Text editing commands

If the "Insert" command had the same option of typing it or bugging it that the "Replace" command has, the "Copy" command would be unnecessary and the operation would be simpler and more instinctive.

Then, in place of "Copy" a much more useful command would be Combined Move and Replace.
Text editing commands

(J12729) 13-NOV-72 14:43; Title: Author(s): Kelley, Kirk E./KIRK;
Distribution: Irby, Charles H./chi; Sub-Collections: SRI-ARC; Clerk:
KIRK;
Origin: <KELLEY>COMMAND.NLS;15, 11-NOV-72 16:28 KIRK;
Notice of New Folklore

The latest version of NLS FOLKLORE is now available. There are several important changes documented there. See (journal,12354,1).
Notice of New Folklore

Some Present Issues for the Identification System

The Identification System is a critical part of the DSS and is an important database for the NIC (the identfile is the basis for the NIC directory), therefore its future requires an adequate solution to a number of problems known to me at this point.

SIZE: The identfile is likely to grow to be several times as large as at present. This is inevitable both as the network grows and use of NIC grows and due to special uses such as by the ACM AI Special Interest Group. We need to assume a file with a few thousand entries is going to exist.

NATIONWIDE UNIQUE IDENTs* Now that Tenex has an integrated Sendmessage facility among the Tenex's, and the network is coming alive as an integrated system people are talking about integrating all the Sendmessage type facilities and using our Identsystem as the standard place to get an Ident. The question is are peoples initials what we want or do we want to consider some other scheme?

PROTECTION FEATURES: In the original design certain fields in Ident records were not to be changed except by the people themselves, group coordinators etc. These features still seem important to me but have never been implemented to the best of my knowledge.

OBSOLETE IDENTs: The present Identfile contains Idents for obsolete groups and inactive people, This raises the whole question of the procedures clerical and otherwise for recognizing and handling obsolete Idents.

NOVICE MODE: Except for a few people here at ARC most people will only very infrequently come in contact with the Ident system and therefore it seems to me that it should be so clear in its user interaction and what is expected at any point that it is essentially impossible to get lost once you get there and easy to recover from mistakes, easy to get help etc. The present system does not meet these criteria as entry into the Identsystem for the inexperienced usually means doom.
Some Design Issues for the Identsystem Needing Solution

(J12731) 13-NOV-72 15:24; Title: Author(s): Watson, Richard W./RWW
Distribution: Norton, James C., Hopper, J. D., Irby, Charles H.,
Auerbach, Marilyn F., Row, Barbara E., North, Jeanne B., White, James E.
(Jim), Feinler, Elizabeth J. (Jake), Van Nouhuys, Dirk H., Rech, Paul,
Kudlick, Michael D., Engelbart, Douglas C., Vallee, Jacques P./jcn
chi mfa ber jbn jew jake dvn pr mdk dce jfv ;
Sub-Collections: SRI-ARC NIC ; Clerk: RWW ;
Transmittal to Stan Cohen

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

TRANSMITTAL TO: Stan Cohen
Argonne National Laboratory
9700 S. Cass Avenue
Argonne, Ill. 60439

FROM: Susan Lee (SRI-ARC)
Station Agent

At your request I am enclosing the following document:

NIC 12537  Speakeasy Via the ARPA Network
Transmittal to Rayner Rosich

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California  94025

NIC 12740
17-NOV-72
1

TRANSMITTAL TO: Rayner Rosich
U.S. Department of Commerce OT/ITS
325 Broadway
Room 3415M
Boulder, Colorado  80302
2

FROM: Susan Lee (SRI-ARC)
Station Agent
3

At your request I am enclosing the following document:

NIC 8123 The ALOHA System (Advanced Forms of Computer -
Communication Networks)
4

You will have to order NIC 6854 from Rand and NIC 6531 from Mitre
Corp, as we do not have copies of these documents. If this is a
problem for you, let me know and I'll order them for you.
5

6

6a

7
Transmittal to Rayner Rosich

(J12740) 28-NOV-72 11:38; Title: Author(s): Lee, Susan R./SRL; Distribution: North, Jeanne B./NICSTA; Sub-Collections: SRI-ARC NICSTA; Clerk: LLL; Origin: <LANE>TRANSMITTAL.NLS;12, 28-NOV-72 11:35 LLL ;
Transmittal to All INWG Group Members

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

TRANSMITTAL TO: All INWG Group Members

FROM: Susan Lee (SRI-ARC)
      Station Agent

At the request of Vint Cerf, I am enclosing the following documents as background information regarding the ARPA Network:

NIC 9926  A Proposed Experiment with a Message Switching Protocol
NIC 10510 Function-oriented Protocols for the ARPA Computer Network
NIC 11626 Improvements in the Design and Performance of the ARPA Network.

You will also soon be receiving a copy of the Current Network Protocols which will provide additional background information.

encl: NIC 9926, 10510, 11626
Transmittal to All INWG Group Members

(J12743) 28-NOV-72 11:25; Title: Author(s): Lee, Susan R./SRL;
Distribution: North, Jeanne B./NICSTA; Sub-Collections: SRI-ARC NICSTA;
Clerk: LLL;
Origin: <LANE>TRANSMITTAL.NLS;10, 28-NOV-72 11:08 LLL ;
Transmittal to Shirley Watkins (NBS)

Enclosed is the following document which you requested:

NIC 8743
Transmittal to Shirley Watkins (NBS)

(J12745) 28-NOV-72 11:17; Title: Author(s): Lee, Susan R. / SRL;
Distribution: North, Jeanne B. / NICSTA; Sub-Collections: SRI-ARC NICSTA;
Clerk: LLL;
Origin: <LANE>STAPRANS.NLS; 2, 28-NOV-72 11:14 LLL;
Transmittal to Monique Somia

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

TRANSMITTAL TO: Monique Somia
Chef de Projet
A la Compagnie IBM Service Développement Scientifique
20 Au Gambetta
92 Courbevoie
France

FROM: Susan Lee (SRI-ARC)
Station Agent

At the request of Dick Watson (SRI), I am enclosing the following documents:

Resource Sharing Computer Networks

The ARPA Network

Enclosures (2)
Transmittal to Vint Cerf

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

TRANSMITTAL TO: Vint Cerf
Stanford University
Electronics Research Lab
Room 414
Stanford, CA 94305

FROM: Susan Lee (SRI-ARC)
Station Agent

At the request of Dave Walden, I am enclosing the following documents:

