                 2d4a2g4b
     BEGIN                                             2d4a2g4b1
     *params* ← '( ;                                   2d4a2g4b2
     CASE char←READC OF                                2d4a2g4b3
        = '% :                                         2d4a2g4b3a
           BEGIN                                       2d4a2g4b3a1
```

```
            LOOP                                    2d4a2g4b3a2
               BEGIN                                2d4a2g4b3a2a
               IF FIND ('%) THEN EXIT LOOP;         2d4a2g4b3a2b
               nl ← getnxt(nl) ;                    2d4a2g4b3a2c
               CCPOS SF(nl) ;                       2d4a2g4b3a2d
               END;                                 2d4a2g4b3a2e
            REPEAT CASE;                            2d4a2g4b3a3
            END;                                    2d4a2g4b3a4
         = ') :                                      2d4a2g4b3b
            *params* ← *params*, ') ;                2d4a2g4b3b1
         = ENDCHR:                                   2d4a2g4b3c
            BEGIN                                   2d4a2g4b3c1
            nl ← getnxt(nl) ;                       2d4a2g4b3c2
            CCPOS SF(nl) ;                          2d4a2g4b3c3
            REPEAT CASE;                            2d4a2g4b3c4
            END;                                    2d4a2g4b3c5
         = NP:  REPEAT CASE;                         2d4a2g4b3d
         ENDCASE                                     2d4a2g4b3e
            BEGIN                                   2d4a2g4b3e1
            *params* ← *params*, char ;             2d4a2g4b3e2
            REPEAT CASE;                            2d4a2g4b3e3
            END;                                    2d4a2g4b3e4
      parfg ← TRUE;                                   2d4a2g4b4
      IF NOT comfg THEN REPEAT CASE ;                 2d4a2g4b5
      END;                                            2d4a2g4b6
```

```
                =!;:                                                    2d4a2g4c
                   BEGIN                                                2d4a2g4c1
                   parfg ← TRUE ;                                       2d4a2g4c2
                   IF NOT comfg THEN REPEAT CASE ;                      2d4a2g4c3
                   END;                                                 2d4a2g4c4
                = ENDCHR:                                               2d4a2g4d
                   BEGIN                                                2d4a2g4d1
                   IF (nl←getnxt(nl)) = endfil THEN EXIT CASE;          2d4a2g4d2
                   COPOS SF(nl) ;                                       2d4a2g4d3
                   REPEAT CASE;                                         2d4a2g4d4
                   END;                                                 2d4a2g4d5
                =!P:                                                    2d4a2g4e
                   IF FIND "ROC" $UL THEN REPEAT CASE ;                 2d4a2g4e1
                = NP:  REPEAT CASE;                                     2d4a2g4f
                ENDCASE;                                                2d4a2g4g
             % format sysgd statement %                                   2d4a2h
                IF comment.L >0 THEN cis (sf, $comment, down) ;          2d4a2h1
                IF params.L > 0 THEN cis (sf, $params, down) ;           2d4a2h2
             END                                                         2d4a2i
          ELSE IF FIND sf "HALT" THEN EXIT LOOP;                         2d4a3
          END;                                                           2d4a4
       % recreate display %                                             2d5
          IF nlmode=fulldisplay THEN alldsp() ELSE crlf() ;             2d5a
       RETURN;                                                          2d6
       END.                                                             2d7
```

FINISH sysgdform 2d8

17280 Distribution

Kenneth E. (Ken) Victor, James E. (Jim) White, Charles F. Dornbush, Elizabeth K. Michael, Jacques F. Vallee, James G. Mitchell, L. Peter Deutsch, Diane S. Kaye, Don I. Andrews, Walt Bass, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman,

How To Make a SYSGD

(J17280) 18-JUN-73 14:35; Title: Author(s): N. Dean Meyer/NDM;
Distribution: /NPG; Sub-Collections: SRI-ARC NPG; Clerk: NDM;
Origin: <MEYER>SYSGDFORM.NLS;5, 18-JUN-73 14:30 NDM ;

CHI 18-JUN-73 14:50 17281

Temporary files

Robert, The problem you mention about temporary files being deleted and expunged at logout time is correct. This is a feature of TENEX. Althogh we understand you problem, we have no plans to do anything about it since we feel that such changes should come through BBN (Ray Tomlinson). By the way, other people have complained that temporary files linger around until logout time -- they think they should be deleted sooner. My condolences. I hope you can live with this difficulty. -- Charles Irby. 1

17281 Distribution
Robert N. Lieberman,

Temporary files

(J17281) 18-JUN-73 14:50; Title: Author(s): Charles H. Irby/CHI; Distribution: /RLL; Sub-Collections: SRI-ARC; Clerk: CHI;

Down the RUddy Moad of Life

Ruddy moad.

