Addendum to Visitor Log [17603,]:   Revised list of materials to be
sent to Jeff Franklin at Naval Ordinance Lab

Materials to be sent to Jeff Franklin (revised list):   1

SRI-ARC Summary for IPT Contractor Meeting (13537,)   1a

Coordinated Information Services for a Discipline or Mission
Oriented Community (12445,)   1b

Dinousaur Paper (5255,)   1c

Reprint from AFIPS Conference (3954,)   1d

1972 Report-- "Online Team Environment" (13041,)   1e

1970 Report-- "Computer Augmented Management-- System Research and
Development of Augmentation Facility"   1f

1962 Report- "Augmenting Human Intellect, a Conceptual Framework"   1g

NCC paper-- "Augmented Knowledge Workshop" (14724,)   1h

    Douglas C. Engelbart, Richard W. Watson, James C. Norton,   1a

Addendum to Visitor Log [17603,]:   Revised list of materials to be
sent to Jeff Franklin at Naval Ordinance Lab

(J17620) 3-JUL-73 09:02;   Title: Author(s): Harvey G. Lehtman/HGL;
Distribution: /DCE RWW JCN; Sub-Collections: SRI-ARC; Clerk: HGL;

Note To Kudlick

Hi Mike,
I meant to ask you before you left if there is any info that I could
read on the Modular Programming stuff that you mentioned that ARC and
the guys at Xerox PARC were working with. After the brief
description of ANTS you can no doubt see what my interest is.

1

One other more mundane thing can you get me an address to write to
for an aplication to Stanford graduate school and info regarding
foriegn students, money, etc. in Computer Science or Elec. Engr. Its
not for me but a friend of a friend. I'll explain later.

2

                    Thanks,
                    John

3

Note To Kudlick

(J17621) 3-JUL-73 10:06; Title: Author(s): John D. Day/DAY;
Distribution: /MDK; Sub-Collections: NIC; Clerk: DAY;
Origin: <ILLINOIS>MSG.NLS;2, 3-JUL-73 10:02 DAY ;

        I wish to lodge a complaint concerning the Journal. I
recently used the Journal to submit an RFC online (NIC #14922).   I
spent a great deal of time formatting my file so that it looked
proper when displayed via the Output Device Teletype command, but
when I saw the hardcopy distributed to our site through the mail, I
was very disappointed. First, various items that I carefully aligned
using tabs were no longer aligned. Second, the vertical line
character (octal 174) that I used extensively to denote logical
choice had been turned into an underline (hardly equivalent). Third,
statement numbers appeared along the right hand margin without my
having requested them.

        The first and third of these atrocities were aparently
commited by default output directives inserted by the Journal at the
beginning of my file. Having looked at these directives, I am still
at a loss to explain the improper alignment. The vertical line
mapping is no doubt due to the (unadvertized) fact that your printers
lack this character.

        It seems to me reasonable either that the Journal not supply
default formatting output directives, or that the defaults and their
effects be well publicized. The copy of my document that has been
distributed to the Network looks so sloppy that I am strongly tempted
to fix it up (if possible) and re-issue it.

                                        Mark Krilanovich
                                        UCSB
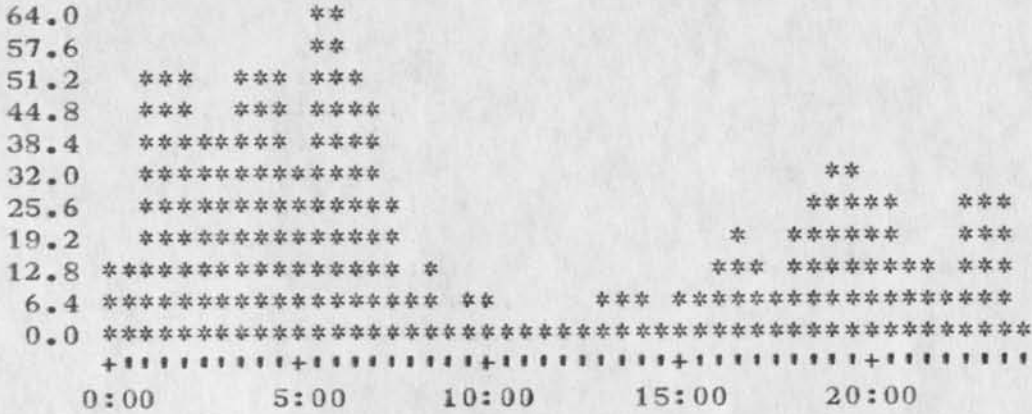
Journal Complaint

(J17622) 3-JUL-73 10:20;   Title: Author(s): Mark C. Krilanovich/MCK;
Distribution: /MCK; Sub-Collections: NIC; Clerk: MCK;
Origin: <UCSB>JGRIPE.NLS;3, 3-JUL-73 10:06 MCK ;

Superwatch Average Graphs for Week of 6/25/73

TIME PLOT OF AVERAGE IDLE TIME FOR WEEK OF 6/25/73
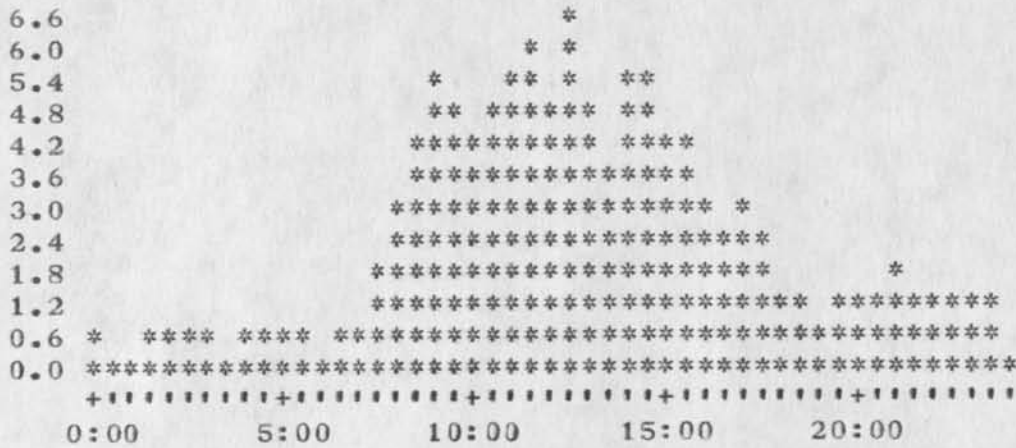x axis labeled in units of hr:min,   xunit = 30 minutes   1

```
64.0                 **
57.6                 **
51.2     ***    ***  ***
44.8     ***    *** ****
38.4     ********* ****
32.0     *************                          **
25.6     **************                    *****     ***
19.2     **************               *  ******     ***
12.8 ******************* *              *** ********  ***
 6.4 ******************** **        *** *******************
 0.0 **************************************************************
     +!!!!!!!!!+!!!!!!!!!+!!!!!!!!!+!!!!!!!!!+!!!!!!!!!
     0:00       5:00      10:00      15:00      20:00                    1a
```

TIME PLOT OF AVERAGE NUMBER OF GO JOBS FOR WEEK OF 6/25/73
x axis labeled in units of hr:min,   xunit = 30 minutes   2
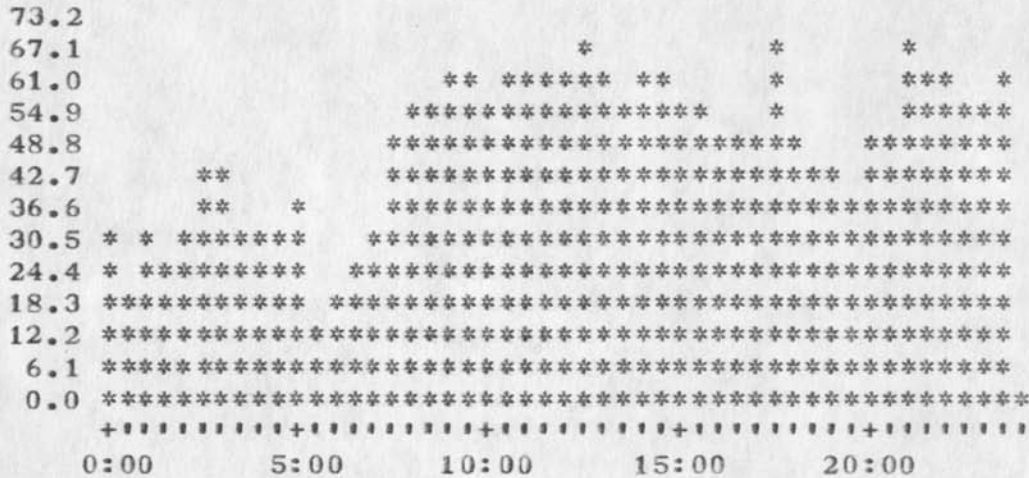
```
 6.6                        *
 6.0                      *  *
 5.4                 *    ** *   **
 4.8                 ** ****** **
 4.2                 ********** ****
 3.6                 ****************
 3.0                 ****************** *
 2.4                 **********************
 1.8                 **********************          *
 1.2                 ************************** *********
 0.6 *  ****  **** ************************************************
 0.0 **************************************************************
     +!!!!!!!!!+!!!!!!!!!+!!!!!!!!!+!!!!!!!!!+!!!!!!!!!
     0:00       5:00      10:00      15:00      20:00                    2a
```

