On Filtered Deletes

Ed: I too thank you for your tips in (33205,). Neat. I've been using
parts of the technique...but hadn't thought as far into it as you. It
occurs to me that in addition to using the logic in a delete mode,
one can also use it in move and copy modes in interesting ways..
agree? Who knows what transpose would do? Jim N.   1

On Filtered Deletes

(J33301)   22-AUG-75 08:22;;;;   Title: Author(s): James C. Norton/JCN;
Distribution: /EJK([INFO-ONLY]) JHB([INFO-ONLY]) RADC([
INFO-ONLY]) ; Sub-Collections: NIC RADC; Clerk: JCN;

33301 Distribution

Frank S. LaMonica, William E. Rzepka, Rocco F. Iuorno, Thomas J.
Bucciero, Roger B. Panara, John L. McNamara, Joe P. Cavano, Duane L.
Stone, Marcelle D. Petell, Thomas F. Lawrence,
Edmund J. Kennedy, James H. Bair, Wolf-Hasso Kaubisch, Kim Cynthia
Carter, Samuel L. Ruple, Stephen P. Sutkowski, Richard Calicchia,
William W. Patterson, Francis J. Hilbing, Robert K. Walker, Frank P.
Sliwa, Joe F. Femia, Roger W. Weber, Melville J. Draper, Robert D.
Krutz, James W. Hyde, David T. Craig, Fred N. Dimaggio, Robert E.
Doane, Richard Nelson, William F. Stinson, Daniel R. Loreto, John B.
McLean, Murray L. Kesselman, Edward F. LaForge, Agatha C. Deconde,
Alan R. Barnum, Larry M. Lombardo, Roberta J. Carrier, Richard H.
Thayer, Frank J. Tomaini, Mike A. Wingfield, Edmund J. Kennedy, Ray
A. Liuzzi, Donald VanAlstine, Deane F. Bergstrom

Filter Operations and a Coming Subsystem: Retrieve

It may be that you already know of the retrieve subsystem,..but if not,,here's some comments about it,

Filter Operations and a Coming Subsystem: Retrieve

Ed: Another hidden capability   about to come out we hope is in the
retrieve subsystem. That system gives the user the ability to set a
filter search to a given level (for text or position, etc set by a
content analyzer pattern), permits the user to accept "fathers" in
settable ranges up the hierarchy,,,or "brothers", "daughters",
"aunts" (tough termonology right now),,,then do copy, move delete
so that whole branches selected by the filter (or just carefully
selected parts of them) are affected, I use this in process commands
branches to segregate my mail, to copy out just parts of branches
based on text found at, say, the third level,   oh, yes,,,,the
content analyzer I use is sometimes a pre-compiled l-10 program that
does some pretty fancy searching and at the same time reformats what
is "sent" out,,,adding text, copying parts,,,, so that in a move or
copy,,,,,what I get may not even look like what I found,,, but the
same kind of logic: highly selective deleting, movong, copying   is
used, If you'd like to try the retrieve subsystem,,,,let me know,
The reason it's not released generally yet is that we havent had the
time to document it and also, we arent happy with the terminology for
fathers, etc or with the way "levels" are specified: it uses
viewspecs to specify what fathers, etc you want to accept (or
refuse),,,, like   accept fathers from level: ea   to e   would
get you level one father, level two father   if the filter search was
set to level three and the level three statement passed,,, I know
that's a little cryptic,,,but   that's the general idea, Want to
know more? Jim   1

Filter Operations and a Coming Subsystem: Retrieve

(J33302) 22-AUG-75 08:40;;;;   Title: Author(s): James C. Norton/JCN;
Distribution: /EJK([INFO-ONLY]) DLS([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: JCN;

33302 Distribution
   Edmund J. Kennedy, Duane L. Stone,

Here are some directory/ident changes for NSRDC, I've asked for some
new directories, bumped down page alloc. on some old, & requested one
new ident.

NSRDC Directory Changes

Sandy/Feed & Jim,   1

    The following is a list of new directories and some changes I'd
    like made to existing ones. At the end of this exercise, we will
    have 22 directories and a page allocaion of 4750. At least six of
    the directories will probably disappear after a two-three week
    changeover period.   1a

    I would like the following directories created and idents
    associated with them as follows: 1b

       ROTH   300 Pages   1b1

          Peter N, Roth PNR   1b1a

       NELC   300 Pages   1b2

          Dana L, Small DLS4   1b2a

          Gilbert B, Myers GBM   1b2b

          Robert A, Fleming RAF   1b2c

          J,G, Noel JGN   1b2d

          James J, Goertz JJG2   1b2e

       NAVCOSSACT   300 Pages   1b3

          Robert Alan Grossman   1b3a

             Naval Command Systems Support Activity   1b3a1

             Washington, D,C, 20374   1b3a2

             Tel: (202) 433-3930 (AV 288-3930)   1b3a3

       NSWC   50 Pages   1b4

          Mary Lou Blessing   MLB   1b4a

          Robert D, Archer Jr, RDA   1b4b

          Eugene P, Stemple EPS2   1b4c

          Manley W, Turner MWT   1b4d

          Ira V, West IVW   1b4e

NSRDC Directory Changes

David F, Eliezer DFE	1b4f
NADC 50 Pages	1b5
Henry G, Stuebing HGS	1b5a
Harold Doerfel HD2	1b5b
NRL 50 Pages	1b6
Honey Sue Elovitz HSE	1b6a
Connie Heitmeyer CH5	1b6b
Joe McCaffrey JM5	1b6c
Edward Lewis Aiken ELA	1b6d
John B, Smith JBS	1b6e
NWC 50 Pages	1b7
Richard R, Wolff RRW	1b7a
John J, Zenor JJZ	1b7b
NUC 50 Pages	1b8
Jack M, Zyphur JMZ2	1b8a
Isaac Bornstein IB	1b8b
Robert A, Unger RAU	1b8c
NCSL 50 Pages	1b9
Anna Watson AW2	1b9a
Paul C, Bishop PCB	1b9b
David Brown DB4	1b9c
Louis M, Robertson LMR	1b9d

Please change the NSRDC directory so that it has a 300 page disk
allocation and only the following idents are associated with it: 1c

L, Kenton Meals   LKM   1c1

Allen Hankinson AH   1c2

Elizabeth Cuthill EHC   1c3

I would like the page allocation of the following directories to
be reduced to 50 pages: 1d

NAVAPS   1d1

MATHSCI   1d2

NAVINFO   1d3

NAVMINI   1d4

NAVSEC   1d5

Also, I would like the "organization" and "group" fields changed
from NSRDC to :   1e

- "group" should be NALCON (for NAvy Laboratory Computer
Network)   1e1

- "organization" should be NAVY (for Navy)   1e2

For your information, after all this is done our directory/page
allocation will look as follows:d   1f

COMRADE   550   1f1

BRIGNOLI 500   1f2

AVRUNIN   500   1f3

NALCON   300   1f4

NAVIMP   300   1f5

NSRDC   300   1f6

ROTH   300   1f7

NAVCOSSACT   300   1f8

NUSC   300   1f9

NELC   300   1f10

ISDS   50   1f11

NSRDC Directory Changes

NAVAPS	50	1f12
MATHSCI	50	1f13
NAVINFO	50	1f14
NAVMINI	50	1f15
NAVSEC	50	1f16
NSWC	50	1f17
NADC	50	1f18
NRL	50	1f19
NWC	50	1f20
NUC	50	1f21
NCSL	50	1f22

Good Luck!! I'll be out your way next week so you can beat up on
me personally, See you.   1g

NSRDC Directory Changes

(J33303) 22-AUG-75 08:50;;;; Title: Author(s): Frank G,
Brignoli/FGB; Distribution: /FEED([ACTION]) JCN([ACTION]) ILA([
INFO-ONLY]) ; Sub-Collections: NIC; Clerk: FGB;

33303 Distribution
   Special Jhb Feedback, James C. Norton, I. Larry Avrunin,

1

To Susan or Pricilla

In answering your message dated 19 Aug 1975, I will be using a
Bedford Terminal Selecterm "System 75", It prints 6 lines to the
inch and 10 char per inch, It is "full duplex" The name of the
second file these statements will go to will be
"Direp-Status-Reports",, The codes in parenthasis will look like
this (1235) however the first three numbers is the julian date the
number 5 would be the one it should disperse on, If any more
questions arrive don't hesitate to contact me,,, J, Crabtree   1

To Susan or Pricilla

(J33304)   22-AUG-75 09:00;;;;   Title: Author(s): Johnny L,
Crabtree/JLC; Distribution: /SGR([ACTION]) PAW2([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: JLC;

33304 Distribution
    Susan Gail Roetter, Priscilla A, Wold,

Data Management System and the RADC Program

REPLY TO ATTN OF: ISI/7507   23Aug 71   1

SUBJECT: Data Management System and the RADC Program   2

TO: ISIM/John McNamara   3

1. After listening to Hughes' presentation last week (19 Aug 71), it
has become most apparent that we should be able to explain: Classical
File Designers, how each is implemented on a machine, what hardware
and software features facilitate implementation, and finally relate
advantages and disadvantages to user problems.   4

2. It follows that each of the Data Management software packages now
available, or soon to be available, on the 635 should be rated
against the findings (MADAPS and the 1604 should be included).   5

3. Since anything workable can be programmed by a clever programmer,
ratings of software and/or hardware features must be on time savings
and/or a cost savings basis. This is where Frank Sliwa's test and
evaluation program comes into its own. It seems to me key time
savings over cost rations have to be developed and related to File
Design features or user problems. Base line or state of the art
values should be developed for each ratio.   6

4. For demonstration and test purposes, a "live" data base
inherently designed with user data management problems in mind must
be developed and maintained. Scenarios that exercise the hardware
and software must be developed for each key ratio.   7

5. In order to demonstrate base line capability and the
effectiveness of development modifications, a "test bed" must be
instrumented, i.e., statistic automatically collected through
hardware/software mods to the "Test Bed" Hardware and Software.   8

6. A well-rounded program to do all of these things will develop
knowledgeable consultants to assist users in selecting
Hardware/Software Systems and in preparing specifications to fill
voids.   9

7. Conclusions: If you agree with me, I would like to hear your
plans toward accomplishing these goals.   10

Frank J Tomaini   11

Chief, Info Processing Branch   12

1

Data Management System and the RADC Program

(J33305) 22-AUG-75 10:46;;;; Title: Author(s): Frank J, Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT; Origin: < TOMAINI,
40-MEMO,NLS;1, >, 22-AUG-75 10:43 FJT ;;;;####;

ISI/7507   26 Jul 72   1

RADC (DO/COL Metscher)   3

As an RADC supervisor, I am concerned, As the manager of R&D in a
discipline that requires young and energetic approaches, I am
concerned, The already more than one year freeze on raises, the
recent reduction in force and the indication of a continuation of the
freeze on raises in order to reduce the so-called grade average of
the Center to some fixed level by a certain date indiates to me that
I will lose the best incumbents of my lowest grade positions, This
is simply because they are the most affected by the actions over the
past year, since they most deserve a raise and yet are most
vulnerable to a reduction in force and can most easily acquire a job
elsewhere,   4

Can't the Center propose a more sound approach to the problem of
reduction in grade average, Suppose every time a position opens up
because of attrition and before it is arbitrarily reduced to the
lowest level for hire, a chain of eligible and deserving employees is
reviewed for possible promotion, This would mean that, in addition
to registers for retention purposes, registers for promotional
purposes be established,   5

How it would work: 6

CONDITION: 1,   A GS-15 Electronic Engineer retires,   7

             2,   The Center Grade Avg = 11000/1000 - 11.0   8

ACTIONS: 1,   Abolish Job   9

                  Grade Avg - 10985/999 - 10.9966   10

             2,   Reduce job to GS-5 and Hire GS-5   11

                  Grade Avg = 10990/1000 = 10.990   12

             3,   Promote a GS-14 and reduce GS-14 to
GS-5 andhire a GS-5   13

                  Grade Avg = 10.991   14

             4,   Reduce job to GS-14   15

                  Promote a GS-13 and reduce the GS-13 job to a
GS-5 and hire a GS-5   16

    5.   Reduce job to GS-12   17

    Promote A GS-11 and Reduce GS-11 to a GS-5
and hire a GS-5   18

    6.   Promote a GS-14 and GS-13 and GS-12 and
GS-11 and GS-9 and GS-7 and reduce GS-7 to a
GS-5and hire a GS-5   19

    Grade Avg = 10997/1000 = 10.997   20

NOTE: As long as attrition results in the opening of a position
above the Center's grade average, one or more promotions can be given
with some reduction in grade average.   21

    If attrition results in the opening of a position below the
grade average, abolishment of the job actually increases grade
average. This is why a reduction in force, more often than not, will
result in an increase in grade average and why it is important to
fill lower than grade average positions rather than abolish them,   22

In summary: It is suggested that every effort be made to separate
Center controls on grade average decrease rate from the effects of an
actual or potential reduction in force. Further, it is suggested
that for every attrition, a Grade Average Maintenance Board
(established for the purpose or a responsibility added to the present
CPB) review the situations and consider worthy candidates for a
raise. In this way, each attrition action could result in an
attrition chain that would allow raises at the same time, resulting
in some reduction in grade average.   23

In conclusion: If it is possible to hold out some possibility of a
raise for young deserving individuals, there is some chance of saving
them and increasing morale.   24

Frank J. Tomaini   25

Promotions and Grade Average Dilemma

Comments on West Coast Study Group Interim Report

ISIS & ISIM   1

ISI/7507   7 Sep 71   2

Comments on West Coast Study Group Interim Report   3

1. Where are the comments on this report?   4

2. As the DOL organization responsible for Software and Computer
Architecture, ISI should be most interested in subject report on
guidance and reference for future years. Is it complete and truly a
"road map" for developments to be pursued by ISI over the next 5 to
10 years, especially in the areas of :   5

    Architecture   6

    Microprogramming   7

    Computer Netting   8

    Computer Data Security   9

    HOLs   10

    Data Management   11

    Compiler Generation   12

    Software Validation and Reliability   13

    Cost Effectiveness Measures   14

    Software Testing and Pricing   15

    Simulation   16

3. ISI should be certain that the West Coast Study Group has or will
address these areas (at least) and that the Study Group made some
suggestions as to state-of-the-art and required future research and
development. Now is the time for ISI too get into a requirements
document the kinds of phrases and statements that can be referenced
as direction and guidance for future research and development.   17