17282 Distribution
James E. (Jim) White,

Down the RUddy Moad of Life

(J17282) 18-JUN-73 15:38; Title: Author(s): James E. (Jim) White/JEW ; Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

this is titled mail.

now is te time.

17283 Distribution
James E. (Jim) White,

this is titled mail.

(J17283) 18-JUN-73 15:52; Title: Author(s): James E. (Jim) White/JEW ; Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

Down The Ruddy Moad of Life We Go

We shall build a test file that's fairly hefty in size, and one tat possesses a fair amount of structure.

We shall, for example, proceed to indent some text as a new statement which the system will surely handle properly if it's able.

Still further into the depths of depression goes this intrepid test file.

And further still alongte rudd moad of life.

Until we meet our final reward: a gold mine in the sky.

17284 Distribution
James E. (Jim) White,

Down The Ruddy Moad of Life We Go

(J17284) 18-JUN-73 15:56; Title: Author(s): James E. (Jim) White/JEW ; Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

Down The Ruddy Moad of Life We Go

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Until we meet our final reward: a gold mine in the sky.

17285 Distribution
James E. (Jim) White,

Down The Ruddy Moad of Life We Go

(J17285) 18-JUN-73 16:00; Title: Author(s): James E. (Jim) White/JEW ; Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

JEW 18-JUN-73 16:10 17286

Check with Running FTPSRV and XNLS

this is it, folk.

17286 Distribution
James E. (Jim) White,

Check with Running FTPSRV and XNLS

(J17286) 18-JUN-73 16:10; Title: Author(s): James E. (Jim) White/JEW ; Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

Date: 18-JUN-73 1612-PDT

From: WHITE at SRI-ARC

Thisis it from SNDMSG.

17287 Distribution
James E. (Jim) White,

(J17287) 18-JUN-73 16:13; Author(s): James E. (Jim) White/JEW ;
Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

Applicant's Visits

Applicants who are invited to come here (I gave the files to DCE): 1

Gary Morgenthaler 1a

12:00 NOON Tuesday 19-June ...
for lunch with DCE, RWW, re Bootstrap Community Liaison (?) 1a1

Morgenthaler is weighing other job offer or offers at present so we must respond quickly, especially if we want him. 1a2

Dan Swinehart 1b

2:30 PM Tuesday 19-June ...
for discussions with DCE, re Systems Programming position (Dan has seen RWW, CHI and the other programmmers; all report highly on him). SRI is checking other references, including Jim Mitchell PARC. 1b1

Must coordinate offer with Jack Goldberg (definite desire by Jack for Swinehart).
Swinehart will see Bart Cox & Dave Brown on 28-June. Wing would like us to have offer ready by then. 1b2

Richard Glantz 1c

9:30 AM Monday 25-June ...
for interview with entire ARC staff, re Bootstrap Community liaison position
Can stay a second day if necessary. Is flying in Saturday to look at Bay Area. 1c1

Richard has exceptionally high recommendations. Also, Don Walker worked with him before coming to SRI; that's how we initially heard of Glantz.
Glantz is actively looking for a job & resigned from MITRE (Bedford , Mass.) because their research work is drying up (they're becoming strictly product oriented for the military) 1c2

Note to DCE, RWW, JCN: no one else in ARC has been notified of Glantz's visit (Wing knows though, and presumably has informed Cox) . So, you should decide on who in ARC should be here to see Glantz and let them know by Thurs. 2

17288 Distribution
Douglas C. Engelbart, Richard W. Watson, James C. Norton=@

Applicant's Visits

(J17288) 18-JUN-73 18:44; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /DCE RWW JCN; Sub-Collections: SRI-ARC; Clerk: MDK;
Origin: <KUDLICK>APPL.NLS;3, 18-JUN-73 18:43 MDK ;

Let's make it work detached.

abcdefg

17289 Distribution
James E. (Jim) White,

Let's make it work detached.