TIME PLOT OF AVERAGE PER CENT OF CPU TIME CHARGED TO USER ACCOUNTS
FOR WEEK OF 6/25/73
x axis labeled in units of hr:min,   xunit = 30 minutes   3
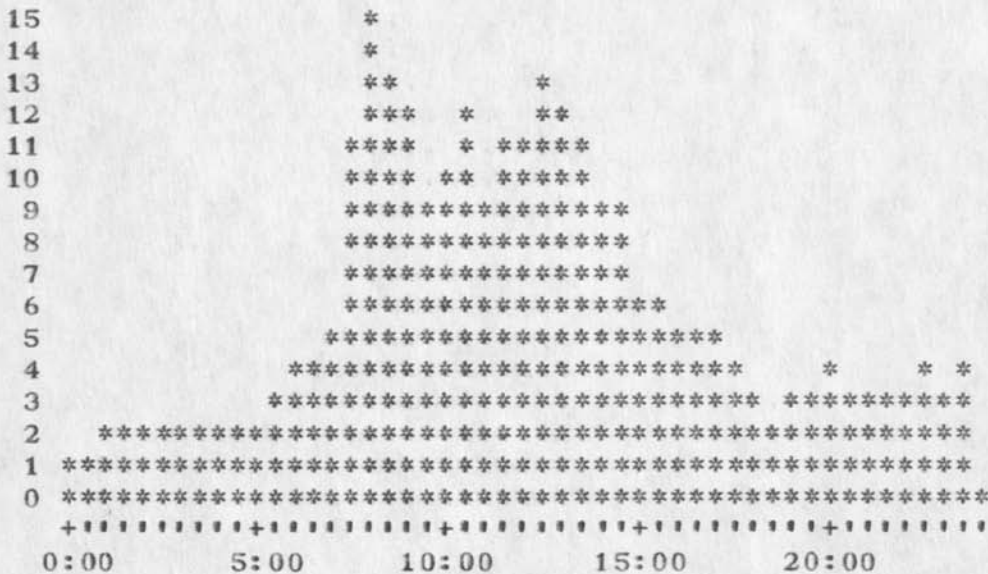
```
 73.2
 67.1                                  *           *         *
 61.0                       ** ****** **          *          ***   *
 54.9                       ****************      *          ******
 48.8                      *************************       ********
 42.7        **            *****************************  ********
 36.6        **    *       **************************************
 30.5 * * *******          **************************************
 24.4 * *********          ***************************************
 18.3 ***********   *****************************************************
 12.2 ***************************************************************
  6.1 ***************************************************************
  0.0 ******************************************************************
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      0:00      5:00      10:00     15:00     20:00                    3a
```

TIME PLOT OF AVERAGE NUMBER OF NETWORK USERS FOR WEEK OF 6/25/73
x axis labeled in units of hr:min,   xunit = 30 minutes   4

```
 15                   *
 14                   *
 13                   **          *
 12                   ***   *   **
 11                   ****  * *****
 10                   **** ** *****
  9                   ****************
  8                   ****************
  7                   ***************
  6                   ******************
  5                  ********************
  4               **************************     *     * *
  3               ******************************* **********
  2             *****************************************************
  1            ******************************************************
  0            ********************************************************
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      0:00      5:00      10:00     15:00     20:00                    4a
```
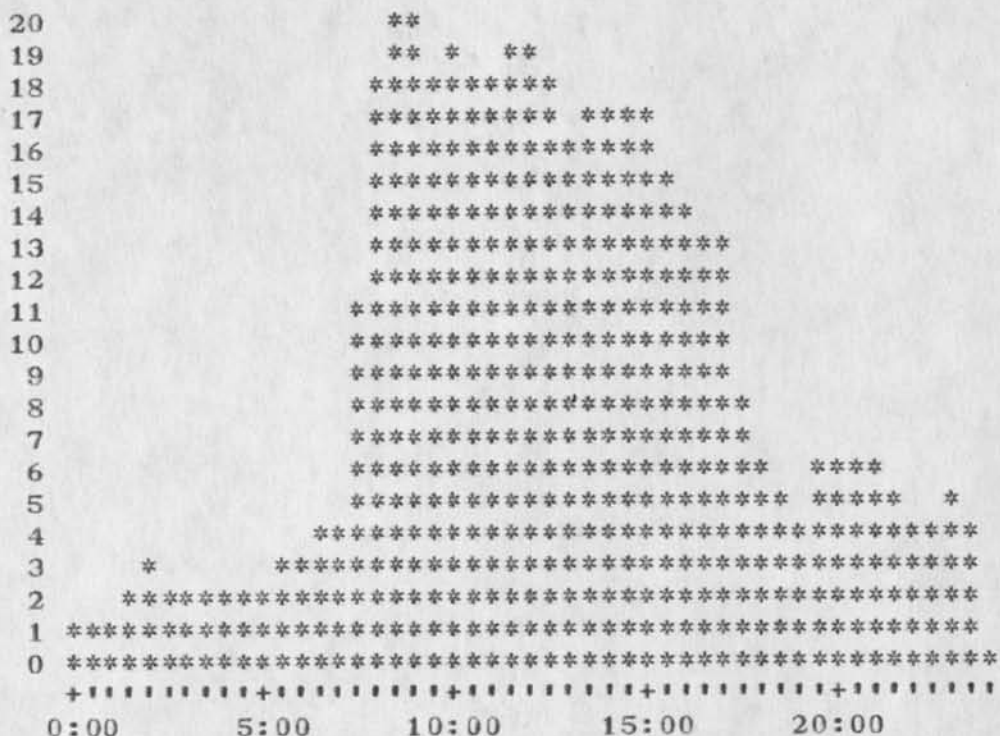
Superwatch Average Graphs for Week of 6/25/73

TIME PLOT OF AVERAGE NUMBER OF USERS FOR WEEK OF 6/25/73
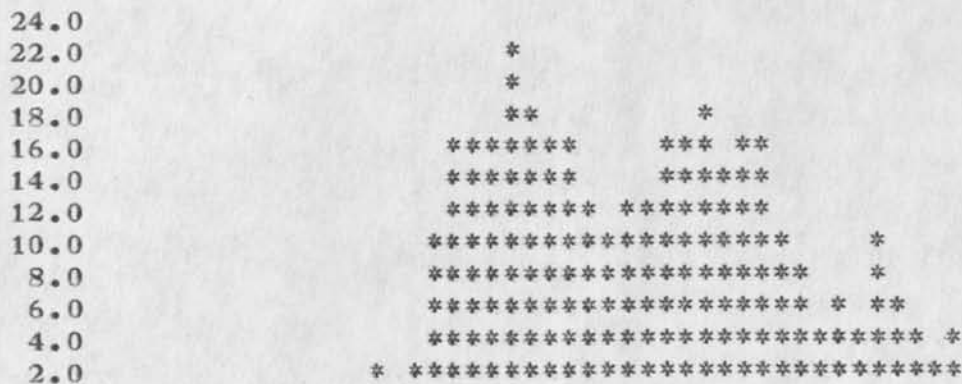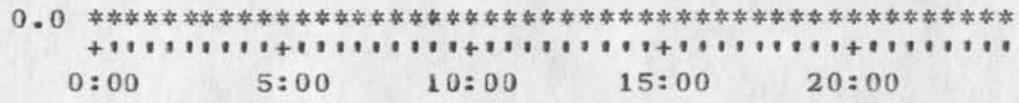x axis labeled in units of hr:min,   xunit = 30 minutes   5

```
20                        **
19                        ** *  **
18                      **********
17                      ********** ****
16                     ****************
15                     *****************
14                     ******************
13                     ********************
12                     ********************
11                    *********************
10                    *********************
 9                    ********************
 8                    ***********************
 7                    *********************
 6                    **********************  ****
 5                    ***********************  *****   *
 4                ***********************************************
 3        *         ***********************************************
 2        ***********************************************************
 1     ************************************************************
 0     *************************************************************
      +11111111111+1111111111+111111111111+11111111111+11111111
      0:00        5:00       10:00        15:00        20:00
```

TIME PLOT OF AVERAGE PER CENT OF SYSTEM USED IN DNLS FOR WEEK OF
6/25/73
x axis labeled in units of hr:min,   xunit = 30 minutes   6

```
24.0
22.0                     *
20.0                     *
18.0                    **              *
16.0                   *******     *** **
14.0                   *******     ******
12.0                   ******** ********
10.0                  ******************   *
 8.0                  ******************   *
 6.0                  ******************* * **
 4.0                  *************************** *
 2.0                * *****************************
```

Superwatch Average Graphs for Week of 6/25/73

```
0.0  ***************************************************************
     +'''''''''''+'''''''''''+'''''''''''+'''''''''''+'''''''''''
    0:00        5:00        10:00        15:00        20:00                          6a
```

4

    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,   1a

Superwatch Average Graphs for Week of 6/25/73

(J17623) 3-JUL-73 11:44; 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>WEEK6/25GRAPHS.NLS;2, 3-JUL-73 11:40 SRL ;

Some Info about Making Superwatch Graphs

There is a new program, Seqgraph, which is very useful in creating
the Superwatch graphs each week. It cuts the time needed to about a
half hour per week which is quite an improvement.   1

I also have a file <lee>HOWSUPERGRAPHS which describes the process of
making Superwatch graphs for public consumpton (in case anyone should
want to know how).   2

