Request for Info on Status of Bugs Reported

(J23523) 3-JUL-74 16:57; Title: Author(s): Susan R. Lee/SRL;
Distribution: /CHI([ACTION]) JEW([ACTION]) EKM([ACTION])
HGL([ACTION]) KEV([ACTION]) JDH([ACTION]) WRF([ACTION])
DIA([ACTION]) RWW([INFO-ONLY]) ; Sub-Collections: SRI-ARC;
Clerk: SRL;   Origin: (FEEDBACK, NOTE,NLS;2,), 3-JUL-74 16:54
SRL ;####;

Request for Info on Status of Bugs Reported

As you probably know there is an accepted tasks branch in the FDBK
file in which bug reports are placed. This branch is getting rather
large so I thought I would ask each programmer to review his/her
section and let me know if any bugs listed are in fact: 1

   1, Fixed   1a

   2, Assigned to the wrong person   1b

   3, Not repeatable and therefore misclassified (really belong in
   the mystery bug section),   1c

   4, Or any other comment about a specific item which should be
   passed on to the user.   1d

Let me know in the way which is easiest for you,   2

To find items "accepted" by you look in (fdbk,7a:xb) for the branch
with your ident ,   3

Suggestions for the Questionmark Facility

(J23524) 3-JUL-74 17:53;   Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /FDBK([ACTION]) DIRT([ACTION]) ; Sub-Collections:
SRI-ARC DIRT; Clerk: JMB;   Origin: (BECK, QUESTIONMARK,NLS;5,),
3-JUL-74 17:48 JMB ;####;

Suggestions for the Questionmark Facility

wouldn't this be clearer and easy to change?

Suggestions for the Questionmark Facility

From observing beginning users try to learn NLS from the Help system
in conjunction with the Questionmark facility, I learned that the
responses to the Questionmark often confuse the user rather than make
something clear, and do not fit well with explanations provided for
<^Q>--by the Help database.

1

These are suggestions for changing Questionmark's responses:

2

When listing the alternatives, DON'T just show the prompt for that
field. For instance, if one types a ? after saying Jump to File,
one sees:
SP: B: Return
I have many times watched naive users attempt to type an "s" and
then a "p", or type a "b" (on many taskers the colon doesn't print
too well), and not understand why they get garbage. If you NAME
the thing wanted instead, he is less likely to do that, and/or if
it's a name he can find it after typing <^Q>--in the Help
database. My suggested alternatives are (these are concepts named
in the Help database):

2a

Call the space key   <SP>

2a1

The alternative of <SP> could also be listed for users in
Expert recognition mode to indicate to them that other
things are available if they do that (But it wouldn't tell
WHAT the choices were going to be, just as in this instance
of Jump to File you're not told that you'll get to give name
of a file if you type <SP>--I don't think that needs to be
questionmark's responsibility). Feedback reports an
interest in this.

2a1a

When you mean bug, call it BUG instead of B:, like you do when
describing a LSEL.

2a2

For consistency, when you refer to an OK, change from OK: to
OK

2a3

In general, for a unique key, enclose its name in
anglebrackets. Give a function, which could be represented by
several keys, a name in caps.

2a4

Suggestions for the Questionmark Facility

When alternatives are columnated, please alphabetize them down
each column. This might make it a little less ambiguous that each
item is a separate alternative rather than a phrase across the
page (A new user expressed this confusion to me),

2b

Do not list the OPTIONAL alternatives for the user who has partial
prompting on--he doesn't see prompts for options specifically
because it is thought too confusing for the beginning user to see,
and options listed by questionmark are a similar cryptic hurdle,

2c

Please substitute the word FILEADDRESS for the words NEWFILELINK
and OLDFILELINK. This is the concept name in Help, Whether it's
new or old doesn't matter as much as seeing a familiar word up
there--its form is the same and we don't make this distinction for
words and statements,

2d

Replace: Address Expression
    with: ADDRESS

2e

    That's what it's named in Help,

2e1

Change the syntax of this:
Please make a selection of type: XXXXXXXX via
....

            to this:
Please specify a XXXXXXXX by
....

2f

    Isn't that less complicated-looking?   People I've asked say
    it means the same thing to them or is clearer,

2f1

Change this kind of thing:
Please .... CHARACTER ...
    BUG / [Address Expression]

            to this:
Please .... CHARACTER ...
    BUG or OPTION ADDRESS

2g

    Consider using "or" instead of slashes to indicate alternatives

Suggestions for the Questionmark Facility

not columnated, "or" might have its own ambiguities, I need
more opinions on this,

                                                                    2g1

For options, replace the bracketed expression with the name for
the option key followed by the name of the field, If you
change slashes to "or"s, you can separate off the "or" with
more spaces than between OPTION and ADDRESS, If we're never
going to allow users to change the character used for option
(It is not now an alternative in Useroptions' Control command),
you could say <"U>ADDRESS, for example, instead of OPTION
ADDRESS

                                                                    2g2

Sample responses, old and new:

                                                                    2h

to typing a questionmark after typing   Create File

                                                                    2h1

   (OLD)
   Please make a selection of type: NEWFILELINK via
        BUG / TYPEIN / [Address Expression]

                                                                    2h1a

   (NEW)
   Please specify a   FILEADDRESS   by
        BUG   or   TYPEIN   or   <"U>ADDRESS

                                                                    2h1b

to typing a questionmark after   Jump to File

                                                                    2h2

   (OLD)
   Current Alternatives are:
   Sp: B: Return

                                                                    2h2a

   (NEW)
   Current Alternatives are:
   <SP>   BUG   Return   2h2b

Preferred time for talking to Gerald Baily

(J23525)   4-JUL-74 19:27;   Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /JEW([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
KIRK;

Preferred time for talking to Gerald Baily

Jim,
  I would like to talk to Gerald Baily Tuesday, July 16 at 4:00 if he
will be staying that late. -- Kirk,   1

1

LP bug, When tabs in text and updating done,

(J23526)   5-JUL-74 07:23;   Title: Author(s): Robert N, Lieberman/RLL;
Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
RLL;

LP bug, When tabs in text and updating done,

For DNLS and the line processor (with Delta D): When there are tabs
in text the LP messes the display up after one does updates, e,g,,
replace word or character, It appears that the updated line is split
into two lines with the first part on the line below (yes below) and
the rest of the line as it should be, call me or try it yourself,
Robert   1

Show directory bug (DNLS+LP),

(J23527)   5-JUL-74 11:04;   Title: Author(s): Robert N, Lieberman/RLL;
Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk;
RLL;

Show directory bug (DNLS+LP),

When using show directory with options time and date for read, (DNLS and LP), if the information exceeds the viewing area, it is lost. Two ideas to fix it: 1) use a more command like help system or 2) format the text better, e.g., use columns,

1

Suggestion for DNLS: relative addressing without the nasty control U,

(J23528) 5-JUL-74 11:31; Title: Author(s): Robert N, Lieberman/RLL; Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: RLL;

Suggestion for DNLS: relative addressing without the nasty control U.

Why cannot address be given with out option control char? If text is to be given as address then option char can be use then, this would make the following very nice: Jump back 7 <ca> to mean jump back seven statements from the bug (which is the <ca>) .

1

PDP-11 ANTS Interface, Justification,

(J23529) 5-JUL-74 12:15;   Title: Author(s): Martin E. Hardy/MEH;
Distribution: /RWW([INFO-ONLY]) CHI([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: MEH;   Origin: (HARDY,
ANTS.NLS;7,), 5-JUL-74 12:12 MEH ;####;

MEH 5=JUL=74 12:15   23529

SRI   MEMO

TO: Tom Little   DATE: 3 Aug 74

FROM: Martin Hardy   LOCATION: J=2072, X3921

SUBJECT: ANTS device justification, to interface the ARC
PDP=11 computer to the ARPA Network.

                                       CC: rww
                                           chi

===

The Augmentation Research Center is leasing a PDP=11
computer from DEC Leasing. In the near future it will be
necessary to connect this computer to the ARPA Network to
develop programs associated with this Network. To do this
it will be necessary to obtain a device that is compatible
with the APRA Network IMP, PDP=11 Uni=Bus, and the ANTS
operating software we intend to use.

To the best of my knowledge Owens Illinos is the only
manufacturer of such a device.

I recommend we purchase the Network interface device from
Owens Illinos.

                          Martin Hardy

PDP-11 DL11E justification

(J23530)   5-JUL-74 12:31;   Title: Author(s): Martin E. Hardy/MEH;
Distribution: /RWW([INFO-ONLY]) CHI([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: MEH;   Origin: (HARDY,
DL-11E,NLS;12,), 5-JUL-74 12:26 MEH ;####;

PDP-11 DL11E justification

DIC:
This Memo, and the ANTS one, are just to complete Purchasing files,
the equipment has been ordered long ago,
...martin..

MEH 5-JUL-74 12:31   23530

SRI   MEMO

TO: Tom Little, purchasing   DATE: 7 Aug 74

FROM: Martin Hardy   LOCATION: J-2072, X3921

SUBJECT: DL-11E device justification, to interface the ARC
PDP-11 computer to the ARC PDP-10 computer,
                                CC: rww
                                    u chi

===

The Augmentation Research Center is leasing a PDP-11
computer from DEC Leasing. In the near future it will be
necessary to connect this PDP-11 computer to the ARC
PDP-10 computer to load utility programs for program
development associated with the ARPA Network. To
accomplish this it will require an EIA RS-232 interface
compatible with the PDP-11 Uni-Bus and the PDP-10 Data
Line Scanner,

Available from DEC as standard PDP-11 hardware is a DL-11E
device which meets these requirments,

Since we are leasing the PDP-11 from DEC Leasing and do
not have funds available to purchase, I recommend we
obtain the DL-11E device also from DEC Leasing,

                           Martin Hardy

Hudson Office-1 Connection, Rutgers TIP Connection,

(J23531) 5-JUL-74 12:37;   Title: Author(s): Martin E. Hardy/MEH;
Distribution: /JCN([INFO-ONLY]) MDK([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: MEH;   Origin: (HARDY,
AMAREL,NLS;7,), 5-JUL-74 12:33 MEH ;####;

Hudson Office-1 Connection, Rutgers TIP Connection,

Rudy Ruggles
Hudson Institute
Croton-on-Hudson
New York, 10520

Dear Mr Ruggles:

The attached page is a copy of the sndmessage from Amarel at
Rutgers to Fields giving his OK to connect you to their TIP. He
is leaving it up to us to make arrangements with BB&N to get the
proper interface card installed, etc. I will initiate
arrangements when I return from vacation; (July 6 to 15).

Also, enclosed is a draft copy of a Workstation Reference manual
I have been compiling. I think it is complete enough to be
useful to you. Besides describing what a Lineprocessor
Workstation is, it contains specifications for Delta Data, copy
printer, modems, etc.

I will contact you upon my return to discuss remaining details
and take stock of where we are.