4. Accordingly, it is directed that Mr. J. McNamara and Mr. R.
Nelson personally insure that key members of their section (as well
as themselves) comment on subject report, consolidate their section's
comments and submit them to Mr. Al Barnum by Friday, 10 Sep 71, if
not sooner. (NOTE: Barry Boehm, Chairman of the Study Group desired
comments by 10 Sep 71).   18

Comments on West Coast Study Group Interim Report

s/Frank Tomaini   19

Comments on West Coast Study Group Interim Report

(J33307) 22-AUG-75 11:25;;;;   Title: Author(s): Frank J. Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;   Origin: < TOMAINI,
7-MEMO,NLS;1, >, 18-AUG-75 10:19 FJT ;;;;####;

MULTICS Implementation Working Group

ISI/7507   7 Sep 1971   1

MULTICS Implementation Working Group   2

Col Kortz   3

Mr. Nelson   4

Mr. McNamara   5

1. After Mr. Normand's 27 Aug 71 briefing to IS, it is generally
agreed that MULTICS will conduct its future research and development.   6

2. However, before the status-quo will or can be changed, some
questions have to be answered and/or conditions met: 7

    a. What effect will a build-up of MULTICS' utilization have on
Research & Development and the Center support provided by the 635 and
GECOS? For instance, DM-1 is being developed to operate under GECOS
and will not be completed until June of 1973. Right now, Auerbach
uses prime time and evenings, and will continue to do so for some
time to come. What will happen with an increasing use of MULTICS?
Will encapsulation of GECOS under MULTICS solve the problem? If so,
when will this happen? In the beginning, will MULTICS or GECOS be
run at night? Or will encapsulated GECOS be good enough and come
early enough to allow simultaneious continuous use of MULTICS and
GECOS? What happens to present (under 635/GECOS) time sharing users
and remote batch users? What should the phase-over look like?   8

    b. Mr. Normand's presentation indicated that OLPARS/WFES,
Associative Processor, and ARPA net would not require significant
MULTICS use prior to June 1972. However, in-house and, perhaps,
contractual studies of Computer Data Security features, as well as
File Hierarchy algorithm development, would require immediate
increase of MULTICS over the present four-hours per week. These
programs were not presented in sufficient detail to authorize
increased MULTICS operation. Accordingly, a detailed briefing must
be prepared on our immediate plans for MULTICS and need for increased
MULTICS time available. In addition, considerations, including
answers to questions in paragraph 2a above, will have to be made.   9

    c. It is obvious that, if MULTICS is to become available for
increased use as the ISI development vehicle, its support must be
assumed by ISF and HIS. This means a training program for ISF
personnel established and a commitment be obtained from HIS (on
MULTICS and encapsulated GECOS).   10

3. It is directed that the Ad Hoc Kortz/Normand MULTICS
Implementation Working Group be continued (in two phases) until plans

MULTICS Implementation Working Group

for ISF conversion to MULTICS are acceptable to IS. Phase I
objectives of the working group should include: 11

    a. Immediate plans for increased MULTICS utilization, i.e.,
Security, File Hierarchy Studies, ISF Training, Impact on GECOS.   12

    b. Necessary plans and "paper" work to implement Phase I.   13

    c. Identification of Phase II.   14

s/Frank Tomaini   15

MULTICS Implementation Working Group

(J33308) 22-AUG-75 11:34;;;; Title: Author(s): Frank J. Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;   Origin: < TOMAINI,
9-MEMO,NLS;1, >, 22-AUG-75 11:31 FJT ;;;;####;

Software Reliability

ISI (7507)   20 Dec 71   1

Software Reliability   2

Nelson & McNamara   3

1, Sam DiNitto and Rone Stillman are to write separate overviews of
what happened and what next we should do for a software reliability
program,   4

2, Should we start some error analysis in-the-house effort, and, if
so, who and on what?   5

GECOS et al   6

or   7

DM-1   8

MADAPS   9

3, Should we, on DM-1 , do something FORMAL?   10

4, My thoughts are: 11

Do something on DM-1 (at the very least).   11a

How, Contract to Auerbach to do this?   11b

Relative to the question, how is RADC going to handle its own DM-1
maintenance?   11c

Accordingly, our maintenance contract with Auerbach should include
logical error classification documenting and "fix" including
documentation; this includes RADC participation,   11d

5, Back to Syracuse,   11e

a, Would he help us define a program that RADC should pusue in
identifying and classifying software logical errors,   11e1

b, Before we suppor Reynolds in research leading to the
development of a language, he should define the problem he's
attempting to solve, in this case, software logical effort
"documentation,"   11e2

c, What is Storm's language?   11e3

Frank J, Tomamini   11e4

Software Reliability

(J33309) 22-AUG-75 11:54;;;; Title: Author(s): Frank J. Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;   Origin: < TOMAINI,
6-MEMO.NLS;1, >, 22-AUG-75 11:46 FJT ;;;;####;

Placement of Memos

1. Subject of the memo should be put in the initial position to
facilitate research and retrieval. 　　　　　　　　　　　　　　　　　　1

　　The headings of the memos should be placed at this level. This
　　includes sender address, subject, and address all exactly as in
　　the original. 　　　　　　　　　　　　　　　　　　　　　　　　　　1a

　　　　The first paragragh of the memo should be placed at this level, 　　1a1

　　　　The second paragragh should be placed at the same level as the
　　　　first. Level in this context is defined in terms of horizontal
　　　　ndentation. The third and all following paragraphs should all
　　　　be placed at this level. 　　　　　　　　　　　　　　　　　　　1a2

　　　　Comments should be placed at this level. The appropriate lower
　　　　levels should be used as in the original memo if they are
　　　　needed. 　　　　　　　　　　　　　　　　　　　　　　　　　　1a3

ISI Manpower 　　　　　　　　　　　　　　　　　　　　　　　　　　　　2

MIS 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　3

DMS Validator 　　　　　　　　　　　　　　　　　　　　　　　　　　　4

To ISIM (John McNamara) 　　　　　　　　　　　　　　　　　　　　　　5

　　1. You and I discussed whether or not we have really developed
　　test procedures for evaluating a Data Management System. The
　　conclusion I reached was that we probably will never complete the
　　development of a DMS Validator - just like I don't think we will
　　ever complete the development of a JOVIAL Compiler Validator. 　　　5a

　　2. However, Joe Cavano is going to help them evaluate at least
　　some part of WWDMS. I understand he is bringing along a sample
　　data base that we have already employed in DMI tests here at RADC.
　　The conclusion I reach, therefore, is that Joe Cavano has very
　　specific ideas as to how he is going to test the subset of WWDMS
　　that will be his responsibility to test. 　　　　　　　　　　　　　5b

　　3. If you think about this, we ought to be able to describe the
　　tests Joe will conduct, or are we saying that Joe will invent as
　　he goes along; and, if we didn't have Joe, we wouldn't be able to
　　support JTSA in this effort. 　　　　　　　　　　　　　　　　　　5c

　　4. Let's Boot Strap Ourselves - If Joe Can't write his test
　　procedures and define his test materials before he goes, let's
　　have him do this when he returns. It should be the beginning of a
　　DMS Validator - So that next time someone else could go and
　　conduct a test program equal in quality to Joe. It also would

Placement of Memos

TO: ALL SECTION CHIEFS and SECRETARIES   24b

   SUBJECT: Correspondence   24b1

      The following are reminders about correspondence: 24b1a

         a. All correspondence going to procurement (EMK) must be
         routed through the Division Office (EMB). There have
         been several instances of late where correspondence has
         been going directly to Procurement from a SECTION.   24b1a1

         b. Any correspondence originating from Branch Section
         going to an office with a 3-letter symbol, i.e., EML,
         must be routed through the Division Office (EMB).   24b1a2

         c. Official or non-official internal correspondence
         should not be made available to contractors or their
         representatives.   24b1a3

Frank J Tomaini   25

   Long Range Plan for AF STD Computer Language Development -
   Evaluation   25a

Placement of Memos

(J33310) 22-AUG-75 12:52;;;;   Title: Author(s): Edward F,
LaForge/ELF; Sub-Collections: RADC; Clerk: ELF;   Origin: <
LAFORGE, 43-MEMO,NLS;1, >, 22-AUG-75 08:31 ELF ;;;;####;

To Dave Potter re Representing AKW to an AERA meeting

Dave: I have been approached by Carl Zinn, U. of Mich., who is
trying to put together a special session for next April's annual
meeting of the American Education?? Research Association (in San
Francisco) -- topic: "Computer Assisted Seminars," or some such
title. He wanted me (or an ARC rep) to be one of four speakers. The
others would be: Johanssen of IFFF, heavily into Telconferencing; Jim
Schuyler of U of Chi (or U of I at Chi?), into CAI and who
collaborated early with Johanssen at grad school; and Parnes of
Michigan, who is working with Zinn now on some local experiments in
Teleconferencing.   1

Anyway, what I'd like to do about such approaches to specialized
disciplines, for introducing concepts from our world, is to enlist
appropriate middle men who would like to help both our AKW world and
the world of the special discipline. In that spirit, I'd like to
know if you'd be interested in going to that meeting and being on
that panel; it would be Potter speaking for himself, recommended by
me as being most suitable for presenting to them the concepts and
experiences from our AKW world.   2

Carl says that the level of comprehension and acceptance may not be
very high, and that attendance at the session may be low, but that he
wants to start the process of getting them aware. I'm not sure, but
I don't think that a publishable paper is required -- maybe I just
inferred that, and without due input.   3

If you are interested, let me know (msg, and/or phone talk). In any
event, I'll look forward to seeing you at the KWAC meeting in
Cambridge in October. I would enjoy working with you if you'd like,
to provide extra background about history of "teleconferencing" as
the other panelists would see it, and about our past design
considerations and future plans. By Oct I plan to have the
next-stage vector for our AKW sub-domain of conferencing, dialogue
support, etc, shaped up, about which I'd like anyway to talk with
KWAC. I'm giving a paper in Sept -- the digest of which is cited
below, to give you a start.   4

    "NLS TELECONFERENCING FEATURES: THE JOURNAL, AND SHARED-SCREEN
    TELEPHONING," (HJOURNAL, 33076, 1)   4a

        Comments: This paper was submitted for presentation at COMPCON
        75, to be held in Washington D.C., 9-11 Sep 75. They require a
        'digest' for their proceedings, limited to a fixed maximum page
        space.   4a1

    Best regards, Doug   5

1

To Dave Potter re Representing AKW to an AERA meeting

(J33311) 22-AUG-75 14:32;;;;   Title: Author(s): Douglas C,
Engelbart/DCE; Distribution: /DAP([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: DCE;

33311 Distribution
   David A, Potter,

Visit by Sarah Rhodes, NSF OSIS, 22 Aug 75

(J33312) 22-AUG-75 17:41;;;;   Title: Author(s): Douglas C,
Engelbart/DCE; Distribution: /RLL([ACTION]) JML([ACTION] Jeanne:
please take care of sending material to her) SRI-ARC([INFO-ONLY])
DOCPLAN([INFO-ONLY]) ; Sub-Collections: SRI-ARC DOCPLAN; Clerk:
DCE;

Visit by Sarah Rhodes, NSF OSIS, 22 Aug 75

Sarah Rhodes is in the Office of Science Information Service (OSIS), of the National Science Foundation. She visited SRI all day, Friday 22 Aug 75. She visited with Tom Humphrey and Pat Whiting-O'Keefe in the morning, and with ARC staff from about 1115 on. Until lunch, Pat, Dirk and I (sometimes Tom) talked with Sarah in my office. Lunch with me, Dirk, and Bob Belleville. Demo after lunch by Bob on the new graphics developments in NLS, followed by more genral tour and demo by Dirk. Almost two hours then with me in my office. The following notes were mostly generated during that talk, where I carried my end of the dialogue much of the time by typing at the DNLS terminal.   1

Special, action items: 2

Sarah figures that she and Hal Bamford might very well be interested in attending a special day's discussions that I'm considering organizing in association with the KWAC meeting in mid October, in Cambridge. If we want to do it, get them a letter of invitation as soon as possible.   2a

Send to her the NSF number assigned to my Special Studies Support proposal, or else send a copy of the proposal.   2b

Send copy of the COMPCON-paper digest (33076,).   2c

Send copy of this Journal item.   2d

Work up a preliminary thinkpiece to send them, toward an unsolicited proposal that we discussed,   2e

Robert Lieberman should follow through with OSIS on the extended-use possibilities discussed below relative their prospective Utility subscription,   2f

About their prospective Utility subscription: 3

Consider for one thing our Special Studies Support Service proposal (See Journal Item -- 24758,), where we have proposed even more extensive special services. This was a proposal by ARC, separate from the EPC proposal from the downstairs groups (Humphrey, O'Keefe, et, al,), responding to Category 2 of the earlier Program Solicitation; it apparently was reviewed by a different set of people, since Hal Bamford later said that he hadn't seen it himself, (I'll send her another copy -- unless, if I could find their NSF-proposal number, she could retrieve it from their files).   3a

The only special aspects of such a "conference support" service,

differeing from what we already are doing for our vaious
subscribers, would be: 3b

  Potentially a limited and short time period for the duration
  of the service,   3b1

  Some question as to how the KW Architect person/support is
  provided,   3b2

  Perhaps special communication problems -- e.g. users not
  qualified to use ARPANET,   3b3

Sarah says that many participants could be expected to have some
terminal equipment already -- nice if we can match to them, (We
already can match to a wide array of the terminals that are
practical to use on other time sharing systems today.)   3c

Communication -- How might these distributed parties connect to
the service?   3d

  New DCA policies for ARPANET use have broadened over old ARPA
  policies, so that any government agency now has a valid claim
  for use with its contractors. (Robert Lieberman checked with
  NIC manager, Jake Feinler; the understood but unwritten policy
  does seem to be as above. Recommended though that OSIS contact
  the DCA guy who now [since 1 July] manages the ARPANET --
  Robert Brownfield, (202) 692-7583.)   3d1

  Alternatives: TYMNET -- but as yet this dosn't connect to our
  Utility service, except possibly through the ARPANET. A
  service cost to tie the TYMNET to our utility computer would
  have to be borne by the subscribers for whom the connection was
  made,   3d2

  But for leaving the future open, for increased-capability
  information services, using the ARPANET would be much better
  than any other alternative,   3d3

Secondary question: How much conferencing of this sort could be
supported within one slot, along with the office use that OSIS
might make of it?   3e