NIC 11283 ASS Note 1
11284 ASS Note 2
11285 ASS Note 3
11286 ASS Note 4
11287 ASS Note 5
11288 ASS Note 6
11289 ASS Note 7
11290 ALOHA Packet System with and without Slots and Capture
11291 Optimal Retransmission Delay for ALOHA System
11292 ASS Note 10 - Some Design Issues
11293 A Brief Simulation of the Dynamics of an ALOHA System with Slots
11294 Analytical Results for the ARPANET Satellite System Model Including the Effects of the Retransmission Delay Distribution
11295 ASS Note 13 - Obsolete
11296 ASS Note 14 - Obsolete
11616 Satellite Channel Simulation
11624 Steady-State Analysis of a Slotted and Controlled ALOHA System with Blocking
11862 Approximations in the Infinite Population Model of the ARPANET Satellite System
11865 Random ALOHA with Slots - Excess Capacity
11866  Random ALOHA with Slots - Simulation
11867  Reservation Systems
11881  A System for Broadcast Communication; BBN ALOHA
12166  Effects of Retransmission Delay on the Degradation of an ALOHA Channel
12175  APRANET Satellite System Group Distribution List, 25-OCT-72
12534  Procedures for Distributing ASS Notes

Your name has also been placed on the ASS Note distribution list and you will receive all ASS Notes published in the future.
Transmittal to Vint Cerf

(J12747) 28-NOV-72 11:03; Title: Author(s): Lee, Susan R./SRL;
Distribution: North, Jeanne B./NICSTA; Sub-Collections: SRI-ARC NICSTA;
Clerk: LLL;
Origin: <LANE>TRANSMITTAL.NLS;9, 28-NOV-72 11:01 LLL ;
With the approval of Dave Walden, BBN, your name has been added to the ARPANET Satellite System Group Distribution List. I am enclosing the ASS Notes which have been issued to date. You will receive all new ASS Notes as they are distributed.

c: Dave Walden

encl: NIC 11283, 11284, 11285, 11286, 11287, 11288, 11289, 11290, 11281, 11292, 11293, 11294, 11616, 11624, 11862, 11865, 11866, 11867, 11881, 12166, 12175, 12534
Transmittal to Dr. Joseph W. Rigney

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

TRANSMITTAL TO: Dr. Joseph W. Rigney
University of Southern California
Behavioral Technology Laboratories
University Park
Los Angeles, California 90007

FROM: Susan Lee (SRI-ARC)
Station Agent

With the approval of Tom O'Sullivan, Raytheon, Coordinator of the CBI Group, your name has been added to the Group list. We are enclosing the CBI Notes which have been issued as you will receive future ones as they are published.

c: T. O'Sullivan

encl: NIC 9343
9608
9875
9876
9981
Transmittal to Dr. Joseph W. Rigney

(J12749) 27-NOV-72 16:39; Title: Author(s): Lee, Susan W./SRL;
Distribution: North, Jeanne B./NICSTA; Sub-Collections: SRI-ARC NICSTA;
Clerk: LLL;
Origin: <LANE>TRANSMITTAL.NLS; 7, 27-NOV-72 16:38 LLL;
Transmittal to Lyle B. Smith

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

TRANSMITTAL TO: Lyle B. Smith
University of Colorado
Computing Center
Boulder, Colorado 80302

FROM: Susan Lee (SRI-ARC)
Station Agent

At your request I am sending copies of the following documents:

NIC 11359 Some Experiences in Implementing Network Graphics Protocol Level 0
NIC 9929 Level 0 Graphic Input Protocol
NIC 8302 Graphics Protocol - Level 0 Only

At present, distribution of our catalogs and indexes is restricted. I hope you will find the enclosed helpful for the present.
Tranmittal to Reed Mitchell

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

TRANSMITTAL TO: Reed Mitchell
Colorado State University
University Computer Center
Fort Collins, Colorado 80521

FROM: Susan Lee (SRI-ARC)
Station Agent

At your request I am sending copies of the following functional documents:

NIC 5150 Current Directory of Network Participants 16-OCt-72
NIC 7590 Network Information Center User Guide 15-NOV-72
NIC 5145 Current Catalog of the NIC Collection 1-AUG-72

I will be sending you copies of NIC 6740 and NIC 7104 within the next few weeks as they are available.
Tranmittal to Reed Mitchell

(J12751) 27-NOV-72 16:25;  Title: Author(s): Lee, Susan R./SRL;
Distribution: North, Jeanne B./NICSTA; Sub-Collections: SRI-ARC NICSTA;
Clerk: LLL;
Origin: <LANE>TRANSMITTAL.NLS;5, 27-NOV-72 16:23 LLL ;
At your request we are sending copies of a few of the basic ARPA papers. At present, distribution of our catalogs and indexed is restricted. I hope you will find the enclosed helpful for the present.

encl: The ARPA Network NIC 12324
The ARPA Network NIC 7750
Transmittal to Cecil C. Reames

(J12752) 27-NOV-72 14:19; Title: Author(s): Lee, Susan R./SRL;
Distribution: North, Jeanne B./NICSTA; Sub-Collections: SRI-ARC NICSTA;
Clerk: LLL;
Origin: <LANE>TRANSMITTAL.NLS;3, 27-NOV-72 14:11 LLL;
At your request I am enclosing copies of the following documents:

NIC 11681  Resource Sharing Computer Networks
NIC 12324  The ARPA Network

I checked on the possibility of your ordering these booklets for a class. If the quantity you needed was small (under twenty-five) we would probably be able to furnish these ourselves. If it were larger, we would be unable to supply them. At present, you would not be able to obtain these anywhere else. If we can be of any help in this matter be sure and contact us in advance and we'll see that you get the booklets.
Transmittal to Joseph B. Reid

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

TRANSMITTAL TO: Joseph B. Coordonnateur, des programmes aux communications
2875 Boul. Laurier
Ste-Foy, Quebec 10

FROM: Susan Lee (SRI-ARC)
Station Agent

At the request of Jeanne North, I am enclosing the following documents:

NIC 3537 A Study of Computer Network Design Parameters
NIC 11681 Resource Sharing Computer Networks
NIC 12324 The ARPA Network
Transmittal to Joseph B. Reid

(J12754) 27-NOV-72 16:19; Title: Author(s): Lee, Susan R./SRL;
Distribution: North, Jeanne B./NICSTA; Sub-Collections: SRI-ARC NICSTA;
Clerk: LLL;
Origin: <LANE>TRANSMITTAL.NLS;4, 27-NOV-72 16:17 LLL ;
ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