                          Sincerely,

                          Augmentation Research Center

                          Martin Hardy
                          Supervisor, Computer Facility
                          Menlo Park, California 94025
                          (415) 326-6200 X3921

MEH/jcn
    mdk

5-JUL-74 09:34:50,517

Net mail from site USC-ISI rcvd at 5-JUL-74 09:34:48

Date: 5 JUL 1974 0934-PDT

From: AMAREL at USC-ISI

Subject: CONNECTION TO RUTGERS TIP; RE, YOUR MESSAGE OF JUNE 21

To: HARDY at SRI-ARC

cc: FIELDS at BBN, AMAREL at ISI

SORRY FOR THE DELAY IN MY RESPONSE, I WAS AWAY IN MEETINGS FOR

ABOUT TWO WEEKS,

THE CONNECTION OF HUDSON INSTITUTE TO THE RUTGERS TIP IS OK,

PROVIDED THAT YOU WILL MAKE ARRANGEMENTS WITH BBN FOR AN APPROPRIATE

INTERFACE CARD IN OUR TIP,

SAUL AMAREL

SECOND DRAFT Plan for SRI Capabilities Center

(J23532) 5-JUL-74 13:50;   Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /&DPCS([INFO-ONLY]) ; Sub-Collections: DPCS SRI-ARC;
Updates Document(s): 23028; Clerk: DVN;   Origin: (VANNOUHUYS,
TWOCC,NLS;9,), 5-JUL-74 10:46 DVN ;####;

I gave this draft to Tom Humphry for incorporation into his report on
a plant for Insititute-wide Text handling. He many have substantially
revised it before publishing the report,

SECOND DRAFT Plan for SRI Capabilities Center

Concept   1

This section proposes a center for providng capabilities
information for SRI, capabilities information includes: 1a

Existing Desriptions of SRI work (of projects, departments,
coverage of disciplines, etc),   1a1

Specially prepared descriptions of projects, departments,
disciplines, etc,   1a2

Resumes   1a3

Descriptions of Facilitis   1a4

Descriptions of Managemenet Practices   1a5

Skeletal Cost Sections of proposals   1a6

Skeletal Managemenet Sections of proposals   1a7

and also   1a8

Technical Reference Information on previous SRI work for the
benifit of present research,   1a9

With the exception of the last item above, this information would
be aimed at ready use in documents that are leaving the institute:
proposals, responses to Comerce Business Daly noctices, brochures
and the like,   1b

This information would be organized hierarchically in a series
of sumarizing steps and would be in a form that a computer can
read,   1c

At the source level, storage would hold writeups cut out of
proposals and from other source documents,   1c1

At the next higher level of summary would be writeups on areas
of interest or departments, For example a writeup on SRI work
on the Taffybending Project or in the field of in stress
analysis,   1c2

Such writeups would draw on the files, and also on
interviews with researchers, Appropriate experts (typically
project leaders or department heads at this level) would
approve them, They would be clearly written, easilly
retrieved, dated automatically, include lists by number of

suporting photos and drawings, and cross references to
reports,   1c2a

Higher level writeups, say on Materiels in the the example or
on the work of a Laboratory, would summarize larger areas of
SRI work as appropriate,   1c3

At a third higher level of finish, the Center might make
availabl off-the-shelf preprinted sheets or foldouts nicely
formatted with photographs and other illustration (lifted from
previous documents) describing SRI's capabilities,   Such
preprints, although more or less inappropriate to any given
use, could be attractive, authoritative, and quickly bound into
departing documents,   1c4

Authors at the time they begin to assemble their proposal (or
whatever) could come to the Center and ask for a paper on a
certain subject,   A retriever would interogate the computer file
and hand them hard copy for browsing, The selected material would
probably need light editing, The author would normally take the
hard copy he had chosen away with him, editi it, and submit it
with the rest of his input at Step 1 of the flow chart,   1d

In addition, the authors of selected important proposals would be
able to call on help from a capabilities writer who would study
the outline of the proposal, talk with the author or leader, and,
knowing the files, assemble and/or write rapidly appropriate
descriptions of capabiltiies,   1e

Finally a researcher looking for factual information from previous
SRI work, could come to the center and search for references to
previos SRI reports by sohpisticated online techniques, much as
she might look for such information in a profesional journal or
abstracting service,   1f

The need for fact retrieval not so acute as for cababilites
text and the technology is separate, This report itemizes its
cost and schedule separately so that resources can be allocated
to either separately without holding back other work,   1f1

Strategy   2

Storage   2a

Advanatge of Computer Readalbe Storage   2a1

A center such as that described above can exist without
computer aids, For writeups of capabilities the advantages
of a computer based system lies in retrieval and output,   2a1a

2

For example it is possible to cretat a writeup that speaks in terms of SRI's experience in a discipline because customers want to see us as experts in subjects, but retrieve that writeup according to the SRI organization becuase the author is used to thinking in terms of what organizations have done,

2a1a1

The retriever could call for informaton by various other catagories of search, keywords, date,format, etc,

2a1a1a

Note however that recalling capabilities text does not demand the sophisticated techniques of elaborate computer-based retrieval systems, A simple hierarchical organization with modest cross referencing can usually do the trick, Elaborate retrieval schemes can be expensive in programming and running time; developers should avoid overdesign in this area and include provision for revision on the basis of experience,

2a1a2

It is for retrieval strategies and system modificatins to automate generation of summary material that the center needs continuing programming support,

2a1a3

In the long run, automated generation of summary material may be the most important reason for computer storage,

2a1b

I,e,, in a CBD response (or proposal), it is often advantageous to summarize the relevance of many resumes by a single table in the form of matrix with the names of researchers on one axis and fields of experience on the other, A program could create and print such a matrix automatically from online resumes,

2a1b1

Cost may be an advantage of computer storage, depending on cost of implementing the computer system and context of storage and procedures in which the writeup is used,

2a1c

Cost in a non-computer system is for items such as, storage space, clerical time for retrieval, author time for retrieval, cost of copying pages to give the author, cost of retyping,

2a1c1

These costs now occur dispersed throgh the institute,

2a1c2

Equivalent computer costs are storage space, clerical retrieval time (presumably less), author retrieval time (presumably less) retyping (presumably less), printout (presumably somewhat cheaper than Xerox),

2a1c3

But note the paper problem below,   2a1c3a

Distant offices (see discussion of physical location)
offer special cost situation, A Center based on
conventional storage can respond to questions phoned
or written in by sending paper copies to the distant
office, But they have to send a lot of paper to allow
the author to browse, Considering phone cost to ask
the questions, reproduction and mailing costs for
packages of a hundred pages or more, online acess at
the distant cite might well be cheaper, even if the
terminal at the distant cite was operating over phone
lines,   2a1c3b

Levels of Storage and Sources of Computer Power,   2a2

Decisions will have to be made about the storage medium and
source of comuputaton power that cannot be considered
concretely outside the context of selecting the hardware for
insitute-wide text handling, Decisions include for example
storage on different types of disk, vs different types of
online storage vs different types of tape, The system must
be compatible with the general institute text handling
system,   2a2a

Some consideration about storage for the Cababilites Center
include: 2a2b

After a couple of years operation, the total files of
resource information might amount to say four
four-drawer file cabinets, that is of the order of 75,000
pages or 9 X 10(7) characters, Online disk storage that
would allow retrieval in seconds from that volumn of
information costs in the neighborhood of $6000 a year,   2a2b1

Never the less quick relialbe retrieval is very important
to acceptantce of the Center, If retrieval from the
center takes longer than manual retrieval from department
files, users are not likely to come back,   2a2b2

Perhaps we must settle on some economic mix between on
and offline storage,   2a2b3

Allied decisions must be made about the Capabilities
Center's source of computer power for input and
retrieval,,,should it share time on a large system, on a
large mini, or have its own intellegent terminal? The
decisions about storage medium will alter the retrieval
stratagies and what kind of a job the retriever has As

another outer limit, a small computer that could fully use
the 75,000 disk pages would now cost in the neighborhood of
$12,000 a year.   2a2c

Problems Associated by the Author Needing Paper   2a3

Consider the following cycle: Few authors will want to work
online. When they come to the Center, the retriever will
have to hand them printout at a certain expense. The
authors will either choose or reject the printout page by
page. The retriever will have to either collect the
rejected pages and file them in a hard copy file system
duplicating the online system or else throw them away.   2a3a

Considerations of reliability and cost, the price of
retrieval and printout and the speed of printout versus the
cost of maintanace of a parallel hard copy file, will
determine whether the retriever will keep the browser's cast
off paper or throw it away; it appears likely it will be
more economical to throw it away.   2a3b

Sample Subject File Organization   2b

To illustrate the conception of sucessive summaries covering
subject hierarichacally, here is a hypothetical structure
covering phyiscs.   2b1

Physics:
An online writeup on SRI Physics, About one Page, Clearly
written, Approved by the authorities, Revised atleast
annually, Dated, Also a list of numbers of cited photos and
drawings, perhaps of reports by number, cross references to
other relevant writups.   2b1a

Plasma Physics:
An online writeup on SRI Plasma Physcs, Clearly written,
About one page, Approved by the authorities (probably
department head(s), Revised at least annually, Dated,
Also a list of numbers of cited photos and drawings,
perhaps of reports by number, cross references to other
relevant writeups.   2b1a1

Appropriate related experience extracted from previous
proposal, Dated,   2b1a1a

Appropriate related experience extracted from previous
CBD response, Dated,   2b1a1b

SECOND DRAFT Plan for SRI Capabilities Center

                Appropriate related experience extracted from
                Brochure, Dated,   2b1a1c

                Appropriate descritions of projects write in
                coperation with project leaders,   2b1a1d

                .
                .
                .
                More of the same,
                .
                .
                .   2b1a1e

            Plasma Physics Preprint:
            A hardcopy page on SRI Plasma Physics, Maybe a foldout,
            Clearly written and handsomely laid out, Approved by the
            authorities (probably department head(s), Revised a least
            annually, Unobtrusively dated, Stock on hand for quick
            binding into larger documents, [Hardcopy writeups only
            on frequently used or otherwise important subjects]   2b1a2

            .
            .   2b1a3

            Solid State Physics:
            .
            .
            .   2b1a4

            Radio Physics:
            .
            .   2b1a5

            etc,   2b1a6

Fact Retrieval   2c

    As people writing documents with marketing purposes need boiler
    plate, researchers need facts which may lie concealed in
    previous SRI reports, The occasions and procedures for making
    facts available however differ from procedures for making
    boiler plate available,   2c1

        The user needs the information when she is doing research,
        not when she is writing proposals,   2c1a

        The user needs facts, not text; questions of clarity,
        edititng format, etc, do not apply,   2c1b

SECOND DRAFT Plan for SRI Capabilities Center

Facts do not date the way capabilities do,   2c

Indexing and retrieval are much different, We can retrieve
boiler plate from files nicely by organizing them
hierarchically according to the subjects with thin
cross-referencing, Fact retrieval must be highly
cross-referenced,   2c

What SRI researchers need is an online service for SRI reports
like the offline service Chem Abstracts, for example, gives
chemists,   2c

At present, many SRI reports escape any kind of index that
would make their contents reailly accesible, It would be very
difficult to capture them completely because people working in
divisions want to get out their letter reports without hassling
with bureaucratic procedures, However, a well publicized and
effectively indexed retrieval system would attract some
fugitive reports, and the computer-based production system
could atleast insure capture of all those that pass through
Report Services,   2c3

When reports enter a form that computers can read, they can be
indexed automatically by keword, by words in their abstract, or
by more complex means, Their keyword lists or abstacts can then
be stored as the object of sophiscitcated retrieval without
passing through intermediate hard copy,   2c4

Commercial services store and retrieve abstracts on the basis
of keyword in context, i,e,, Lockheed's Dialog system, it seems
apropriate to investigate the use of such a system by SRI,   2c5

Use of a commercial system raises privacy questions,
Clearly we do not want informaton such as contract values to
be on a system that is not secure, SRI might seriously
consider separating private information from the abstracts
and allowing the abstracts to be available to any user on
the system (as all the abstracts known to the DIALOG system
are available to all users) as advertising,   2c5a

Thus some user who had never heard of SRI could come upon
an abstract that indicated SRI's knowledge of his subject
and become a customer,   2c5a1

Alternatively SRI has the knowledge to create its own abstract
retrieval service,   2c6

Note that the data base of references to facts would be
searched in different ways from capabilities writeups and

probably in diferent machines. They would be connected by the center personnell who would assist authors and researchers in searching both, and by crossreferences in the capabilities files to the report refernces.