If anyone has any questions about either of these, let me know.   3

James C. Norton, Beauregard A. Hardeman, Jeffrey C. Peters, Dirk H.
Van Nouhuys, Kirk E. Kelley, Paul Rech, Richard W. Watson, Charles F.
Dornbush, Douglas C. Engelbart,   1a

Some Info about Making Superwatch Graphs

(J17624) 3-JUL-73 12:04;   Title: Author(s): Susan R. Lee/SRL;
Distribution: /JCN BAH JCP DVN KIRK PR RWW CFD DCE; Sub-Collections:
SRI-ARC; Clerk: SRL;
Origin: <LEE>TIME.NLS;1, 3-JUL-73 11:46 SRL ;

greeting to larry

larry,   greetings and luck from rnl (rll).   please do an update (u
(return)) when one finishes a file.   this saves considerable space.
also if disk sspace is tight remember to delete previous versions
(two versions are the maximum allowed others are automatically
deleted and expunged).   delete is of course at the exec level.   see
you thursday.   robert   1

    I. Larry Avrunin,

greeting to larry

(J17625)   3-JUL-73 12:30;   Title: Author(s): Robert N. Lieberman/RLL;
Distribution: /ILA; Sub-Collections: NIC; Clerk: RLL;

Printer will be down Thursday from 9 to 11

On Thursday, July 5th, the printer will not run frm 9:00 until 11:00
AM.   1

17626 Distribution   1

   Richard W. Watson, Don I. Andrews,   1a

   Mark Alexander Beach, Judy D. Cooke, Marcia Lynn Keeney, Carol B.
Guilbault, Susan R. Lee, Elizabeth K. Michael, Charles F. Dornbush,
Elizabeth J. (Jake) Feinler, Kirk E. Kelley, N. Dean Meyer, Kay F.
Byrd, James E. (Jim) White, Diane S. Kaye, Paul Rech, Michael D.
Kudlick, Ferg R. Ferguson, Linda L. Lane, Marilyn F. Auerbach, Walt
Bass, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy,
J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman,
Jeanne B. North, James C. Norton, William H. Paxton, Jeffrey C.
Peters, Jake Ratliff, Edwin K. Van De Riet, Dirk H. Van Nouhuys,
Kenneth E. (Ken) Victor, Donald C. (Smokey) Wallace   1b

Printer will be down Thursday from 9 to 11

(J17626)   3-JUL-73 15:23;   Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: DVN;

Suggestions on Secratary Hiring

I'm sending this as a journal item to get your atention.

Suggestions on Secratary Hiring

The lady who has been sitting in the office with Kaye, Linda
Thatcher, is a good candidate in ay mind for the second (non
administrative) secratary. For the sake of the overlap I sugest we
hire her and keeping looking for anoter, stronger secratry ? 1

Suggestions on Secratary Hiring

(J17627)   3-JUL-73 15:28;   Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /JCN MDK; Sub-Collections: SRI-ARC; Clerk: DVN;

Network Journal Mail

We've corrected a glitch that's been hanging mailer so Network
Journal delivery may be emerging from the experimental stage. I
don't know about the FTP problem and Jim won't be back for a week or
so.   1

Network Journal Mail

(J17628)   3-JUL-73 15:36;   Title: Author(s): J. D. Hopper/JDH;
Distribution: /NJN; Sub-Collections: SRI-ARC; Clerk: JDH;

New Members to the Graphics Group

I had a request from Bob Thomas of BBN to add Elaine L. Thomas and
T.H. Meyer of BBN to the Network Graphics Group. Ira Cotton of the
National Bureau of Standards would like to add Jon A. Meads of
Textronix in Beaverton, Oregon (phone: (503) 292-2611) to the same
group. As you are the coordinator I need your okay on these three
before I can add them to the NGG membership list; so please let me
know so I can tell their sponsors yes or no. Thanks Marcia Keeney.   1

New Members to the Graphics Group

(J17629)   3-JUL-73 16:35;   Title: Author(s): Marcia Lynn Keeney/MLK;
Distribution: /JCM; Sub-Collections: SRI-ARC; Clerk: MLK;

1

Date: 26-JUN-73 1405-PDT   2

From: MEYER at SRI-ARC   3

Re: title   4

- - - -   5

test message   6

-------   7

                                                           8

Journal Complaint

I wish to lodge a complaint concerning the Journal.   I
recently used the Journal to submit an RFC online (NIC #14922).   I
spent a great deal of time formatting my file so that it looked
proper when displayed via the Output Device Teletype command, but
when I saw the hardcopy distributed to our site through the mail, I
was very disappointed. First, various items that I carefully aligned
using tabs were no longer aligned. Second, the vertical line
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statement numbers appeared along the right hand margin without my
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effects be well publicized. The copy of my document that has been
distributed to the Network looks so sloppy that I am strongly tempted
to fix it up (if possible) and re-issue it.

                                        Mark Krilanovich
                                        UCSB

17631 Distribution
    Nps Np, Richard W. Watson, Charles H. Irby, Michael D. Kudlick, J. D.
    Hopper, James E. (Jim) White, Mark C. Krilanovich,

Journal Complaint

(J17631) 4-JUL-73 06:29; Title: Author(s): Mark C. Krilanovich/MCK;
Distribution: /NP MDK JDH JEW MCK; Sub-Collections: NIC NP; Clerk: MCK;
Origin: <UCSB>JGRIPE.NLS;3, 3-JUL-73 10:06 MCK ;

Imlac difficulties

We are having trouble with the Imlac program. Theere are 3 things in
ordeer of importance: (1) the screen display width in in DNLS all of
a sudden is about 15 characteers narrower, greatly limiting what we
can see... (2) during certain recreates, usually involving viewspec
change (eg. jump or load file) the Imlac crashes and cannot be
restarted without reloading thee program, (3) in the exec, the top
line of the display rolls down to the bottom so we continually see
the tp line in the wrong place. There are other minor problems, but
they are of little consequence.   1

17632 Distribution
   Diane S. Kaye, Harvey G. Lehtman, Charles H. Irby, Dirk H. Van
   Nouhuys, Duane L. Stone, Edmund J. Kennedy, William E. Rzepka,

Imlac difficulties

(J17632)   4-JUL-73 09:21;   Title: Author(s): James H. Bair/JHB;
Distribution: /BUGS DVN DLS EJK WER; Sub-Collections: RADC BUGS; Clerk:
JHB;

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

John: Don't bother to print this out if you don't want to take
the time. It is the basic set of data that you already have
through your printing of <norton>forjsp earlier this week. Your
option. Jim

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

John:

Here is information in response to the request in your sndmsg
of June 28th. I hope it meets your needs. If there is any more
data you want, please let me know. I am sure you know that we are
relying on early- or mid- July receipt of the incremental funding
under our current contract (via RADC). We look forward to seeing
you next week with Larry Roberts to discuss the overall funding
picture and our needs.
    P.S. 4-JUL-73 10:16
This is sent for record purposes only, since you already have a
copy. As we agreed I am not bringing this to up to the status of
a good finished document, since you are lifting what you want out
of it for use in responding the Mr. Tachmindji. If you need more,
let me know?? Jim   1

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

REQUEST 1.

A BREAKOUT OF MONEY/PEOPLE ALLOCATIONS FOR THE COMING YEAR OF
THE RESEARCH BETWEEN DIRECT NIC ACTIVITIES AND GENERAL ARC
RESEARCH WHICH FORMS A BACKGROUND FOR BOTH NIC AND OFFICE
AUTOMATION.   2

Concerning the allocation of people and system resources
between devlelopment and operation of the NIC and basic
Knowledge workshop operation and further development: 2a

We have been operating under an agreement made between D.
C. Engelbart and L. G. Roberts during our June 1971 program
review meeting at ARPA where the current contract period
proposal (7404,) was discussed in detail.   2a1

The agreement was that we would devote approximately 30% of
ARC staff resources and up to 50% of our computer system
resources to Network Information Center (NIC) operation and
development. THe balance would be directed toward general
ARC research activities along the lines outlined in our
proposal (7404,).   2a2

ARC staff resources are applied in two ways to NIC: 2a2a

1) directly for development and operation of
specific NIC services and   2a2a1

2) indirectly for development of system features
needed by the NIC staff and NIC users.   2a2a2

The computer system resources are applied in three ways
to NIC: 2a2b

1) for providing online service directly to NIC
users,   2a2b1

2) for development and operation of the NIC itself
(calalogs, directories, online query, NIC staff
dialog, etc.), and   2a2b2

3) for development of special system features needed
by the NIC staff and NIC user groups.   2a2b3

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

Estimated spending of remaining incremental funding ($ 817k)
(up to $ 2270 k, present contract total):   2b

We expect to continue to maintain the overall division of
resources between these integrated activities as outlined
above.   2b1

NIC   2b2
    Labor   65 mms $ 150 k   2b2a
    Non-computer $ 60 k   2b2b
    Computer $ 120 k   2b2c
    Total $ 330 k   2b2d
ARC Operations and Development   2b3
    Labor 125 mms $ 347 k   2b3a
    Non-computer $ 20 k   2b3b
    Computer $ 120 k   2b3c
    Total $ 487 k   2b3d
Total NIC and ARC $ 817 k   2b4