NIC 12756
28-NOV-72

TRANSMITTAL TO: Ted Strollo
Bolt Beranek and Newman Inc.
50 Moulton Street
Cambridge, Mass. 02138

FROM: Susan Lee (SRI-ARC)
Station Agent

At your request I am enclosing a copy of the following document:

NIC 10703 DNLS PRELIMINARY REFERENCE GUIDE
Transmittal to Nancy J. Neigus (BBN)

Transmittal to Station Agent - Nancy J. Neigus (BBN)
12757

At your request I am enclosing two copies of the following document:

NIC 10703 DNLS PRELIMINARY REFERENCE GUIDE
Transmittal to Nancy J. Neigus (BBN)

(J12757) 28-NOV-72 13:11; Title: Author(s): Lee, Susan R./SRL; Distribution: North, Jeanne B./NICSTA; Sub-Collection: SRI-ARC NICSTA; Clerk: LLL; Origin: <LANE>STATTRANS.NLS;3, 28-NOV-72 13:06 LLL ;
Transmittal to Buz Owen (SAAC-TIP)

Transmittal to Buz Owen - SAAC-TIP

Susan Lee (SRI-ARC)
Station Agent

The following document is being sent to you as an update to NIC 10703, DNLS Preliminary Reference Guide, Section 4, Editing and Composition.

NIC 10707 Section 4. EDITING AND COMPOSITION

Please discard your old Section 4.
Transmittal to Buz Owen (SAAC-TIP)

(J12758) 28-NOV-72 13:43; Title: Author(s): Lee, Susan R./SRL;
Distribution: North, Jeanne H./NICSTA; Sub-Collections: SRI-ARC NICSTA;
Clerk: LLL;
Origin: <LANE>STATTRANS.NLS;6, 28-NOV-72 13:35 LLL;
Transmittal to R. Fink (LBL)

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

Ralph Alter
Packet Communications, Inc.
176 2nd Ave.
Waltham, Mass. 02154

Dear Mr. Alter:

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

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

1. NIC 5145  Current Catalog of the NIC Collection
   1-AUG-72

2. 5150  Current Directory of Network Participants
   16-OCT-72

3. 7590  Network Information Center User Guide
   19-JUL-72

The Network Resource Notebook (NIC 6740) and the Current Network
Protocols (NIC 7104) are in the process of being revised. A copy
will be sent to you within a few weeks.

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

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.

Susan Lee, our Station Agent, accomplishes NIC distribution, and
has now put you on distribution for all documents sent to Site
Liaisons.

Jeanne North,
Information and Station
Agent Coordinator

cc: S. Crocker (ARPA)
Transmittal to R. Fink (LBL)

encl: The ARPA Network
Resource Sharing Computer Networks
NIC 7542
7750
11924
10507
Duane, this report includes a table with Cumulative Man Hours Expended During each Report Period from 5/6/72 to 10/28/72.
Mr. Burns, RADC/PMA  
Department of the Air Force  
Headquarters Rome Air Development Center (AFSC)  
Griffiss Air Force Base, New York 13440  

Dear Mr. Burns:

This responds to block 10 of DD Form 1664 with respect to contract F30602-72-C-0333 (SRI #1894).

The table below shows the man hours expended on the subject contract since its inception.

Cumulative to

<table>
<thead>
<tr>
<th></th>
<th>5/6</th>
<th>5/27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>Senior Professional</td>
<td>47</td>
<td>112</td>
</tr>
<tr>
<td>Professional</td>
<td>513</td>
<td>149</td>
</tr>
<tr>
<td>Technical</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>82</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>714</strong></td>
<td><strong>985</strong></td>
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</tbody>
</table>

Man Hours Expended During Report Period

Burns/van Nouhuys
### Cumulative to 7/1

<table>
<thead>
<tr>
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<th>Man Hours Expended During Report Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor</td>
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</tr>
<tr>
<td>Senior Professional</td>
<td>78</td>
</tr>
<tr>
<td>Professional</td>
<td>0</td>
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<tr>
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<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1063</strong></td>
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### Cumulative to 7/29

<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Supervisor</td>
<td>0</td>
</tr>
<tr>
<td>Senior Professional</td>
<td>98</td>
</tr>
<tr>
<td>Professional</td>
<td>25</td>
</tr>
<tr>
<td>Technical</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1186</strong></td>
</tr>
</tbody>
</table>

### Cumulative to 9/2

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</thead>
<tbody>
<tr>
<td>Supervisor</td>
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</tr>
<tr>
<td>Senior Professional</td>
<td>86</td>
</tr>
<tr>
<td>Professional</td>
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<td>Technical</td>
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<tr>
<td>Other</td>
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</tr>
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<td><strong>Total</strong></td>
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### Cumulative to 9/30

<table>
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<td>Supervisor</td>
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<td>Other</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1354</strong></td>
</tr>
</tbody>
</table>
Please note that the first three periods of this contract have not hitherto been reported because our understanding of this contract was that such monthly letters were not a requirement and we only began to submit them in August.

We estimate that the percentage of technical completion at the end of October was 65 per cent.

During October we continued to cooperate with Rome in development of software which allows Rome to use our system in the display mode over the ARPA Network. In October for the first time we operated with "shared screens" which allows someone at ARC and someone at Rome to see and manipulate the same file at the same time at their respective locations.

Work is continuing at ARC on the calculator package that Rome has requested.

We are still awaiting specifications for a Report Generator.

During October ARC gave a demonstration of Network operation at the International Conference on Computer Communication in Washington. The Demonstration involved collaboration with Rome.

During the Conference personnel from Rome attending the Conference consulted with ARC personnel on purchasing terminals appropriate for the NLS system and on other matters. The ARPA Network functioned on several occasions as a communication medium between ARC and Rome personnel in Washington and personnel back at Rome.

Following the Conference, Douglas Engelbart, Dirk van Nouhuys, and Jim Norton of the ARC staff spent a day at Rome.

Dirk van Nouhuys discussed progress of this contract with Duane Stone and others at Rome.
Dr. Engelbart made a presentation in which he described the history and current status of our research, the events and implications of the ICCC meeting and plans for making more NLS service available to Rome and others through the establishment of NLS on a utility.