(J17289) 18-JUN-73 21:41; Title: Author(s): James E. (Jim) White/JEW ; Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

Date: 18-JUN-73 2201-PDT

From: WHITE at SRI-ARC

- - - -

test sndmsg message

17290 Distribution
James E. (Jim) White,

(J17290) 18-JUN-73 22:01; Author(s): James E. (Jim) White/JEW ;
Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

Date: 18-JUN-73 2235-PDT

From: WHITE at SRI-ARC

- - - -

title:SNDMSG Title

And this is the SNDMSG text.

17292 Distribution
James E. (Jim) White,

(J17292) 18-JUN-73 22:36; Author(s): James E. (Jim) White/JEW ;
Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

Down The Ruddy Moad of Life We Go

We shall build a test file that's fairly hefty in size, and one tat possesses a fair amount of structure.

We shall, for example, proceed to indent some text as a new statement which the system will surely handle properly if it's able.

Still further into the depths of depression goes this intrepid test file.

And further still alongte rudd moad of life.

Until we meet our final reward: a gold mine in the sky.

17293 Distribution
James E. (Jim) White,

Down The Ruddy Moad of Life We Go

(J17293) 18-JUN-73 22:38; Title: Author(s): James E. (Jim) White/JEW ; Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

Patched SNDMSG test

Now is the time fr all good men to come to the aid of their country.

RIghto.

17294 Distribution
James E. (Jim) White,

JEW 18-JUN-73 22:42 17294

Patched SNDMSG test

(J17294) 18-JUN-73 22:42; Title: Author(s): James E. (Jim) White/JEW ; Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW;
.SNF=HIRM;

Date: 18-JUN-73 2325-PDT

From: WHITE at SRI-ARC

- - - -

title:SNDMSG lives.

qbcdeffg

17295 Distribution
James E. (Jim) White,

(J17295) 18-JUN-73 23:26; Author(s): James E. (Jim) White/JEW ;
Distribution: /JEW ; Sub-Collections: SRI-ARC; Clerk: JEW; .SNF=HIRM;

light verse

A primal termite chanced on wood
And tasted it and found it good.
And that is why your Cousin Mae
Fell through the parlor floor today.

17296 Distribution
J. J. Wolf, James A. Moorer,

light verse

(J17296) 19-JUN-73 06:53; Title: Author(s): Bonnie Nash-webber/BN2;
Distribution: /JJW JAM; Sub-Collections: NIC; Clerk: BN2;
Origin: <BBN-TENEX>OGDENNASH.NLS;1, 19-JUN-73 06:51 BN2 ;

Comments on NLS

TITLE:
COMMENT:
AUTHOR(S):SRS
DISTRIBUTION:
SUBCOLLECTION:
CLERK:SRS
GO. 1

Isn't this fun learning NLS! 2

I find it a most illogical language to use. 2a

I also object to not having an NLS manual. 2b

I object to having to type a dot before the statement number. 2c

2c1

Hopefully this crock will be removed in the next major version of NLS. 2c2

17297 Distribution
William E. Merriam, Bonnie Nash-Webber, J. J. Wolf, Paul R. Johnson, Eleanor H. Warnock, Nancy W. Mimno, Joseph J. Passafiume, Ted R. Strollo, Carol A. Kidston, Elsie Leavitt, Mario C. Grignetti,

Comments on NLS

(J17297) 19-JUN-73 07:09; Title: Author(s): Sonya Shapiro/SRS;
Distribution: /WEM BN2 JJW PRJ EHW2 NWM JJP2 TRS CAK EL2 MCG;
Sub-Collections: NIC; Clerk: SRS;
Origin: <BBN-TENEX>HELLO.NLS;1, 19-JUN-73 06:16 SRS ;

lighter verse

A primal termite --- chanced on wood 1
And tasted it --- and found it good. 2
And that is why --- your Cousin Mae 3
Fell through the parlor --- floor today. 4

17298 Distribution
J. J. Wolf, James A. Moorer,

lighter verse

(J17298) 19-JUN-73 07:22; Title: Author(s): Bonnie Nash-webber/BN2;
Distribution: /JJW JAM; Sub-Collections: NIC; Clerk: BN2;
Origin: <BBN-TENEX>OGDENNASH.NLS;1, 19-JUN-73 07:20 BN2 ;

John,

Read your RFC #519 with great interest, delighted to see this work progressing. As you may know, we at MITRE-TIP have similar concerns and are attempting to develop assorted user assists. We are nearing completion of a users resource handbook - copies of which we can provide to you in the near future. Also, as an initial effort, we have "begged, borrowed, stolen, and developed" some preliminary beginners tutorials which are resident under <HELP.HELP.NLS;* at the NIC and available through NIC Query by typing: @NIC(CR) and then -b/ring/<HELP>HELP(CR). This is an initial and experimental effort and is not to be construed as a finished product by any stretch of the imagination. You may also be interested in the work of Jim Calvin at CASE-10; namely LCF which is a TENEX system librarian, HACK which is a program and information showcase for user sharing, and DELPHI which is an emergent capability for the system to inform users relative to its availability, contained resources <subsys>, and documentation. In the longer run it will contain more sophisticated capabilities such as interactive tutorials. I believe that this is important work if the network is to accrue economically viable stature and would encourage you to look at Jim's work - you can initiate a dialog through SNDMSG to calvin@case-10.