Current costs to date are ahead of the incremental
funding anticipated in early July. We are now in the
process of seeking additional funding beyond this
increment to cover higher than estimated service and
development needs in both the NIC and ARC activities.
(norton,iptrequest,5:x)   2b4a

    FUNDING NEEDS SUMMARIZED: ARC/IPT Contracts
        PROPOSALS TO BE SUBMITTED: 2b4a1

    1. Expansion of CURRENT CONTRACT total effort: 2b4a2
        Funds needed   7/73 to 2/74:   915 k   2b4a2a
        Funds left 7/73   597 k
            (817-220 spent 5/73-7/73)   2b4a2b
        Funds to be proposed   318 k   2b4a2c
    2. Expansion of two-year FOLLOW-ON CONTRACT level of
effort   2b4a3
        Funds needed 2/74 to 2/76: 5049 k+ 250 k = 5299
    k   2b4a3a

REQUEST 2.
A LISTING OF OTHER SOURCES OF SUPPORT, THE FOCI OF THEIR
INTERESTS, PAST/PLANNED ACHIEVEMENTS.   3

   Support from Rome Air Development Center (RADC)   3a

      Current Contract: F30602-73-C-0285 (5/73 to 12/73) 72 k
                 (remaining funds 6/23/73: 69 k)   3a1

         This effort has just commenced and will provide special
         assistance to RADC personnel in their program of
         integrating knowledge workshop techniques into a
         selected set of offices at RADC in an effort to both
         further develop the technology through extended use in
         an Air Force working environment and to begin learning
         how to evaluate the technology as it evolves.   3a1a

         This effort will also support specialized workshop
         feature development needs of RADC users while they are
         utilizing the planned Workshop Utility Service later in
         the Fall.   3a1b

         The end result (after further effort) will be to
         determine where and when knowledge workshop technology
         can be of benefit to the Air Force on a broader scale.   3a1c

         Further information may be found in SRI Proposal
         ISU-73-32, Journal document (14567,) upon which this
         procurement is based.   3a1d

      Recent Contract: F30602-72-C-0333 (5/72 to 1/73)   75 k
                 (remaining funds 6/23/73: $ 0 completed)   3a2

         This effort had basically the same longer-term aims as
         the current effort, but concentrated on the early stages
         of getting RADC people and facilities working with the
         SRI-ARC system through the ARPANET.   3a2a

         At the close of this effort, three IMLAC displays were
         running Display NLS (DNLS) at RADC, together with about
         6 Execuport terminals. About 8 people had been trained
         in Typewriter NLS (TNLS) and 3 in DNLS. Those users were
         conducting much of their day-to-day correspondence and
         intra-group communications using the SRI-ARC system. At
         the same time, preliminary evaluation techniques were
         being developed.   3a2b

   Support from the Office of Naval Research (ONR)   3b

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

Current Contract: N00014-70-C-0302 (4/70 to 12/73) 148 k
(remaining funds 6/23/73: 13 k)   3b1

This effort is aimed at the development of a small
computer-augmented information system, using existing
knowledge workshop features and supporting the
development of specialized new features and working
methods where necessary.   3b1a

Recent accomplishments are reported in our Annual
Report to ONR (16508,) dated April 1973, available
online at SRI-ARC and in hardcopy.   3b1b

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

REQUEST 3.
   A CAPSULE ACCOUNT OF MAJOR ACHIEVEMENTS IN NIC AND GENERAL
ARC WORK DURING THE PAST YEAR.   4

      John: This is too much of course..I plan to revise and use
   part of the IPT annual summary document when I get it back
   online.. Jim N 6/30 10pm   4a

   QMR 1: (MJOURNAL, 11635, 1:w)   4b

      Network Information Center (NIC)   4b1

         Debugging the Catalog Production Processor   4b1a

         Planning for participation in ICCC from the Network
         standpoint   4b1b

         Completion of initial file transfer process between
         SRI-ARC and UC Santa Barbara's simple-minded file system
         (SMFS) to experiment with Network file transfer and
         remote site archiving.   4b1c

      Dialog Support System (DSS)   4b2

         Automatic Journal catalogs and indices production and
         update system was implemented.   4b2a

         Increased speed of Journal document submission.   4b2b

      Documentation Production and Control System   4b3

         Completed a new Output Processor User's Guide   4b3a

         Completed programs that permit output to specially
         formatted files for computer-output-to-microfilm and
         subsequent high quality printing.   4b3b

      Software Development   4b4

         Modular Progranming System and Language work progressed
         further.   4b4a

         Worked on ideas for software documentation standards.   4b4b

   QMR 2: (MJOURNAL, 13744, 1:w)   4c

      Network Information Center (NIC)   4c1

Production of the first entire NIC catalog and
directory set through use of the Catalog Production
Processor automatically.   4c1a

Programming for the NIC query system allowing NIC users
to acccess the NIC Resource Notebook online with little
prior training.   4c1b

Participation in the First International Conference in
Computer Comunication (ICCC), centering around the
ARPANET and the use made by the NIC and its users.   4c1c

   We participated heavily in the Network planning for
the ICCC and provided many demonstrations at the
Conference.   4c1c1

Dialog Support System (DSS)   4c2

Improved reliability of the Identification Subsystem.   4c2a

Implemented a shared screen feature that permits two
remote users to see and work on the same data
simultaneosly on separate display terminals.   4c2b

Software Development   4c3

Further work on the Modular Programming System and
Language.   4c3a

We developed NLS-DDT, a debugging tool present within
NLS which has more power than TENEX DDT previously used.   4c3b

Organized software efforts along team lines, using the
Journal to aid with coordination.   4c3c

QMR 3: (MJOURNAL, 15290, 1:w)   4d

Network Information Center (NIC)   4d1

Issue # 1 of the monthly ARPANET NEWS was distributed
online to Network members in March.   4d1a

The interactive query language demonstrated at the ICCC
has been developed to support several NLS Information
Files, notably the NIC Resource Notebook and the ARPANET
NEWS. The upgraded version of the language, NIC/QUERY,
is available to NIC users as a subsystem under TENEX at
SRI-ARC.   4d1b

ARC hosted a meeting in February to discuss network mail
problems and to extend the File Transfer Protocal to
allow for more reasonable mail facilities (14798,).   4d1c

Dialog Support System (DSS)   4d2

We designed mechanisms that will allow network users to
submit messages (of arbitrary size) to the Journal (for
recording and permanent storage) through the
mail-sending system at their site.   4d2a

We have increased the reliability of the Journal and
Identification systems, and added some minor
improvements to the command language for the
Identification system.   4d2b

Software Development   4d3

Early this year we replanned most of our software
development activity -- see (14164,) and (14165,).
Ongoing and proposed software development was organized
in terms of its contribution either to transfer of NLS
to the proposed Modular Programming System, or to
preparation for the proposed NLS utility on the ARPA
Network.   4d3a

On the basis of our experience with our first-stage
deferred execution system (DEX) (that allows offline
typing of files onto magnetic tape for later insertion
into NLS online) we set up a very simple form of input
language, DEX 1.5 -- see (14710,). A typist who knows
how to use a teletype-like terminal and the magnetic
recorder, can use DEX without much training. A version
of DEX with extensive editing commands comparable to
those in TNLS, DEX-II, is now in operation.   4d3b

We have completed additions to our Output Processor that
permit output from NLS to microfilm, or printing masters
made from microfilms, with a wide range of typeface,
type sizes, and layout.   4d3c

A TENEX subsystem that allows the user to store his
files on tape and signal an operator to retrieve them
has been completed. This system, BSYS, is being adopted
by other TENEX users.   4d3d

Changes in the code have improved the efficiency of

        entering a character by typing literal text from display
        NLS 6-7 times and from TNLS 2-3 times   -- see (14108,).   4d3e

  QMR 4: (vannouhuys, qmr, 1:w)   4e

   Network Information Center [NIC]   4e1

     Some of the work reported below under Software
     Development and Dialog Support System --- namely, that
     work related to improvements in the Journal system and
     the NIC/QUERY system --- was jointly sponsored by the
     NIC.   4e1a

     Other NIC work is related to improvements in NIC
     service, as follows: 4e1b

       1) We are making a study to determine the feasibility
       of using the University of California Santa Barbara
       (UCSB) 360/75 system to process the NIC's formatted
       reports: Catalog Listings and Indexes, Journal
       Indexes, and Directories.   4e1b1

       2) In parallel with the above study to transfer some
       of the computer processing to UCSB, we are
       undertaking a study to determine the uses and
       frequency needs of the NIC reports mentioned above.   4e1b2

       3) We are carrying on a study to determine the costs
       of operating the NIC.   4e1b3

         It appears that the NIC is significantly
         understaffed to cover adequately its current scope
         of services for a clientele whose size and range
         of needs has grown far beyond those planned for
         two years ago when our budget was last set. These
         studies are designed to determine what changes are
         needed.   4e1b3a

         We intend to compare the NIC's costs for various
         operations with those of similar operations at
         other institutions, drawing as many parallels as
         are justifiable.   4e1b3b

       4) We are planning to further expand the capabilities
       of the NIC/QUERY language, in order to provide for a
       more general file format capability.   4e1b4

       5) The problem of assigning and maintaining unique

identifications of sites, hosts, and organizations on
the ARPA Network is being coordinated through the
NIC, with the assistance of ARPA and RML.   4e1b5