Sincerely,

Dirk van Nouhuys
Research Analyst
Augmentation Research Center
R&D Contract Status Report for October, Project 1894

(J12765) 15-NOV-72 14:24; Title: Author(s): Van Nouhuys, Dirk
H./DVN; Distribution: Stone, Duane L./DLS; Sub-Collections: SRI-ARC;
Clerk: BER;
Origin: <ROW>R&DCONTRACT.NLS;5, 15-NOV-72 14:00 BER ;
Test of "Quotes" in Titles

This is a test of quotation marks in a title. The title is: Test of "Quotes" in Titles
Test of "Quotes" in Titles

(J12766) 14-NOV-72 12:22; Title: Author(s): McKenzie, Alex A./AAM;
Distribution: Levin, Joel B./JBL; Sub-Collections: NIC; Clerk: AAM;
Please do what you can to get me an SRI phone as soon as possible. I've tried to do without one, but it just isn't working out. Thanks.
Is it really true that "flag" is a reserved word in L10? If so, can anything be done to fix it? Also, are "macros" documented anywhere?--Thanks.
I would recommend that if we are going to limit the number of local users to 15, we remove the Refuse Autologout command, because leaving a terminal under such circumstances for more than 5-10 min. is unfair to those waiting.
Author(s): Kaye, Diane S./DSK
Distribution: Rech, Paul/pr
Sub-Collections: SRI-ARC
Clerk: DSK
This is a reply to Dick Watson's journal item (12731,) about the IDENT System.

As the main user of the IDENT System, I would like to see less feedback. It's annoying and a waste of time to have the same message print out after each new Ident is entered. Yesterday between 8 am and 10:30 am I was able to modify two IDENTs, and enter four new people at new affiliations. After 10:30 I didn't even try entering anyone. Maybe less feedback would speed things up? However, I can see where the IDENT System would be very confusing to someone who hadn't used it before. I also agree with Dick; there should not be just one person at the NIC entering all the IDENTs for the whole world.

I hope I never see the IDENTFILE grow to several times its present size; it would probably not work at all. Maybe if there were some way we could delete obsolete IDENTs that would help.

I think the main problem with the IDENTFILE is that we are trying to make it all things for all people. It is the vehicle by which people are recognized by NLS. If only NLS users were in the IDENTFILE, it would be only half its present size I imagine. Then we also use it to make the Directory of Network Participants and put everyone (EVERYONE) that we know (have heard) about on the NET, even people who don't and probably never will use NLS.

As for a NOVICE MODE, I don't know of a single time when an entry made by someone on the NET has not needed to be corrected in some way or at least checked by someone at the NIC in order to make it consistent (again for the Directory...) with the other IDENTs. Also, I don't think anyone in his right mind would put in more than one IDENT; the system is still very unreliable and so S-L-O-W. We would have to make it easier and much faster for it to be attractive enough to be used by the Net users.
IDENTSYSTEM Problems — Reply to (12731,)

(J12770) 14-NOV-72 10:31; Title: Author(s): Row, Barbara E./BER;
Distribution: Watson, Richard W., Irby, Charles H., North, Jeanne B.,
White, James E. (Jim), Feinler, Elizabeth J. (Jake), Engelbart, Douglas
C., Auerbach, Marilyn F., Norton, James C./RWW CHI JBN JEW JAKE DCE MFA
JCN; Sub-Collections: SRI-ARC; Clerk: BER;
Origin: <ROW>IDENTSYSTEM,NLS;1, 14-NOV-72 10:22 BER ;
Money for Christmas Party

To: Parsley

From: Barbara

Subject: Money for Christmas Party

The SRI Staff Activities Committee, through SRI management, makes available to each lab or center in the Institute funds for parties at Christmas. We can request a dollar for each staff member, whether full or part time, to be used as we wish. The request must be signed by the lab or center director (i.e., Doug Engelbart), and sent to Alan Burt, A213, who is the treasurer for SAC.

Dirk suggested Parsley should handle this.
Money for Christmas Party

(J12771) 14-NOV-72 8:19; Title: Author(s): Row, Barbara E./BER; Distribution: Auerbach, Marilyn F., Van Nouhuys, Dirk H., Hopper, J. D., Wallace, Donald C. (Smokey), Victor, Kenneth E. (Ken), Lehtman, Harvey G., Kelley, Kirk E., Lane, Linda L., Meyer, N. Dean, Jernigan, Mil E., Rech, Paul, Engelbart, Douglas C./PARSLEY DCE; Sub-Collections: SRI-ARC PARSLEY; Clerk: BER;
Origin: <ROW>MONEY,NLS;1, 14-NOV-72 8:17 BER ;
Carriage Return May Now Be Redefined in "NLSControlCharacters" Branch

EOL (the character NLS receives when you type Carriage Return) may now be redefined in a user's "NLSControlCharacters" branch (see (journal,12237,) for a discussion of this branch). This will be particularly useful for people using line-at-a-time terminals and people who like Carriage Return as Command Accept but also want to input Carriage Returns by typing a single character.

For Line-at-a-time terminals the following will (I hope) prove useful:

(NLSControlCharacters)
EOL = NULL;

This will make typing Carriage Return (necessary to return the carriage) a no-op to NLS (a literal CR can still be entered by typing the literal escape character followed by CR).
If you wish to redefine CR to be some other character, use

(NLSControlCharacters)
EOL = <some other character>; ECHO = <some character>;

NOTE: If you wish to continue using CR as CA, but would like to enter a CR into the text by typing only one character, you must also include a CA = 370; ECHO = 370; definition following the EOL redefinition.
NOTE: At present we are letting TENEX echo literal input for NLS. Thus it is not possible to change some echoing. In particular, if you define some printing character as your CR, it will get echoed as that printing character although a CR (EOL) will be input into your text.
Jake

I highly recommend, that the name delimiters be changed in the Resource Notebook file. Several people asked, "Why the parens?" and I could not justify it very easily. I recommend NULL for the left and ';' for the right delimiters. Also, I would like to re-open the question of structure and indenting in the printout. I realize that this may mean changing the query program slightly and the data base a lot, but given the large amount of clerical work that has and will go into that file, I think we owe it to the clerical people involved to make it as easy as we can for them. — Charles
Comment on (Journal,12598), Resource Notebook content and Format

(J12773) 13-NOV-72 23:48; Title: Author(s): Irby, Charles H./CHI; Distribution: Feinler, Elizabeth J. (Jake)/JAKE; Sub-Collections: SRI-ARC; Clerk: CHI;
Acknowledgement Re: (journal,12599,)

