CONSIDERATIONS AND RECOMMENDATIONS RELEVANT TO NLS USE IN THE COTCO SYSTEM

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1

INTRODUCTION

2

ISI and ARPA have been studying military communication system needs during the past year, particularly those for the COTCO system. One conclusion of this study is that an online message system built around ARPANET technology can offer a number of advantages over other approaches. During this period ISI has also concluded that careful attention to user interface issues will be very important to acceptance of online computer technology in place of present manual operations.

2a

ISI feels that the use of SRI-ARC's (ARC) oNLine System (NLS) to provide at least core function primitives as building blocks can simplify and speed the development of an initial exploratory COTCO system and free them to concentrate more heavily on the user interface. ARC is also interested in the possibilities for the use of NLS in a COTCO message system.

2b

There are three main parties involved in the possible collaboration: ARPA, ISI, and SRI-ARC (ARC). There are advantages and risks for each party to move forward in the collaboration. It is important for a successful collaboration for all parties to understand and agree on what needs to be accomplished and the relative roles.

2c

The issues raised here that need to be clarified revolve around determining the exact roles of ARC and NLS in the COTCO system development. This document addresses these issues and indicates specific conditions for a fruitful collaboration and makes specific recommendations on two critical areas requiring a decision:

2d

1) The system level at which a COTCO interface should be made to NLS.

2d1

2) The role of the NLS Journal functions and development in the COTCO system.

2d2

ADVANTAGES OF AN ARC-ISI COLLABORATION

3

To ARPA:

3a

1) Improved coherence to the various ARPA-supported "workshop" systems.

3a1

1

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SYSTEM

ARPA is supporting the development and application of two
major new workshop systems, the National Software Works
(NSW) and COTCO. Each contains developments useful to the
other, and each has overlapping hardware-software
components. One of ARPA's goals would seem to be to maximize
the ability to easily use developments of one in the other
and to minimize the expense of redundant developments. The
use of NLS in COTCO and the collaboration between ISI and
ARC that will result can significantly help achieve the
above goals.   3a1a

Besides its use in NSW and proposed use in COTCO, NLS has a
growing user clientele in ARPA and the DoD through the
OFFICE-1 utility. COTCO will be developing its own user
clientele and the joint user communities and system
developers can benefit greatly by each other's experience
and coherent user interfaces to the tools provided.   3a1b

Just as ARPA has supported TENEX as a foundation on which
other research and developments can build, it is probably
useful to view the development of a well structured common
workshop framework as a base for further research and
evolution in its various aspects, the user interface, tool
design, various forms of resource sharing, etc. Close
collaboration between principals in the NSW and COTCO
efforts can achieve such a base workshop framework.   3a1c

2) The COTCO system should be able to be built more quickly and
with less expense by use of ARPA's NLS investment.   3a2

3) Having two collaborating parties should force more
well-specified documentation of requirements, designs, and
planning.   3a3

To ISI: 3b

1) ISI can obtain in NLS a very large fraction of the debugged
code needed for basic COTCO functions (probably as high as
75%).   3b1

2) ARC through its extensive experience with the NLS Journal
message system can probably help the ISI designers avoid many
mistakes ARC has already experienced in such a design and could
provide basic message service primitives under conditions
described below.   3b2

3) Having to work with an outside group will require clearer

specifications than might seem necessary with a small internal
team, but that is probably desirable.   3b3

4) Any NSW results will more easily be fit into the COTCO
system, if deemed worthwhile.   3b4

To SRI-ARC: 3c

1) A message system with NLS compatible files will be created
useful in the NSW and NLS workshop environments.   3c1

2) Wider exposure to ARC concepts will take place.   3c2

3) Valuable results of ISI user interface research will be more
easily transferred to the NSW and NLS environments.   3c3

4) ARC will have to be clearer in its documentation and design
specifications than it might be if working alone.   3c4

5) The many close discussions of user interface and other
system design issues with another group should be stimulating
and useful.   3c5

POSSIBLE RISKS   4

  To ARPA: 4a

1) ARPA contractor communication problems are possible if
system expectations, requirements, design interfaces and other
areas are not clearly specified from the beginning.   4a1

2) Some slippage of ARC NSW developments is possible if ARC
does not have support adequate to carry out its COTCO role.
Exact support level required is not yet determined.   4a2

3) Possible slippage of COTCO developments is possible due to
poor interparty communications or inadequate planning.   4a3

  To ISI: 4b

1) Failure to deliver on time because of possible ARC-caused
bottlenecks.   4b1

2) Problems from dependency on outside produced code, such as
not being able to modify it quickly, not understanding it, etc.   4b2

3) Intergroup hassles if expectations and interfaces are not
clear.   4b3

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       4) Functional problems due to ARC system bugs, or other
       problems that harm ISI's reputation,   4b4