Dialog Support System (DSS)   4e2

In a major extension of the DSS we have modified the
Journal to deliver messages and citations through the
Net to users at their own sites.   4e2a

We have modified the Ident System so that it allows a
User to record as part of his ident his desire for
delivery at his own site instead of or in addition to
delivery online at ARC or via hard copy. We have made a
place in the Ident System to record his address at
another site for Network Delivery.   4e2b

We have speeded up Journal delivery to 0 - 60 minutes
during the middle of the day.   4e2c

We are designing and planning for Multi-site Journal and
Ident systems.   4e2d

Software Development   4e3

We have been pursuing the tasks connected with
development of a Modular Programming System as described
(14165,) and other software development described in
(14164,).   4e3a

The first phase of the calculator has been completed. It
allows arithmetic operations on numbers input or
addressed in NLS files, and includes storage registers
and printout of recorded operations.   4e3b

We have taken delivery of 2 low-cost, alpha-numeric
terminals and work is progressing on providing DNLS
(with mouse and keyset) from such a class of terminals.   4e3c

A major proposal for removing a number of
inconsistencies in the NLS command language has been
reveiwed and will now move to the
implementation-docunentation phase.   4e3d

An allocation system has been implemented that allocates
users' access to the system according to work groups
during hours of peak load.   4e3e

We have made a number of improvements to the programs
that support DNLS on Imlac terminals locally and on the
ARPANET.   4e3f

Preparation for Workshop Utility   4e4

We are working with Tymshare people on details of the
subcontract to be made between SRI and Tymshare and
details of the operation of the Utility service.   4e4a

We are in the process of hiring of (and soon training
of) prospective staff for some of the ARC portions of
the Utility service   4e4b

We are testing, through use on the SRI-ARC PDP-10
system, the group allocation system that will permit us
to deliver "guaranteed" amounts of system access to
Utility subscribers.   4e4c

We have started the training of initial clerical users
at the ARPA IPT office. Other training of Network (NIC)
users has increased, with courses run remotely at Mitre,
BBN, and Illinois. Some of those new users may also be
part of the user group for the Utility.   4e4d

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

BACKGROUND-- PERRY SNDMSG TEXT: 5

  28-JUN-73 11:52:05,2020
  Net mail from site BBN-TENEX rcvd at 28-JUN-73 11:51:52

  Date: 28-JUN-73 1159-EDT
  From: PERRY at BBN-TENEX
  Re: CONTRACT EXTENSION
  - - - -   5a

  Jim: 5b

  In discussions with Mr Tachmindj   the other day, he expressed
  some dissatisfaction with the way IPT had written up the
  documentation on the action. in accordance with the title of
  the present contract, I had concentrated on NIC functions as
  they related to ARPA. He pointed out (with justice) that
  these, impressive as they were, seemed slender justification
  for the rather large sums of money we were expending.
  accordingly, I'll have to rewrite the docu- mentation before I
  can get things rolling again. to do this, I'll need: 5c

    1. A breakout of money/people allocations for the coming
    year of the research between direct NIC activities and
    general ARC research which forms a background for both NIC
    and office automation.   5c1

    2. A listing of other sources of support, e.g. Air Force,
    the foc   of their interests, past/planned achievements.   5c2

    3. A capsule account of major achievements in NIC and
    general ARC work during the past year.   5c3

  The draft memos on file in your system give a rough idea of
  the type of format and content we have to generate in order to
  get an arpa order.   5d

  Just imagine you were a skeptical, consciously hard- nosed
  professional administrator concerned that he has objectively
  justifiable documentaation on file for his every action, and
  you'll have a good guide for the type of material required.   5e

  Incidentally, I found Tachmindj very favorably inclined toward
  the office automation concept.   5f

  But, particularly with LGR's unique charisma declining, IPTO
  projects no longer enjoy the uncritical acceptance they once
  enjoyed.   5g

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

We therefore need to stress concrete results and clear,
understandable, relevant goals in all our documentation.   5h

Therefore, I plan to increasingly pass on to our field workers
an increasing share of the burden of generating such material.   5i

Regards,   John   5j

17633 Distribution
    John S. Perry, Richard W. Watson,

1

Response to J. S. Perry's Request for Supportive Information
About ARC ARPA/RADC Project Activities

(J17633) 4-JUL-73 10:40;   Title: Author(s): James C. Norton/JCN ;
Distribution: /JSP RWW [for info] ; Sub-Collections: SRI-ARC; Clerk:
JCN ;
Origin: <NORTON>FORJSP.NLS;1, 4-JUL-73 10:17 JCN ;

(J17634) 4-JUL-73 10:56;   Title: Author(s): James C. Norton/JCN   ;
Sub-Collections: SRI-ARC; Clerk: JCN   ;
Origin: <NORTON>DRAFT.NLS;1, 21-MAY-73 07:33 JCN ;
.D=On;.DLD='@; @HJOURNAL="DCE RWW JCN @GDATM;   17634";
@HED="Extended-funding plan for SRI-ARC @SPLIT;Submitted to ARPA: 18
MAY 73";
@F="@SPLIT;Page @GPN;";
@BRM=65; @HRM=BRM; @HJRM=BRM + 7; @SNF=HJRM; @FRM=HJRM;
@LBS=1; @Leading=Off; @PN=0; @PES;

.PEL;   .PGN=PGN-1; .GCR;This file was sent to Larry Roberts 5/18
about 1:00 pm via John Perry. It is being entered into the
Journal for record purposes. This file last changed: 18-MAY-73
11:17 JCN

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"core" activities between now and the end of its next two-year
contract period (Feb 76). This would require $670 K more FY74
funding than if we merely continued on at the current funding
rate (1.3 M/yr). This DOES NOT include IPTO purchase of
Workshop Utility services being separately negotiated.   1a

BASIC STRUCTURE OF OUR ACTIVITIES   2

Pursuit of Knowledge Workshop Augmentation will be via the
continuing, coordinated interaction of three main thrusts --
APPLICATIONS, DEVELOPMENT, and ANALYSIS -- all supported by a
centralized OPERATIONS Activity.   2a

APPLICATIONS will be selected to be exploratory and
evolutionary, supporting challenging needs outside of ARC; A
"Knowledge Workshop Utility" is being set up (under
Operations) to provide the necessary computer and people
services. Each client will negotiate and pay directly for the
KWU services.   2b

DEVELOPMENT and ANALYSIS are presently carried on principally
within ARC, but a shift is planned toward other groups
collaboratively contributing in these areas, some from within
the staff of application clients, and some from the
information-system R&D community [when it can be established
that mutual collaboration within a common,
applications-oriented system-evolution environment provides
higher payoff than otherwise).   2c

OPERATIONS supplies all of the Knowledge-Workshop services,
both to internal ARC users, and via the Workshop Utility to
external-application clientele. If an application client
itself is serving users, our OPERATIONS could supply all with
computer services, but would encourage the client to build its
own people-service staff, and this staff would be supported by
OPERATION's people services (training, analysis/development
consultation, etc). The NIC is being organized as an internal
prototype of this sort of application setup.   2d

RATIONALE BEHIND OUR APPROACH   3

This approach is a consistent extension of the current one
described in our 1971 proposal (7404,), which is summarized in
the first two pages of our summary report provided to the Jan
73 Contractors Meeting [13537,). We have established the
framework, as planned, for developing and delivering prototype

evolutionary system services to ARPANET clientele, are
organizing an operational Utility Service, and have begun to
enlist paying subscribers to that Service.   3a

Advanced information systems are for users, and their
evolution has to include the concurrent involvement and
participation of users, based upon serious application effort.
This requires that the systems be made available in a
serviceable manner, and that analysis of needs, payoff, etc.
be made within the mixed but coherent framework including
application-oriented users and improvement-oriented
developers.   3b

We have been working to set up such an environment, often
foregoing pushing exciting new functions in order to learn how
to deliver serviceability, how to interface with applications
people, how to integrate analysis into the feedback, etc. WE
ARE SERIOUSLY OVER-STRESSED, our people are cut into too many
role pieces, the whole Workshop system needs more coherent
attention but there are important new dimensions of system
function as yet unlaunched, and essential system levels
(especially in the methods levels) that are considerably
undersupported.   3c

To make things move as the general need and possibility
situations seem to warrant, we will need expanded IPTO support
of the effort to set up and coordinate adequate collaboration
among distributed groups doing applications, analysis, and
development. We expect that when shaken down over the next
few years as a regular process, ARC's interfacing and
coordination efforts are expected to be paid for as an
"overhead" cost by the various supporters of the different
collaborative groups.   3d

PLANNED ARC/IPT STAFF GROWTH, IN MAJOR-ACTIVITY CATEGORIES

ARC/IPT Project Staff Needs [excludes Utility,ONR,RADC People]:
```
>            :----------FY74---------:----------FY75---------:  (+=1/2)
-----Current Contract-->><------IPT/ARC New Contract Period--- - - ->
>     M J J A S O N D J F M A M J J A S O N D J F M A M J J A S ONDJF
>     . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  . .
NIC  8          8          11          14          14          14          14
Ap-O 0          0          2           2           3           3           3
Ap-C 0          0          2           2           3           3           3
Ops 15+        15+        16+         17+         18+         18+         18+
Anl  2          2          2           3           5           6           6
Dvl  6+         6+         6+          8+          10+         12+         12+
Hnd  0          0          0           1           1           1           1
Mgt  1          1          1           1+          1+          1+          1+

Tot 33         33         41          49+         56+         59+         59+
>     . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  . .
```