Jake,
Thanks for your input concerning viewspecs and Output Quickprint. I personally am inclined to simplify such commands, but agree that specifying viewspecs (not to mention starting location) might be a good addition to that command. You are aware that you can specify viewspecs (using the mouse buttons) in DNLS for Output Quickprint, aren't you?
Acknowledgement Re: (journal, 12599,)

(J12774) 13-NOV-72 23:52; Title: Author(s): Irby, Charles H./CHI;
Distribution: Feinler, Elizabeth J. (Jake)/JAKE; Sub-Collections:
SRI-ARC; Clerk: CHI;
Acknowledgement of (journal, 12731,1), Some Design Issues for the Ident System

Dick,
Re: SIZE; The current ident system has something on the order of 800 to 1000 Idents and uses 14 out of 95 structure pages and 61 out of 370 data pages. Based on this, I estimate we can handle about 4000 to 5000 Idents without changing the current system (updates will get slower as the file gets larger, unless we adopt a new way of "proofing" new Idents or changes to Idents).
Re: Protection features, I see no reason why these cannot be implemented.
Re: Obsolete Idents, Dave and I are talking about that now (and have been thinking about it for about a week).
Re: Novice Mode, I would appreciate your suggestions. I added quite a bit of that flavor the last go-round. If we add more, I think we will have to go to novice-expert distinction or we will drive BBR mad.
Re: Nationwide Unique Idents, The current scheme seems fine to me, especially if people can choose their own Ident.
Acknowledgement of (journal, 12731,1), Some Design Issues for the Ident System

(J12775) 14-NOV-72 0:05; Title: Author(s): Irby, Charles H./CHI;
Distribution: Watson, Richard W., Hopper, J. D./EWW JDH;
Sub-Collections: SRI-ARC; Clerk: CHI;
SRI-ARC Steering committee, 4 Oct 72 agenda items and discussion notes
Prepared before the meeting:

Agenda-item candidates:

SRI's Position, its perception, understanding, valuation, commitments, capability with respect to:

- Me, with respect to such as applied creativity, depth and breadth of perception, etc. — like how much can be gambled on issues that swing on nothing but my judgement?

- My goals

- My strategic framework

- SRI's possibilities for future activities as outgrowth of following these goals and strategies (scope, scale, social value, payoff to SRI, ...)

- What it takes to achieve these possibilities.

SRI "Commitment":

- Space, people

- SRI reputation

- Longer-term fiscal ventures

- Work out new modes of doing business

- Example: Value (need) for some sort of "position paper" that represents official SRI commitment, about a "program."

Growth NP: Bottlenecks, opportunity, SRI position, DCE position

- Early goals for O&M action

- Contacts and agenda for Wash trip

- NSF Net-seminar plans, EDUCOM role

Working topics:
SRI-ARC Steering committee, 4 Oct 72 agenda items and discussion notes

SRI OSM (file ORGNP) -- Basic considerations for next stage (OSM/Architecture dichotomy, high-energy OSM operation, high need for review of all roles principals, operations, etc.)

SRI POSITION (file SRIPOS) --

PLANNING FRAMEWORK (file BCNOT) -- Evolving toward a thinkpiece to release to potential sponsors, etc.

SPECIFIC PROMOTIONAL PLAN (file BCPROP) --

Discussion notes (with Don Scheuch and Bart Cox):

I printed out copies of ORGNP and BCNOT for them to take with them. They both volunteered to study them.

Considered briefly the difference between "looking forward" and "looking back" (i.e., doing what we are committed for now). These were terms that Bart used.

Much time spent trying to formulate an expression of scope, with respect to prospects for our program, to the kind of energy and commitment needed from SRI at various stages (like now, to hit the re-org planning as hard as might indeed be needed), etc.

I sketched pictures relating such as my goal structure, the market i

Discussed quite a bit about SRI's possibly producing a position statement. And also, about for instance its taking on a commitment to BC stuff it might be analogous to if SRI had done the formulating, promoting, etc. to establish NCAR, and taken the commitment to manage it under the direction of the consortium that helped establish the funding base.

Bart and Don mention that The Environmental Protection Agency wants to have a center established for air-pollution study; SRI is bidding for the job, which would have something of the same flavor as what I was describing -- except that we declare intention seriously when there is yet to be found the sources of support.

Bart and I talked some after Don left. One topic was the opportunity and potential value in achieving more coordination between applied (or R&D) activities in ISL and ARC. Talked at
some length about the difference between subscribing seriously to an evolutionary, whole-system approach and taking on jobs as they appear, with the approach not necessarily coordinated with year-after-year evolution and with the aim of acquiring whole-system experience.

(Example used of the impact in the computer field of getting operating computer systems in use in the mid 50's, where the experience and relative-value orientation gained toward succeeding evolution was worth more than all (that I perceive) of the concurrent research into new and tricky componentry and techniques.)

Mentioned DPCS as a specific area in our domain that seems very ripe for getting resources pooled and a long-term cooperative program going. Plan to talk about that at next meeting.
SRI-ARC Steering committee, 4 Oct 72 agenda items and discussion notes

(J12776) 14-NOV-72 17:46; Title: Author(s): Engelbart, Douglas C./DCE; Distribution: Schuech, Don R.; Cox, Bonnar; Brown, David R.; Norton, James C.; Watson, Richard W./drs bc drb jcn rww; Sub-Collections: SRI-ARC; Clerk: DCE;
NEW JOURNAL COMMANDS

Submit Comment on Document (docaddress) comment

This sends out a message entitled:

COMMENT ON (document link): (original title)

The comment goes out as a message to the author of the old document and to the original distribution.

Submit Acknowledgement of Document (docaddress) (optional message)

This sends out an optionally null message entitled:

ACKNOWLEDGEMENT OF (document link): (original title)

It goes out only to the original author.

DOCAADDRESS

BUG / 'N(umber) (lit/BUG) / digits / literal link / 'L(link)
literal link

BUG

The system checks 3 places to determine what sort of link to build

origin statement = journal document, then link to the exact statement bugged, Use header information right there for distribution, etc.

statement bugged has name of format Jnnnnn and origin statement shows file named JRNLnnnnn, link to statement name.
statement bugged or UP of statement bugged contains
citation format of link (ident SP date/time SP
number) 1f3a4

\text{"N} 1f4

bug a number string of digits optionally starting with
\text{"j} or type in a string of digits 1f4a

digits

begin typing in the number without typing \text{"N} 1f5a

\text{"L} or literal link

this is the actual link used by the system 1f7a

Except where noted, other files may have to be consulted for
distribution, author and title as follows:

If there is a Jnnnnn branch in tjcat, the information is
there. 1g

If not, it may be in jcat.