  Quite feasible. New time-sharing scheduler employed in the
  Utility allows multiple terminals to operate simltaneously
  within one slot -- which would be necessary,   3e1

  Size of conference group?   3e2

    Sarah says that perhaps five people within any one

"conference cluster", and a total of perhaps 8 or 10
altogether. [Note: it is the total number that is
significant here.]   3e2a

Size of OSIS-Office staff who might use the slot that they
contemplate buying for use by the staff of the Access
Improvement Program: 3e3

Four professionals in the program -- some question as to
whether or not the secretary could be induced to use the
system. Could possibily attract users from OSIS staff not
in the Program. About 9 to 12 other possibles in this
category.   3e3a

Should be no trouble doing a reasonable amount of dialogue,
such as could be expected from this small a
distributed-participant group, sharing with this relatively
small office-user group at OSIS. This refers to computer
capacity -- the training problem may strain the one-slot
training-service allotment, if there are ten scattered people
who have to be trained. This would be a question for our
Applications staff to negotiate with the OSIS buyer.   3e4

A question they have (Sarah and Harold B): If they were
sponsoring a telconference, e.g. among a grantee-contractor group,
could ARC propose a complete support package -- to include Utility
service, communication links, and the necessary terminal hardwre,
together (I assume) with the necessary specialized training
services?   3f

Possible unsolicited proposal by me (DCE) to OSIS, for supporting
work I want to do toward designing or planning AKW community growth
in ways that have a lot of common relevance with the OSIS Program.   4

Sarah says that they would be interested in getting such a
proposal, but points out that their FY76 funds are essentially all
committed, so that we'd be considering FY77 money, beginning next
July -- but it isn't too soon to get a preliminary thinkpiece in
to them this Fall.   4a

Miscellaneous: Leverage toward common ends by de facto cooperation
with other agencies: 5

Sarah pointed out that OSIS launched the "chem-registry" program
that grew quite large, and that several million dollars were
contribted by each DOD and NIH into the OSIS Program funding. So
there is a history of that rather direct kind of cooperation.   5a

[There is currently a contract out to someone, whose name I

didn't get, to produce a history of the OSIS activities in NSF.
It won't be done for a year yet, but would be interesting to see.]   5b

   We discussed the nature of some of the indirect, de facto types
of cooperation, where outside parties, via unsolicited proposals,
sell development/analysis/experiments to a number of agencies
without explicit, formal statements about inter-agency cooperation
(although assumedly being quite open about all arrangements), to
the end effect of making significant cooperative use of the
respective contracts towards mutually valued ends. This is the
kind of thing whose formulation and planning I'd like to get some
explicit support to do. (See mention above of unsolicited
proposal from me to OSIS.)   5c

4

33312 Distribution

N. Dean Meyer, James E. (Jim) White, Douglas C. Engelbart, Martin E.
Hardy, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman, James C.
Norton, Jeffrey C. Peters, Dirk H. Van Nouhuys, Kenneth E. (Ken)
Victor, Richard W. Watson, Don I. Andrews, James H. Bair, David R.
Brown, Glenn A. Sherwood, N. Dean Meyer, Kathey L. Mabrey, Norman R.
Nielsen, Thomas L. Humphrey, Robert Louis Belleville, Elizabeth K.
Michael, Richard W. Watson, James C. Norton, Robert N. Lieberman, Pat
Whiting O'Keefe, Douglas C. Engelbart, Dirk H. Van Nouhuys,
Robert N. Lieberman, Jeanne M. Leavitt, Mary Ann Kellan, Buddie J.
Pine, Andy Poggio, David L. Retz, Laura J. Metzger, Karolyn J.
Martin, Jan A. Cornish, Larry L. Garlick, Priscilla A. Wold, Pamela
K. Allen, Delorse M. Brooks, Beverly Boli, Rita Hysmith, Log
Augmentation, Joseph L. Ehardt, Raymond R. Panko, Susan Gail Roetter,
Robert Louis Belleville, Rene C. Ochoa, Ann Weinberg, Joan Hamilton,
Adrian C. McGinnis, Robert S. Ratner, David S. Maynard, Robert N.
Lieberman, Sandy L. Johnson, James H. Bair, Jeanne M. Leavitt, Rodney
A. Bondurant, Jeanne M. Beck, Marcia L. Keeney, Elizabeth K. Michael,
Jonathan B. Postel, Elizabeth J. Feinler, Kirk E. Kelley

Notes re NSA activities with NLS, L10, Utility slot, internal
application, etc

To clear up some of the recent communication puzzlers as reported by
RWW and CHI. Action called for by JCN.

Notes re NSA activities with NLS, L10, Utility slot, internal
application, etc

I just called Mil Jernigan (at her home) to try to untangle the
communications problem that seems to exist twixt and between them and
us -- cf their call to RWW last week, and to CHI today.   1

The people who called were: 2

   Mil Jernigan (MEJ) -- chief local advisor on NLS and ARC, having
   quite a bit to do with the NICE and NMF (see below).   2a

   Nancy Marks (NKM) -- a new Computer-Science type, assigned to the
   NMF to understand what is necessary about NLS source code, to be
   their operational specialist at their end of the NLS maintenance
   arrangement with us. Probably also to help with special
   application-program developments.   2b

      Nancy reports to the NMF manager, a person named John Roach(?).   2b1

   Roy Queen (RWQ) -- software background, more into coordination
   and applicationsnow, slated to particpate in applications
   development with NLS/L10, assigned in the NICE group. He and
   Nancy work a lot together these days at Office-1 terminal, as
   exploration and learning buddies on NLS and L10.   2c

   Jack Gillikin -- Software guy assigned to NICE (didn't hear much
   about him, maybe he is mngr rather than software??)   2d

First off, these above people are organizationally separated from
the people responsible for setting up their network and installing
their internal, NLS-equipped TENEX. This latter group is headed by
Tom Hassing. Keith McCloghrie, who reports to Hassing, has been in
contact with us, and he and JCN have a pending contract under
development for our Applications people to install and maintain NLS
on their TENEX -- same basic sort of deal as with ISI/ARPA for ISIC.   3

   Mil says that none of the calling group was aware of these
   pending arrangements under way with McCloghrie. Also, she wasn't
   aware of how we are dividing the development and application
   responsibilities here.   3a

   Also, the situation is complicated there, relative to their
   communications via their O-1 slot because apparently their
   designated architect, Terry Proch, has not become at all involved
   with the network(s), nor with NLS; and the guy that negotiated the
   slot is from a research group in still a third organizational
   area.   3b

   The basic communication problem of this past week stems from
   these four people not approching us through one of the two

Notes re NSA activities with NLS, L10, Utility slot, internal
application, etc

existing channels -- the Utility-slot buyer/architect, or the
special NLS installation-maintenance contractor,   3c

The situation there, from Mil's perspective: 4

Many user groups and systems will be involved in their Net (a
direct duplicate of ARPANET technology),   4a

There will be a TENEX installed on the Net in late October --
apparently relatively small core, It's use is to be restricted to
support Network Management, and the system is called the Network
Management Facility (NMF), Apparently the main application system
so far slated to be installed is NLS,   4b

Mil implied that there will be hordes of general network
users, and that access to the NMF really is going to be
restricted to special, authorized usage,   4b1

The heaviest user of NMF and NLS so far lined up is the NICE
(Network Information CEnter) -- modelled to a fair extent after
NIC, but aimed to offer more extensive services, if all goes well, 4c

They are alreay planning to develop management support tools on
the NMF -- I gather that special application of NLS is strongly in
that picture, Also gather that it is technical project type of
management, like with PERT and CPM, Apparently this is what Nancy
Marks would be involved in (?),   4d

Second issue -- they have real needs, and according to Mil are
willing to pay for the help they need, They don't know what support
they are entitled to under their 0-1 slot subscription, and would
like to have that cleared up for them, This seems to be more a
matter of their not knowing in house who are the various,responsible
parties for dealing with our Utility about such matters -- seems
indicated for our Utility people to contact the buyer, clear up the
responsibility issue, and deal with the responsible party about how
they'd like to use their slot-ration of training (NLS or L10),   5

Third issue -- architect, and active, interested parties: Mil says
that she seems to be the closest one there to having the interest and
de facto role of architect, Jesse Hill maintains interest, and some
activity, Keith McCloghrie and Tom Hassing are quite intersted, and
supportive,   6

Notes re NSA activities with NLS, L10, Utility slot, internal
application, etc

(J33313) 22-AUG-75 19:34;;;;   Title: Author(s): Douglas C,
Engelbart/DCE; Distribution: /JCN([ACTION]) RWW([INFO-ONLY])
CHI([INFO-ONLY]) JDH([INFO-ONLY]) JBP([INFO-ONLY]) KJM([
INFO-ONLY]) RLL([INFO-ONLY]) BJP([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: DCE;

33313 Distribution
   James C. Norton, Richard W. Watson, Charles H. Irby, J. D. Hopper,
   Jonathan B. Postel, Karolyn J. Martin, Robert N. Lieberman, Buddie J.
   Pine,

this is test message for the NLS videotape demonstration,

Please let me know when you've received this message.   (Let's discuss
?)

this is test message for the NLS videotape demonstration.

This Is A Test For The Demonstration Videotape (For Whoever Might Be
Interested) Of Nls.   1

   This statement looks a little better.   1a

this is test message for the NLS videotape demonstration,

(J33314)   23-AUG-75 12:47;;;;   Title: Author(s): Michael T.
Bedford/MIKE; Distribution: /LHD([ACTION]) IMM([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: MIKE;

33314 Distribution
  Lawrence H. Day, Inez M. Mattiuz,

test message , I guess......for the videotape

THIS IS THE SECOND STATEMENT IN THE FILE, BUT IT APPEARS AS NUMBER
ONE.   1

   THIS SHOULD BE A SUBSTATEMENT OF STATEMENT 2.   1a

      THIS IS A TEST MESSAGE FOR THE VIDEO TAPE DEMONSTRATION.   1a1

test message , I guess......for the videotape

(J33315)   24-AUG-75 09:37;;;;   Title: Author(s): Michael T,
Bedford/MIKE; Distribution: /LHD([ACTION]) IMM([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: MIKE;

33315 Distribution
    Lawrence H. Day, Inez M, Mattiuz,

A Tracing Pad for GNLS-Requirement and design.

Introduction: 1

   The purpose of this note is to describe a suggested new piece of
   standard workstation equipment for use with the new Graphics NLS
   Editor. This note will describe the need for this new device, and
   a general overview of how it could be constructed. A second note
   will give more detailed specifications and construction diagrams.   1a

Background: 2

   The need for the MOUSE-TRAP grows from an understanding of the
   anticipated scenarios for application of the GNLS system within
   the Air Force Data Systems Design Center, in support of standard
   USAF documentation and other documents which the Center produces
   which require graphics imbedded within textual material. In a
   nutshell, all current scenarios involve documentors within the
   various AFDSDC offices feeding hand drawn sketches, marked up
   printed sketches, and other hardcopy to one (or at most a few)
   centralized Graphics Specialist(s) who will be responsible for
   translating the authors' rough sketches into new or changed online
   diagrams.   2a

   It is quite likely that this will also be the normal mode of
   operation at nearly every location where the Graphics facilities
   this system will offer would be utilized. The arguments for such a
   view of the world are primarily economic: 2b

      1) The graphics station is quite expensive to procure in the
      first place. The lineprocessor,textronix4014,and alpha terminal
      costs close to $15,000 plus another $5000 for hardcopy, plus
      modems (which almost have to be 4800 baud). Thus, to plant such
      a unit on the floor could easily cost upwards of $25,000.   2b1

      2) The graphics station will be expensive to use. Although no
      figures are available at this point, it is probably safe to
      assume that it will require considerable computer power to
      support graphics editing. Thus it is desirable to get maximum
      benefit from this resource by having the diagrams or changes
      desired at least sketched out before entering the system,
      instead of having the operator push and poke until he hits on a
      reasonable layout.   2b2

      3) Using the station will require a considerable amount of
      training, and using it well will require an even more
      considerable amount of experience. Even more than with other
      online systems (such as DNLS) it will be highly attractive from
      a productivity point of view to have a few specialists who use
      the system almost continuously, rather than having a lot of

A Tracing Pad for GNLS-Requirement and design,

> Harry Hammhand's who each never use the system more than enough
> to be a menace to themselves and others,   2b3

Given these kinds of investment, operations, and training costs,
the only way to realize the (potentially massive) savings in
effort, time, and cost from using this system is to be sure it is
fully and well utilized,   2c

The Graphic Information Space   3

The GNLS/graphics information space is significantly different in
its nature and requirements from the DNLS/text environment, Text
is by its very nature a one-dimensional entity, Thus, within DNLS,
the second dimension can be used to represent logical structure of
the contained information, allowing more rapid perusal and
location of a string of interest, However, it must always be noted
that this string remains invariant in its basic essence (that of a
sequential, one dimensional representation of information) over
any transformations of its position on the two dimensional
display,   3a

Graphical information, on the other hand, is a true
two-dimensional representation of information, where changes in x
or y scales or positions (without correspronding proportional
changes in the other dimension) alter the basic information
content, To retrieve logical level information such as is done in
DNLS, it is necessary to ZOOM in for a 'closer' look at the finer
details, Thus if DNLS is said to be a two dimensional information
space, GNLS must be considered three dimensional,   3b

Given this criticality of maintaining spatial relationships in
GNLS, I would suggest that the mouse is a very poor tool for
trying to allow one user to map the graphical information of
another into an on-line information space, The difficulty comes in
the fact that there is no effective way to fix the mouse in the
same physical coordinate system as the diagram to be entered for
the duration of the entry process, Thus, the mapping process
involves a series of "I think it should go about there" decisions
on the part of the operator,   3c

Such decisions are not unreasonable if we consider a scenario in
which the operator is mapping his own information representating
HIS mental picture into a computerized representation, On the
other hand, in our "most common" scenarios, this is clearly not
the case, A different person, the author, has already performed
this mapping when he sketched the way he wants the information to
appear, In these scenarios, to use the mouse, the terminal
operator must them map the authors conception, as already

graphically expressed (in the sketch), into the operators own
mental picture, and then back out again as a computerized display.   3d

The potential for loosing, modifying, or adding spurious
information in such a process are clearly excessive. Furthermore,
the time and 'push-and-poke'ing necessary for the operator to go
through all these steps, and then to modify the display of his
conception of what the author wanted into something approaching
the authors representation of what he wants will clearly be costly
and reduce productivity. All this is due to the simple fact that
there is now no effective way to rapidly and easily map the
authors hardcopy into an NLS Graphics file without filtering it
through the operator.   3e

The MOUSE-TRAP   4

The solution to such a dilema has been well known for years,
it involves a method of fixing both the hardcopy information and
the position sensor element of the computer in the same x/y
coordinate space, and then letting the operator (or in the more
advanced case, the computer system itself) trace the original.
Such devices are commonly refered to as reverse plotters, tablets,
or other rather discriptive names, and tend to be quite
sophisticated and thus costly.   4a

However, it should be noted that most of this cost and
sophistication is involved in fancy, high resolution systems for
determining the position of the stylus, and in translating this
position into a machine readable (ie. digital) form. Such a
determination and translation process is exactly what the line
processor currently performs with the aid of the mouse. Thus the
only remaining requirement which must be met is to firmly
co-locate and fix the two coordinate systems.   4b

To do this with the Mouse to the Line Processor as it now exists
would be a mechanical nightmare. Thus it seems a better solution
to start from scratch and build a tablet which will look
electronically like a Mouse, but will allow the coordinate system
fixing of a traditional computerized tablet. As previously
mentioned, we are esentially 75% of the way there, in that the
lineprocessor already contains the basic hardware and software
system to convert potentiometer produced voltages into x/y
positions. What is therefore required is to set up a mechanical
envronment which can provide the reference frame and pick off the
voltages. I fee (assuming the lineprocessor, not the mouse
containsthe A/D conversion), a prototype of such a system could be
built for well under $100, and would like to either do so myself
or have SRI do so within the scope of their NSW/Graphics efforts.   4c

A Tracing Pad for GNLS-Requirement and design.