FUNDING NEEDS: ARC/IPT Contracts   ($000)

    PROPOSALS TO BE SUBMITTED:

        1. Expansion of CURRENT CONTRACT total effort:
           Funds needed 7/73 to 2/74:   915
           Funds left 7/73   597 (817-220 spent 5/73-6/73)
           Funds to be proposed   318

        2. Expansion of two-year FOLLOW-ON CONTRACT level of effort
           Funds needed 2/74 to 2/76:   5,049+ 250 =5,299
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    FISCAL YEAR VIEW

        FY74 Needs -- 1,970k
            7/73 - 2/74
                Staff (36)   597
                Facility   318
                Total   915
            2/74 - 7/74
                Staff (45)   520
                Facility   315
                Total   835
            Total FY74   --- 1,970k (1,750k + 220k spent 5/73-6/73)

        FY75 Needs -- 2,738k
            7/74 - 2/75
                Staff (52)   915
                Facility   466 + new displays 250k
                Total   1,381 + 250 = 1,631k
            2/75 - 7/75
                Staff (56)   687
                Facility   420
                Total   1,107
            Total FY75   --- 2,738k (2,488k + 250k -- new displays)

        FY76 Needs -- 1,726k
            7/75 - 2/76
                Staff (59) 1,101
                Facility   625
                Total   1,726
            Total FY76> 2/76 --- 1,726k (2,900k/year if growth levels off)

DESCRIPTION OF MAJOR ACTIVITY CATEGORIES   6

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expanding Network and Network usage. The manpower shown is
for direct NIC work. NIC receives additional support parttime
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total about two people. Manpower shown includes a small
direct development effort to adapt or develop functions
specifically needed by the NIC.   6a

Ap-O and Ap-C: APPLICATIONS, OFFICE and APPLICATIONS,
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are made up is covered under Development and Analysis below.
Here we need a small group oriented specifically toward the
special whole-system problems of these applications.   6b

Ops: OPERATIONS -- provides a range of needed support services
to ARC, NIC and the Utility; administrative, training,
documentation, user interface, clerical support, hardware and
software maintenance, and computer operator.   Growth here is
related toward supporting the larger projected staff. Much of
the growth to support outside users will be supported through
Utility subscription and is not shown here.   6c

Anl: ANALYSIS -- provides operations analysis, measurement,
and evaluation of operational systems and information handling
procedures. ANALYSIS must also develop methodology for
analysis of knowledge workshop type systems. ANALYSIS is a
relatively new and important function at ARC that is needed to
provide an important missing ingredient to the process (from
real usage to DEVELOPMENT) essential to the evolution of
Workshop systems.   6d

Dvl: DEVELOPMENT -- does system building at several levels: 6e

   - basic system (hardware, operating system, system building
   tools, application system foundations, general user
   features),   6e1

- application functions (dialog support, document creation
and production, information management, project management
etc),   6e2

- methodology and procedure development (all non computer
tool aspects necessary for the tools to be really useful).   6e3

Present levels of staffing do not allow either balance or
critical mass to be obtained to meet present and growing
requirements, or to provide efficient liaison with other
organizations planning to collaborate in the ongoing
evolution of a workshop system.   6e4

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Extended-funding plan for SRI-ARC

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and evaluation of operational systems and information handling
procedures. ANALYSIS must also develop methodology for
analysis of knowledge workshop type systems. ANALYSIS is a
relatively new and important function at ARC that is needed to
provide an important missing ingredient to the process (from
real usage to DEVELOPMENT) essential to the evolution of
Workshop systems.   6d

Dvl: DEVELOPMENT -- does system building at several levels: 6e

    - basic system (hardware, operating system, system building
    tools, application system foundations, general user
    features),   6e1

- application functions (dialog support, document creation
and production, information management, project management
etc),   6e2

- methodology and procedure development (all non computer
tool aspects necessary for the tools to be really useful).   6e3

Present levels of staffing do not allow either balance or
critical mass to be obtained to meet present and growing
requirements, or to provide efficient liaison with other
organizations planning to collaborate in the ongoing
evolution of a workshop system.   6e4

Date: 4-JUL-73 0934-PDT

From: IRBY at SRI-ARC

Re: Net Journal Deliver

- - - -

Nancy, we depend on MAILER for our network delivery of Journal mail.
However, I was bombing frequently on us. We just found the problem
yesterday (it does not like EOL's). Net mail delivery should be
somewhat more reliable now. -- Charles.

17635 Distribution
    Nancy J. Neigus,

Proposed system for handling links in NLS query languages.

First step: A search for a link begins from a specified address.
If a legal link is found, the second step is executed. If an illegal
link is found, print branch is executed on the specified address.
with viewspecs eb (this level and one level more). (No link =
illegal link).   1

Second step: If the link specifies viewspecs, print branch will be
executed with the address and the viewspecs specified by the link.
If there are no viewspecs specified in the link, then the first step
is repeated with the address specified by the link.   2

17636 Distribution
   Nps Np, Richard W. Watson, Charles H. Irby, Leroy (Lee) C.
Richardson, Frank G. Brignoli, Elizabeth J. (Jake) Feinler, Michael
D. Kudlick, James E. [Jim] White, Michael A. Padlipsky, Kenneth L.
Bowles, A. Wayne Hathaway, Jean Iseli, David H. Crocker, Nancy J.
Neigus, Stephen M. Wolfe, Ronald M. Stoughton, Jim O. Calvin,

Proposed system for handling links in NLS query languages.

(J17636) 4-JUL-73 16:40;   Title: Author(s): Kirk E. Kelley/KIRK ;
Distribution: /NP USING ; Sub-Collections: SRI-ARC NP USING; Clerk:
KIRK ;

Lee, Is the System Really Slower?, (16341,)   6d

17637 Distribution
   Richard W. Watson, Douglas C. Engelbart, James C. Norton, Paul Rech,
   Dirk H. Van Nouhuys,

Selected Reference List of Analysis Studies

(J17637) 4-JUL-73 17:54;   Title: Author(s): Susan R. Lee/SRL;
Distribution: /RWW DCE JCN PR DVN; Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>BIBLIO.NLS;1, 4-JUL-73 15:08 SRL   ;

response to mail

got your message robert and will do.   thank you--larry   1

17638 Distribution
    Robert N. Lieberman,

response to mail

(J17638)   5-JUL-73 06:23;   Title: Author(s): I. Larry Avrunin/ILA;
Distribution: /RLL; Sub-Collections: NIC; Clerk: ILA;

An account for Alex McKenzie at SRI-ARC

Mike,
As I mentioned previously, I would really like to have my ouw account
at SRI so that I could receive "Sendmessage" mail there. I know that
you told me that some solution was in the works, but I've forgotten
what it was or when it was supposed to happen. Could you please
remind me?
Regards,
Alex McKenzie

1

17639 Distribution
    Michael D. Kudlick,

An account for Alex McKenzie at SRI-ARC

(J17639)   5-JUL-73 07:57;   Title: Author(s): Alex A. McKenzie/AAM;
Distribution: /MDK; Sub-Collections: NIC; Clerk: AAM;

Note to Jim Bair about Who Can Help with the Imlac

I put a copy of your Imlac problems (journal,17632,) on te desk of
Ken Victor (ekv). He is the guy who can best solve it.   If things
don't get better in a reasonable time, let me know.   1

17640 Distribution
    Edwin K. Van De Riet, Charles H. Irby, James H. Bair,

Note to Jim Bair about Who Can Help with the Imlac

(J17640)   5-JUL-73 08:43;   Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /EKV CHI JHB; Sub-Collections: NIC RADC SRI-ARC; Clerk:
DVN;

(Response-to-DHC)   1

Dave,

    Have read your (ucla-nmc, usingnotes,) and have the following
to offer:

    1. Someone should carefully edit the text, sorry if this
sounds nit-picky, but the are some spelling mistakes, wrong words,
etc.

    2. Under future plans, Mike Padlipsky's NETED was omitted - I
had previously submitted the comment to Jake - guess it got lost
in the shuffle - could you please add it.

    3. Under - "Each site should provide several levels of online
'help' tailored.....", would suggest that site be replaced by
Server Site - Cannot imagine select other sites could easily
justify implied expenditures.

    4. 'how to' instructions........and related items online - The
first issue of the Network Users Handbook will probably not
contain much under this category - what will be included are
references to other easily available information (available
on-line) that users can go to. (Our intent was to explain the
Network, its constituents, interests, and resources, and include
references to where more detailed information can be found. The
'how to' portions in the document are functionally related; for
example: who to call to order a TIP, how to establish an account
at a given site, etc. The guestion of obtaining on-line help for
each site is, as I think you might agree, not easy to give without
implicitly unfairly contrasting one site from the next. Our
approach is to construct a seperate on-line capability to provide
for the requirement cited above.   1a

    5. In general, think the version reads well and should be
submitted to JBN for inclusion in ARPANET News. Would appreciate
your consideration of this request.

                                                                    1b

17641 Distribution
    David H. Crocker,

Recursiveness

Jean -- Thanks for the comments. I will include them.
thought I had proofed the document for typos, but will go over it
again.