If the document was in jcat, but without the full
information, it should be in \text{<NORTON>JOUI5}. 1g3a

If it was not in jcat at all, it should be in
\text{<TEJOURNAL>Jnnnn.NLS}; 1g3b

If none of the above, the number given by the user was not
legitimate. 1h

2
This is a reply to Dick Watson's journal item (12731,) about the IDENT System.

As the main user of the IDENT System, I would like to see less feedback. It's annoying and a waste of time to have the same message print out after each new IDENT is entered. Yesterday between 8 am and 10:30 am I was able to modify two IDENTs, and enter four new people at new affiliations. After 10:30 I didn't even try entering anyone. Maybe less feedback would speed things up? However, I can see where the IDENT System would be very confusing to someone who hadn't used it before. I also agree with Dick; there should not be just one person at the NIC entering all the IDENTs for the whole world.

I hope I never see the IDENTFILE grow to several times its present size; it would probably not work at all. Maybe if there were some way we could delete obsolete IDENTs that would help.

I think the main problem with the IDENTFILE is that we are trying to make it all things for all people. It is the vehicle by which people are recognized by NLS. If only NLS users were in the IDENTFILE, it would be only half its present size I imagine. Then we also use it to make the Directory of Network Participants and put everyone (EVERYONE) that we know (have heard) about on the NET, even people who don't and probably never will use NLS.

As for a NOVICEMODE, I don't know of a single time when an entry made by someone on the NET has not needed to be corrected in some way or at least checked by someone at the NIC in order to make it consistent (again for the Directory...) with the other IDENTs. Also, I don't think anyone in his right mind would put in more than one IDENT; the system is still very unreliable and so S-L-O-W. We would have to make it easier and much faster for it to be attractive enough to be used by the Net users.
IDENTSYSTEM problems -- Reply to (12713,)

(J12778) 14-NOV-72 17:16; Title: Author(s): Row, Barbara E./BER;
Distribution: Watson, Richard W., Irby, Charles H., North, Jeanne B.,
White, James E. (Jim), Feinler, Elizabeth J. (Jake), Engelbart, Douglas
C., Auerbach, Marilyn F., Norton, James C./RWW CHI JBN JEW JAKE DCE MFA
JCN; Sub-Collections: SRI-ARC; Clerk: EKM;
Origin: <ROW>IDENTSYSTEM.NLS;1, 14-NOV-72 10:22 BER ;
An obscure bug in Jump Link sometimes doesn't recreate display.
An obscure bug in Jump Link sometimes doesn't recreate display

NOTE: the Jump-Link matter discussed here is different from that of 11-OCT-72, (12127,).

Apparently if one does a Jump Link from text in one window, to put it in another window, when the target statement has already been put at the top of the target window by a Jump Link, the JL machinery is so smart that it doesn't re-do some of its work -- but there is a small detail overlooked. If the user had changed the VSPECS, the new JL action doesn't seem to know about it -- it thinks that the viewspecs are still set as specified by that last JL. If the new JL asked for the same VSPEC as that last one did, then the user won't get the new view until he makes a further action to cause recreation of the display. Apparently the last JL execution process changed the VSPECS but didn't do a Recreate Display.
An obscure bug in Jump Link sometimes doesn't recreate display

(J12779) 14-NOV-72 18:32; Title: Author(s): Engelbart, Douglas C./DCE; Distribution: Irby, Charles H./chi; Sub-Collections: SRI-ARC; Clerk: DCE;
Several bugs in the L10 compiler when accessed in the user program mode have come to my attention.

1. When a user program tries to access an NLS symbol of greater than six characters outside the program, it is said to be undefined. (L10 not passing truncated IDs to DDT for symbol table lookup?)

2. When a user program has procedure calls as links (in angle brackets), the file name (in capital letters) is said to be undefined when it is, in fact, irrelevant. (Bill Paxton says that this is because the attribute which tells the symbol resolver to ignore an identifier is not being set when these UIDs are recognized.)

3. The name "flag" is a global in the system. (While this is not a bug, it is often inconvenient as it is an ID which is often used by novice programmers in their user programs and can lead to confusion when they discover it is multiply defined.)

As keeper of compilers, I give these to you, Don.
Bugs in L10 Compiler in User Program Mode

(J12780) 14-NOV-72 10:37; Title: Author(s): Lehtman, Harvey G./HGL; Distribution: Irby, Charles H., Andrews, Don L., Paxton, William H., Dornbush, Charles F., Kaye, Diane S., Hopper, J. D./chi dia whp cfd dsk Jdh ; Sub-Collections: SRI-ARC; Clerk: HGL;
Dates of Document Preparation and Journalization Both Desired

Another desirable provision for journal headings is:

At the time of submission of a document, it should be possible to enter both the date of preparation of the document, and the date of its submission to the Journal, as part of the heading.

Example:

7 October 1972          12275
Journalized: 14 November 1972
question on imp-imp line protocol

Hello alex. How is everything? We have a visiting scholar here who is very interested in the arpa net. In going over the documents he noticed that in the discussion of the line protocol between IMPS it is not clear how re synchronization is achieved when the line goes bad after a message text has begun. It appears that if the final DLE ETX sequence is missed then the procedure does not return to search mode. This of course can not be the case but it is not stated what really happens. Reference BBN Report 1822 (4/72) pages f=12 to f=17.
question on imp-imp line protocol
Retraction of PARSLEY/ISAG recommendation

In reference to the Plans for Parsley Activities Thanksgiving week (LJOURNAL, 12608, 7b:w) and specifically the recommendation of Jake Feinler for ARC ISAG representative: we were laboring under the misconception that each group is entitled to a ISAG representative and that groups may select their ISAG representative. We have since been informed that this is not the case and so please ignore our previous statement about Jake replacing Don Limuti.

ISE has only a limited number of ISAG representatives, a number not equal to the total number of groups. Don Limuti is still our representative and is located in the J wing of the first floor of this building.
Retraction of PARSLEY/ISAG recommendation

I'm getting the hang of the journal system.
Response to message...