The components of the device will be: 4d

An 8 1/2 x 11 inch hardcopy area enclosing a 6 1/2 x 9 inch
diagram area (proportional to the workspace on the display, and
the same size as the hardcopy the system produces.) Printed
layout forms conforming to these specifications will be
designed and distributed for use by the authors. The hardcopy
sketch will be firmly anchored by clips on a non skid surface
in the work area.   4d1

An X/Y positioning system composed of a moving transparent
plastic arm vertically across the work area, on which slides a
pointer assembly with a CA (Bug) button. The unit will strongly
resemble a marriage between a T-square and a slide rule.   4d2

Two potentiomenters, one for horizontal and one for vertical
position sensing.   4d3

A cable linkage between the pointer and the vertical pot. A
cable linkage between the arm and the horixzntal pot, The
latter linkage will also serve to maintain the "squareness" of
the arm.   4d4

A socket into which the mouse cable will plug. a cable and plug
to the lineprocessor.   4d5

A control panel with BS,CD, and CA buttons, and a switch to
select analog position voltages either from the MOUSE or from
the TRAP for use as input to the LP. (Since the contacts are of
the Normally Open variety, corresponding buttons on the Mouse
can simply be wire "OR"ed and sent directly into the LP. Note
that the TRAP contains two CA buttons, one on the switch and
one on the pointer assembly.)   4d6

(I am still debating the possibility of putting all three buttons
on the pointer unit, but suspect to do so would clutter it badly.
Micro switches are a posibility, but i dont think there would be
enough "Feel". In the other hand, i think the trap should be a
normally one handed (right- leaving the left on the keyset)
operation. I guess the choice depends on whether the BS and CD are
"abnormal" enough to allow their removal from the pointer unit
propper.
(Question to SRI: does the DNLS user normally use the index(first)
finger or the ring(third) finger to bug   4e

A key point that should be recognized is that this device need not
be a very high resolution unit. It's purpose is to allow a human
operator to rapidly and easily enter a diagram with the proper
position and scale of its components, by bugging key points

4

A Tracing Pad for GNLS-Requirement and design.

(corners of rectangles, end points of lines, etc). After the basic
diagram is in, the operator will then use the normal mouse/keset
to add the text and make any final fine adjustments in position or
scale required to finish the task.   4f

A rough design of such a unit will be soon available at ISIC
in a GNLS file. In the meantime, I welcome suggestions/comments,
and would especially appreciate it if SRI could provide me with
Engineering specifications of the current Mouse, including the
electrical diagrams, specs, and pot values.   4g

A Tracing Pad for GNLS-Requirement and design.

(J33316) 24-AUG-75 09:56;;;;   Title: Author(s): Lawrence A.
Crain/LAC; Distribution: /RLB2([ACTION]) POOH([ACTION]) EKM([
ACTION]) MEH([ACTION]) RWW([ACTION]) JCN([ACTION]) WEC([
ACTION]) MAW([ACTION]) AAB([ACTION]) EFF([ACTION]) DPCS([
INFO-ONLY]) KWAC([INFO-ONLY]) ; Sub-Collections: NIC DPCS KWAC;
Clerk: LAC;

33316 Distribution
Kathey L. Mabrey, Jeanne M. Beck, David A. Potter, Robert N.
Lieberman, Terry H. Proch, Ronald P. Uhlig, Susan Gail Roetter,
Michael A. Placko, Stanley M. (Stan) Taylor, Elizabeth J. Feinler,
Rudy L. Ruggles, Frank G. Brignoli, Robert M. Sheppard, Richard W.
Watson, Douglas C. Engelbart, James C. Norton, James H. Bair, Duane
L. Stone, Inez M. Mattiuz, Connie K. McLindon,
Robert Louis Belleville, Ann Weinberg, Elizabeth K. Michael, Martin
E. Hardy, Richard W. Watson, James C. Norton, William E. Carlson,
Mike A. Wingfield, Anthony A.L. Baggiano, Elizabeth F. Finney,
Delorse M. Brooks, Elizabeth F. Finney, Beverly Boli, Joseph L.
Ehardt, James H. Bair, Robert N. Lieberman, Pat Whiting O'Keefe,
James H. Bair, Robert Louis Belleville, Ann Weinberg, Thomas L.
Humphrey, Jeanne M. Leavitt, Kirk E. Kelley, Duane L. Stone,
Elizabeth J. Feinler, N. Dean Meyer, Dirk H. Van Nouhuys, Douglas C.
Engelbart, James C. Norton, Richard W. Watson, Charles H. Irby,
Elizabeth F. Finney, Lawrence A. Crain, E. S. VonGehren, Glenn A.
Sherwood

1

Memo, re videotape demo,

Larrry, this is a demonstration of NLS for inclusion in the videotape
we are preparing,   1

Memo, re videotape demo,

(J33317)   24-AUG-75 10:22;;;;   Title: Author(s): Michael T,
Bedford/MIKE; Distribution: /IMM([INFO-ONLY]) ; Sub-Collections:
NIC; Clerk: MIKE;

33317 Distribution
    Inez M. Mattiuz,

Request for new directories and changes

Also coming as netmail item

Request for new directories and changes

Reference netmail items from Jeff on 22 aug, (Journal,33298,), and
telephone conversations with Ann,   1

Ann suggested that it would be best if Maj Hearn and Lynne Sims had
their prime accounts at Office-1 because: 2

    that is where most of the DSDC users reside   2a

    The systems in that machine are more stable than at ISIC   2b

    there is apparently no working journal delivery at ISIC yet,   2c

It appears I will require an account at ISIC to access NSW and NLS
systems under development, We also need an account there to backup
SRI-AI for netboot in our ELF, Lynne should also have an account
there to be able to get at new NLS stuff before it goes to general
release, Finally, we need filespace for working on AFM files with new
NLS stuff, so we can get them out of Susan and Ann's directories,   3

There are a few accounts at Office-1 which we are not fully
utilizing, I would like to redistribute some of the space allocated
to these accounts to people who have a more pressing requirement,   4

Therefore, would you please arrange for the following: 5

    [Office-1]<crain> reduce to 50 pages, (I will maintain a small
    account at Office-1 for mail and user assistace, but will move
    most of my work to ISIC)   5a

    [O-1]<AFDSDC> delete- files go to <SIMS>   5b

    [O-1]<DSDC-SC> increase to 400 pages   5c

    [O1]<DSDC-SYO>delete -files to <HEARN>   5d

    [O1]<DSDC-SYD> reduce to 100 pages   5e

    [O1]<HEARN> New account, 100 pages   5f

        An IDENT should be established for the Hearn account with the
        following information:
            Name-Hearn, Kenneth P,
            Organization-Gunter
            Groups-Gunter NSW
            Mail Address-
                Hard copy-Air Force Data Systems Design Center
                Simulation and Analysis Branch (SYOT)
                Bld 325
                Gunter AFS, Alabama 36114

Request for new directories and changes

                    Online-
                          User-Hearn   Host-Office-1
                    Network-
                          User-Hearn   Host-Office-1
              Phone-(205) 279-4222
              Function-NSW Project Management Officer
              Delivery-online,   5f1

   [01]<SIMS>New account, 400 pages   5g

      An IDENT should be established for the Sims account with the
      following information:
              Name Sims, Marilynne A,
              Organization-Gunter
              Groups-Gunter NSW KWAC DPCS
              Mail Address-
                    Hard copy-Air Force Data Systems Design Center
                    Simulation and Analysis Branch (SYOT)
                    Bld 325
                    Gunter AFS, Alabama 36114
                    Online-
                          User-Sims   Host-Office-1
                    Network-
                          User-Sims   Host-Office-1
              Phone-(205) 279-4444
              Function-NLS Architect
              Delivery-online,   5g1

   ****all ISIC accounts in NSW group***   5h

   [ISIC]<CRAIN> new account, 400 pages, Password LAC   5i

   [ISIC]<GUNTER> New account, 100 pages, Netwizzard, password AFS,
   ident-LAC   5j

   [ISIC]<SIMS> new account 100 pages   5k

   [ISIC]<AFM66-1> new FILES-ONLY account, 1500 pages, password
   COFFIN   5l

This item superceeds the referenced Journal item, Please arrange for
these changes as soon as possible, If there are any questions, please
contact Lynne Sims or me,   6

Request for new directories and changes

(J33318) 24-AUG-75 13:14;;;;   Title: Author(s): Lawrence A.
Crain/LAC; Distribution: /JCP([ACTION]) MLK([ACTION]) FEED([
INFO-ONLY]) POOH([INFO-ONLY]) SGR([INFO-ONLY]) EFF([
INFO-ONLY]) ; Sub-Collections: NIC; Obsoletes Document(s): 33298;
Clerk: LAC;   Origin: < CRAIN, MSG-ACCOUNTS.NLS;4, >, 24-AUG-75
13:09 LAC ;;;;####;

33318 Distribution
   Jeffrey C, Peters, Marcia L, Keeney, Special Jhb Feedback, Ann
   Weinberg, Susan Gail Roetter, Elizabeth F, Finney,

Who should get the monthly use statistics at AMC?

        Hi, Ron, I'm glad to see AMC online with its own slots, Should
we keep sending monthly use stats directly to you, or would you like
us to send copies to one of your subordinates?
                                              Ra3y   1

Who should get the monthly use statistics at AMC?

(J33319)   24-AUG-75 18:22;;;;   Title: Author(s): Raymond R,
Panko/RA3Y; Distribution: /RPU([ACTION]) PAW2([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk; RA3Y;

33319 Distribution
Ronald P, Uhlig, Priscilla A, Wold,

Journal demo

This is a demonstration for our viewers illustrating prompts of the
Interrogate command in the Sendmail subsystem   1

Journal demo

(J33320)   25-AUG-75 07:47;;;;   Title: Author(s): James H.
Kollen/JHK2; Distribution: /IMM([ACTION]) LHD([INFO-ONLY]) MTB(
[INFO-ONLY]) ; Sub-Collections: NIC; Clerk: JHK2;

33320 Distribution
    Inez M. Mattiuz, Lawrence H. Day, Marshall T. Buck,

CONCERN - FY76 FUNDS - PROJECT 5550

I tried sending thiss as a message the other day. Evidently, all off
the file was not transmitted.

CONCERN - FY76 FUNDS - PROJECT 5550

I am concerned about the rate at which it appears that funds can be
obligated and the adequacy of funding in 5550 to implement the FY76
planned program.   1

   1. As you can see in the status listing below, 506K is obligated
   and 362K of the committed will likely be obligated by 1 Sept.   1a

                          (TOTAL = $868K)   1b

   2. The PDs to ESD and SAMSO initiated and pre-initiated (650K)
   can be considered to be obligated. It is just a matter of a
   telecall to RADC/ACB from these organizations.   1c

                          (NEW TOTAL = $1518K)   1d

   3. Pre-initiated Data Manipulator and Mass Memory Organization
   Study (243K) are OIRs and should be obligated shortly.   1e

                          (NEW TOTAL = $1761K)   1f

                                                                               1g

   4. The three work shop Utility Service efforts (65K) initiated
   and pre-initiated; the NSW Computer Connection (110K) initiated -
   a contract add-on; and NLS Support of Modern Programming Practices
   and Language Control Study ($138K) can be obligated in September.   1h

                          (NEW TOTAL = $2,074K)   1i

   5. The initiated Work Manager Enhancement (forecasted obligation
   in Sept) and NSW GCOS connection and pre initiated NSW Front-end,
   Protocols, and Tools (574K) are cost-sharing committments with
   ARPA and slips in procurements do not change funds required.   1j

                          (NEW TOTAL = $2,648K)   1k

               *This brings us well over released $2,300K   1l

   6. The Workshop Utility Service (new contract for Office- Slots)
   and OA to Partrick AFB, (ARPA Net Command and Maintenance) (201K)
   are two firm obligations we will incur later on.   1m

                          (NEW TOTAL = $2,849K)   1n

The six items above as they are related to my two concerns are as
follows: 2

   A. Obligation Rate - The obligation rate for 1 thru 5 could
   exceed the released $2,300 before Congress acts. We will have to

                                   1

CONCERN - FY76 FUNDS - PROJECT 5550

request the release of additional funds from AFSC. I am not sure
of the procedures.   2a

B. Adequacy of Funding ($3,000K) - There is approximately an
additional $1,500 of efforts competing for the $151K!!!   2b

As you can see, some of the SOW dates have slipped and an analysis
and revisions are now being accomplished in ISI - but there is no way
we can slip the $1,500K program to arrive at a 150K program. I think
we need an additional 400K to 500K for the Project. I mentioned it
to Major Starbuck and he said that he doesn't think there was too
much hope that the funds could be reprogrammed. Our experience has
been that such reprogramming actions, if approved, usually don't
occur until April and such actions are unpredictable right up to the
day of the action.   3