--Dave.   1

17643 Distribution
    Jean Iseli,

1

Recursiveness

(J17643)   5-JUL-73 12:54;   Title: Author(s): David H. Crocker/DHC;
Distribution: /JI; Sub-Collections: NIC; Clerk: DHC;

Network Working Group   D. Crocker (UCLA-NMC)
Request For Comments: 539   J. Postel (UCLA-NMC)
                                                        7 JUL 73
NIC 17644
References: 524

            Thoughts on the Mail Protocol Proposed in RFC 524

                                                                        1

Generally, we feel that the protocol is extrememly rich. We also
feel that there are some minor and some major problems.   2

The minor points first: 3

   1. <CA> and <CA2> are not explained until the formal syntax. It
   would be more convenient, if they were explained sooner.   3a

   2. The Proposed <CA2> is a bad thing, since it is the Telnet
   Go-Ahead, which should not be used by higher level protocols.   3b

   3. The default SIGNATURE should be the sign-on or ident of the
   author(s).   3c

   4. The Disposition INTERRUPT would be more useful if it had
   author/clerk-assigned "levels". Currently mail would be either
   urgent or not. With levels (say 1 to 10), the sender could rate
   the degree of urgency.   3d

      There would be no precise defined meaning to any of these
      levels, merely the opportunity for a subjective evaluation by
      the sender. The receiver (process or person) may do whatever
      they wish with the information.   3d1

      A user could thereby direct a receiving process to notify him
      immediately of Priority 5 or higher Short mail or any Priority
      10 mail immediately, but defer notification of any other mail.
      (Length is discussed later in this note.)   3d2

   5. Also, we would like the word, "INTERRUPT", to be changed to
   URGENT or PRIORITY   3e

   6. In keeping with offering the sender the opportunity to 'rate'
   his mail, we would like to allow him the chance to warn the
   receiver of the size of the mail. This could be a byte count
   and/or an imprecise SHORT/MEDIUM/LONG. Again, the receiver may
   use this information as he/it sees fit.   3f

7. The ID command seems confusing.   3g

If I am a clerk and sending to someone on another host, that
host may ask me to 'prove' my identity by using an ID. How can
the Sigma-7 at UCLA-NMC know WHITE's id? He does not have one
on the Sigma, but certainly should be able to send mail to us
there.   3g1

8. How do ACKs, Progress Reports, or Replies work when there is
no Reference Serial number?   3h

9. Please include the distinction between Static and Dynamic
attributes as part of the formal syntax.   3i

10. Though hosts must be allowed to require a login, before they
will accept mail, we would like the Protocol document to reflect
a negative attitude towards such a requirement.   3j

11. In describing defaults, relatively criptic phrases such as
"Author to the Clerk" are sometimes used. Please be a bit more
clear.   3k

12. The sender is required to send Static, Dynamic, and then
Optional parameters.   3l

This requires receiving hosts to buffer the contents before
passing them on to the appropirate recipient. (In fact, before
finding out whether it can/will accept the mail.)   3l1

The order should be: Dynamic, Optional, Static.   3l2

By requiring the sending host to transmit the dynamic and
optional attibutes first, the receiving host can also reroute
mail based upon it Priority and Length.   3l3

Now for the hairier problems: 4

1. We would like to make a strong statement in favor of the
unified-access (one selector process with one listening socket)
approach. However, since it does not exist, yet: 4a

The Mail Protocol should NOT be a subsystem of FTP. The Mail
Protocol USES the File Transfer Protocol, the same as RJE uses
FTP. We therefore suggest use of the RJE model.   4a1

This unfortunately opens up the issue of logging in, to send
mail. The advantage of having FTP have a MAIL command is that
it defines a class of data transfer which many hosts will
allow for free, while maintaining control over other, 'normal'
file transfer.   4a2

The solution should be the same as that currently used by RJE.   4a3

2. The FORWARD function allows a site to receive and hold mail
during and/or, until a transfer request is received from the
'recipient' at another host.   4b

This action takes place AFTER receipt of the mail, so we would
like to suggest a command for "Rerouting" mail just PRIOR to
its receipt.   4b1

This allows a receiving host to refuse a given piece of mail,
but suggest an alternate receiver. This would be useful if the
recipient were using another host for a while, or if the
recipient didn't want to rack up storage charges at the first
site.   4b2

Three variations can occur, one of which will require a
special MP reply code: 4b3

   Automatic forwarding: Accept the mail and then
   automatically transfer it to the user's alternate mailbox.   4b3a

      This could be classed as a user "feature" and would not
      be part of the protocol. However, it would be quite
      useful.   4b3a1

   Automatic forwarding with copy held: The same as the first
   case, but the transfering server keeps a copy of the mail.   4b3b

   Rerouting without accepting: The mail is never accepted
   from the sender. The sender is, however, informed of an
   alternate mailbox.   4b3c

      The Rerouting information would be in reply to a
      RECIPIENT command.   4b3c1

      476 "<recipient>" IS AT <pathname>   4b3c2

Notice of Draft of Visitor Log for Alphanumerics Salesmen.

I have made a visitor Log item for Sunley and Shaw's visit. It is my
file Sunleyvisit. I am holding pending getting some Xdoc numbers.
Take a moment to glance at it and usggest any changes you think
proper before it is journalized.   1

17645 Distribution
   N. Dean Meyer, Elizabeth K. Michael,

Notice of Draft of Visitor Log for Alphanumerics Salesmen.

(J17645)   5-JUL-73 17:26;   Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /NDM EKM; Sub-Collections: DPCS SRI-ARC; Clerk: DVN;

Need for Analysis of the NIC

Need for a Thorough Analysis of the NIC   1

There are many conclusions to be drawn from the valuable
discussions with John Perry and Larry Roberts yesterday. One of
them is the importance placed on the need for a growing healthy
Analysis function and a thorough Analysis of all aspects of the
ARC-NLS environment. This was very heartening to all of us.
Second is the immediate need to begin a thorough analysis of the
NIC. Planning for this analysis should be done by PR and MDK with
PR leading the effort to give the outside view needed. All NIC
personel should consider it their top priority to help gather and
reduce any data required in the analysis design. I want to review
the analysis design before it goes into implementation. I would
like to see a draft of an analysis design (written) next Wed.   1a

There are two immediate needs   1b

There is going to be strong pressure in the next month to cut
back on ARC's non-labor costs. We will need recommendations
from NIC about what might be done here, harm this would cause
to an analysis effort etc. You should probably plan on some
cut in the reproduction and mailing area and try and identify
what can be done without hurting future client goodwill as soon
as possible.   1b1

The second area is that we need information for the next
proposal. We need to know who are NIC users, how many with what
frequency doing what , getting what value at what cost etc. We
need alternative service structures evaluated as best as we
can, alternative direct charging structures considered, we need
every assumption about the NIC questioned reaffirmed or
discarded. There is no reasonable way all this can be done
before the proposal has to go out, the question is what can we
learn in the next month? There is even a serious question in
my mind, which is why I haven't pushed such a thorough analysis
sooner, as to whether NIC services, Network usage, ARC support
etc. have matured to a stable enough point to be able to get
trustworthy answers to the above questions. However, I am
affraid that pressures are such that we must make the attempt
and take care in drawing our conclusions. I think much good
will come from this effort.   1b2

Need for Analysis of the NIC

(J17646) 6-JUL-73 08:27; Title: Author(s): Richard W. Watson/RWW;
Distribution: /PR MDK JCN DCE SRL JBN JAKE JEW MLK MEJ; Sub-Collections:
SRI-ARC; Clerk: RWW;

TRANSMITTAL TO: Jerry A. Feldman

TRANSMITTAL TO: Jerry A. Feldman
                  Stanford University - AI Project
                  Computation Center
                  Stanford, California 94305

FROM: Marcia Keeney (NIC)
                  Station Agent   1

Your name was entered today in the IDENTFILE of the Network
Information Center. Enclosed is a copy of that entry. It will
appear as such in the next update to the Network Directory (NIC
5150). If anything in the entry is incorrect, please notify Marcia
Keeney at the NIC and she will correct it.   1a

17647 Distribution
     Station Agent,

1

TRANSMITTAL TO: Jerry A. Feldman

(J17647) 17-JUL-73 19:06;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: George Bateman, Jr.

TRANSMITTAL TO: George Bateman, Jr.
                  Moore School of Electrical Engineering
                  University of Pennsylvania
                  Philadelphia, Pennsylvania   19104

FROM: Marcia Keeney (NIC)
                  Station Agent   1

At your request, I am sending the following documents: 1a

    NIC 4762
        6728
        6772
        7101
        7147
        7812
        7813
        8246   1a1

MLK/kk   1b

17648 Distribution
    Station Agent,

TRANSMITTAL TO: George Bateman, Jr.