2c7

Intake and Output

2d

Culling

2d1

All prposals and other likely source documents would have to be routed to some one in the center with some knowledge of proposal needs for culling and rerouting to storage,

2d1a

Project Descriptions

2d2

All project leaders in the insitutie could be requested write descriptions of their projects from the viewpoint of future use in related experience or to co-operate wth a writer from the Center in preparing them, Guidelines for such descriptions could be issued,

2d2a

Interviewing

2d3

Besides reading files, writers preparing summary materal will have to ask questons of the sources of their text or other experts, Unexpect and valuable information often comes to light in interviews,

2d3a

Approval

2d4

Summary material will be more accurate and gain readier acceptance if authorities, usually department and lab directors, approve it and thier approvals bare dates, However valuable it is, approval is usually painfully long in calendar time, Approval is normally a back-burner process for the authority, but he may have many considerations that that demand revision and resumbmission; finally a given writeup may require several approvals, Approval may be expected to take several times more calendar time than writing,

2d4a

Abstracts

2d5

The process of transfering abstracts or lists of keywords from the report production process to the data bases where retrieval programs find referencs, on the other hand, can be highly automatic, It could very well be automatic online, or at most involve carrying tape or disks from one system to another and an input procdure,

2d5a

The absract would be copied from the body of the report as
it flows through production around step 61,   2d5b

Direct Proposal Support   2e

It is important that people providing capabilities support
don't loose touch with its end use or begin think of their work
as archival, Both the writing and the file organization must be
aimed a persuasion,   2e1

For this reason it is important for the writers in the
Capabilities Center to work on and allied documents in he
field, If they do so they will soon build up general knowledge
of the proposal situation which would be usefu to the insitute
in many ways,   2e2

Personnel   2f

A facility in a central location would require: 2f1

    a manager who spends some of his or her time writing,
    culling sources, and supporting proposals,   2f1a

    another writer,   2f1b

     and the retriever, that is an online clerk who would know
    the capablities hierarchy, know how to operate the online
    system that prints out both capabilities and refrences to
    facts, and deal with customers requests,,,,a very important
    job,   2f1c

If the volume of work in retrieving refrences grew
suffuciently, a second retriever might become necessary,   2f1d

An online a typist,   2f1e

All should be able to operate the online system,   2f1f

The Center from time to time would need additnal typing and
programmng support,   2f1g

    At extra writer and an extra typist at the beginning, say
    the first six months, would be useful to set up a solid
    body of summaries and type in material from old offline
    sources,   2f1g1

    It is very important to get good people in the writer and
    retriever jobs, No computer experience is necessary, but
    they must be flexible enough to learn, Work such as this

is often seen as low prestige; they must get direct
satisfaction that defuses that question. They must be
smart and uncowed by the technical specialists they work
with,   2f1g2

Graphics   2g

The SRI text handling project for the moment does not include
graphics. But drawings and photographs are often very
important to establishing capabilties. The online file could
store the photographs or illustration numbers. A certain
number of sample illustrations and photographs should be
available at the Center as hard copy for browsing.   2g1

Classified Information   2h

Because of limitations on the privacy of computer data bases,
it would be inappropriate to store classified information
online. It might be useful to maintian a separate paper file
with parallel structure for classified informaton.   2h1

It certainly would be possible to cite classified documents
including their location within the institute in the online
descriptions of SRI work in given fields,   2h2

Acceptance
Even when its personnel and friends think the Capabilities Center
is useful, it will encounter a lot of resistance from guys who
think, sometimes correctly, that what is in his division office or
desk drawer is better, think people who are not technical
specialists can't possibly know anything, or are hostile/afraid of
computers, etc. In the long run the work of the center will be
pretty exposed and it will fail or succeed if its work is bad or
good. In the short run publicity and charging polices can be
helpful,   2i

    Publicity   2i1

        Presentations; Some one, probably the writer-manager, will
        need to make presenations and talk generally with authors
        and managers who are frequently involved in proposals other
        documens for export from the Institute. Such presentation
        might frequently be part of presenations on the whole
        Institute-Wide Text Handling System,   2i1a

        Samples and Catalogs: The Center should distribute samples
        and lists of its preprints and writeups to a list of
        prospective users,   2i1b

Charging   212

    There is a question whether the Capabilities Center should
charge internally for its services, charge part of its cost,
or not at all,   212a

The Center will have to run for some time before it will
have gathered enough text to be useful, possibly three
months,   212b

It is not diffcult to find ways to charge, The center could
charge per retrieval (per instance or on some per-page
basis); it could charge for its preprinted sheets; and it
could charge for the hours of its writers doing reserach and
tailoring writeups to fit specific outgoing documents,   212c

    It could also charge parts of SRI for writing summaries
of their field, but it seems likely it would seldom get
business on that basis; it is more often other
departments who feel the need of the writeups,   212c1

Other possibilities such as charging for storage exist,   212d

The Center could establish both its data base and its
clientele most easily if its services were free to its users
for say the first year, SRI pays the bill and the work goes
on anyway, At that time it might be appropriate to consider
charging strategies that would establish whether all or
parts of its services were really worthwhile to its users,   212e

Schedule with Planning Items   3

Schedule in Months

```
| -3  | -2  | -1  |  1  |  2  |  3  |  4  |  5  |  6  |  7  |  8  |
9
|     |     |     | <A> | <*> |     |     |     |     |     |     |
|>----Plannging began when this proposal is
accepted,-|--->-|-----|-----
|<S>--|-----|-----|     |     |     |     |     |     |     |     |
<?S>
|     |     |     | <O> | <X> | <W> | <P> |     |     |     |     |
|     |     |     |     |     | <Q> |     |     | <25>|     |     |
|     |     |     |     | <AF>| <TF>|     |     | <OF>| <FX>|     |
*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*
| 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
21
|     |     | <S> | <U> |     |     |     |     |     |     |     |
|     |     | <50>|     |     |     |     |     | <75>|     |     |
```
3a11

11

SECOND DRAFT Plan for SRI Capabilities Center

Schedul Items:

3a12

<A> Accept Capabilities Center Hardware and Software

3a12a

<*> Institute-Wide Computer-Based Text Handling Opens its
doors

3a12b

<S>Startup Work, which includes:

3a12c

Select staff, get office, get peripherals aboard,

3a12c1

Start culling old source materiel

3a12c2

Start training Staff in online working,

3a12c3

Start typing old source materiel online

3a12c4

Devide SRI work into subjects,

3a12c5

Start writing up disciplines,

3a12c6

Particpate in design of retrival and formatting
programms,

3a12c7

Start talking it up with Potential Users,

3a12c8

Start Working on a proposal or two,

3a12c9

<O> Open to Selected Customers for shake down purposes

3a12d

<X> Open to all commers

3a12e

<W> Distribute first list of avalable writeups,

3a12f

<P> Distribute first list of avalable Preprints,

3a12g

<?S> Plan Charging

3a12h

<S>Start Charging

3a12i

<AF> Accept Software and Hardware for Fact Reference
Retrieval

3a12j

<TF> Start typing old Abstracts online for fact retrieval

3a12k

<Q>Stop Typing in old (pre computer) capbilities text
except in special casses,

3a12l

<U> Start Updating year old writeups

3a12m

        \<OF> Open fact retrieval Service for selected custmers,

3a12n

        \<FX> Open fact retrieval Service for all commers,

3a12o

        \<25> Discipline writeups 25% Done

3a12p

        \<50> Discipline writeups 50% Done

3a12q

        \<75> Discipline writeups 75% Done

3a12r

  Time Allocations in Regular Operation

3b

    Writer manager:

3b1

      Reading and culling SRI Source Documents: 10%

3b1a

      Direct Support Writing Documents in the feld: 10%

3b1b

      Planning and Adminstration: 30%

3b1c

      Laison with Other organizations: 20%

3b1d

      Making Subject Matter writeups: 20%

3b1e

      Making Preprinted writeups: 10%

3b1f

    Other writer:

3b2

      Reading and Culling SRI Source Documents: 20%

3b2a

      Direct Support Writing Documents in the feld: 30%

3b2b

      Making Subject Matter writeups: 30%

3b2c

      Making Preprinted writeups: 20%

3b2d

    Retriever:

3b3

      Abouut 50/50 between serving customers and file input and
maintenace ,

3b3a

Cost

4

   Steady State

4a

      Personnel

4a1

         Writer-Manager $15-20,000 /Year

4a1a

         Another Writer   10-15,000

4a1b

         Retriever   8-10,000

4a1c

         Online typist   6-8,000

4a1d

         Programming Support   7-10,000

4a1e

         Total taken at the mean: 54,000

4a1f

      Equipment

4a2

         Storage   6,000

4a2a

         Computer power   6,000

4a2b

         peripherals   5,000

4a2c

         Total   17,000

4a2d

      Fact Retrieval   38,000

4a3

      Total   => 109,000/year

4a4

   Startup

4b

      Programming   8,000

4b1

      Typing in old ofline material   5,000

4b2

      Total   13,000

4b3

   All the computer costs are uncertain depending on the system
   implemented for the Insitute-Wide Text Handling System,

4c

   Cost of Fact Retrival

4d

      The Fact Retrieval cost is most uncertain; it would depend on
      shopping around among the various systems availabe,

4d1

      Cost was figured as follows: SRI produces aboout 10,000

SECOND DRAFT Plan for SRI Capabilities Center

documents a year that would be reasonable objects of abstracts,
In the Insitutue-Wide Text Handling project abstracts in
computer readable form would appear without addtional cost,
Inserting these abstracts into a format and data base suitable
for the sophistcated retrieval routines necessary might cost of
the order of magnitute of $3 per abstract or $30,000, Storage
might cost $2000 per year atleast in the beginning; of course
this figures is cumulative, Search and retrieval is figured at
$5 per occasion at 5 times per day, that is $6,000 per year,
If SRI wanted to build it's own software, it would certainly
cost over $20,000 even starting from some of the systems
avaialbe here,

4d2

When the System Doesn't Learn I have Enough Pages

(J23533)   5-JUL-74 14:26;   Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /NEWNLS([ACTION]) ; Sub-Collections: SRI-ARC NEWNLS;
Clerk: DVN;

When the System Doesn't Learn I have Enough Pages

Lately I've been running close to the limit of my directory pages. On
a number of occasions I have exceeded it, gotten the message "file
space allocaton exceeded" and " you cannot write on this file", gone
into TENEX and there deleted enough files to have plenty of space,
returned, got the message "you cannot write on this file" again,
relaoded the file, and gotten the message again. Apparently the news
that you have enough pages doesn't travel very fast.   1

Drum Comparisons

(J23534) 5-JUL-74 15:52;   Title: Author(s): Martin E, Hardy/MEH;
Distribution: /SRI([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk:
MEH;   Origin: (HARDY, DRUMS.NLS;7,), 5-JUL-74 15:48 MEH ;####;

Drum Comparisons

DICK:
This is the drum data I have collected thus far, hope it is correct.
Intend to follow up after vacation this July 15.
...martin..   1

NOTE   2

   The DEC system is figured with 4 drums, 1 controller, and 1 data
   channel.   2a

   (FH) = fixed head dsk.