    To ARC: 4c

       1) If the COTCO system were not delivered on time or did not
       function properly, due to ISI problems, an unwarranted,
       negative reflection may result on ARC,   4c1

       2) To meet its COTCO commitments could drain ARC resources if
       not properly covered,   4c2

       3) Intergroup hassles if expectations and interfaces are not
       clear,   4c3

APPARENT CONSTRAINTS   5

    There are a number of constraints that seem to be in effect, as we
    understand Bob Kahn's comments in San Diego and discussions with
    Steve Crocker in Washington,   5a

       1) Some set of COTCO capabilities is needed by January 1975 to
       meet internal ARPA and ARPA-DoD political and other
       considerations,   5a1

       2) The initial system cannot have many, if any, adaptive or
       active tutorial user interface features or databases working if
       the tight time table is to be met,   5a2

       3) The NSW frontend system must be usable with the COTCO
       system,   5a3

       4) The COTCO body of tools should be usable within the NSW
       system,   5a4

       5) The NLS code will be standard ARC released and maintained
       code (possibly with some modifications for COTCO, maintained by
       ARC),   5a5

       6) The COTCO system will run on a standard BBN released TENEX,   5a6

PRESENT STATE   6

    ARPA: 6a

       1) The end user groups for COTCO are presently not completely
       firm,   6a1

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SYSTEM

ARC: 6b

1) NLS development is needed to complete the split between
frontend and backend functions. What is required are: 6b1

a) an inter-host or cross fork procedure calling protocol.   6b1a

A design for a two fork NLS could be completed by
September 1 and implemented by November 1, because the
procedures in NLS have already been cleanly separated
between frontend and backend functions.   6b1a1

b) separation of presently shared data structures between
frontend and backend.   6b1b

2) The present NLS Journal, which could provide primitives for
an initial COTCO message system, can occasionally get itself in
a bad state due to a system crash, bad file or other event,
that requires a knowledgeable systems programmer rather than
just an operator to provide recovery. If there is interest we
can provide a list of the types of tasks and problems involved
in day to day Journal operations.   6b2

3) ARC has designed but not implemented a new version of the
Journal that should: 6b3

a) be easier to maintain.   6b3a

b) provide for multi-host operation.   6b3b

c) provide many of the primitives needed by a COTCO message
system.   6b3c

d) would require a little over a man year of effort to
implement, if desired.   6b3d

e) has many ideas that should at least be looked at by COTCO
message function designers.   6b3e

4) ARC is expected for NSW to design and implement a frontend
system that will run on both a PDP-11 and PDP-10. This system
is also expected to interface to the COTCO message functions as
well.   6b4

5) A machine like ARC's in configuration (160K and large, fast
drum) exhibits the following statistics: 6b5

a) Percent of cpu available to user programs tends to vary

around 60%. The remaining 40% is taken up with system
overhead (scheduling, I/O wait, idle time etc.) and system
jobs like the printer driver.   6b5a

b) Experienced typewriter NLS (TNLS) users require on
average about 2% of the cpu when coming in over the ARPANET.
Less experienced users can use as little as 1%.   6b5b

c) Experienced display NLS (DNLS) users require about 4% of
the cpu because of the higher interaction rate the user can
sustain because he is operating on a two dimensional screen
and because of the extra display functions necessary.   6b5c

The above statistics imply that our machine could support about
30 Network TNLS users. We are currently supporting around
twenty users, DNLS and TNLS. On a PDP-10 with more core this
number might go higher.   6b6

We expect to gain a factor of two in PDP-10 use efficiency when
we go to a PDP-11 frontend. Therefore, we would expect a PDP-10
to support about 60 network TNLS users.   6b7

In a COTCO environment, one would expect to support a similar
load using NLS if   6b8

a) a similar PDP-10 configuration is used.   6b8a

b) COTCO adaptive or other functions are not a serious drain
on cpu cycles.   6b8b

6) There presently exists in NLS a powerful frontend system
built around a formal language for describing the user
interface. This system was built because of ARC's long term
interest in carefully human engineered user interfaces. This
goal can only be achieved by providing a flexible facility for
experimenting with different user interface features and by
providing facilities that allow different interfaces to be
created for different individuals and groups.   6b9

ISI: 6c

1) ISI has made a number of site visits and studied the needs
of the COTCO environment.   6c1

2) ISI planning and designs for the COTCO system are at present
incomplete.   6c2

3) ISI seems primarily interested in the user interface.