    I suggest we reexamine funding Item 3 above in 5597 and getting
$200K reprogrammed into 5581 from other 6.2 projects for use in
funding the facility. The two efforts in item 6 could then be
transferred to 5581 and funded from the funs now programmed for the
facility. The net effect will be a surfacing of $444K in 5550 for
use on the $1,500K of additional efforts.   4

CONCERN - FY76 FUNDS - PROJECT 5550

THIS IS THE STATUS OF FY76 5550 PR'S AS OF 18 AUG 75.   5

CBLIGATED
----------   6
TRAVEL   2,222 (B63256) Panara   6a
AP Applications Study   87,400 (B63116) Klayton   6b
Assoc Proc Signal Proc Sty   69,311 (B63117) Summers   6c
Distributed Computation Study   22,860 (B63118) Lawrence   6d
Training- Structured Prog   5,250 (B63245) Mark   6e
Workshop Utility Service   82,185 (B63249) Stone   6f
Tools for Good Structures (CMU)   75,400 (B63250) White   6g
S/W Data Collection (Facility Design) 55,646 (B63251) Slavinski 6h
System Analysis Support   (SAI)   15,000 (B63252) Kennedy   6i
S/W Data Repository (Facility Design) 42,823 (B63253) Palaimo   6j
Software Reliability Study   49,500 (B63254) Cellini   6k

                      SUB-TOTAL   507,597   7

            COMMITTED
            ----------   8
TRAVEL   19,778 (B63256) Panara   8a
TDR's   3,000 (B63255) Panara   8b
STARAN System S/W Maintenance   42,000 (B63105) Vito   8c
Large Scale Info Sys (S.U.)   100,000 (B63133) Previte   8d
WWMCCS Program Sppt Library   200,000 (B63201) Ruple   8e
Synthesized Structured Prog   19,620 (B63246) Ives   8f

                      SUB-TOTAL   384,398   9

            INITIATED
            ----------   10
Workshop Util Svc - Terminals   45,000 (B53314) Stone   10a
NLS Sppt of Mod Prog Practices   65,862 (B53254) Cavano   10b
Lang Cont, Facility Design Study   72,000 (B53288) DiNitto   10c
NSW GCOS Connection   99,000 (B63223) Liuzzi   10d
Software CR&T (PD to ESD)   200,000 (B63226) White   10e
Works Manager Enhancements   325,000 (B63227) Rzepka   10f
V&V Aid Catalog (PD to SAMSO)   95,000 (B63229) Landes   10g
ADP System Security (PD to ESD)   280,000 (B63247) Panara   10h
NSW Computer Connection   110,000 (B63277) Wingfield 10i

                      SUB-TOTAL   1,291,862   11

CONCERN - FY76 FUNDS - PROJECT 5550

PRE-INITIATED

				12
Data Manipulator	149,981	(B63115)	Johnson	12a
Mass Memory Organization Study	92,715	(B63119)	Hofstra	12b
S/W Rel Meas Study (PD to SAMSO)	75,000	(B63248)	Robinson	12c
Design Code/Verification	61,530	(B63267)	Mark	12d
COBOL Statistics Collector	70,000	(B63281)	Stover	12e
JAVS Implementation	55,000	(B63282)	Robinson	12f
NSW Frontend, Protocols & Tools	150,000	(B63288)	Stone	12g
Workshop Utility Service - IBM Term	9,973	(B63289)	Stone	12h
Workshop Utility Service - IBM Slot	10,000	(B63290)	Stone	12i

SUB-TOTAL	674,199	13
PROGRAM-TOTAL	2,852,833	
OVERAGE	552,833	14
RELEASED-TOTAL	2,300,000	15
FYDP	3,000,000	16

CONCERN - FY76 FUNDS - PROJECT 5550

```
            NEED SOW &/or 77                                                   17
            -----------------
Available                                                                     17a
    AVS - J4                             45,000 (B6xxxx) Robinson             17a1
Overdue Expected 1 April                                                      17b
    RADC Multics Augmentation            95,000 (B6xxxx) Wingfield            17b1
Overdue Expected 1 June                                                       17c
    AVS J73 Design                       70,000 (B6xxxx) Robinson             17c1
    Interim Control of Languages         55,000 (B6xxxx) Motto               17c2
Overdue Expected 1 July                                                       17d
    Fortran - AVS/CDC7600                45,000 (B6xxxx) Robinson             17d1
    NSW Tool Conversions                 40,000 (B63243) LaMonica            17d2
    Improvements to SEMANOL               70,000 (B63204) Ives               17d3
Overdue Expected 1 August                                                     17e
    Automated Testcase Generator         70,000 (B6xxxx) Robinson             17e1
    Data Systems Design Ctr Prog Envir   50,000 (B63212) Sliwa               17e2
    Auto Code Generators for Computers   50,000 (B63208) DiNitto             17e3
    Improvements t JOCIT                170,000 (B63207) Motto               17e4
Overdue Expected 15 August                                                    17f
    Fortran - AVS/HIS6180                45,000 (B6xxxx) Robinson             17f1
Expected 1 Sept                                                               17g
    Workshop Utility Svc(New Contract)  133,000 (B6xxxx) Laforge             17g1
    JOCIT/J73                           150,000 (B5xxxx) DiNitto             17g2
    O.A. to Patrick - Comm & Maint       68,000 (B6xxxx) Lawrence            17g3
Expected 1 Oct                                                                17h
    SAMTEC Prog Environment             100,000 (B63210) Bergstrom           17h1
    PAVE PAWS Prog Environment          100,000 (B63211) Lombardo            17h2
    Data Services Center Prog Envir      50,000 (B63213) LaMonica            17h3
Expected 1 Nov                                                                17i
    JOVIAL/J3 Compiler for Multics       30,000 (B6xxxx) DiNitto             17i1
    Status and Reporting System          12,000 (B6xxxx) Palaimo             17i2
Expected 1 Dec                                                                17j
    Proc Const Prog for J3 & J73         20,000 (B6xxxx) Ruple               17j1
    S/W Data Repository Implementation   25,000 (B6xxxx) Palaimo             17j2
                                        ----------
                      SUB-TOTAL         1,493,000                             18


            PROPOSED NEW EFFORTS
            ----------------------                                            19
A. P. Fortran Compiler for DMA          30,000 (B63xxx) Reimann              19a
```

CONCERN - FY76 FUNDS - PROJECT 5550

(J33321) 25-AUG-75 08:51;;;; Title: (Expedite) Title: Author(s):
Roger B. Panara/RBP; Distribution: /RDK([ACTION]) FJT([ACTION])
ARB([ACTION]) FJH([ACTION]) DRL2([ACTION]) RN2([ACTION])
JLM([ACTION]) RJC([ACTION]) RBP([INFO-ONLY]) ;
Sub-Collections: RADC; Clerk: RBP; Origin: < PANARA,
FUNDS76,NLS;1, >, 25-AUG-75 08:44 RBP ;;;;####;

33321 Distribution
  Robert D. Krutz, Frank J. Tomaini, Alan R. Barnum, Francis J.
  Hilbing, Daniel R. Loreto, Richard Nelson, John L. McNamara, Roberta
  J. Carrier, Roger B. Panara,

Needs of Help

This responds to 26245

Needs of Help

I see the most important need for help as a way of
discriminating between sophisitcated and naive users. I have
suggested before that the user be able to set a parameter in User
Options saying she/he is at a given level of expertise. Then help
would show that user an appropriate version of the node in question.
I do not mean to keep users from sophisticated explanations. To this
end the parameter should be set by the user and we might add a
mechanism whereby the more sophisticated explanation always appeared
as a menu item under the less sophisticated version (and vise versa).   1

The largest cost would be in writing time. It would be possible
to estimate how long a writer would need to build a naive node, say
an hour, and then offer sponsors a price for demysitfying N 100 nodes
of Help.   2

I agree all the suggestions in (26245,) would be helpful. None
are as important in my mind as cutting help to fit the user's
sophistication.   3

Let us not forget the Map and Full views that were in the
original designs of help.   4

Before we do too much in the way of thinking about more
sophisticated search and tutorial functions, we should get in touch
with our friends working on Scholar at BBN and see if some
coordination is in order.   5

Needs of Help

(J33322) 25-AUG-75 10:09;;;;   Title: Author(s): Dirk H. Van
Nouhuys/DVN; Distribution: /DMB([ACTION] Dirt notebook please) DIRT(
[INFO-ONLY]) MCG([INFO-ONLY]) LEG([INFO-ONLY]) DHC([
INFO-ONLY]) DLS([INFO-ONLY]) ; Sub-Collections: SRI-ARC DIRT;
Clerk: DVN;

33322 Distribution

Delorse M. Brooks, Jonathan B. Postel, Priscilla A. Wold, Rita Hysmith, Pamela K. Allen, Delorse M. Brooks, Elizabeth F. Finney, Beverly Boli, Lawrence A. Crain, Kirk Sattley, Susan Gail Roetter, Robert N. Lieberman, Ann Weinberg, Kenneth E. (Ken) Victor, Douglas C. Engelbart, James H. Bair, Elizabeth K. Michael, Richard W. Watson, Elizabeth J. Feinler, Harvey G. Lehtman, Kirk E. Kelley, Laura E. Gould, Jeanne M. Beck, Dirk H. Van Nouhuys, James C. Norton, Mario C. Grignetti, Laura E. Gould, David H. Crocker, Duane L. Stone,

Helpful hint No. 5a - filtering; moves, transposes

Helpful hint No. 5a - filtering; moves, transposes   1

In response to my helpful hint No 5 - Filtered Deletes, (33205,) Jim
Norton popped up with a statement to the effect that, "It occurs to
me that in addition to using the logic in a delete mode, one can also
use it in move and copy modes in interesting ways.. agree? Who knows
what transpose would do?"   2

...So I figured why not try and see what happens. Starting with the
follwing: 3

Branch one level 1   4

   Branch one level 2   4a

     Branch one level 3   4a1

       Branch one level 4   4a1a

         Branch one level 5   4a1a1

           Branch one level 6   4a1a1a

Branch two level 1   5

   Branch two level 2   5a

     Branch two level 3   5a1

       Branch two level 4   5a1a

         Branch two level 5   5a1a1

           Branch two level 6   5a1a1a

Branch three level 1   6

   Branch three level 2   6a

     Branch three level 3   6a1

       Branch three level 4   6a1a

         Branch three level 5   6a1a1

           Branch three level 6   6a1a1a

I moved the branch "Branch two level 2" to follow "Branch one level

Helpful hint No. 5a - filtering; moves, transposes

1" invoked the filter with a control u, used the dbb viewspec and put
it at the same level. With the following result: 7

Branch one level 1   8

  Branch one level 2   8a

    Branch one level 3   8a1

      Branch one level 4   8a1a

        Branch one level 5   8a1a1

          Branch one level 6   8a1a1a

Branch two level 2   9

  Branch two level 3   9a

Branch two level 1   10

  Branch two level 4   10a

    Branch two level 5   10a1

      Branch two level 6   10a1a

Branch three level 1   11

  Branch three level 2   11a

    Branch three level 3   11a1

      Branch three level 4   11a1a

        Branch three level 5   11a1a1

          Branch three level 6 11a1a1a

This suggest all sorts of interesting capabilities. Next I decided
that you couldn't do anything great with copy that we do not already
do using the viewspecs. So I decided to try the transpose. The
effect of this is a little esoteric as yu can see. I transposed the
Branches at "Branch one level 1" and "Branch three level 2" used the
option and the filter dbbb. With the following result: 12

Branch three level 2   13

  Branch three level 3   13a

Helpful hint No. 5a - filtering; moves, transposes

As you can see the filter works starting from the margin as expected but unexpectedly the substructure, below that selected by the filter is LOST.   16

I can't think of any general use for this capability. Suggest you practice on these if you feel you have an interesting application. If you do don't keep it a secret.   17

Helpful hint No. 5a - filtering; moves, transposes

(J33323) 25-AUG-75 10:15;;;; Title: Author(s): Edmund J.
Kennedy/EJK; Distribution: /RADC([INFO-ONLY]) JHB([INFO-ONLY])
JCN([INFO-ONLY] See what you started!) ; Sub-Collections: RADC;
Clerk: EJK;

33323 Distribution
Rocco F. Iuorno, Thomas J. Bucciero, Roger B. Panara, John L.
McNamara, Joe P. Cavano, Duane L. Stone, Marcelle D. Petell, Thomas
F. Lawrence, James H. Bair, James C. Norton,
Wolf-Hasso Kaubisch, Kim Cynthia Carter, Samuel L. Ruple, Stephen P.
Sutkowski, Richard Calicchia, William W. Patterson, Francis J.
Hilbing, Robert K. Walker, Frank P. Sliwa, Joe F. Femia, Roger W.
Weber, Melville J. Draper, Robert D. Krutz, James W. Hyde, David T.
Craig, Fred N. Dimaggio, Robert E. Doane, Richard Nelson, William F.
Stinson, Daniel R. Loreto, John B. McLean, Murray L. Kesselman,
Edward F. LaForge, Agatha C. Deconde, Alan R. Barnum, Larry M.
Lombardo, Roberta J. Carrier, Richard H. Thayer, Frank J. Tomaini,
Mike A. Wingfield, Edmund J. Kennedy, Ray A. Liuzzi, Donald
VanAlstine, Deane F. Bergstrom, Frank S. LaMonica, William E. Rzepka

B. Concepts applicable to a given major software package (such as a compiler) can be generalized and extended for all major software packages.   5a2

II. SPECIFIC   5b

A. DATA MANAGEMENT SYSTEMS   5b1

(1) Develop Standards in association with users, i.e., Classify Data File features, as well as update, retrieval, communications, and security features against major sets of "user's" needs.   5b1a

(2) Data Security techniques must consider hardware features (console keys for instance), firm ware (microprogramming) and software (codes), as well as the consideration of the fact that the computer hardware/software system may be accessed by a non-secure communication channel. One idea suggested by the West Coast Study Group was to consider the Computer System (including its local and remote I/O channels and devices) as a "Communication System." In the Communications World, classified information is transmitted, stored, and forwarded in an encrypted mode. Why not "extend" this concept to a computer system?   5b1b

(3) Definition of requirements in an unambiguous way is claimed to be the single most significant roadblock in obtaining satisfactory, if not outstanding, computer resident data management software for Command & Control (note that this requirement is not independent of the need for Standards). It is felt that reasonably Standards and unambiguous statements of user needs would result in industrial provided data management capability at little or no cost to the USAF. To help the user better determine and identify his needs, a practical modeling facility should be developed, with emphasis in empirical solutions.   5b1c