To the point of this message, we would very much appreciate if you could forward copies of those reports which are referenced in your rfc and easily sent. We would also be most appreciate to explore ways in which we could coordinate and collaborate with your effort. Additionally, you might ask Ron Stoughton about the USING group that has been formed and explore ways of coordination and collaboration with its members.

With warmest regards, Jean

1

17299 Distribution
John R. Pickens, Susan S. Poh,

(J17299) 19-JUN-73 07:42; Author(s): Jean Iseli/JI; Distribution:
/JRP SSP; Sub-Collections: NIC; Clerk: JI;

TRS 19-JUN-73 10:38 17300

Message for LC

This is a test of sending a message via NLS instead of SNDMSG.

Message for LC

Hello Elsie. I am busy learning NLS. Sonya 1

17300 Distribution
Elsie Leavitt,

TRS 19-JUN-73 10:38 17300

Message for LC

(J17300) 19-JUN-73 10:38; Title: Author(s): Ted R. Strollo/TRS;
Distribution: / EL2; Keywords: NLS; Sub-Collections: NIC; Clerk: SRS;

PRJ 19-JUN-73 10:44 17301

Test Message

Hello, this is a test of the journal mail system. 1

17301 Distribution
Paul R. Johnson, Robert H. Thomas, Jerry D. Burchfiel,

PRJ 19-JUN-73 10:44 17301

Test Message

(J17301) 19-JUN-73 10:44; Title: Author(s): Paul R. Johnson/PRJ;