(J17648) 17-JUL-73 19:05; Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: Arlin Torbett

TRANSMITTAL TO: Arlin Torbett
                  Senior Research Engineer
                  L3035
                  Stanford Research Institute

FROM: Marcia Keeney (NIC)
                  Station Agent   1

At your request, I am sending ASS notes 33, 34, and 39-47.   1a

MLK/kk   1b

17649 Distribution
   Station Agent,

TRANSMITTAL TO: Arlin Torbett

(J17649) 17-JUL-73 19:05;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

Transmittal to Station Agents -- 93   NIC   17650
Jeanne North   17 JUL 73   1

                                                                           1a

        Enclosed: 1b

            NIC 17642 *NWG/RFC 538   Traffic Statistics (June 1973);
                    A. McKenzie (BBN-NET).   1b1

            NIC 17450 *NWG/RFC 531   Feast or Famine?;
                    M. A. Padlipsky (MIT-MULTICS).   1b2

            NIC 17644 +NWG/RFC 539   Thoughts on the Mail Protocol Proposed
                    in RFC 524; D. Crocker, J. Postel (UCLA-NMC).   1b3

            NIC 17659   TIPUG Note 13   Letter to TIP Users -- 6;
                    D. Walden, B. Cosell (BBN-NET).   1b4

                                                                           1c

        *sent to Liaisons
        +sent to Liaisons via NIC Journal   1d

        MLK/kk   1e

                                                                           2

(J17650) 16-JUL-73 16:06;   Title: Author(s): Jeanne B. North/JBN ;
Distribution: /SA   MDK   JEW ; Sub-Collections: NIC ; Clerk: KIRK   ;

TRANSMITTAL TO: Steve D. Crocker

TRANSMITTAL TO: Steve D. Crocker
                   Advanced Research Projects Agency
                   1400 Wilson Boulevard
                   Arlington, Virginia 22209

FROM: Marcia Keeney (NIC)
                   Station Agent   1

I am enclosing copies of initial transmittal letters sent to new
sites and associates on the ARPA Network for your reference.   1a

17651 Distribution
   Station Agent,

TRANSMITTAL TO: Steve D. Crocker

(J17651) 17-JUL-73 19:09;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: Rose Kattlove

TRANSMITTAL TO: Rose Kattlove
                    University of Southern California
                    ISI Technical Library
                    4676 Admiralty Way
                    Marina del Rey, California 90291

FROM: Marcia Keeney (NIC)
                    Station Agent   1

At your request, I am sending NIC 10480, 11980, and 13041. I am
still trackin down 3888 and 11983 and will send them when I find
them.   1a

MLK/kk   1b

17657 Distribution
    Station Agent,

TRANSMITTAL TO: Rose Kattlove

(J17657) 17-JUL-73 19:11;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: Joshua Lederberg

TRANSMITTAL TO: Yngvar Lundh
                   Norwegian Defense Research Establishment
                   2007 Kjeller
                   NORWAY

FROM: Marcia Keeney (NIC)
                   Station Agent   1

At the request of Jim White, I am sending NIC 5480, an NCP for the
ARPA Network.   1a

MLK/kk   1b

17658 Distribution
    Station Agent,

1

TRANSMITTAL TO: Joshua Lederberg

(J17658)   17-JUL-73 19:08;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: Joshua Lederberg

TRANSMITTAL TO: Joshua Lederberg
                   Stanford Medical Center
                   Genetics Dept.
                   Stanford, California   94305

FROM: Marcia Keeney (NIC)
                   Station Agent   1

Dear Mr. Lederberg: 1a

We have received notice that your office is now an Associate on the
ARPA Network. As such, you will be receiving documents on
distribution from the Network Information Center (NIC).   1b

We are sending you a core collection of existing documents, including
the following Functional Documents for which we will provide updates: 1c

    NIC 5145   Current Catalog of the NIC Collection   1-DEC-72
    NIC 5150   Current Directory of Network Participants   27-JUN-73
    NIC 7590   Network Information Center User Guide   1-MAY-73
    NIC 7104   Current Network Protocols   10-MAY-73
    NIC 6740   Network Resource Notebook   APR-73   1c1

We are also sending you a number of documents which you may need as
background (see list below).   1d

We will be glad to supply copies of particular documents indicated by
a back arrow in the Catalog Listings, and will loan or direct you to
sources of other documents in the Listings.   1e

Marcia Keeney, our Station Agent, accomplishes NIC distribution, and
has now put you on distribution for all documents sent to Site
Liaisons.   1f

c: S. Crocker (ARPA)   1g

encl: 1h

    NIC   7542
    NIC   7750
    NIC 10507
    NIC 11681
    NIC 12324
    NIC 11626
    NIC 11768   1h1

MLK/kk   1i

17660 Distribution
    Station Agent,

TRANSMITTAL TO: Joshua Lederberg

(J17660) 17-JUL-73 19:14;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: Joshua Lederberg

TRANSMITTAL TO: Joshua Lederberg
                  Stanford Medical Center
                  Genetics Dept.
                  Stanford, California 94305

FROM: Marcia Keeney (NIC)
                  Station Agent   1

Your name was entered today in the IDENTFILE of the Network
Information Center. Enclosed is a copy of that entry. It will
appear as such in the next update to the Network Directory (NIC
5150). If anything in the entry is incorrect, please notify Marcia
Keeney at the NIC and she will correct it.   1a

17662 Distribution
Station Agent,

TRANSMITTAL TO: Joshua Lederberg

(J17662) 17-JUL-73 19:07;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: L. Peter Deutsch

TRANSMITTAL TO: L. Peter Deutsch
                  Xerox PARC
                  3180 Porter Drive
                  Palo Alto, California 94304

FROM: Marcia Keeney (NIC)
                  Station Agent   1

At your request, I am sending NIC 17418 and 17419.   1a

MLK/kk   1b

17665 Distribution
    Station Agent,

TRANSMITTAL TO: L. Peter Deutsch

(J17665) 17-JUL-73 19:13;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: Vinton G. Cerf

TRANSMITTAL TO: Vinton G. Cerf
                   Stanford University
                   Electronics Research Laboratory
                   Stanford, California 94305

FROM: Marcia Keeney (NIC)
                   Station Agent   1

At your request, I am enclosing NIC 16523.   1a

MLK/kk   1b

17667 Distribution
   Station Agent,

TRANSMITTAL TO: Vinton G. Cerf

(J17667) 17-JUL-73 19:10;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

TRANSMITTAL TO: Nancy J. Neigus

TRANSMITTAL TO: Nancy J. Neigus
                  Bolt, Beranek and Newman
                  50 Moulton St.
                  Cambridge, Mass. 02138

FROM: Marcia Keeney (NIC)
                  Station Agent   1

At your request, I am sending NIC 17698 the Content Analyzer Primer.   1a

MLK/kk   1b

17669 Distribution
    Station Agent,

TRANSMITTAL TO: Nancy J. Neigus

(J17669) 17-JUL-73 19:15;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

Transmittal to Station Agents -- 94   NIC 17670
Jeanne North   26 JUL 73   1

                                                                            1a

    Enclosed: 1b

        NIC 17451 *NWG/RFC 532   The UCSD-CC Server-FTP Facility;
              R. G. Merryman (UCSD-CC).   1b1

        NIC 17759 *NWG/RFC 542   File Transfer Protocol;   N. J. Neigus
              (BBN-NET).   1b2

        NIC 17782 *NWG/RFC 544   Locating On-Line Documentation at
              SRI-ARC; Dean Meyer, Kirk Kelley (SRI-ARC).   1b3

        NIC 17810 *NWG/RFC 553 A Proposed Network Text/Graphics
              Protocol;   Charles Irby, Ken Victor (SRI-ARC).   1b4

        NIC 17452 *NWG/RFC 533   Message-ID Numbers;   D. C. Walden
              (BBN-NET).   1b5

        NIC 17453 *NWG/RFC 534   Lost Message Detection;   D. C. Walden
              (BBN-NET).   1b6

                                                                            1c

    *sent to Liaisons   1d

    MLK/kk   1e

                                                                             2

Transmittal to Station Agents -- 94

(J17670) 25-JUL-73 12:15;   Title: Author(s): Jeanne B. North/JBN   ;
Distribution: /SA MDK JEW ; Sub-Collections: NIC ; Clerk: KIRK   ;

TRANSMITTAL TO: Rose Kattlove

TRANSMITTAL TO: Rose Kattlove
                 University of Southern California
                 ISI Technical Library
                 4676 Admiralty Way
                 Marina del Rey, California 90291

FROM: Marcia Keeney (NIC)
                 Station Agent   1

At your request, I am sending NIC 3888 and NIC 11983.   1a

MLK/kk   1b

TRANSMITTAL TO: Rose Kattlove

(J17672) 15-AUG-73 15:13;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: MLK ;

TRANSMITTAL TO: E. M. Palandri

FROM: Marcia Keeney (NIC)
                   Station Agent   1

At the request of Dave Walden I am sending ASS notes 1-4, 6, 7, 16,
26, 28, 30, 34, 37-39.   1a

Although you are not an active participant in the ASS group and
cannot receive all notes, a limited subset of the notes has been
approved by the authors for more wide-spread distribution; this
subset is enclosed for your perusal.   1b

TRANSMITTAL TO: E. M. Palandri

(J17673) 15-AUG-73 14:36;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: MLK ;

TRANSMITTAL TO: Mike Furguson

TRANSMITTAL TO: Mike Furguson
                  Dept. of Electrical Eng.
                  McGill University
                  P.O. Box 070
                  Montreal 130, Quebec
                  CANADA

FROM: Marcia Keeney (NIC)
                  Station Agent   1

At the request of Dave Walden I am sending ASS notes 1-4, 6, 7, 16,
26, 28, 30, 34, 37-39.   1a

Although you are not an active participant in the ASS group and
cannot receive all notes, a limited subset of the notes has been
approved by the authors for more wide-spread distribution; this
subset is enclosed for your perusal.   1b

TRANSMITTAL TO: Mike Furguson

(J17674) 15-AUG-73 14:51;   Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: MLK ;