                                                                           2b
                | Bryant | DDC slow | DDC fast | DEC | 3
   ---   4
   capacity | 3,000p | 3,000p | 390p | 1,500p | 5
                                                                            6
   cost | $130k | $120k | $70k | $282k | 7
   xfer rate | 1,70ms/p | 1,48ms/p | 1,28ms/p | 2,75ms/p | 8
   access time | 0, (FH) | 8,5ms | 5,2ms | 0, (FH) | 9
   latenay | 33ms | 33ms | 33ms | 8,5ms | 10
   # of xfers/rev | 18 | 11 | ? | 2 | 11
   MTF | 1,000hrs | 10,000hrs | 10,000hrs | ? | 12
   ---   13

Lineprocessor paper for final report,

(J23535) 5-JUL-74 16:24;   Title: Author(s): Martin E, Hardy/MEH;
Distribution: /DVN([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
MEH;   Origin: (HARDY, FREP,NLS;30,), 5-JUL-74 16:16 MEH ;

####;

Lineprocessor paper for final report,

DIRK:
This is the updated Lineprocessor paper, I did not get a chance
to have the diagrams redone, I will leave them with the changes
marked, on you desk, along with a hard copy of this file, The
paper needs to be proofed, and edits read in, I willl be on
vacation until July 15, See you then,
...martin,,

Lineprocessor paper for final report,

MICROPROCESSOR TECHNOLOGY TO EXTEND THE UTILITY OF COMPUTER PERIPHERALS

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ABSTRACT

A microcomputer was designed to interface a cursor device (Mouse), and a supplementry keyboard (Keyset), and a copy printer to a class of text editing display terminals,

The microcomputer, which we call the Lineprocessor, connects Mouse, Keyset, display, and copy printer together as a workstation, It performs all necessary line protocol and supervision of communication between workstation and Host computer,

The Lineprocessor is described and used to illustrate two points: first, the need for more flexible design in peripheral equipment; and second, the feasibility of microprocessor technology satisfying this need, The Augmentation Research Center's work in interactive terminal systems is also briefly described,

Lineprocessor paper for final report,

INTRODUCTION

Since 1963, under a multiproject program sponsored by ARPA and the Air Force, the Augmentation Research Center at Stanford Research Institute has been developing an interactive computer based system to augment human intellect [1,2], This program has invested heavily and consistently in the design of tools that enhance real=time interaction with computers, For the past several years, the program's major focus has been developing tools (hardware and software) to facilitate Knowledge workers [2],

This paper will discuss the microcomputer (LIneprocessor) device designed to consolidate these hardware tools together to form an inexpensive Workstation ($9,500) for this purpose [3,4],

A LINEPROCESSOR WORKSTATION is composed basically of four user devices:

(1) DISPLAY, a text editing display terminal for viewing information and entering keyboard data,

(2) MOUSE [2], a device that rests on a table top to the right of the display and is operated by the right hand to position the display cursor, In addition, on top of the Mouse are three swithes used in combination with the Keyset,

(3) KEYSET (five=finger) [2], a device that resembles a small five finger piano keyboard, It supplements the display keyboard and rests on a table top to the left and is operated by the left hand, The Keyset, together with the Mouse switches, supplement the keyboard and provides a method for quick character entry and function request while controlling the display cursor position with the Mouse,

(4) COPY PRINTER, for printing hard copy,

Before development of the Lineprocessor the only available display that could operate from remote locations and use our Mouse andd Keyset was a $18,000 mini=based display with more intellegence than required for our application,

Hence the reason for developing the Lineprocessor was to make available an inexpensive Workstation that could operate from remote locations using our Mouse and Keyset, and software technologies [3,4],

The Lineprocessor Workstation is shown in FIGURE 1, It is microprogrammable and can interface any serial ASCII display with addressable cursor and editing capabilities [4], Communication between display terminal, Lineprocessor, and main computer is full=duplex bit=serial ASCII, This Workstation costs approximately $9,500 when configured with a Delta Data model 5000 display, == Mouse and Keyset cost approximately $500; Lineprocessor approximately $2,000; copy printer apromiately $1,500; and the Delta Data display approximately $5,000,

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LINEPROCESSOR WORKSTATION   [FIGURE 1]

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LINEPROCESSOR

As illustrated in FIGURE 1, and as prevousely stated, the
Lineprocessor is a microcomputer, it connects Mouse, Keyset,
display and copy printer together as a Workstation [4]. It was
specifically designed for this purpose and represents a virtual
display terminal to the Host computer.

The Lineprocessor is microprogrammed to perform seven basic tasks:

(1) Pass keyboard, Keyset and Mouse characters to the
    host computer.

(2) Control display cursor position.

(3) Control display text manipulating modes.

(4) Pass host computer display text to the display.

(5) Pass host computer print text to the copy printer.

(6) Detect protocal errors.

(7) Initialize display terminal and user program.

Architecture

The Lineprocessor is a buss oriented. It is composed of the
six basic sub-blocks shown in FIGURE 2: microprocessor, program
store, data store, serial communication, A/D converter, and
data input multiplexor. (See appendix for a more detailed
view.)

LSI and MSI components were used whenever possible to minimize
development time and allow flexibility in submodule
configuration.

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LINEPROCESSOR BLOCK   [FIGURE 2]

Microprocessor Module

Intel Imm4-42 central processor module, It contains: their
4004 microprocessor, sockets for ROM or PROM, RAM, and I/O
ports,

Program Store

There are eight sockets for ROM or PROM, We use Intel 1702A
Proms to allow flexability to alter the Firmware, These
PROMs can be erased with an ultraviolet light and
reprogrammed with an electrical charge, The current running
system uses only six PROMs, Each PROM has 256 eight-bit
words

Data Store

Four Intel 4002 RAMs, The 4002 RAM was designed
specifically for the 4004 microprocessor, Each 4002 has 40
eight-bit words of read/write memory,

Communication Transmitters/Receivers

The communication transmitters/receivers are standard MOS LSI
UARTs with EIA line converters connecting them to the outside
world, Baud rates are controlled by separate switches,

Dual Channel A/D Converter

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The dual channel A/D converter converts the Mouse analog inputs
to an (X,Y) digital pair that is used to position the display
cursor during Mouse tracking [4], Because Tracking does not
require percision conversion (just good successive sample
repeatability), we built our own,

Rodney Bondurant (our A/D expert) modified a standard design
which we have been extremely satisfied with it, It is
basically a ramp type converter with separate comparators and
buffers for (X,Y), X and Y conversion is controlled by a
steering flip-flop, In the X state the the converter result is
transfered to the Y buffer and X conversion requested, in the Y
state the converter result is transfered to the X buffer, and Y
converion is requested, Transfers and requests are clocked
during I/O sync time to insure valid data during program read,

Conversion stability was achieved by using separate input
comparitors and installing a power supply regulator on the
board as close to the comparitors as possible, The result is a
converter that is very stable with good successive sample
repeatability, -- Character boundries (the area of uncertainty)
are less than one percent of a character width which is
extremely good for this application,

As an alternative to A/D conversion, the A/D module can accept
digital pulses, When input is digital, the buffer registers
are used as up/down counters and the analog input is inhibited,

Data Multiplexor

Standard LSI MOS multiplexors, They are not strobed because
the microprocessor is a sequenced device (the address lines do
not change during read time),

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DISCUSSION

The Lineprocessor is a very flexible peripherial device that can
easily be tailored to specific users application, For example, it
can be microprogrammed as a virtual terminal to the host computer
to reduce front-end processing normally required to drive
different displays and models [6],

Also, it can be microprogrammed to mulitplex or demulitiplex
communications data, In our application, the copy printer data is
mulitiplexed with the display data from the host computer, The
Lineprocessor demultiplexes,

Two very important tailoring capabilities the Lineprocessor has
are programmable buffers and slectable I/0 port baud rates, These
features are necessary to effectively balance between bandwidth
restrictions and through-put requirements for each device that is
connected,

   For example, in our application to effectively control text
   manipulation the display port bandwidth should be 9600 baud,
   with programmable buffers and separte baud rate switches the
   dispay can be operated at 9600 baud independent of the copy
   printer or host computer rates, In fact; separate send and
   receive rates can be selected for each port device,

Probably the Lineprocessor's greatest tailoring feature is it's
capability to be microprogrammed to aid in system debugging; to
system check initial hook ups, detect data errors, isolate faults,
etc, This is extremely helpful when the link to host computer is
through many intermediate peaces of equipment, as it is computer
networks installation, Related to this, and just as important,
the Lineprocessor's microprogram can easily be changed to adapt
system characteristics not known until after installation,

Finally, but certainly not the last example of how flexible a
peripherial device the Lineprocessor really is; the Lineprocessor
can be microprogrammed to poll, to receive and transmit messages,
shairing a common network link with other communication devices,

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CONCLUSIONS

Peripherial equipment should be designed with more flexibility. If
this were done, the peripherial could be tailored more percisily
to user needs, overall system requirements, and applications of
new user system technologies.

To this end, as illustrated with the Lineprocessor, Microprocessor
technology can provide this flexibility inexpensively, (if current
cost trends persist). And, if this trend does continue,
Microprocessor technology may well be the technology that
peripheral equipment manufactures can use to built-in tailoring
capabilities cost-effectively.

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ACKNOWLEDGMENTS

The Lineprocessor has been a joint effort by of several of the ARC staff. I would especially like to thank Don Andrews, Rodney Bondurant, Charles Irby, Jake Ratliff and Ed Van Deiret; also, Phillip Friedman of Delta Data Systems for his company's exceptional cooperation and loan of their model 5000 display terminal; and Dane Elliot of Intel Corporation for his company's helpful advice and cooperation,

This work is currently being supported by The Advanced Research Projects Agency (ARPA) of the Department of Defense, the Rome Air Development Center of the Air Force, and the Office of Naval Research,

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APPENDIX

LINE PROCESSOR: DETAILED I/O CONFIGURATION   [FIGURE 3]

LINE PROCESSOR: MICROPROGRAMMED SUB-TASKS

The microcomputer performs eight basic sub-tasks:

(1) Unloads characters when received by communication
receivers,   9

(2) Samples A/D converter,   9

(3) Converts A/D data to ASCII characters,   9

(4) Debounces Keyset switches,   9

(5) Converts Keyset switches to ASCII characters,   9

(6) Loads characters in communication transmitters,   9

(7) Converts Mouse switches to ASCII characters,   9

(8) Initiates communication transmitters to send,   9

To UK friends: The changing resource picture at ARC

(J23536) 6-JUL-74 15:44;   Title: Author(s): Douglas C. Engelbart/DCE;
Distribution: /PK([ACTION]) AVS([ACTION]) SRW([ACTION] Steve:
Can you see that Peter/Adrian get a copy? And are you still interested
in visiting the States? Regards:dce) JCN([INFO-ONLY]) MDK([
INFO-ONLY]) JAKE([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk:
DCE;

To UK friends: The changing resource picture at ARC

To Peter, Adrian, Steve, et. al.: Last September in England, during
the excitement of having UK get onto the ARPANET, it was a pleasure
for me to discover the interest there in the collaborative use of the
ARPANET; and since then it has given me continuing pleasure that we
could provide you with a small amount of computer service, and to
notice occasionally by the "DATES of file READ" in your directory
that you seemed quite active. Steve's memos on the UK Library
services, and on his development of POST, were both pleasing to see
and of promising portent.   1

Times are changing, though, and this note is to inform you (sadly)
of the worsened computer-resource situation here, and to prepare you
for the likelihood that we will be unable to continue providing free
access. The situation is due to a number of things: 2

   As a general change, ARPA is requiring its contractors to procure
   their computer resources in a more businesslike way, and is
   working toward an accounting system and actual money-exchange
   charging system on the Network.   2a