(4) Testing Methods and Data Points.   5b1d

What has become obvious to all who have been involved in software development, production and costing, is that there is not enough controlled empirical data on which to base and reference cost estimates and performance. It seems that software cost estimates and schedules are based on so-called "folk lore hearsay." Accordingly, Test Scenarios must be developed against user needs and controlled tests run (with "real" data) on the RADC Data Management "Emulation" model. The objective being to "build" the reservoir of data points

2

on which to base the cost and time required to produce
software.   5b1e

(5) Ineffective Scheduling and the attendant High Cost of
Software Production has been identified as a major problem
area. Certainly better standards, unambiguous Requirements
and Empirical Test Data will contribute to the demise of
this roadblock; but it appears more can be done. Structured
Programming Techniques, Modular Design, Effective Selection
and Utilization of a HOL, and Documentation Standards are
techniques that should be pursued.   5b1f

B.   JOVIAL STANDARDIZATION   5b2

(1) Definition of Requirements, i.e., What is the Command &
Control requirement for an HOL? The West Coast Study Group
has identified this question as a question in dire need of
an answer. For instance, in a critical analysis of major
software produced at a particular Command & Control Center,
50% of all machine intructions are loads and stores (about
25% temporary); 25% are loop controls and housekeeping; and
25% are problem-solving. Similarly, it is generally
accepted that Military Problems lend themselves to matrix
algebra solutions and Command & Control problem solution
require great amount of bit manipulation. The study group
is of the opinion that an exhaustive list of military
problems, well-defined and justified, would contribute
significantly to the integrity of a Standard for a Command &
Control HOL. Accordingly, such surveys and analysis should
be initiated as soon as possible.   5b2a

(2) High Cost and Ineffective Scheduling of the production
of compilers has been identified as a "possible" problem. I
say "possible" because Dr. Boehm stated that such
declaration was based hearsay. It was recommended that
effort be expanded to collect statistics to prove or
disprove the "high" cost of compilers. Nevertheless, the
RADC program to develop JOCIT and SEMANOL in order to
maintain quality and reduce cost of JOVIAL compilers should
continue. In addition, it seems logical to build a Compiler
instrumented to collect statistics to evaluate Structured
Programming Concepts, Effectiveness of Compiler Validation
Schemes, and Language Standards.   5b2b

(3) Unreliable Software is another software problem
identified by the West Coast Study Group. It is of
particular significance to HOL and related compilers. As
"you" well know, Compiler Validators are a set of so-called
Bench mark programs. These Bench mark Programs are supposed

to "adequately" evaluate the sufficiency of a compiler; but do they? It is recognized that a 100% validation is practically impossible. Much discussion was held on trying to determine a practical level of validation.   5b2c

Firstly, it was concluded that there is a lack of data on which to base a conclusion. Accordingly, it is important that RADC's JOVIAL Validator be used extensively to collect data and that RADC develop a program for storage and analysis of such data. In addition, it was concluded that some things could be done to improve software, even though we are not sure how unreliable software really is. These things relate to an area called Structural programming. Dr. Goodenough of ESD refers to a MITRE that talks about eliminating the "Go To" statement. SIS Mitre study report as a Bibliographical Appendix, listing a number of studies relating to Structured programming. RADC should collect "all" the literature on Structured Programming and study it, followed by a planned controlled evaluation of te promising structured programming techniques. To do this, we may have to develop a "modular" compiler. Also, it is recommended that RADC pursue the John Hopkins' proposal but only in the area of Software Reliability and Software Validation.   5b2d

(4) Testing Methods Problem: As has already been suggested, the RADC JOVIAL Validation Program, collection of test data and its analysis, and Structured Programming all have bearing on the Testing Methods Problem. In addition, there is Rona Stillman's work in Theorem Proving through the use of an Associative Processor. The potential of this work toward the solution of the Software Validation Problem must be evaluated and plans developed accordingly.   5b2e

(5) The Transferability Problem has mostly to do with replacement and software validation. It comes as the result of replacing a computer with the intent or desire to run a significant percentage of the "old" software on the new machine. And it comes when a significant software package (such as a compiler) is to be purchased for a number of installations or one installation that is to generate machine instructions that that will "run" at a number of installations. Accordingly, the transferability problems associated with the JOVIAL compiler will diminish if SEMANOL and JOCIT are successful; and will further diminish with good standards and better testing and validation techniques; and all but disappear with microprogramming exploitation (emulation and the concept of a software factory).   5b2f

C. ASSOCIATIVE PROCESSOR EXPERIMENT   5b3

4

(1)   The need for an airborne command Post with a 40 MIPS
processing capability has been identified. Similarily, a 40
MIPS intelligence processing capability has been identified.
An integrated capability of up to 100 MIPS is desirable. As
you know, the RADC program is aimed at determining and
defining the role that associative processing, will "play"
is solving this high speed airborne command post processing
problem. It is worth repeating two overall important
objectives of this program: 5b3a

   (a)   Develop in-house expertise in all aspects of the
   program.   5b3a1

   (b)   Use "real" data and base conclusions on empirical
   results.   5b3a2

(2)   All of the Software problems identified by te West
Coast Study Group apply in spades to the system and job
software for an Associative Processor. Acordingly, it is
important that key individuals be assigned to the software
development for an Associative Processor. It is understood
NAD is extending a "JOVIAL-like" language for a Parallel
and/or Associative Processor. Are we familiar with this
effort?   5b3b

(3)   The RADC Associative Processor Evaluation Program is
not any less significant if it proves that a General Purpose
Associative Procesor is not cost effective. In fact, in
that case, RADC's role may be more important. The test bed
may be used to prove special purpose design necessary to
solve peculair-to-the-Air Force/Military problems.   5b3c

(4)   Hardware and Software instrumentation of the Test Bed
is a critical and essential feature.   5b3d

D.   AUGMENTED HUMAN INTELLECT   5b4

(1)   While not identified by the West Coast Study Group as a
solution to any particularly pressing problem area, it is
RADC management's feeling that eventually, the computer made
readily available to an individual and groups of individuals
as an aid in these day-to-day operations. AHI will be
absolutely necessary to the alternative of being buried in
one's own paper work.   5b4a

(2)   The ISIM-controlled experiment does not appear to have
progressed at the rate expected. For instance, the FY73
Program and FY72 Program paper work seems to be worse off
this year than last. Let's get going!   5b4b

5

FINDINGS OF THE WEST COAST STUDY GROUP

(3) Some things to be added to ISI's data base: 5b4c

(a) TN's, Development Directives, Program Management
Directives, TPO's, etc. This year's TPO briefing and
associated flow charts were a mess and the procedures for
their development must be straightened out in time for
next year. ISI management conceives the SRI/RADC effort
to be the solution and wants each section chief to
mainain a continuous update of the year's current and
planned program. Tom Bucciero is to be able to generate
"different" hard copy cuts on a moment's notice.   5b4c1

(b) Technical Library - Mr. Jim Cellini has initiated an
effort to accumulate and maintain a Technical Paper
reference library within the physical confines of ISI and
related to the major areas of effort (Languages, Data
Management, Architecture, and AHI). This library effort
should be augmented by the RADC/SRI effort. Jim Cellini
should participate. Some of the things to be outputted
are a periodic bibliography and a required reading list.
It is obvious that a required reading list will mean
section chief involvement.   5b4c2

III. AFTERTHOUGHTS: 5c

A. ISI management has been led to believe that there is a
basic deficiency in PL-1 that makes it unfit for structured
programming techniques. Is this true? If so, what impact does
this have on any plans ISI has for using PL-1.   5c1

B. The selection of Honeywell 6000 machines for worldwide
installations could impact on our plans. As a result, ISI
management would like some brain-storming on possible RADC
roles.   5c2

C. ISI personnel has a pretty good mix of academic backgrounds
in Information Sciences and related fields. I would like to
see some "formalized" technical brainstorming sessions. The
hope here is that this may result in some research efforts for
the near future.   5c3

IV. As a result of this paper, ISI management requests that each
section chief comment verbally on what he plans to do.   5d

S/Frank J Tomaini   copies to: J. McNamara, R. Nelson,
Col Lortz   6

FINDINGS OF THE WEST COAST STUDY GROUP

(J33324)   25-AUG-75 11:04;;;;   Title: Author(s): Frank J. Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;   Origin: < TOMAINI,
11-MEMO,NLS;3, >, 25-AUG-75 06:58 FJT ;;;;####;

REPLY TO ATTN OF: ISI/7507   13 Dec 72   1

SUBJECT: ISI Manpower   2

TO: Mr. Bethke   3

1. As you know, ISI has lost, for one reason or another, the
following personnel: 4

   1/2 *Lt Col Kortz (Masters)   4a

     O Dr. Rona Stillman   4b

     * Dr. Neil Stillman   4c

     *Dr. Casper DeFiore   4d

     *Mr. Donald Elefante (Masters)   4e

     *Capt Johnson (PhD)   4f

   * Losses to the Associative Processor Program   4g

   NOTE: (1) Because Capt (Maj) Patterson has moved to Branch, 1/2
of LtCol Kortz' loss is assigned to the AP Program.   4h

     (2) I agree, Capt Johnson was only on board a week before
he was "shipped out."   4i

O Key loss to Software Program.   5

2. Also, as you know, ISI has acquired the following personnel: 6

   Lt Michael Wingfield (PhD)   6a

   Dr. Ed Kennedy (PhD)   6b

   *Mr. Maris Sturans (Masters)   6c

   *Gains to AP Program   6d

3. Also, as you know, ISI has some expected probability of success
in acquiring the following personnel through hire or transfer: 7

   OMr. Fred Dion (Masters)   Transfer   7a

   Mr. William Jones (Masters)   Hire   7b

   *Capt Johnson (Phd)   Transfer   7c

*Mr. Don Mark (Bachelors)   Transfer   7d

OMr. Fred Dion would be a key re-gain to Software program.   7e

*Capt Johnson and Don Mark would be key re-gain to the
AP/Architecture Program.   7f

4. If all of the gains come to pass, ISI will achieve a net gain of
two and the AP Program a net loss of one and one-half. You might say
that's not so bad considering everybody else is losing! Also, you
might say that I should assign more of my gains to the AP Program at
the expense of AHI/MIS and Software! But before you say that:
Firstly, remember at this point in time I do not have Dion, Jones,
Johnson, or Mark; secondly, Dr, Kennedy was transferred to bolster
the AHI/MIS evaluation; thirdly, I believed the Software area
important and deficient of key research and development types even
before Dr. Rona Stillman left and, Accordingly, for balance I have
assigned Lt Wingfield and Slavinski to it (Lt Wingfield to Modeling
and evaluation of DMS and Slavinski to be "retreaded" to the Software
Validation and Reliability area). Accordingly, I feel Fred Dion is a
must for the Software Validation and Reliability area (if I ever get
him); fourthly, Mr. William Jones is limited physically (cannot
travel at all) and has a COBOL background which is immediately
applicable to our in house MIS efforts-- however, I admit (should I
be able to get him) he is an excellent candidate, in about a year,
for in-house Software Reliability and Validation efforts.   8

5. In summary, I am most hurting in the AP and Software Reliability
area. Capt Johnson, Mr. Mark and Mr. Dion could help no end, Right
now, Capt Johnson and Mr. Mark belong to ISF (I believe if ISF were
to give you a "Gains and Loss" summary for the past six months, they
would show a heavy plus). I could use them even if Capt Johnson came
with some responsibility to support the Comm Common Processor. In
addition, Mr. Dion has repeatedly questioned me on the possibility of
a transfer to ISI.   9

6. I know that the Division has been beset with high level
briefings and management problems and, accordingly, find it difficult
to address some of the things I have written here, but the AP Program
is critical--we must play catch-up. Col Thayer has done a fine job
in his briefings on Software - we are going to be tapped more and
more in this area. The Center MIS and RAC are "hot" and require more
support. Your consideration and efforts to obtain for ISI the
following personnel are urgent: 10

Mr. Fred Dion   10a

Mr. William Jones   10b

Capt Johnson   10c

Mr, Don Mark   10d

S/Frank J Tomaini   11

ISI MANPOWER

(J33325) 25-AUG-75 11:10;;;;   Title: Author(s): Frank J. Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;   Origin: < TOMAINI,
39-MEMO.NLS;2, >, 21-AUG-75 11:08 FJT ;;;;####;

Sample

This is a hopeless example of online blitheriing by a neophyte, sorr
y for the hacking.
                    Dan

1

Sample

(J33326)   25-AUG-75 11:28;;;;   Title: Author(s): Priscilla A,
Wold/PAW2; Distribution: /PAW2([INFO-ONLY]) DCL([INFO-ONLY])
SGR([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: GSG;

33326 Distribution
     Priscilla A. Wold, Dan C. Lynch, Susan Gail Roetter,

REPLY TO ATTN OF: ISI/7507   1

SUBJECT   RADC Support to MULTICS Implementation at Data Services   2

TO: Bill Bethka   3

1, Here is a list of Items (a subset of the Data Service's list)
that I believe we have made a "commitment" to support including the
kind of support, This does not mean that there is ESD agreement or
that we couldn't get out of our commitment: 4

   a, Security Software   4a

      (1) Definitions: Two-Level System to permit processing of Top
      Secret and Secret info   4a1

      (2) ESD responsible for MULTICS "Fixes." RADC and Facility
      responsible for Test and Evaluation   4a2

   d, Open Source Security   4b

      (1) Definition : Multi-Level Security   4b1

      (2) ESD and Panel (Glasser Committee) responsible for program
      deuinition (40 million and six yrs), Implementation is "open,"
      RADC and Facility responsible for Test and Evaluaion.   4b2

   g, Compilers   4c

      (1) Definition: Development of Compiler (Primarily COBOL)   4c1

      (2) HIS will develop compilers; RADC will evaluate,   4c2

   h, MULTICS Data Management System   4d

      (1) Definition: Provide "quick-fix" capability for OSD
      (Tucker) by fall of 1974--Initial Design and implementation
      capable of expansion to complete for Data Services,   4d1

      (2) RADC responsible for Quick-fix," Espansion is "open,"   4d2

   K & 1, Terminals   4e

      (1) Definition: Identification of off-shelf terminal
      development of interface software followed by extensive
      graphics capability   4e1

   m, Applications Software (Includes Facility planning)   4f

(1) Definition: Support for Initial Installation Design and
Implementation, plus continued consultation   4f1