Hey
I wanted to submit an acknowledgment of document 12768 but the
command isn't in yet. I guess I have to brush up on the NLS-L10
user program game a bit -- too bad about FLAG. And all the
documentation on MACROS I know about is in WSD's head. I don't
remember seeing anything in the Journal about them, and indeed I
have never used them and don't know how they work exactly... but
I think it just substitutes a fixed string for a predefined
identifier of some sort. (FLAG is not a reserved word really,
but a predefined symbol - in NLSL10). See ya. Don
Response to message...

(J12785) 14-NOV-72 19:41; Title: Author(s): Andrews, Don I./DIA;
Distribution: Kaye, Diane S./DSK; Sub-Collections: SRI-ARC; Clerk: DIA;
More on NLS Call and Return Tracing

Describes the new one which uses $\uparrow K$ and $\uparrow L$ to turn the trace on and off.
More on NLS Call and Return Tracing

More on the NLS Call and Return tracing: addition to <LJOURNAL, 12387, 1:w>

Charles made a wonderful suggestion for the TRACER thingy, namely: have pseudo-interrupt characters turn the trace mechanism on and off.

This allows one to turn the trace on and off inside a command to find out what is happening without swimming through reams of paper.

I implemented his suggestion, using ^K and ^L to turn the thing on and off, respectively.

One compiles branches 1 and 2 of <ANDREWS,TRACER,> as before (called arm and disarm respectively).

Executing arm activates the control characters and executing disarm restores the world to normal.

Type ^K anywhere to start tracing. Type ^L to turn it off:
Indeed, even inside a long substitute or something.

The ^K and ^L result in NO ECHO.

I use interrupt channels 24 and 25 (decimal).

Doing several ^K ^L traces result in as many TRACE,DATA files, i.e., ^L closes the file.

Get it right ^K turns it on, ^L turns it off. Typing ^L when it is turned off already, or typing ^K when it is already on both result in a HALTF on the part of the user program -- which bombs you out.

Also avoid executing arm or disarm in the wrong sequence.

The TRACE,DATA files have the same format and are printed in the same manner.
More on NLS Call and Return Tracing

(J12786) 14-NOV-72 20:16; Title: Author(s): Andrews, Don I./DIA;
Distribution: Irby, Charles H., Lehtman, Harvey G., Kaye, Diane S.,
Bass, Walt, Victor, Kenneth E. (Ken), Wallace, Donald C. (Smokey),
Hopper, J. D., Deutsch, L. Peter/CHI HGL DSK WLB KEV DCW JDH LPD;
Sub-Collections: SRI-ARC; Clerk: DIA;
Origin: <ANDREWS>BLURB.NLS;3, 14-NOV-72 20:10 DIA ;
Barbara: Please order a telephone for Diane Kaye to be installed in her residence. Contact her for details of when and where. She will use it for programming work (compiling and loading new systems) she is performing evenings and weekends to take such loads off the system during the daytime hours. Thanks.

Jim Norton 11/15/72

cc: DSK DVN
Action on DSK Telephone Request (see -- 12767,)

(J12787) 15-NOV-72 7:23; Title: Author(s): Norton, James C./JCN ;
Distribution: Row, Barbara E.; Van Nouhuys, Dirk H.; Kaye, Diane S./BER
(for action) DVN DSK ; Sub-Collections: SRI-ARC; Clerk: JCN ;
This my first cut at a proposal for Lab Director's funds. I can provide more detail as required, but apparently there is a deadline and I would like to get this over to Gabe as soon as possible to get his reaction.
EVALUATION OF COMPUTER AIDS

WITHIN OFFICE ENVIRONMENTS

15 NOV 72
Duane Stone
DISCRETIONARY FUND PROPOSAL

ISIM X3857
PROPOSAL:

Purpose & Goals: The purpose of this task is to incorporate on-line computer aids into the daily office environment of a branch at RADC and to evaluate the effect this has on the performance of individuals, teams and organizations.

Potential: If this evaluation indicates that significant improvements in performance are gained through the application of on-line computer aids, these aids have application in any environment where the primary activity is the production, coordination and documentation of thought. Specific application areas include: Air Staff, Intelligence, R&D, SPOS, and Administration. It is expected that coordination and communication times will be reduced by at least an order of magnitude, that documentation will be prepared with significantly less manpower, and that the contents of the resulting documents will be of a higher caliber.

Related Programs: This work is dependent upon the ARPA project at Stanford Research Institute, "Network Information Center and Computer Augmentation System Development". This task will use the software developed by SRI, via the ARPANET, to conduct the evaluation.

The primary questions to be addressed during the evaluation in FY-74 are:

Can the SRI technology be introduced into an Air Force environment at all? Individuals may not be motivated to use the system. Training is required, procedures may have to be changed to take advantage of the technology.

If it can be used, what is its value? Does it increase efficiency of individuals and organizations? Is there an increase in their effectiveness? How much are efficiency and effectiveness increased?

What is the cost of the improvements and are they worth it?

The evaluation of a system as complex as AHI must be conducted over an extended period of time, an extended set of jobs, and across a representative sample of Air Force people to allow the results to be generalized to other environments. The evaluation at RADC will cover a two year period, and include engineers, secretaries, administrators, and managers at three levels in the chain of command. The evaluation will evolve slightly behind the actual implementation of the system within the ISI branch. Results on the effectiveness of the system in augmenting individuals and teams will be available at the end of FY-73, and organizational results at the end of FY-74.
Before any evaluation can take place there are a number of prerequisites which must be met. These are:

Terminals—Sufficient terminals must be made available to allow training on and use of the system when the individuals have the need/desire to do so.

Training—Individuals must have a chance to exercise the system to learn its command language to the point where it is second nature.

NLS service—The software/hardware facility at SRI must provide sufficient quantity and quality of service to support training and use of the system.

Status: All the efforts in this area are based on the Augmented Human Intelect (AHl) technology developed at Stanford Research Institute (SRI) under ARPA sponsorship over the past 10 years. RADC personnel have monitored this program for the past 5 years and are convinced that the feasibility of significant job performance improvement in an intellectual environment is indeed possible. SRI has developed the system through a "bootstrapping" process where the system's capabilities at any particular instance in time are used to further develop the system. The augmentation capabilities of the system have evolved through the individual, to the team, to the organization stage, and are now approaching the community stage via use by individuals and teams around the ARPANET.