   As a specific thing, our R&D contract funding from ARPA has been
   cut almost exactly in half (beginning this July 1).   The new
   level does not justify a whole TENEX machine; our old, reliable
   SRI-ARC TENEX is being bought by ARPA, and will later on be moved
   to another site and to an application not connected to the
   ARPANET. It will stay here until January, with our maintaining
   and operating it for ARPA under special contract. ARPA in turn
   will "sell" portions of the facility service to different of its
   contractors.   2b

      Until next January, then, we will be sharing this computer
      with an as yet undetermined group of ARPA contractors, and with
      an as yet undetermined set of rules about sharing and charging.   2b1

      After January, we will have to buy our computer resources from
      some other TENEX facility on the ARPANET. We will most likely
      expand OFFICE-1 and move onto that.   2b2

   The support level for the Network Information Center was cut way
   down -- ARPA can not justify subsidizing its services on the old
   scale, for such a large and diverse user clientele (the NIC was
   originlly intended only to serve ARPA's own research community).
   At the current funding level, there is no more "free, open" NLS
   service -- only a single user slot that is specially scheduled for
   short log-on sessions useable only for querying and message
   handling.   2c

Originally your use of our computer could be slipped in under
general NIC service. When the NIC was moved to OFFICE-1, its

services came under closer scrutiny and we couldn't continue on that
basis, so we at ARC agreed that you could carry on using our own
facility during our off hours,   3

Right now there seems to be no problem in your continuing to use the
SRI-ARC machine between our hours 1700 and 0500, Between 0500 and
1700 we are already sharing with other contractors assigned by the
IPT Office of ARPA, who must get their respective shares without
other-user interference,   4

But, at almost any time in the next few weeks, when the sharing
and accounting scheme is settled, it may become impossible for us
to continue giving you this access, For instance, if each
contractor is to be charged in proportion to the machine cycles he
uses, then your use would cost us money out of our projects'
already badly slashed budgets,   4a

Next January, when we move to another machine, the situation will
be even more unpredictable,   4b

Jim Norton, here in ARC, one of the two Assistant Directors of the
Center, is in charge of our operational services -- which include
both the SRI-ARC facility and the Utility services of OFFICE-1
(TYMSHARE, Inc, operates the OFFICE-1 facility for us at their home
site in Cupertino, Calif,, under direct contract to SRI),   5

Jim has the problem of negotiating our computer-resource
arrangements with ARPA, and of subsequently managing the resource
service and usage under whatever agreement is reached,   5a

If it becomes necessary for you to change your access practises,
or to shift to some paying mode in order to continue accessing our
machine, Jim will negotiate with you directly,   5b

I would also like to bring to your attention the fact that some
people are using your directory in ways that are inappropriate under
the "post-NIC" terms (i,e, since Feb 74),   6

For instance, I recently discovered someone logged in as UK-ICS,
during our heaviest hours, using TECO to list out a long file that
appeared to be the results of computations, The person asked me
to break links so he could get on with his work, wouldn't identify
himself, and when I became persistent he broke his terminal's
connection to the TIP, Jim Norton found someone else in UK-ICS
using BASIC in the middle of our day, and again the person
wouldn't identify himself, Bad show all around,   6a

With the even more "fragile" operational situation that now
exists, we will have to be quite abrupt about knocking

To UK friends: The changing resource picture at ARC

unauthorized users off. And we must consider it to be your
responsibility to have your directory's users operate within
agreed upon conditions.   6b

NOTE: Jim needs a firm communication connection now with whomever
will bear the responsibility of coordinating your directory's access
and usage.   7

Please send Jim an acknowledgement of this memo, and identify the
responsible, communication-contact party there, so that he will
know that there is someone "listening and attending":
NORTON@SRI-ARC, or JCN.   7a

Over the years, in one's professional activities, there seems to be
a continuing process of planting seeds, or transplanting little
seedlings, with hopes that they will take root and flourish and
enrichen the whole garden. For me, one part of the garden was hoped
to be a "trans-Atlantic collaboration" area; it was exciting to
contemplate, the conditions seemed promising, and the people were
certainly interesting. I have seen many little plants in the garden
shrivel and die, and I should be able to shrug it off; yet somehow I
am especially sad to think that this one may do so.   8

I shall remain hopeful -- with best personal regard and good wishes,
Doug Engelbart   9

To Norway friends: The changing resource picture at ARC

(J23537) 6-JUL-74 16:07;   Title: Author(s): Douglas C. Engelbart/DCE;
Distribution: /DRM([ACTION]) YL([ACTION]) JCN([INFO-ONLY])
MDK([INFO-ONLY]) JAKE([INFO-ONLY]) ; Sub-Collections: SRI-ARC;
Clerk: DCE;

To Norway friends! The changing resource picture at ARC

To Dag and Yngvar: In our discussions last September, in England, it was a pleasure for me to discover your interest in the collaborative use of the ARPANET; and since then it has given me continuing pleasure that we could provide you with a small amount of computer service, and to notice occasionally by the "DATES of file READ" in your directory that you seemed quite active,   1

This note is to inform you (sadly) of the rapidly changing computer-resource situation here, and to prepare you for the likelihood that we will be unable to continue providing free access, The situation is due to a number of things: 2

As a general change, ARPA is requiring its contractors to procure their computer resources in a more businesslike way, and is working toward an accounting system and actual money-exchange charging system on the Network,   2a

As a specific thing, Our R&D contract funding from ARPA has been cut almost exactly in half (beginning this July 1),   The new level does not justify a whole TENEX machine; our old, reliable SRI-ARC TENEX is being bought by ARPA, and will later on be moved to another site and to an application not connected to the ARPANET. It will stay here until January, with our maintaining and operating it for ARPA under special contract, ARPA in turn will "sell" portions of the facility service to different of its contractors,   2b

Until next January, then, we will be sharing this computer with an as yet undetermined group of ARPA contractors, and with an as yet undetermined set of rules about sharing and charging,   2b1

After January, we will have to buy our computer resources from some other TENEX facility on the ARPANET, We will most likely expand OFFICE-1 and move onto that,   2b2

The support level for the Network Information Center was cut way down -- ARPA can not justify subsidizing its services on the old scale, for such a large and diverse user clientele (the NIC was originlly intended only to serve ARPA's own research community), At the current funding level, there is no more "free, open" NLS service -- only a single user slot that is specially scheduled for short log-on sessions useable only for querying and message handling,   2c

Originally your use of our computer could be slipped in under general NIC service, When the NIC was moved to OFFICE-1, its services came under closer scrutiny and we couldn't continue on that basis, so we at ARC agreed that you could carry on using our own facility during our off hours,   3

To Norway friends: The changing resource picture at ARC

Right now there seems to be no problem in your continuing to use the SRI-ARC machine between our hours 1700 and 0500. Between 0500 and 1700 we are already sharing with other contractors assigned by the IPT Office of ARPA, who must get their respective shares without other-user interference.

4

But, at almost any time in the next few weeks, when the sharing and accounting scheme is settled, it may become impossible for us to continue giving you this access. For instance, if each contractor is to be charged in proportion to the machine cycles he uses, then your use would cost us money out of our projects' already badly slashed budgets.

4a

In January, when we move to another machine, the situation will be even more unpredictable.

4b

Jim Norton, here in ARC, one of the two Assistant Directors of the Center, is in charge of our operational services -- which include both the SRI-ARC facility and the Utility services of OFFICE-1 (TYMSHARE, Inc. operates the OFFICE-1 facility for us at their home site in Cupertino, Calif., under direct contract to SRI).

5

Jim has the problem of negotiating our computer-resource arrangements with ARPA, and of subsequently managing the resource service and usage under whatever agreement is reached.

5a

If it becomes necessary for you to change your access practises, or to shift to some paying mode in order to continue accessing our machine, Jim will negotiate with you directly.

5b

NOTE: Jim needs a firm communication connection now with whomever will bear the responsibility of coordinating your directory's access and usage.

6

Please send Jim an acknowledgement of this memo, and identify the responsible party there, so that he will know that there is someone "listening and attending": NORTON@SRI-ARC, or JCN.

6a

Over the years, in one's professional activities, there seems to be a continuing process of planting seeds, or transplanting little seedlings, with hopes that they will take root and flourish and enrichen the whole garden. For me, one part of the garden was hoped to be a "trans-Atlantic collaboration" area; it was exciting to contemplate, the conditions seemed promising, and the people were certainly interesting. I have seen many little plants in the garden shrivel and die, and I should be able to shrug it off; yet somehow I am especially sad to think that this one may do so.

7

To Norway friends: The changing resource picture at ARC

   I shall remain hopeful -- with best personal regard and good wishes,
Doug Engelbart   8

ARC visit by Ray DeSaussure, LLL, 26 Jun 74

(J23538) 6-JUL-74 17:14;   Title: Author(s): Douglas C. Engelbart,
Harvey G. Lehtman/DCE HGL; Distribution: /SRI-ARC([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: DCE;

ARC visit by Ray DeSaussure, LLL, 26 Jun 74

Raymond E, DeSaussure
Computation Department
Lawrence Livermore Laboratory
University of California
P.O, Box 808
Livermore, California   94550
    (415) 447=1100, Ext 3293   1

Ray and I (DCE) have been acquainted for many years, He has been
interested for quite a while in finding a way to apply NLS within
their environment, This visit didn't conclude anything, but
represents another step toward the day when we might see them using
NLS,   2

    They have very stringent security regulations that inhibit their
    connection to outside computer facilities,   Ray's job seems to
    involve a lot of product studies in support of acquiring
    computer=related equipment, For instance, when I met him in
    Houston a few years ago, at an AFIPS conference, he was deeply
    involved in selecting a high=quality COM device for LLL (they
    bought several III FR=80's == precursor to the COMP=80),   2a

He is interested in nailing down some of the technical issues
involved in providing AKW service within the Lawrence Livermore
Laboratory (LLL) working environment,   3

His approach now is to look for an in=house application where it
would be practical to propose their using NLS; and that would justify
the expense of some minimum physical=system module (since an on=site
installation must provide services for any apprecialbe internal
usage),   4

Some possibile application areas: 5

    Procurement, The LRL group doing some of the Lab's procurement
    are already looking at a special computer installation to support
    their need == a Texas Instrument 960 computer and the DXS data
    exchange system message switcher which runs on it, Question:
    could a stand=alone NLS system be installed at LRL at compettive
    price and service level?   5a

        Attraction of the TI system, to the potential client, is that
        the system's function and terminology are expressed in words
        familiar to them, Ray would hope that a more general system
        could be made similarly attractive, and yet would allow future
        extension into more general application,   5a1

        To that point, our CML=CLI provides an extremely effective,

ARC visit by Ray DeSaussure, LLL, 26 Jun 74

special-tailoring capability for producing a custom-made set of
functions and a user language for controlling the system,   5a2

The TI system is small and runs in about 20K of core, It is
inexpensive (about $60K purchase price,) It has,
correspondingly, limited capabilities compared with those
available in NLS, The needs of the procurement group were not
specified so it is not clear to us just what functions are
essential to them and just what parts of NLS would be of
interest,   5a3

Inventory control, Much equipment, etc,, to control, This area
is already planned tightly enough not to offer much freedom to
experiment for several years,   5b

Some of his questions about NLS: 6

What are the requirements for supporting a minimal, stand-alone
system?   6a

Can a minimal system be expanded upwards to provide steadily
increasing function and number of terminals supported?   6b