(2) RADC and ESD   4f2

s/Frank J. Tomaini   4g

RADC Support to MULTICS Implementation at Data Services

(J33327)   25-AUG-75 11:30;;;;   Title: Author(s): Frank J. Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;   Origin: < TOMAINI,
41-MEMO,NLS;1, >, 22-AUG-75 10:14 FJT ;;;;####;

Routing and Transmittal Slip

ROUTING AND TRANSMITTAL SLIP   1

TO: Frank   2

REMARKS: This is a draft, uncirculated version. Please add, fill
in, or change whatever you please, and either call me or mail a
marked up copy in the next couple of days. Thanks, Ed.   3

FROM: AFDSC/XM   Pentagon, Wash DC   20330   4

DATE: 5/5/72   5

PHONE: 52810   6

                                                                      7

Memorandum for the Record   8

Subj: Trip Report - Multics Software Discussions at RADC, 2 - 3 May
1972   9

1. At the request of Col Mebane, Mr. Pieper and I arranged to visit
RADC as a part of his orientation in Multics. Since this trip
presented an oppourtunity to discuss software development plans, I
suggested to Maj Schell that his organization could meet with us at
RADC for that purpose. As a result, a series of meetings were held
there on 2 and 3 May 1972. Attending those meetings were: 10

Mr. Ray Pieper	AF/ACDC	5016	10a
Lt Col Edward J. Bell III	AFDSC/XM	52810	10b
Capt Wah Leong	AFDSC/EO	75594	10c
Capt Sidney Reed	AFDSC/SF	56161	10d
Lt Col Dennis Conrady	ESD/MCI		10e
Major Roger Schell	ESD/MCI		10f
			10g
Mr. Frank Tomaini	RADC/IS		10h
Mr. John McNamara	RADC/IS		10i
Mr. Rocco Iuorno	RADC/IS		10j
Mr. William Rzepka	RADC/IS		10k

Routing and Transmittal Slip

| Lt Col Thayer | RADC/IS | 101 |
| Lt Col Lee Kortz | RADC/IS | 10m |

2. The 13 software tasks listed in attachment 1 were reviewed with the purpose of defining them and making a suggestion as to which organization had interest in and resources to support the software effort. While no person at the meeting was in a position to commit his organization to supporting any effort, it was agreed that it would be a first step for the people at these meetings to recommend involvement where they felt it to be in order.   11

3. Four software efforts were indentified as being important to a joint, coordinated development effort. They are: 12

a. The separation of users based on whether they are processing Top Secret information or not.   12a

b. Providing the necessary data management techniques to meet the existing and near term requirements of OASD (Systems Analysis).   12b

c. Developing terminal interface modules for graphics equipment.   12c

d. Supporting the applications programming effort in the AFDSC that supports Multics users.   12d

4. The definition of each of these four projects, and the interest and resouces discussed are outlined here: 13

a. Separation of the Top Secret and Secret users is a problem of looking for obvious holes in Multics, and adding a fail-safe mechanism to cover any problems arising from systems failure. Since the design problem is fairly straight forward, ESD sees the problem as being an effort that will be wholly accomplished by Honeywell, who will deliver this software capability with the operating system.   13a

Relationships to file interchangeability, detachable segments, and other removable media are to be indentified and explained by the people working on each of those problems. The data management system development is so closely related to the security functions, that any data management effort must have, for that reason alone, a major interest in any security development.   13b

The AFDSC has proposed funding a development effort for this task. The Center plans to use a consultant to provide a statement of the scope of work, and to assist in developing a certification and testing program of the final product. We plan to use ESD resources to provide technical guidance to Honeywell, and RADC

resources, both to provide consultants and to provide necessary
Air Force owned equipment for testing and support,   13c

b, Part of the OASD (Systems Analysis) requirement involves a
restricted, but sophisticated, subset of data management
capabilities, Both ESD and RADC have well developed interests in
such activites, In the case of ESD, a major acquisition (the SAC
management information system) has given them and their available
contractor consultants experience in such acquisitions that they
feel can be exploited in this effort, RADC has been applying
in-house and contractor resources to the technology areas relavant
to data management applications, and is interested in transferring
to users the knowledge they have acquired,   13d

RADC is looking at a concept for data management applications that
is "tuned" to the Multics method of handling security of files and
data elements, They would like to conduct an in-house development
effort and subsequently use controlled outside help, During the
near-term, RADC needs an in-house data management capability, and
consequently regards participation in developing specific
applications as appropiate to their goals,   13e

c, The existing facilities for connecting graphics terminals to
Multics are awkwardly programmed, Unlike typewriter-like
terminals, which use tables of device characteristics that can be
changed easily, the graphics DM (device interface module) is
written to support only one terminal, Adage Corporation's ARDS
100, A development effort by Honeywell is needed before any other
graphics terminal can be used effectively with Multics, While
this is estimated to required around six man-monthly effort (by
Major Schell), it is not being done at this time,   13f

Both ESD and RADC have an interest in this effort, although the
immediate concern is on the part of RADC, where a Techtronic 4002
graphics terminal is being connected to Multics as part of the
OLPARS project,   13g

d, The support team for OASD (Systems Analysis) is to be manned
by the AFDSC, Both ESD and RADC have individuals who possess
skills and knowledge that can be made available to that team,
After the meetings, this area was discussed by phone, It was
agreed that obtaining support for applications programming should
exploit MULTICS capabilities for OASD (Systems Analysis) and the
entire AFDSC user community, Two major preliminary actions for
such support are: 13h

  (1) Contact points at each of the three organizations must be
  established, These contacts should be with personnel working
  in the areas related to the problems of interest,   13h1

3

Routing and Transmittal Slip

(2)   AFDSC personnel must define the problem in each case prior
to contacting RADC and ESD. The problem definition should be
forwarded to RADC and ESD for their action. With informal
communications established, it should be possible to have some
actions begun before formal statements are prepared for each
problem.   13h2

As a general approach, methods should be used to provide full
access to the user community by the individuals working on
problems in the various functional areas. A formal agreement
along these lines should be made that gives RADC and ESD the
kind of environment that permits them to use their resources
effectively in solving user problems associated with MULTICS.   13h3

5.   The contact points for each organization were discussed,
and tentatively identified as follows: 13h4

    RADC   13h4a

    Mr. John McNamara   Extension 3827   13h4b

    Mr. Louis Comito   13h4c

    Mr. Dick Metzher   13h4d

    b.   ESD   13h5

a.   13i

    (1)   13i1

    (2)   13i2

    (3)   13i3

b.   13j

    (1)   13j1

    (2)   13j2

    (3)   13j3

c.   13k

    (1)   13k1

    (2)   13k2

Routing and Transmittal Slip

(3)	13k3
(4)	13k4
d,	13l
(1)	13l1
e,	13m
(1)	13m1
(2)	13m2
(3)	13m3
f,	13n
(1)	13n1
(2)	13n2
(3)	13n3
g,	13o
(1)	13o1
(2)	13o2
(3)	13o3
(4)	13o4
(5)	13o5
(6)	13o6
(7)	13o7
(8)	13o8
(9)	13o9
(10)	13o10

Routing and Transmittal Slip

(J33328)   25-AUG-75 11:34;;;;   Title: Author(s): Frank J. Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;   Origin: < TOMAINI,
36-MEMO.NLS;1, >, 25-AUG-75 11:04 FJT ;;;;####;

Journal demo

This is a demonstration for our viewers illustrating prompts of the
Interrogate command in the Sendmail subsystem   1

Journal demo

(J33329)   25-AUG-75 12:18;;;;   Title: Author(s): James H,
Kollen/JHK2; Distribution: /IMM([ACTION]) LHD([INFO-ONLY]) MIKE(
[INFO-ONLY]) ; Sub-Collections: NIC; Clerk: JHK2;

33329 Distribution
Inez M. Mattiuz, Lawrence H. Day, Michael T. Bedford,

1

Follow-up to Naresky Meeting (DM-1 & Reliability Data Bank)

REPLY TO ATTN OF: ISI/7507   1

SUBJECT: Follow-up to Naresky Meeting (DM-1 & Reliability Data Bank)   2

TO: ISIM (John McNamara)   3

IS (Al Barnum)   4

1. We (ISI) heard a briefing last week (approx 18th Aug 71) on the
applicability of DM-1 to the the RC plans to bring the Reliability
Data Bank to RADC.   5

2. We learned that: 6

    a. There is an individual in RC that understands the reliability
    problem and DM-1.   6a

    b. There is a Reliability Data Bank working at the contractor's
    plant with a data base structured with SOPs already developed for
    update, quality control, and report generation.   6b

    c. Syracuse U. is interested in helping to accomplish the overall
    design of the transfer of the Reliability (Central) Data Bank from
    the contractor (where it is manually operated) to RADC for
    DM-1/635/645 implementation.   6c

    d. RC is willing to assign their knowledgeable individual to
    transfer design.   6d

    e. ISI is willing to get involved (extent to be determined).   6e

    f. Resources in the form of hardware, money for hardware, and for
    implementation of details of transfer not yet identified. (NOTE:
    Contractor personnel will be made available for the operation of
    the Reliability Central at RADC).   6f

3. Follow-Up required: 7

    a. ISIM to determine and suggest level of ISI involvement.   7a

    b. IS to determine and suggest level of ISF involvement.   7b

Frank J Tomaini/   8

Follow-up to Naresky Meeting (DM-1 & Reliability Data Bank)

(J33330) 25-AUG-75 13:37;;;; Title: Author(s): Frank J. Tomaini/FJT; Sub-Collections: RADC; Clerk: FJT; Origin: < LAFORGE, 42-MEMO.NLS;1, >, 21-AUG-75 08:09 ELF ;;;;####;

25 August Telecon

In accordance with your request for a more definite cost breakdown on
SRI Proposal number ISU 75-127 it will take a little morre time than
expected. We will get you the information as soon as possible.
Steve Miller   1

25 August Telecon

(J33331)   25-AUG-75 17:09;;;;   Title: Author(s): Reddy Dively/RED;
Distribution: /CF([ACTION]) ; Sub-Collections: NIC; Clerk: HEB;

33331 Distribution
    Craig Fields,

Did this make it?

Pam,
    Did I get it right this time? It sure is fun trying to ignore
the damn <cr> key for an old TENEX hacker, I will not press my luck
to far on this note,
                        Dan   1

Did this make it?

(J33333)   25-AUG-75 20:32;;;;   Title: Author(s): Dan C. Lynch/DCL;
Distribution: /DCL([ACTION]) PAW2([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: DCL;

33333 Distribution
    Dan C, Lynch, Priscilla A, Wold,

Oh Priscilla!!!

I will not do that again.
                    Dan   1

Oh Priscilla!!!

(J33334)   25-AUG-75 20:46;;;;   Title: Author(s): Dan C, Lynch/DCL;
Distribution: /PAW2([ACTION]) DCL([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: DCL;

33334 Distribution
    Priscilla A. Wold, Dan C. Lynch,

If I had remembered to use the,wold trick, then I would have been
able to get your name printed to me anddmy gaffe would have never
been committed. I must remember to use all the aids that I can, as
my memory fails me as i creep into my years.   1

(J33335)   25-AUG-75 20:50;;;;   Title: Author(s): Dan C. Lynch/DCL;
Sub-Collections: NIC; Clerk: DCL;

I wonder what the forst part meant?

dan

1

(J33336)   25-AUG-75 20:55;;;;   Title: Author(s): Dan C, Lynch/DCL;
Distribution: /PAW2([ACTION]) ; Sub-Collections: NIC; Clerk: DCL;

33336 Distribution
    Priscilla A, Wold,

We forgot scrolling!

<Hjournal, 26326,> lists essential and possible help needs. It is a
fairly complete list. We forgot scrolling. There was a start at the
need description for some of the items but not enough time for a full
development of the need or specs for all of the items. This should
be done as soon as possible.

We forgot scrolling!

One of the major complaints of help users is that there is no way to
read about a subject sequentially. The way the accessing system
works makes it practically impossible to learn about a topic by
simply reading what has been written without having to re-read things
and compute complicated back up algorithms in order to see the next
paragraph.   The lack of this capability has forced us to write
choppy fragmented paragraphs of information which are many times
cryptic and not easily converted into readable pages on paper. The
implementation of the verbose view as proposed at <hjournal, 26326,
1b3> would solve these problems for the typewriter user, but the
display user also needs a way to view the next screen full via a
scrolling mechanism of some kind.   After the verbose view in the
list of help needs, should be added "The ability to scroll".   1

We forgot scrolling!