Distribution: /PRJ RHT JDB; Sub-Collections: NIC; Clerk: PRJ;

Journal Test

As a demonstration of a Journal submission, I am sending you this memo. 1

I hope you are interested in it. 1a

It should hopefully not take too long to reach you. 2

2a

It is being sent at 6/19/73 13:00. 2a1

Let me know how long it took. 2b

Thank you. 3

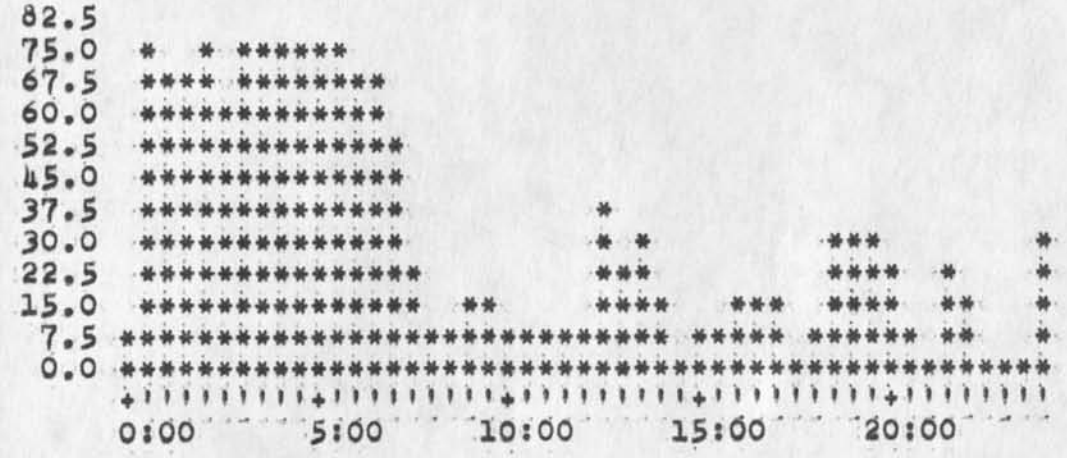
17302 Distribution
Sonya Shapiro, Paul R. Johnson, Joseph J. Passafiume, Nancy W. Mimno@

Journal Test

(J17302) 19-JUN-73 09:51; Title: Author(s): Paul R. Johnson/PRJ;
Distribution: /SRS PRJ JJP2 NWM; Sub-Collections: NIC; Clerk: PRJ;
Origin: <BBN-TENEX>PRJMEM1.NLS;1, 19-JUN-73 09:45 PRJ ;

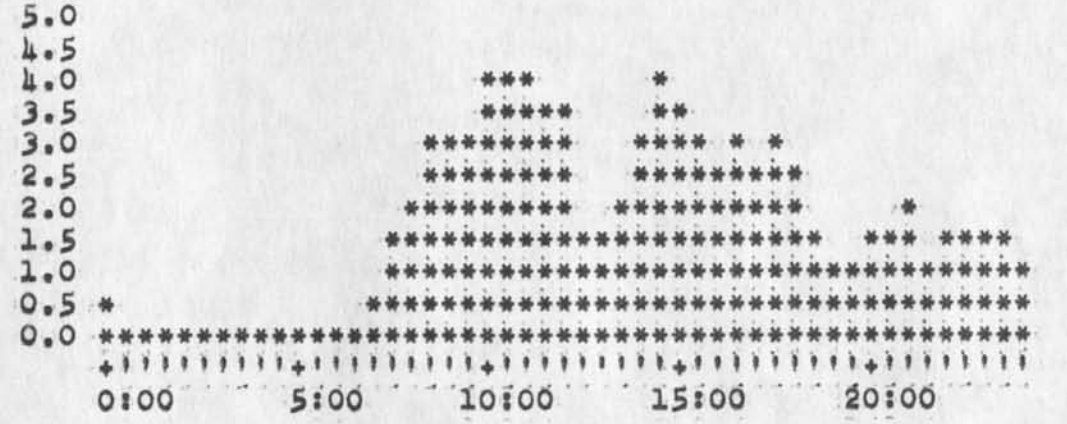
Superwatch Average Graphs for Week of 6/11/73

TIME PLOT OF AVERAGE IDLE TIME FOR THE WEEK OF 6/11/73
x axis labeled in units of hr:min, xunit = 30 minutes 1



1a

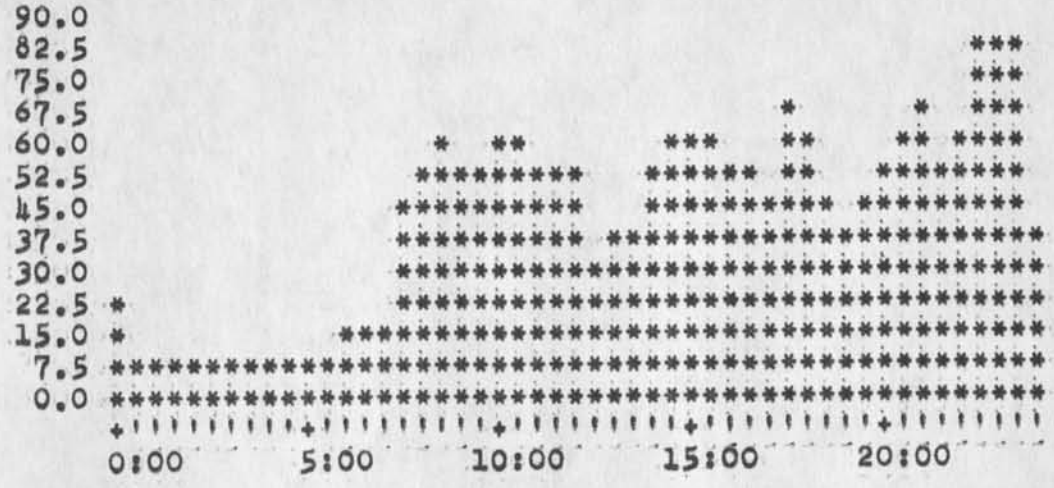
TIME PLOT OF AVERAGE NUMBER OF GO JOBS FOR THE WEEK OF 6/11/73
x axis labeled in units of hr:min, xunit = 30 minutes 2



2a

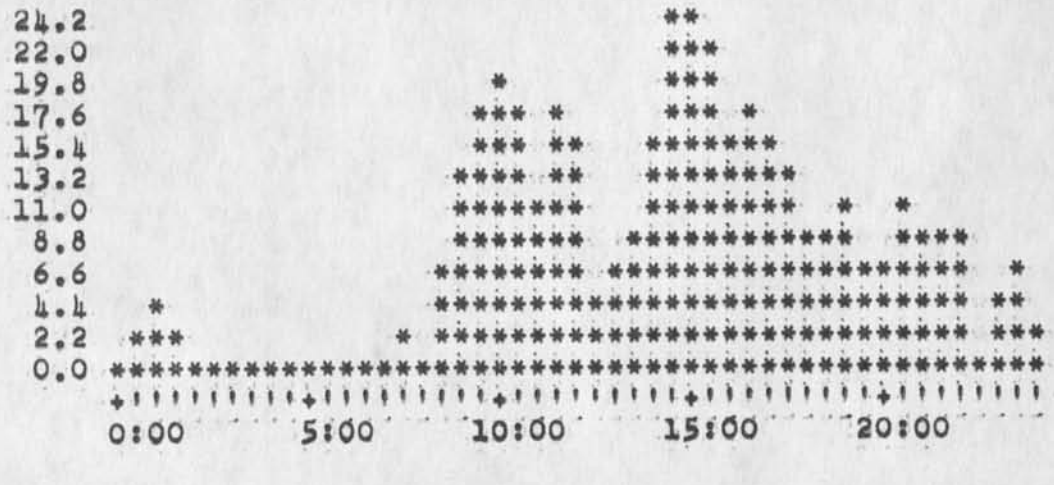
Superwatch Average Graphs for Week of 6/11/73

TIME PLOT OF AVERAGE PER CENT OF CPU TIME CHARGED TO USER ACCOUNTS FOR THE WEEK OF 6/11/73
x axis labeled in units of hr:min, xunit = 30 minutes 3



3a

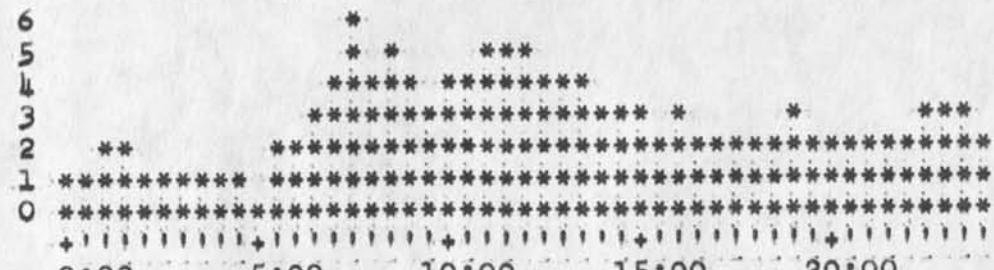