Showed him a schematic organization of NLS -- TML, L10, CML, CMLT,
CLI, CLG, etc,, and our staging toward: a Frontend (FE), other-sys
Backend (BE), FE flexibility as to many users with just CLI service,
or as to fewer users and some arbitrary amount of "whole-NLS"
service,   7

He descbibed some of the basic characteristics of their OCTUPUS
system, and the number of "places" in that system where it could
be possible to connect an NLS FE, OCTUPUS seems to have much in
the way of concentrators, file storage, fast file transport, etc,   7a

They also have a number of stand-alone computers, It is apparent
that it could pay to have these tied in to the OCTUPUS system,
Design philosphy would have such an interface to OCTUPUS be via an
"OCTUPUS front-end" concentrator, that could do flexible
interfacing -- e,g, file structuring, etc, If ever done, this
could also be a good place to tie such as an NLS FE,   7b

Turned him over to HGL at 1500 (HGL's notes below):   8

I learned that the end user group he had under consideration was
composed of people with little computer experience and whose needs
could be satisfied with the TI system with its limited
capabilities (which were not described,) The specific needs of
the group were also not discussed, The Auerbach report describes
the system as a message switching system,   8a

ARC visit by Ray DeSaussure, LLL, 26 Jun 74

We elaborated on the staging plans of ARC (NSW frontend on a PDP-11, etc.) Ray was interested in the minimum configuration of NLS. I told him that our system currently runs in about 160K of core, but that it has many features which might not be of interest to the purchasing group at LLL. After the development of the NSW frontend (with backend functions being carried out on larger processors), it is conceivable that we could expand the configuration on the PDP-11 to include functions for a minimal system. This would require the addition of a file system to the PDP-11 operating system as well as execution modules. A rough estimate of the size of the 11 would be 128K core. (This is, of course, not at all comparable to the desired mini, but would provide much more power.) We would expect about 6 man months beyond the development of the initial FE system to create the standalone system. We could also create uer grammars tailored to their needs.   8b

Another option would be for them to get a utility slot and gain experience in the use of NLS and the many functions within it.   8c

Gave him one copy each of: 9

D. C. Engelbart, COORDINATED INFORMATION SERVICES for a DISCIPLINE- OR MISSION-ORIENTED COMMUNITY, paper presented at the Second Annual Computer Communications Conference, San Jose, California, 24 January 1973, (Journal, dated 12 Dec 72 -- MJournal, 12445,1: xhmz)   9a

D. C. Engelbart, R. W. Watson, J. C. Norton, THE AUGMENTED KNOWLEDGE WORKSHOP, paper presented at the National Computer Conference, New York City, June 1973, (IJOURNAL, 14724,)   9b

Augmentation Research Center, "Output Processor Users' Guide," 23 Aug 73, (Journal -- 12209,)   9c

CML and L10 language manuals   9d

FDBK: Set-Viewspec command deinstitutes CONAN program

(J23539) 7-JUL-74 14:42 7-JUL-74 14:44;   Title: Title: Author(s):
Douglas C. Engelbart/DCE; Distribution: /FDBK([ACTION]) CHI([
INFO-ONLY] Charles: the TNLS version of this bug really is a crippler
for me) ; Sub-Collections: SRI-ARC; Distribution: /FDBK([INFO-ONLY]
) CHI([INFO-ONLY] Charles: the TNLS version of this bug really is a
crippler for me) ; Clerk: DCE;

FDBK: Set-Viewspec command deinstitutes CONAN program

A bug, when I do: Go to Programs CA; Load Program x CA (which loads Program x, and institutes it as CONAN); Quit CA; Set Viewspecs i CA -- then nothing happens. Return to Program and find CONAN deinstituted.

If, instead of doing Set Viewspec i CA, I do a JI Bug i CA, things work as supposed to.

Note that when I last tried, perhaps a week ago, the CONAN program would always get deinstituted in TNLS whenever I left Program mode and tried to invoke filtering.

Comments about ARC's NSW proposal draft

(J23540) 7-JUL-74 17:22;   Title: Author(s): Douglas C, Engelbart/DCE;
Distribution: /RWW([ACTION]) JCN([ACTION]) BC([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: DCE;

Comments about ARC's NSW proposal draft

Summary note: Dick can consider the "editing" issues as seriously as he wishes; I don't think they are worth delaying the contract-pursuit process. Two special items below for Dick and Jim to give special consideration -- I will want to take them up as EMC items.   1

Editorial matters: I wrestled a good bit with the organizational structure -- especially in the PROPOSED EFFORT section. Perhaps a different name for the whole branch would have helped me   2

   I tried to read it as though it were DEFINING the proposed effort   2a

      (in which case I would very much have appreciated if the structure followed closely that of the Work Statement section)   2a1

   I concluded that the material is all quite relevant, and if I had read it as though it were a "Discussion of the Associated Work and Problems" I would have sailed through much more easily.   2b

   But I would still have a few points to raise regarding the structural organization, nonetheless.   I hope my marginal comments can serve to communicate these points.   2c

   These matters are secndary, though, to those points that follow -- if nobody else in the reading chain is particularly concerned about these above points, I'm happy enough to forget them in the interest of our contract-process deadlines.   2d

Executive Issue 1:   Project budget and management.   3

   I share the observation with a number of others that there is probably too much work described here for the time and budget allowed -- especially knowing that there will be a change of program manager at IPTO, and that at best the emergence of a reasonable degree of discipline in deciding main issues will take many months.   3a

   The situation has been difficult, insofar as doing careful planning and estimating.   I have no real problem accepting the position as we now see it -- actually very, very good considering the prevailing conditions.   3b

   What I feel a spcial need for, over the next year, is that within ARC we exercise a firm discipline on the commitments and resource expenditures assocated with this project.   3c

   This is in no way playing down the importance of the NSW Program to our longer-range goals.   But I want to be sure that a balanced set of longer-range goals is served; and to this point I want to emphasize the following: 3d

Comments about ARC's NSW proposal draft

ARC's NSW Project must count on living within its resource
income.   3d1

ARC's Development and Application Department must not be
"captured" by the NSW Project.   3d2

E.g., a Department Plan that is larger than the NSW Project
must be made, and there must be utilization of sold-time margin
for expanding the capability and the scope of activity within
the Department (this definitely means that this overhead margin
must not be used to meet the Project goals).   3d3

The personnel resource to accomplish the NSW Project will
depend heavily upon use of the core, experienced staff. But so
will the activity of training new Dev-Dept staff; and so will
the activity of formulating, planning, and promoting
new-business opportunities. The NSW Project must get its fair
crack at the core reservoir of trained staff, but it can't
monopolize these people.   3d4

I don't feel that there is likely to be any disagreement on the
basic principles involved here. I do want to say that this
general area is now the one of most concern to me as I sign off on
the proposal. I want EMC to focus on these points as soon as we
can.   3e

We do know that the expectations, feelings of personal
commitment and project responsibility, etc, that the Dev-Dept
members establish within themselves will not necessarily match
either the Project's resources or the reasonable rights of the
contractor -- and we know also that these feelings may be
affected by such as firm policy statements, planning-review
processes, larger-scope discussions, etc. I want the
necessary policies, reviewing, and discussions to be part of
the Project environment from the start.   3e1

Executive Issue 2: Role in NSW of ARC's Applications Department.   4

I would like to see some explicit statements in the proposal
about the role of ARC's AD in the NSW. For instance, in the
Milestone Section, it would be important to have some dates there
for: 4a

1) when the NSW Program begins serious planning for the NSW
applications phase(s).   4a1

2) when an agreement would be established as to the exact role
of ARC's Applications Department in the NSW application.   4a2

I'd like this participation issue to be resolved in a general way
as soon as possible. It obviously would make considerable
difference in the Utility-TYMSHARE negotiations this Fall if we
have some confidence as to whether or not we'll be serving NSW
users out of our Utility; and also I feel that, among the numerous
issues that will be decided upon throughout all of the development
phases, there are many in which the future NSW-applicatons support
people should have a part.   4b

Basic conclusion -- it has been a monumental struggle over the past
year. I think ARC's future NSW participation, as it now stands, is a
truly excellent position for us. I'm proud of us all for being in
position to meet the challenge; the proposal has a tremendous impact
of meaty consideration and thought, and I'm especially proud of Dick
for hammering it out on the anvil of many-party negotiation. Let's
barrel ahead.   5

RINS report review

(J23541)   7-JUL-74 17:27;   Title: Author(s): Douglas C.
Engelbart/DCE; Distribution: /JBN([INFO-ONLY]) RWW([INFO-ONLY])
JCN([INFO-ONLY]) DVN([INFO-ONLY]) ; Sub-Collections: SRI-ARC;
Clerk: DCE;

RINS report review

   Short note: I am taking JBN's RINS-report draft with me to read more
carefully on my trip. I will hope to transmit useful results back so
that the production process can pick up again before I get home.
wouldn't be such a problem if it weren't so full and provocative,   1

On better NLS-SCHOLAR interfacing

(J23542) 7-JUL-74 17:58;   Title: Author(s): Douglas C. Engelbart/DCE;
Distribution: /CHI([ACTION]) AGB2([ACTION]) JCN([INFO-ONLY])
RWW([INFO-ONLY]) JHB([INFO-ONLY]) MCG([INFO-ONLY]) LEG([
INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: DCE;

On better NLS-SCHOLAR interfacing

Mario Grignetti called me, on 2 July, to follow up on the report
carried back by Laura Gould -- i.e, that we would welcome closer
collaboration with the SCHOLAR group at BBN that is experimeting with
the teaching of NLS,   1

Mario and I agreed that our technical specialists should be the next
ones to talk about the matter -- assessing the needs, possibilites,
tasks and manpower requirements, etc, for connecting their SCHOLAR
system into the next-stage NLS (with Frontend, etc,) as we have
discussed it here, He gave me the name of Alan Bell (AGB2), and I
gave him that of Charles Irby (CHI), One of them is to call the
other -- either way, Bell's phone: (617) 491-1850, Ext 491; Charles'
is (415) 326-6200, Ext 4611,   2

Apparently the BBN SCHOLAR/NLS group has almost spent all of its
project's funds, even though the contract period doesn't end for
another month or so, They are very anxious to get set up with
continuation funding, Apparently our RADC friends are somewhat
interested, which helps for chances of continuation since the current
project is funded through ESD (Dr, Sylvia Mayer, who has visted ARC)
with money from RADC,   3

I'd like to see an approach that could ultimately let them work in a
standard way with our FE setup, making use of the grammar data
structures, intervening whenever the user and his "works manager"
enable the teacher, etc, And, I'd also like to have room in the same
kind of environment for other AI-type of processes that can sit at
the side and be of help,   4

Calling INMES subsystem 'MESSAGE'

(J23543)   8-JUL-74 08:07;   Title: Author(s): N, Dean Meyer/NDM;
Distribution: /CHI([ACTION]) JCN([ACTION]) KEV([ACTION])
RWW([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: NDM;

Calling INMES subsystem 'MESSAGE'

I have fixed up the user program INMES a little bit. It's an
attachable subsystem, now with two commands: Copy Message file (the
old one) and Move Message file (which renames file, inserts, then
deletes sequential file). I was thinking of calling it MESSAGE
instead of INMES (INMES competes with IDENTIFICATION, so would have
to be second level). Any objections? suggestions? Will wait to put
in user program library (programs directory) until I hear from you.   1

Line Processor Troubles: SENDMAIL message

(J23544)   8-JUL-74 08:11;   Title: Author(s): N, Dean Meyer/NDM;
Distribution: /CHI([ACTION]) DIA([ACTION]) FDBK([INFO-ONLY])
; Sub-Collections: SRI-ARC; Clerk: NDM;

Line Processor Troubles: SENDMAIL message

I did a message and it blanked part qof the screen (on Line
Processor), That part was never restored,   1

Bug in PROGRAMS command Load Program

(J23545)   8-JUL-74 08:18;   Title: Author(s): N, Dean Meyer/NDM;
Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
NDM;

Bug in PROGRAMS command Load Program

I can type in the name of a user program in my directory and it
works, but when I bug the same name, it says "File not online",   1

Beware of Text Pointers named 'PE' or 'PS'!