(J33337)   25-AUG-75 21:13;;;;   Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /BEV([ACTION]) JBP([ACTION]) ARC-DEV([INFO-ONLY
]) ; Sub-Collections: SRI-ARC ARC-DEV; Clerk: KIRK;

33337 Distribution

Beverly Boli, Jonathan B. Postel, Mary Ann Kellan, Andy Poggio, David
L. Retz, Jan A. Cornish, Larry L. Garlick, Delorse M. Brooks, Beverly
Boli, James E. (Jim) White, Ann Weinberg, Kenneth E. (Ken) Victor,
Dirk H. Van Nouhuys, Jonathan B. Postel, Elizabeth K. Michael, David
S. Maynard, Karolyn J. Martin, Harvey G. Lehtman, Kirk E. Kelley,
Charles H. Irby, Joseph L. Ehardt, Robert Louis Belleville, Don I.
Andrews, Richard W. Watson, Douglas C. Engelbart,

I just read your "Draft of DDPCS Thinkpiece" document (33291,). Sure
looks good. Hope it gets the attention it deserves. I pparticularly
like the proposed Objectives and Method of Approach.
 Very small items: typos in (055,"1962") (058,"aides") -- I think?
(070,"11/20").   How about in (043) branch: person weeks? haha, Jim   1

(J33338) 26-AUG-75 06:56;;;;   Title: Author(s): James C, Norton/JCN;
Distribution: /PWO([ACTION]) DVN([ACTION]) ; Sub-Collections:
NIC; Clerk: JCN;

33338 Distribution
   Pat Whiting O'Keefe, Dirk H. Van Nouhuys,

SRI Proposal No. ISU 75-188

ARC Applications Support of NLS on the NSA TENEX Facility

Prepared for:

National Security Agency
Fort George G. Meade
Maryland 20755

Attn: Mr. Tom Hassing
      Mr. John Roach

Prepared by:

James C. Norton, Assistant Director
Augmentation Research Center

Approved:

Douglas C. Engelbart, Director
Augmentation Research Center

Bonnar Cox, Executive Director
Information Science and Engineering Division
Stanford Research Institute

SRI Proposal No, ISU 75-188
ARC Applications Support of NLS on the NSA TENEX Facility

This proposal was sent in Sept 75, It should serve as a model for
prviding help to client run computers running NLS, Rob (RLL)

SRI Proposal No. ISU 75-188
ARC Applications Support of NLS on the NSA TENEX Facility

INTRODUCTION   1

The Augmentation Research Center (ARC) at Stanford Research
Institute (SRI) has developed a general-purpose interactive
environment known as the "Augmented Knowledge Workshop" (AKW),
which currently utilizes the ARC NLS system and related
methodologies.   1a

In order to involve a significantly larger user community so as
to deliver the results of our research and to provide useful
feedback to our system developers, ARC has established the
Workshop Utility Service. The service includes computer service
(now provided through Office-1 operated for ARC by Tymshare, Inc.
and Office-2 being started with service provided by Bolt,
Beranek, and Newman (BBN)) and technical services (provided by
ARC Applications staff). The service is operated for subscribing
organizations under contract with SRI. We have gained
considerable experience with what is needed to provide this new
service during the past 19 months of operation of the Utility.
We have learned that stable service depends not only on the staff
operating the TENEX facility, but also on ARC staff maintaining
and updating the NLS software. In addition, user feedback
functions are essential, as are appropriately provided user
training, documentation, and applications assistance.   1b

  ARC is also supporting USC-ISI in the provision of NLS at the
  USC-ISI-C facility for use by the ARC Development staff and
  others under the Air Force- and ARPA-sponsored National
  Software Works program.   1b1

  As part of NSA's use of the ARPANET, NSA users are actively
  learning NLS and using it in their daily work under a one
  "slot" subscription at Office-1. In so doing, NSA users gain
  experience that can be applied to the further introduction of
  NLS when service becomes available on the NSA TENEX facility.
  We are assuming that participation in the AKW community
  through continued use of the Utility service will provide
  valuable experience for the NSA users who are involved in that
  interaction.   1b2

Additional needs for assistance from the ARC Applications staff
now arise, as NSA is about to begin operation of a PDP10 TENEX
facility that will provide NLS service to NSA users directly.   1c

PROPOSED PROJECT ACTIVITY   2

In order for NLS service to be provided in a solid,
well-maintained manner, certain services will have to be

SRI Proposal No, ISU 75-188
ARC Applications Support of NLS on the NSA TENEX Facility

furnished to NSA by the ARC Applications staff, Therefore, we
propose the following efforts: 2a

  1, Continued assistance to NSA in the specification of the
  proper computer facility configuration, the tuning of TENEX
  1,33 for NLS, and the transfer and loading of NLS and its
  files onto the NSA machine,   2a1

  2, Continued assistance in tuning TENEX and updating new
  releases as they may occur,   2a2

    Changes to the TENEX operating system must be carefully
    studied for possible effects on NLS, Also, we have been
    strong supporters and contributors to many TENEX updates,   2a2a

  3, Maintenance and updating of the NLS software as bugs are
  reported, and maintenance of the Journal software and the NLS
  file set,   2a3

    The Journal system requires continuing attention for its
    expanding identification, accession numbering, and delivery
    subsystems,   2a3a

  4, Assistance in the establishment of a FEEDBACK service, an
  essential part of smooth NLS service as we have seen at the
  computer facilities that run NLS (Office-1, BBNB, and ISIC),   2a4

    This service is vital for effective technology transfer and
    the further evolution of a developing system,   2a4a

ESTIMATED TIME AND CHARGES   3

  It is proposed that the work outlined herein be performed during
  a period of 12 months commencing 1 October 1975,   3a

  Pursuant to the provisions of ASPR 16-206,2, attached is a cost
  estimate and support schedules in lieu of the DD Form 633-4,   3b

CONTRACT FORM   4

  It is requested that any contract resulting from this proposal be
  awarded on a cost-plus-fixed fee basis,   4a

ACCEPTANCE PERIOD   5

  This proposal will remain in effect until 1 October 1975, If
  consideration of the proposal requires a longer period, the

Institute will be glad to consider a request for an extension of
time.   5a

SRI Proposal No. ISU 75-188
ARC Applications Support of NLS on the NSA TENEX Facility

COST ESTIMATE   6
                                                                    6a
                                                                    6a1
        Personnel Costs   6a1a
                                                                    6a1a1
                Supervision   185 hrs. at 12.12 $ 2,242   6a1a1a
                Professional 1458 hrs. at 8.03   11,708   6a1a1b
                Technical   370 hrs. at 4.96   1,835   6a1a1c
                Clerical   370 hrs. at 4.67   1,728   6a1a1d
                    Total Direct Labor $ 17,513   6a1a2
                    Payroll Burden @ 29.0 %   5,079   6a1a3
                    Total Labor and Burden   22,592   6a1a4
                    Overhead @ 110.0 %   24,851   6a1a5
                    Total Personnel Costs   47,443   6a1a6
                                                                    6a1a7
        Direct Costs
                                                                    6a1b
          Travel   6a1b1
            6 trips Wash @ $ 347 = $ 2,082   6a1b1a
            Auto Rental 6 days @ $15 =   90   6a1b1b
            Subsistence 6 days @ 42.50 =   255   6a1b1c
          Communications   500   6a1b2
            Total Direct Costs   2,927
                                                                    6a1b3
        Total Estimated Cost   50,370   6a1c
        Fixed Fee   4,030   6a1d
        Total Estimated Cost Plus Fixed Fee $ 54,400   6a1e
                                                                    6b
                                                                    6b1
                                                                    6b1a

SRI Proposal No. ISU 75-188
ARC Applications Support of NLS on the NSA TENEX Facility

SCHEDULES   7
SCHEDULE A
DIRECT LABOR

Direct labor charges are based on the actual salaries for
the staff members contemplated for the project work plus a
judgmental factor applied to base salary for merit
increases during the contract period of performance.
Frequency of salary reviews and level of merit increases
are in accordance with the Institute's Salary and Wage
Payment Policy as published in Topic No. 505 of the SRI
Administration Manual and as approved by the Defense
Contract Administration Services Region.

SCHEDULE B
OVERHEAD AND PAYROLL BURDEN

These rates have been found acceptable by the Department of
Defense for bidding and billing purposes for the year
1975. We request that these rates not be specifically
included in the contract, but rather that the contract
provide for reimbursement at billing rates acceptable to
the Contracting Officer, subject to retroactive adjustment
to fixed rates negotiated on the basis of historical cost
data. Included in payroll burden are such costs as
vacation, holiday and sick leave pay, social security
taxes, and contributions to employee benefit plans.

SCHEDULE C
TRAVEL COSTS

Air fares and car rental rates are established in the
current Official Airline Guide.
Domestic subsistence rates and travel by private auto are
established standards based on cost data submitted to DCAA.

SRI Proposal No. ISU 75-188
ARC Applications Support of NLS on the NSA TENEX Facility

(J33339) 29-SEP-75 16:56;;;; Title: Author(s): James C. Norton/JCN;
Sub-Collections: NIC; Clerk: RLL; Origin: < LIEBERMAN,
NSA.NLS;2, >, 23-SEP-75 17:33 RLL ;;;;
####;

title

Iwonder where this shows up?

title

Does this come in at the end?   1

title

(J33340)   26-AUG-75 10:28;;;;   Title: Author(s): Dan C. Lynch/DCL;
Distribution: /DCL([INFO-ONLY]) GSG([INFO-ONLY]) PAW2([
INFO-ONLY]) ; Sub-Collections: NIC; Clerk: DCL;

33340 Distribution
    Dan C, Lynch, Geoffrey S, Goodfellow, Priscilla A, Wold,

Please Add Ra3y Panko to the Docplan Group

Marcia, Please do, His ident is Ra3y   1

Please Add Ra3y Panko to the Docplan Group

(J33341) 26-AUG-75 10:45;;;;   Title: Author(s): Dirk H, Van
Nouhuys/DVN; Distribution: /KLM([ACTION] docplan notebook please)
MLK([ACTION]) DOCPLAN([INFO-ONLY]) RA3Y([INFO-ONLY]) ;
Sub-Collections: SRI-ARC DOCPLAN; Clerk: DVN;

33341 Distribution

Kathey L. Mabrey, Marcia L. Keeney, James H. Bair, David R. Brown,
Glenn A. Sherwood, N. Dean Meyer, Kathey L. Mabrey, Norman R.
Nielsen, Thomas L. Humphrey, Robert Louis Belleville, Elizabeth K.
Michael, Richard W. Watson, James C. Norton, Robert N. Lieberman, Pat
Whiting O'Keefe, Douglas C. Engelbart, Dirk H. Van Nouhuys, Raymond
R. Panko,

Printing and the NLS-8 Command Summary

The NLS-8 Command Summary does not seem to include the Print command.
I suggest you also check to see if the Command summary leaves out
other TNLS features. Thanks Sandy.   1

Printing and the NLS-8 Command Summary

(J33342)   26-AUG-75 10:49;;;;   Title: Author(s): Raymond R.
Panko/RA3Y; Distribution: /FEED([ACTION]) SRI-ARC([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: RA3Y;

33342 Distribution
James E. (Jim) White, Douglas C. Engelbart, Martin E. Hardy, J. D.
Hopper, Charles H. Irby, Harvey G. Lehtman, James C. Norton, Jeffrey
C. Peters, Dirk H. Van Nouhuys, Kenneth E. (Ken) Victor, Richard W.
Watson, Don I. Andrews,
Special Jhb Feedback, Mary Ann Kellan, Buddie J. Pine, Andy Poggio,
David L. Retz, Laura J. Metzger, Karolyn J. Martin, Jan A. Cornish,
Larry L. Garlick, Priscilla A. Wold, Pamela K. Allen, Delorse M.
Brooks, Beverly Boli, Rita Hysmith, Log Augmentation, Joseph L.
Ehardt, Raymond R. Panko, Susan Gail Roetter, Robert Louis
Belleville, Rene C. Ochoa, Ann Weinberg, Joan Hamilton, Adrian C.
McGinnis, Robert S. Ratner, David S. Maynard, Robert N. Lieberman,
Sandy L. Johnson, James H. Bair, Jeanne M. Leavitt, Rodney A.
Bondurant, Jeanne M. Beck, Marcia L. Keeney, Elizabeth K. Michael,
Jonathan B. Postel, Elizabeth J. Feinler, Kirk E. Kelley, N. Dean
Meyer

ATT Long Lines Demonstration September 29th   1

   John Heyes of the ATT Long Lines organization called me recently
   to discuss the possibility of our giving a demonstration of
   DNLS/TNLS at the 1975 Long Lines President's Conference September
   29th in Pennsylvania.   1a

      His telephone number: (201) 885-2568   1a1

   John had been to Bell Canada in Montreal recently and was given a
   demo by Mike Bedford that really got their attention. They also
   talked with Larry Day. The approach to business planning Bell is
   taking is also of interest to them. John Heyes feels that ATT-LL
   should be doing the same kind of experimenting with new technology
   outside of the Bell Labs. At the present, he is considering buying
   NLS support for ATT staff from the Utility service, though he will
   need to know much more before he is sure they should. For the
   moment, he is VERY interested.   1b

      In addition to my demo, Larry Day will be bring a video tape
      Bell is making on the AKW and the service, slanted toward Bell
      Canada's use of the system.   1b1

   The purpose of the demonstration, then is to give John and his
   associates a closer look at the AKW and the Service, while gaining
   the attention of the appropriate people at ATT.   1c

   The conference will be attended by the President of ATT-LL, all of
   the VP's, and Directors   and who knows who else?   1d

   We have been using the 1200 baud Vadic modem at ARC with great
   success through a DAA installed here. In addition, we have tried
   dialing to NBS Tip, where NSRDC has one. That works fine, too.   1e

   John is having a DAA (1000A CDT-type with handset) installed at
   the conference center for the demo and will also have another
   phone for TNLS use available.   1f

   I plan to leave for the demo on Saturday, Sept 27th, set the
   equipment up Sunday and check it out, and give the demo from about
   5pm EST on into the evening. I will probably swing by Washington
   (ARPA, NSA, AMC?) on the way back.   1g

   Martin: Since I will be away until about Wednesday, Sept. 24th,
   you will need to make the arangements for shipping the display,
   etc to the Conference Center.   1h

      The address is: 1h1

ATT Long Lines Demonstration September 29th

ATT Long Lines President's Conference
Buck Hill Inn
Buck Hill Falls
Pennsylvania 18323

Phone: (717) 595-7441   1h2

John assures me that the people at the Conference Center will be
expecting the boxes and will have them ready for me to work with.
I don't think I will have any trouble setting up if I can get in
touch with you or Rod Sunday of that week. What do you think?   1i

Bonnie: I will need reservations to fly from SFO to Newwark, New
Jersey and a rental car reserved at Newark. I leave SF Saturday,
September 27th hopefully 10am or so. ATT has reserved a room for
me at the Center. I plan to leave the Conference Center by car to
the Newark airport Tuesday morning and would like a flight from
Newark to Washington National Tuesday noon. I'll use a cab in the
Washington area where I will be at ARPA with Connie McLindon late
Tuesday. Wednesday. I'll be needing reservations at the Marriott
Keybridge Tuesday night. I hope to fly back to SFO Wednesday from
Wash National about 630 or 7pm   one-stop (Chicago?) is ok. No
advance needed.   1j

So.... here we go again..let's hope they listen and watch. Jim   1k

ATT Long Lines Demonstration September 29th

(J33343) 26-AUG-75 13:16;;;; Title: Author(s): James C, Norton/JCN;
Distribution: /MEH([ACTION]) DCE([INFO-ONLY]) RWW([INFO-ONLY]
) JHB([INFO-ONLY]) RLL([INFO-ONLY]) SGR([INFO-ONLY]) BJP([
INFO-ONLY]) LHD([INFO-ONLY]) MIKE([INFO-ONLY]) RA3Y([
INFO-ONLY]) ; Sub-Collections: NIC; Clerk: JCN;

33343 Distribution
    Martin E. Hardy, Douglas C. Engelbart, Richard W. Watson, James H.
    Bair, Robert N. Lieberman, Susan Gail Roetter, Buddie J. Pine,
    Lawrence H. Day, Michael T. Bedford, Raymond R. Panko,