TIME PLOT OF AVERAGE PER CENT OF SYSTEM USED IN DNLS FOR THE WEEK OF 6/11/73
x axis labeled in units of hr:min, xunit = 30 minutes 4



4a

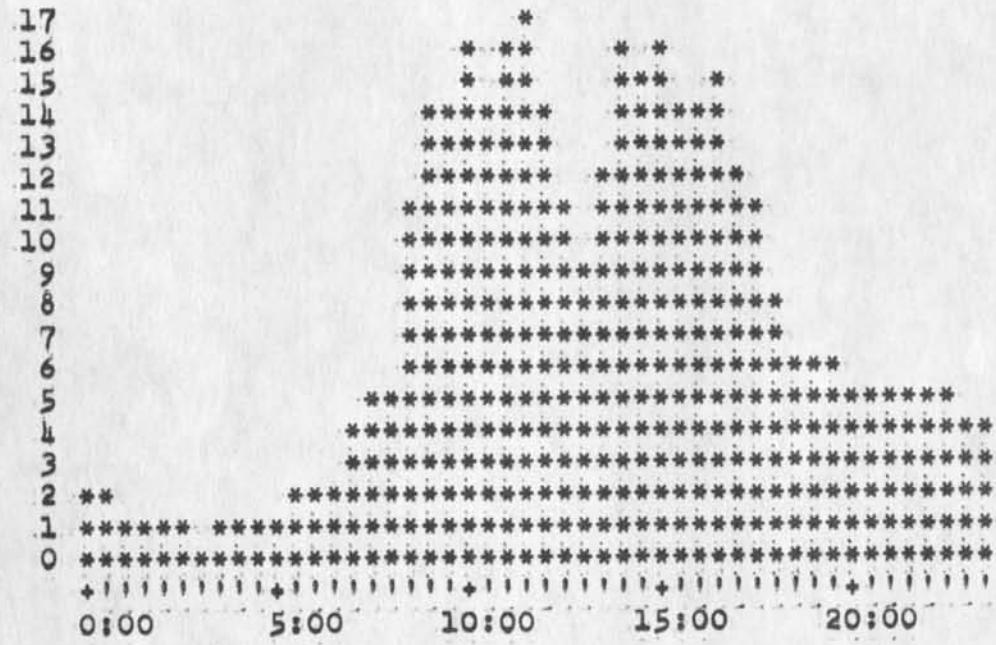
Superwatch Average Graphs for Week of 6/11/73

TIME PLOT OF AVERAGE NUMBER OF NETWORK USERS FOR THE WEEK OF 6/11/73
x axis labeled in units of hr:min, xunit = 30 minutes 5



5a

TIME PLOT OF AVERAGE NUMBER OF USERS FOR THE WEEK OF 6/11/73
x axis labeled in units of hr:min, xunit = 30 minutes 6



6a

17303 Distribution

James C. Norton, Richard W. Watson, Douglas C. Engelbart, Paul Rech, Donald C. (Smokey) Wallace, Jeffrey C. Peters, Dirk H. Van Nouhuys, Elizabeth J. (Jake) Feinler, Charles F. Dornbush, Kirk E. Kelley, Duane L. Stone, Beauregard A. Hardeman,

Superwatch Average Graphs for Week of 6/11/73

(J17303) 19-JUN-73 10:11; Title: Author(s): Susan R. Lee/SRL;
Distribution: /JCN RWW DCE PR DCW JCP DVN JAKE CFD KIRK DLS BAH;
Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>WEEK6/11GRAPHS.NLS;2, 19-JUN-73 10:08 SRL ;

JJW 19-JUN-73 10:31 17304

TNLS class

this is a riduculous test message.

TNLS class

Fee, fie, foe, fum

17304 Distribution
Joseph J. Passafiume, Bonnie Nash-webber, William E. Merriam, Richard W. Watson, Sonya Shapiro,

TNLS class