(J23546)   8-JUL-74 11:53;   Title: Author(s): Harvey G, Lehtman/HGL;
Distribution: /DIA([ACTION]) SRI-ARC([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: HGL;

Beware of Text Pointers named 'PE' or 'PS'!

Text pointers named "PE" or "PS" lead to trouble if you try to use
them in BETWEEN constructions in L10 because of a symbol conflict
with globals of the same names. (Shades of FLAG!) Watch out. (This
problem was discovered in some catalog producton user programs.)   1

Line Processor Troubles; Tabs

(J23547)   8-JUL-74 13:08;   Title: Author(s): N. Dean Meyer/NDM;
Distribution: /CHI([ACTION]) DIA([ACTION]) FDBK([INFO-ONLY])
; Sub-Collections: SRI-ARC; Clerk: NDM;

Line Processor Troubles: Tabs

When I edit a line with tabs in it, the system goes to rewrite the statement, and after the line with tabs is puts in an artificial blank line. Viewspec-f works properly.   1

a word about sri-washington

(J23548
) 8-JUL-74 15:24;   Title: Author(s): Jeanne M. Leavitt/JML;
Distribution: /SRI-ARC([INFO-ONLY]) ; Sub-Collections: SRI-ARC;
Clerk: JML;   Origin: (LEAVITT, WASH.NLS;2,), 8-JUL-74 15:12 JML
;####;

a word about sri-washington

The following is the text of an SRI memo dated May 23, 1974, from
Ernie Moore's office, regarding coordination of visitors at the
SRI-Washington office. Since a number of our staff members are in
Washington, and since many others make frequent trips there, I
thought this memo should come to the notice of all: 1

In order to make the Washington office more useful and responsive to
the needs of SRI out-of-town visitors, Bonnie Conlon, Room 416, Ext.
251, has been assigned to the position of Visitors' Secretary. As
such, she provides a single point of contact for all administrative
problems requiring assistance from the Washington office, and she's
available for general secretarial services. If a considerable typing
load is anticipated, it would help greatly if she could be notified
in advance.   2

Please tell your staff to let Bonnie know what their needs are when
in the Washington area. In order for Bonnie to deal with visitors in
the best manner possible, she should know their schedules while in
the Washington area; if a visit to the Washington office is
impractical, a telephone call will help.   3

Letter from DDSI Giving Latest Prices Including Fiche

(J23549) 8=JUL=74 19:49;   Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /DPCS([INFO=ONLY]) JHB([INFO=ONLY]) ,
Sub=Collections: DPCS SRI=ARC; Clerk: DVN;   Origin: (
VANNOUHUYS, DDSI7/5/74,NLS;2,), 8=JUL=74 13:30 JML ;####;

Letter from DDSI Giving Latest Prices Including Fiche

July 5, 1974   1

Mr. Dirk van Nouhuys
Stanford Research Institute
333 Ravenswood Avenue
Building 30
Menlo Park, Ca. 94025   2

Ref. letter to you from Robert Spencer, dated November 12, 1973   3

Dear Dirk: 4

The attached price schedule restates the prices quoted in the above
referenced letter and adds those for the generation of fiche from
either hardcopy or directly from your SRI-format tapes.   5

If you have any questions, please give me a call.   6

Thanks again for your interest in our services.   7

Sincerely,   8

Ken Manire
Sales Representative   9

July 5, 1974   10

PRICE SCHEDULE FOR STANFORD RESEARCH INSTITUTE AND ARPA NETWORK
MEMBERS   11

I. Programming   12

   All initial programming of Photocomposition - negotiable*   12a

   Program midifications to existing applications will be billed on
   an hourly rate for both machine time and programming tme. Upon
   request for changes, DDSI will supply SRI with a firm quote after
   evaluation of the effort required.   12b

      Machine Time . . . .$350.00 per hour   12b1

      programming Time . . . . 25.00 per hour   12b2

II. Output: 13

   A. Photocomposed page on 35mm film or 105mm fiche (24X or 48X):   13a

      Single font $2.20/frame   13a1

Mixed fonts $2.60/frame		13a2
Minimum amount $200.00		13a3
B. 105mm fiche (24X or 48X)		13b
from hardcopy (KP-5) $30.00/master		13b1
C. Fiche Titling $10.00/title		13c
D. Fiche Dupe . . . . $.25/dupe		13d
Minimum amount 5.00		13d1
E. Copyflo Bond Proofs 8 1/2 x 11		13e
$.10 per page		13e1
Minimum amount $25.00		13e2
F. Camera ready copy - KP-5		13f
$.60 per page		13f1
Minimum amount $25.00		13f2

*Upon receipt of each new application, DDSI will provide a
supplemental price quote, based on programming analysis application
requirements.   14

Remember, to be duped by a Fiche Dupe is the most ignominious dupe of
all.   15

DSEL modification need,

(J23551) 8-JUL-74 21:22;   Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /SRI-ARC([INFO-ONLY]) ; Sub-Collections: SRI-ARC;
Clerk: KIRK;

DSEL modification need.

Concerning the new repeat mode in DNLS, I have been working in the
new language for about as long as anyone. I am used to the new
repeat mode and have gotten very good at using it to do what I want.
Compaired to the old nls "automatic repeat" with the option of
specifying the verb of any other command without having to hit CD, I
still find the new system unnecessarily hard to use and limiting in
capabilities. I also see it's value for consistency with TNLS, etc.   1

What is needed to have the useful recognition mode of old DNLS in the
new DNLS is to modify the DSEL to allow three alternatives (when
turned on by the useroptions subsystem). In addition to the current
alternatives of BUG / [ADDRESS] there would be a third: COMMANDVERB.
COMMANDVERB would be prompted by C: and allow the specification of
any verb in the subsystem in which the user is located.   2

With this COMMANDVERB alternative turned on and the user-definable
repeat character set to CA, one could have all of the capabilities of
the old DNLS command mode in addition to the new capabilities of the
new DNLS.   3

Note this will not simulate the old DNLS command mode completely as
there would NOT be a special jump mode. An improvement I think. In
old DNLS I was in the habit of always hitting a command delete before
every command to make sure I was out of the jump mode. I had hoped
the new NLS jump mode, consistant with all other command modes, would
allow me to do away with this expensive and wasteful practice.
Instead, I find I still hit CD before every command in order to make
sure I'm not in a repeat mode. Expensive in cpu time and wasteful in
unnecessary user button pushes.   4

The modification in the DSEL I suggest above would solve this problem
as well as allow the user much fewer cognitive determinations when he
needs to repeat a command or change to a different command. In
general, this is an important overall improvement for DNLS users much
greater in magnitude than the EXPERT EXPERT mode I suggested
(unfortunately named and implemented with respect to questionmark yet
even so, still favored by experienced users). It would also solve or
obsolete the problems expressed by many others in <feedback,fdbk,>
concerning recognition and the DSEL.   5

1

markers in new nls

markers in new nls

My experience is that the mechanism for determining when mar#er
"addresses" being typed is inconsistent with the rest of NLS address
parsing, In many commands (like insert character, for example) a mar
er address can be typed WITHOUT the option character preceding it;
it's simply a function of how the keyset/mouse keys are depressed and
released,

This may be neat for marker usage, but it's hell on learning, and on
speedy or sloppy typists like me who don't release the keyset
completely before typing the <ca>,

I believe the marker parsing mechanism incorrectly ignores conTEXTT
(is it not true that a marker is an address? if so then why isn't it
parsed as an address? ??)   1

(J23553)   9-JUL-74 11:47;   Title; Author(s); N, Dean Meyer/NDM;
Distribution; /FDBK([ACTION]) ; Sub-Collections; SRI-ARC; Clerk;
NDM;

Why does the command "Delete Modifications" deinstitute and program
that was instituted as the current content analyzer?   1

INMES

(J23554)   9-JUL-74 15:04;;;;; ;   Title: Author(s): Charles H,
Irby/CHI; Distribution: /NDM([INFO-ONLY]) ; Sub-Collections:
SRI-ARC; Clerk: CHI;

INMES

Dean, changing the name of INMES to MESSAGE seems fine to me (Wasn't
it called that before?). You might also consider names like
MESSAGEINSERT or MESSAGECOPY.... -- Charles.   1

Notes on Talk with Tom Humphrey on SRI Text System

(J23555) 9-JUL-74 15:06; Title: Author(s): Richard W. Watson/RWW;
Distribution: /DCE([INFO-ONLY]) JCN([INFO-ONLY]) DVN([
INFO-ONLY]) CHI([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk:
RWW;

Notes on Talk with Tom Humphrey on SRI Text System

Tom and I talked for about 2 1/2 hours Tues. July 9. I outlined what
we wre planning to do for NSW and he described his felt concerns and
his view of how ARC and those who might build a SRI text system might
collaborate.   1

He had the following concerns about any resulting system.   2

1) Timing - He seemed to feel that getting something going soon
was important to head off various groups such as LRPS of Urban and
Social Systems going off on their own. We discussed a scenario
for getting up fast with the Utility and a usr interface with at
least a subset of features toward which the end system would move.
He seemed resistant to such an approach because of concern that
Office 1 had inadequate response for production editing and was
missing some needed functions.   2a

2) Cost - He is very concerned about cost and the only area of
discussion would be initial costs. Any system he could build
special could not be any or much more efficient then what we are
headed for with our frontend approach and there are developmental
costs to consider.   2b

3) Application needs - There is the tradeoff between bending the
application to fit a system and modifying a system to fit the
application. He seemed concerned that NLS would require heavy
bending of the application given its weaknesses with respect to
handling headings, tables and other unnamed structures.   I
acknowledged the weakness in this area but indicated that we felt
improvements here would be welcome and could be made probably at
less cost then starting from scratch.   2c

4) Interaction Quality - This is an area he seemed to feel very
strongly about, wanting very fast response. He felt we were
overloading the 10 such that production editers would be
frustrated, He seemed reluctant to use Office 1 for fear of
turning initial users off. He felt that Office 1 would be fine
for researchers but not for production editers. I had to admit
that Office 1 had been underconfigured and with more core things
were better, but his concern remains. I indicated that we could
pick our initial users with reasonable care and that they would be
very happy with something rather than nothing and that initial
experience would be very important, Basically I think he has a
good point, even our local system does not have adequate response
for a hard driving production editer, witness the constant
frustrations of our own staff.   2d

5) Data Base access - He said that one important side benefit
would be the data bases of biographies and other data that would
want to be accessed for other purposes. The 6700 people are

1

pushing hard to get their system used here, I indicated our
desire to hook NLS up to such systems and that if the database was
not too large it could be handled directly in NLS, He seemed
very concerned about security and SRI proprietary info and worried
about having some of this data on Office 1,   2e

Tom's suggested way to collaborate after we had talked was for them
(whoever they are) to build a set of upward compatible execution
functions with NLS to reside in the PDP 11 and operate under our
frontend, This set of execution functions would include a subset of
present NLS capabilities for editing and viewing and extensions for
headings, tables etc, We talked about how this could be done so that
the results could also run on a Tenex (no real concern of his
presntly), He also wants to build a processor that would control a
phototypesetter and other devices that would talk to the other system
with frontend-tool protocols of the NSW form, The goal would be a
system that would fit in the evolving network based tool system but
handle the gut editing stuff stand alone,   3