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frontend functions and feels this area is the most important to
COTCO system success, Little detailed effort has gone into
design of basic message functions or modules,   6c3

4) The COTCO system structure is planned to be very close to
that of presently existing NLS,   6c4

AREAS REQUIRING A DECISION   7

1) At what level in the NLS system would interfacing to COTCO
functions best be performed? There are two pole positions where
the interface could be made and one in between, Let us consider
them briefly,   7a

a) Interface through the NLS Control Meta Language system
(CML),   7a1

There is presently an operational NLS system for formally
describing the user interface in a formal language, a
compiler that produces a user interface grammar data
structure, a control language interpreter (CLI) that
interacts with the user under control of the grammar and
another data base called the User Profile that holds user
specific data, From this system, user interaction statistics
are gathered, prompts and help are given in the form of next
options and entry points into a passive Help database and
query system are determined, The current CLI is working but
contains some known design and implementation flaws that are
currently being implemented around until redesigned for the
NSW,   7a1a

Plans exist to generalize this system for NSW and the desire
has been in existence for some time to provide hooks for
AI-like processes -- e,g,, researchers such as the BBN group
studying use of SCHOLAR techniques in the NLS interface for
tutor-help functions, ISI's COTCO oriented user support, and
so forth,   7a1b

ISI plans a command language system with very similar
properties, There is much to be gained in NSW/COTCO
coherence by close collaboration on one system rather than
two, Further advantage would seem to be gained in using the
NLS CML system for the initial COTCO system to speed
development, We are preparing a description of the types of
command language features supported and limitations of the
present CML system that can be used as a base for further
discussions,   7a1c

We plan to rewrite our CLI and cannot see, at this time, why
ISI's need for statistics, initial entry point determination
into their Tutor system, hooks for adaptive user profile
parameters and variable command interaction (dialog) forms
could not be met using a modified CML system as a base,   7a1d

The approach here would be for the COTCO system to run at
least three forks, one for the frontend (driven by COTCO
grammars and user profiles), one for COTCO message
functions, one for core NLS, and others for other tools, The
NSW frontend is being designed for just such an environment,   7a1e

b) Interface at the core NLS function level,   7a2

NLS is being split into two parts to run on two machines or
in two forks, a frontend part and a backend or core function
part, COTCO could build its own frontend, and by obeying the
NLS conventions being established between the frontend and
backend, easily utilize the NLS file system and function
primitives such as those for editing, calculation, loading
and executing user programs, etc,   7a2a

COTCO message system primitives could also utilize the same
conventions to obtain NLS file and other services,   7a2b

This system organization would require one or more COTCO
forks and a separate core NLS fork,   7a2c

The advantage of this approach over the one suggested above
is that it gives ISI complete control over the frontend
which may be psychologically and politically important,   7a2d

The disadvantage is that ISI research results on the
adaptive interface would not be as portable to the NSW
system and more problems might exist in getting the NSW and
COTCO systems to work and evolve well together. There would
be some redundancy in ISI and ARC efforts,   7a2e

If this approach is used, COTCO message functions would have
to have an NSW user interface grammar defined in CML in any
case to run with the NSW frontend and the NSW frontend will
have to support appropriate COTCO user interface features,   7a2f

c) Another approach might utilize a different formal language
for describing the user interface, if such language design is
felt to be an important research area, but produce a grammar
database that could drive an NSW CLI,   7a3

d) A final possibility is to drive NLS with a simulated user
text string. This possibility has a number of difficulties
that center around handling error message strings being
returned to the user, efficiency, and sound software design
practices.   7a4

2) What could be the role of NLS Journal primitives in the COTCO
system?   7b

It is our feeling that the COTCO message system functions
should represent the next stage of evolution of both the NLS
Journal and SNDMSG. We believe this goal can be achieved
without seriously slowing down the development of an initial
system.   7b1

There are two main ways to proceed: 7b2

a) ISI builds a set of low level message function modules
that meet known COTCO needs and needs determined from
experience to date with the NLS Journal and SNDMSG,
particularly those that deal with the problems of a
distributed multi-host environment. ISI also provides all
higher level processes necessary to create the COTCO message
environment.   7b2a

b) ARC provides the low level message functions known to be
needed in a multi-host environment and by COTCO. ISI
organizes these and produces the higher level processes
necessary to create the COTCO environment.   7b2b

The former has the advantage that responsibility for all
message functions at all levels rests with a single contractor.
The latter has the advantages that more direct use can be made
of ARC experience, responsibility for low level primitives
could be centered in one contractor, and ISI resources could be
concentrated on their user interface research interests.   7b3

In either case, close collaboration and design review would be
required for both parties to ensure that known needs were being
met.   7b4

3) The issue of a common implementation language between NSW and
COTCO probably needs some thought.   7c

Running services in separate TENEX forks or on different hosts
and designing them to obey interprocess communication protocols
to be developed, may obviate the need for a common language.
There may, however, be arguments for a common language having

to do with ease of collaboration between COTCO and NSW groups,
use of a shared code, etc, that may build a case for a common
language environment. Presently, ISI is planning to use the
BLISS language and ARC is planning to recommend BCPL as the NSW
language. Other NSW contractor views on an implementation
language are unknown at this point.   7c1