(J17304) 19-JUN-73 10:31; Title: Author(s): J. J. Wolf/JJW;
Distribution: /JJP2 BN2 WEM RWW(This is a TNLS class hack) SRS;
Sub-Collections: NIC; Clerk: JJW;

Marcia, Would you please change my user ident from bn2 to bnw for Bonnie Nash-Webber. Thanks. 1

17305 Distribution
Marcia Lynn Keeney,

(J17305) 19-JUN-73 10:32; Author(s): Bonnie Nash-webber/BN2;
Distribution: /MLK; Sub-Collections: NIC; Clerk: BN2;

EHW2 19-JUN-73 10:35 17306

PRINT Complaint

i'm taking a tnls course and have a complaint: the print command resets the cursor. since i always like to know where i am, i do prints often, and find to my distress that after i've done it, i'm not where i think i am. any chance of its being changed? thanks.
eleanor warnock

1

17306 Distribution
Charles H. Irby, Paul R. Johnson, William E. Merriam,

PRINT Complaint

(J17306) 19-JUN-73 10:35; Title: Author(s): Eleanor H. Warnock/EHW2; Distribution: /CHI PRJ WEM; Sub-Collections: NIC; Clerk: EHW2;

summer plans

hi don
i thought i would say hello as long as i had to play
with this silly system.whats new ? i will be in palo alto in
august hope to see then.

JOE

17307 Distribution
Donald C. (Smokey) Wallace,

summer plans

(J17307) 19-JUN-73 10:39; Title: Author(s): Joseph J. Passafiume/JJP2; Distribution: /DCW; Sub-Collections: NIC; Clerk: JJP2;