He indicated several times his concern that any system built have
compatibility with NLS, One of the clear problems is defining what
it is NLS is now that our directions of Frontend, Backend multiple
tools make it hard to pin down where it is that NLS resides, IS NLS
the whole coherent tool framework we are trying to build, one set of
execution functions, just the editer etc, We need to think this
issue through as people seem to get easily stuck on past models and
not flow well into the future we are headed for,   4

The goal would be to get the frontend to tool interface defined and
for them to work in parallel on the execution module for the 11, We
would have to work closely to be sure that the file system for the 11
module and the 10 based NLS are cmpatible if possible with new kinds
of node entities and to try to get an approach that results in new
capabilities getting cross to the 10,Where our funding is going to
come from for this collaboration and possible needed changes in the
10 version of nLS to maintain compatiblitiy with the new features to
exist on the 11 is unclear to me,   5

We have here a parallel situation with the MST system, of a system
with some potential incompatibilities with existing NLS, The problem
is that basically NLS as it presently exists does have some holes for
serious production text editing work, As we keep talking we can
probably get a completely satisfactory approach to all parties, We
will probably need to compromise some but I feel that a good basis
for further discussions has been established, The next step is for
Tom to write his report and for us to review it and feedback to him, 6

New NLS Hard Copy Documentation to be provided to Operations by
1-OCT-74 for Utility Users

(J23557) 9-JUL-74 17:13;   Title: Author(s): Jeanne M. Beck, Dirk H.
Van Nouhuys, Kirk E. Kelley/JMB DVN KIRK; Distribution: /DIRT([
INFO-ONLY]) , Sub-Collections: SRI-ARC DIRT; Clerk: JMB;
Origin: (BECK, CUE.NLS;7,), 9-JUL-74 17:09 JMB ;####;

New NLS Hard Copy Documentation to be provided to Operations by
1-OCT-74 for Utility Users

These are issues discussed & agreements made at 2 meetings (3-JUL-74
& 9-JUL-74) of Operations and Development people involved with
Documentation, according to the authors' understanding.

New NLS Hard Copy Documentation to be provided to Operations by
1-OCT-74 for Utility Users

Hard Copy Documentation for the New NLS for Utility Users
to be provided to Operations by 1-OCT-74 (writing finished 1-SEP-74;
one month for printing & distribution)   1

Meetings: 3-JUL-74 10:00 attended by DVN, JHB, KIRK, CHI, JMB, SRL,
MDK
and 9-JUL-74 11:00 attended by DVN, JMB, JHB   2

Explanatory document   3

   Jim Bair has asked for a document that will tell in prose the
   purpose of commands and how they work, and define some NLS terms,
   It is generally agreed that it is possible to generate such a
   document from the HELP data base in the order of one person week.
   At least two plans exists for that generation: 3a

   A filtered HELP data base with the function statements of
   commands plus certain definitions. The filtered data base would
   be organized into something like a glossary and a commands
   section, organized by subsystems and within subsystem
   alphabetically. Small additions would be needed to the
   explanations of some commands to supply information missing out
   of context,   3a1

   A hardcopy HELP Data Base as described in <12345,> to be called
   "NLS Reference Guide". That is, a printout of the help data
   base with "pretty" references to statement numbers replacing
   links, Table of contents for each section and outlines for each
   major branches, an index automatically generated and combined
   with the LEXICON for a combination glossary-index to be located
   at the end, and a COMmed version to reduce the size to under
   100 pages. After the first pass, the COM source could be
   generated in a day,   3a2

Primer   4

   Will be only one primer supplied befor Oct 1 -- essentially the
   one now residing (vannouhuys, newprim,) except for changes
   required by language changes,--agreed meeting #2   4a

Command syntax summary--discussed Meeting #1   5

   Agreed that command syntax for Help and summary document would be
   generated automatically,   5a

   It could be part of the Explanatory Document (see--3) or not,   5b

   There was extensive discussion of formatting--what metalanguage

can we use to represent commands? Problem was especially with how
to represent alternatives in commands,   5c

No agreement, but Charles felt that he had clear enough ideas to
write trial program, We will wait to see what he comes up with,   5d

Agreements on Cue Card--meeting #2   6

Syntax conventions on the Cue Card: 6a

Three colors to indicate who types what in commands--   6a1

Red--you type (operands)   6a1a

Black--system types (noise words)   6a1b

Third color--who types what is undetermined (commandwords)   6a1c

The confirmation character (<CR> or CA or <^E> or <^B>) will be
represented by a exclamation point ! as is in current cue card   6a2

We have not come to a final decision on how to represent
Space, when we want to indicate to the user she has to type it,
white spaces would be used merely for readability,
Alternatives discussed are: 6a3

March<>hare   6a3a

March hare with the special editor's mark--not on our
          Keyboards--printed under the blank, It's one
          of these] rotated 90 degrees clockwise   6a3b

March<SP>hare   6a3c

What will be on the cue card, in this order if possible: 6b

SYNTAX CONVENTIONS--what resides under this category now, with
some additions and deletions   6b1

CONTROL & SPECIAL CHARACTERS--what resides under this category
now, with some additions and deletions   6b2

HELP--will tell about ? and <^Q>   6b3

TIP SETTINGS--as is   6b4

LOGIN--the only Tenex stuff we will speak of (The TENEX/NLS

section will go away, because those capabilities will be
covered by Universal commands and Editor commands)   6b5

COMMAND RECOGNITION--state alternatives & effects   6b6

ADDRESSING--will include what's now in Moving,,, & Address,,,
(revised for new NLS of course)--essentially a table of
elements, including host, directory, etc, so that covers links   6b7

VIEWSPECS--as is, except add E & F, delete O & P   6b8

COMMANDS FOR ALL SUBSYSTEMS--the universal commands   6b9

EDITOR SUBSYSTEM COMMANDS--list the important ones (We will
have space for approx, 132 one-line commands covering all
subsystems)
(Replaces the Editing matrix, File Manipulation,
Printing/Output)   6b10

SENDMAIL SUBSYTEM--list most frequently used commands (Replaces
Journal)   6b11

FINDING IDENTS--essentially as is, but revised if necessary   6b12

USEROPTIONS SUBSYSTEM--list of commands   6b13

PROGRAMS SUBSYSTEM--list those commands needed to run user
programs (Replaces Program Control)   6b14

TROUBLE-SHOOTING--as space permits-10 lines or so from JHB's
course material   6b15

Sections to be deleted from the existing cue card: 6c

Preassigned Catalog Numbers   6c1

NIC Online Resources   6c2

Editing matrix   6c3

Status--covered by various subsystems   6c4

Special Purpose--covered by other sectons   6c5

Printing/Output--covered by Editor commands   6c6

File Manipulation--covered by Editor commands   6c7

New NLS Hard Copy Documentation to be provided to Operations by
1-OCT-74 for Utility Users

The above covers a TNLS cue card, We plan to do a
DNLS/Lineprocessor cue card in the Fall,   6d

Group/Directory   CPU used   Connect time   (hrs:mins:secs)

(J23558)   10-JUL-74 21:56;   Title: Author(s): James C. Norton/JCN;
Distribution: /JHB([INFO-ONLY]) DLS([INFO-ONLY]) IMM([
INFO-ONLY]) CKM([INFO-ONLY]) MDK([INFO-ONLY]) SRL([INFO-ONLY
]) ; Sub-Collections: SRI-ARC; Clerk: JCN;   Origin: (NORTON,
JANUSE,NLS;2,), 9-JUL-74 22:19 JCN ;

####;

OFFICE-1 USE FOR JANUARY 1974

Group/Directory CPU used   Connect time   (hrs:mins:secs)

ARPA-ENERGY

BROWN	0: 0: 9	0: 0:46
CAPPS	0: 0: 3	0: 0:10
ENERGY	0: 0:-3	0: 0:54
JORDAN	0: 0:16	0: 7:16
KRUZIC	0: 0: 8	0: 0:44
MEYER	0:11:40	6:39: 2
MILLER	0: 0:10	0: 0:41
RODDEN	0: 0: 9	0: 0:54
RODRIGUES	0: 0: 7	0: 3: 3
SCHMIDT	0: 0: 9	0: 0:39
VANNOUHUYS	0:19:48	6:56:28
WALTERS	0: 0:20	0:49: 6
WHITBY	0: 0: 3	0: 0:16
TOTAL	0:33: 5	14:34:59

ARPA-NIC

BTHOMAS	0: 0:43	1: 2:50
TOTAL	0: 0:43	1: 2:50

ARC

BAIR	0:13:49	15:46:15
BECK	0: 0:17	0:36:40
FEEDBACK	0: 0:51	0:42:30
KELLEY	0: 3:36	3:55:49
NORTON	0:44:22	24:13:38
TOTAL	1: 2:55	45:14:14

BELL

BEDFORD	0: 9:11	9: 7:30
BELL	0: 1:40	0:55: 0
DAY	0: 8:24	14: 6:40
FELDMAN	0: 1: 7	0:56: 9
MATTIUZ	0: 3:38	4:49:11
NAPKE	0: 0:37	0: 8: 2
WEINTRAUB	0: 1: 5	1:36:59

OFFICE-1 USE FOR JANUARY 1974

Group/Directory   CPU used   Connect time   (hrs:mins:secs)

TOTAL	0:25:42	31:39:31

RADC

BARNUM	0: 1:24	0:31:39
BERGSTROM	0: 7:18	5:16:20
BUCCIERO	0: 1:33	2:35:49
CALICCHIA	0: 0: 7	0: 6: 2
CARRIER	0: 8:35	9:44:59
CAVANO	0:10:55	8: 9:29
DAUGHTRY	0: 3:21	3:27:28
DECONDE	0: 0:33	0:18:21
IUORNO	0: 4:10	4:59:11
KENNEDY	0:25:30	18:11:10
LAFORGE	0: 2:51	3: 7:46
LAMONICA	0: 1:44	3:19:56
LAWRENCE	0:17:17	12:59: 1
LIUZZI	0: 2:48	6:19:15
LOMBARDO	0: 0: 6	0: 0:36
MCNAMARA	0: 1:41	2:32: 9
PANARA	0:22:32	11:50:18
PETELL	0: 0: 7	0: 0:37
RZEPKA	0: 4:14	3:46:44
STONE	1: 8:26	56:20:51
THAYER	0: 0:59	1:25:47
TOMAINI	0: 2:53	4:12:27
VANALSTINE	0: 0:12	0: 2:12
WINGFIELD	0: 1:10	0:28:10
TOTAL	3:10:26	159:46:17

SYSTEM

BACKGROUND	1:23:54	83:37:00
FERGUSON	1:17:19	55:10:46
HOPPER	0:51:37	31: 2:37
JIMB	2:14:14	100:57:23
MARRAH	1:31:39	41:30: 3
MARTINEZ	0:27:35	33:43:50
NETPROG	0: 0:32	0: 8:23
OPER	0:51:11	156:32:27
PETERS	0:14:48	10:30: 8
PRINTER	3:48: 3	283: 2:43
SYSTEM	0:37: 0	166:15:22

Group/Directory   CPU used   Connect time   (hrs:mins:secs)

    WALLACE   0: 0: 3   0: 0:23
    WHITE   0: 6:27   27:46:16

     TOTAL   13:24:22   990:17:21

GRAND TOTAL   18:37:13   1242:35:12