The development activity during FY-72 was concentrated on acquiring the necessary physical plant for use and evaluation of the SRI AHI system. RADC is connected to the ARPANET via a standard H316 Terminal Interface Processor (TIP). Internal lines have been acquired to connect the terminals to the TIP. Twelve Execuport 300 teleprinters, three IMIAC PDS-1D CRT display terminals, and four Termicette cassette recorders have been purchased. Nine engineers, a section chief, a secretary and an administrator have received varying amounts of training in the use of the system and the rest of the TSIM section are currently undergoing training. The initial specification of a baseline management system complete with SOPs, file design, and personnel role assignment has been completed. The research group at RADC has progressed to the point where they are doing the bulk of their daily work using the system; in fact, this writeup was prepared, coordinated and edited a number of times using the system.
The FY-73 activity will be concentrated on training the rest of the ISI branch (giving a total of 45 people using the system), procuring additional terminals and a medium speed line printer, and refining the baseline management system—to include interfacing it with MASIS. The activity in FY-74 will be concentrated on evaluating the efficiency and effectiveness of using the system. Out years will be concerned with developing and incorporating advanced management techniques such as DELPHI, resource allocation strategies, and advanced graphics capabilities. This activity will be significantly enhanced by the use of others' research work via the ARPANET.

Requests for funds from Project 5550 have been turned down. Project 5581 had agreed to provide the necessary funds, but it has since gone bankrupt. If the project is to continue, approximately $90K funds are needed during FY-73 for terminals and access to SRI's facility. If these funds are provided it will allow an increase in the user population from the ISIM section to the ISI branch. We feel that this size population is vital to providing a meaningful evaluation. These funds would be used in the following manner:

<table>
<thead>
<tr>
<th>Item</th>
<th>each</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms Printer</td>
<td>5000</td>
<td>5000</td>
</tr>
<tr>
<td>Typewriter terminal</td>
<td>3500</td>
<td>3500</td>
</tr>
<tr>
<td>CRT terminal</td>
<td>5000</td>
<td>10000</td>
</tr>
<tr>
<td>Line Printer</td>
<td>15000</td>
<td>15000</td>
</tr>
<tr>
<td>Maint &amp; Supplies for above</td>
<td></td>
<td>3000</td>
</tr>
<tr>
<td>NLS service</td>
<td></td>
<td>50000*</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>90000</strong></td>
</tr>
</tbody>
</table>

*The $50K for NLS service includes some programming services for form printer software and calculation software.
BACKGROUND:

We are evaluating the Augmented Human Intellect System developed over a period of ten years by the Stanford Research Institute (SRI). This prodigious undertaking is motivated by a fascinating technology and the desire to determine whether or not it can be implemented in a working environment. We noted the costs (over 10 million for development and hardware) and the fact that it appears to work well for the team that developed it. Realizing that those who created the system have a special motivation to use it, we decided that implementation in our own offices would provide a more objective test bed. Thus, certain organizational units in the Information Sciences Division of RADC are accessing the computer at SRI through the ARPA Network, and using it in the daily performance of their jobs, while performance comparisons and psychometric tests are run.

Dr. Douglas Engelbart, the originator of the system, has stated that the purpose was to "...increase the capability of man to approach a complex problem situation, to gain comprehension to suit his particular needs, and to derive solutions to problems." This intention to provide an extension to man's intellect by utilizing a set of powerful computer based tools was gradually broadened to provide an extension to a group's capability and then to that of an organizational structure. Very briefly, the software now has the capability to do almost anything with written information that can be done. This does not include question-answering or other systems that have deductive logic algorithms. It does enable persons to accomplish their entire job through the system where that job involves language based activities. For example, the creation, composition, editing, storing, structuring, communication and printing of information, from memos to publishable papers, can be done on-line.

The effects of this capability are threefold. (1) The individual is no longer limited to the rigidity of written information. Instead, he has an "information space" structured to his requirements through which he can "travel" as fast as he can think and type. (2) A team of users can also move with great ease through the information spaces of all team members, to consolidate, collaborate, and reach a higher level of consensus. (3) Consequently an organization can operate around a visible, dynamic body of information developed by the various levels in its hierarchy, and instantaneously share and communicate managerial as well as technical matters. The total result is to have a "living" corpus of ideas, thoughts, etc. which represents the ongoing work of an organization.
To determine whether these effects can be realized, we are studying what is happening as increasing numbers of our engineers, scientists and managers are trained. A variety of methods are being employed to compare the system to conventional ways of accomplishing business. The psychometric techniques include a specially designed, experimentally controlled attitude questionnaire, a content questionnaire, ratings of comparative quality, interviews in a case study format, and population profiles based on job and experience. The performance measurements include learning curve data, and comparative manhours and throughput time on specified tasks. The emphasis is on the people in the system rather than software and hardware performance, a somewhat unusual approach to computer technology.

At present, we have a user group of 20 persons including two levels of management and a comparable control group using conventional methods. We plan to double the population and to include one more level of management by the summer of 1973. We plan to add the Occupational Climate Index and the Activities Index developed by Stern of Syracuse University to the present evaluative techniques. There is a considerable amount of work to be done to provide the software and hardware support for such a large group, but we are gradually overcoming the current limitations. The promise, potential, and our experiences to date spur us on. The system could result in an intellectual community where the free flow of information is a reality.
Hi Jon; Things are fine here (and I'm finally recovering from the ICCC and the associated set of visits from people interested in the Net). With regard to your question about IMP-IMP line protocol:

The IMP knows the maximum possible length of a packet (69 16-bit words in the IMP-IMP case) and sets up buffer-pointers for the DMC channel to which the modem interface is connected accordingly. (The x16 DMC takes a "buffer begin" and a "buffer end" pointer.)

If the modem interface hardware ever sees its buffer pointers "cross" (and it always looks) it generates an interrupt to the program which allows the program to notice the error in the location of the buffer pointer. At the same time, the modem interface resets ITSELF to "search" mode and starts looking for another "SYN" byte.

Note that the buffer pointer is incremented when a word is deposited in the IMP's memory, so that the DLE-doubling does not affect the length of the packet by the time this "is-the-packet-too-long" check is made.
Answer on IMP-IMP line protocol

(J12789) 15-NOV-72 11:49; Title: Author(s): McKenzie, Alex A./AAM; Distribution: Postel, Jonathan B./JBP; Sub-Collections: NIC; Clerk: AAM;
Test of "Quotes" in a Title

This is a test of quotation marks in a message title. The title is: Test of "Quotes" in a Title
Test of "Quotes" in a Title

(J12790) 15-NOV-72 5:57; Title: Author(s): McKenzie, Alex A./AAM; Distribution: White, James E. (Jim)/JEW; Sub-Collections: NIC; Clerk: AAM;