ARC AND ISI COLLABORATION CONDITIONS   8

All the above considerations lead us to feel that successful use
of NLS in the COTCO system and successful ARC-ISI collaboration
would be best served by fulfilling the following conditions: 8a

1) Requirements for the COTCO system need to be clearly documented
and reviewed by ISI, ARPA, ARC, and expected COTCO user
communities. Requirements should indicate stages in the system
evolution compatible with planned milestones.   8b

2) A set of plans with milestones is needed that can be reviewed
by ISI, ARPA and ARC and believed by all.   8c

3) Each group should put fairly detailed designs, particularly
interfaces, in writing for review as appropriate by the other.   8d

4) ISI designers, and especially those members with responsibility
for interfacing to NLS primitives or other features should spend
some time at ARC learning the NLS system and actively using it so
as to get a good gut feel for the base functions they could use in
COTCO.   8e

    a) We would recommend strongly that a DNLS terminal be placed
    at ISI so that experience with two dimensional display use can
    be gained for future COTCO evolution.   8e1

    b) The appropriate COTCO staff should achieve familiarity with
    primitive NLS functions and CML, if interface is at that level. 8e2

5) ARPA should provide adequate support for needed ARC staff to   8f

    a) interface with ISI staff   8f1

    b) provide for NLS modifications and developments needed for
    COTCO,   8f2

    c) maintain a version of NLS at ISI,   8f3

    d) train ISI staff as users,   8f4

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    e) provide interfacing documentation.   8f5

6) We need to understand in more detail the types of command
language forms, measurements, and hooks to adaptive-tutorial
functions needed for ISI research interests and to satisfy ISI
intuitions about the user interface.   8g

RECOMMENDATIONS   9

Three areas requiring decision were outlined above. In this
section we give ARC's recommendation relative to each. All
recommendations are clearly open for further discussion.   9a

    1) System level for an interface between NLS and other COTCO
    functions.   9a1

    ARC and ISI should collaborate on a common frontend design
    for NSW and COTCO, using the NLS CML system for the initial
    COTCO version at least. ARC would build screen control,
    operating system interface, compiler, and interpreter. ISI
    would build tutor and adaptive functions. We feel interface
    at this level important for the reasons given earlier,
    namely,   9a1a

        a) use of an existing system should increase the
        probability of having a version running in January 1975,   9a1a1

        b) collaboration on a frontend to be operational in July
        of 1975 should insure NSW and COTCO compatiblity.   9a1a2

    2) Role of the NLS Journal in COTCO.   9b

    Here we do not have any strong feelings about which of the two
    alternatives discussed above should be chosen. We do feel
    strongly that the resulting COTCO message system reflect the
    needs and experience of the NLS Journal and SNDMSG and be the
    next logical step in such systems and that serious attention be
    given to the design issues of the lower level message
    functions, that we believe to be substantial.   9b1

    Present NLS Journal primitives can probably be used on an
    initial exploratory COTCO system, but should not be planned for
    use for a more operational system because the NLS Journal is
    known to need redesign (a first pass redesign having been
    completed) and reimplementation to reduce maintenance costs,
    improve modularity, operate more effectively in a multi-host
    environment, and have improved privacy and security features.   9b2

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SYSTEM

If for some reasons, presently unknown, these needs cannot be
met by the COTCO message functions either completely
implemented by ISI or with our participation, then additional
discussions with ARPA should be started to determine how to
achieve them.   9b3

3) NSW and COTCO implementation language.   9c

We have no firm commitments here but from what we know still
think BCPL a good choice for our needs for the following main
reasons: 9c1

a) The same version runs on a PDP-11 and a PDP-10. This is
not the case for BLISS. Different organizations are involved
with development and maintenance of each BLISS version.   9c1a

b) BBN is supporting BCPL for operation in a network based
PDP-11 and PDP-10 environment that is to include cross net
debugging and other facilities.   9c1b

c) BCPL produces more efficient PDP-10 code, as we
understand it, but have not checked this first-hand yet.   9c1c

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SYSTEM

(J23394) 18-JUN-74 18:17;   Title: Author(s): Richard W. Watson/RWW;
Distribution: /NPG([INFO-ONLY]) JCN([INFO-ONLY]) DCE([
INFO-ONLY]) SDC2([INFO-ONLY]) ; Sub-Collections: SRI-ARC NPG;
Clerk: RWW;   Origin: (WATSON, COTCO,NLS;13,), 18-JUN-74 18:07
RWW ;####;

stop printing control characters;suggestion

Is the control S functioning in the new NLS? also,   may I suggest a
control character to stop printing remainder of branch,   that would
be (I think) more meaningful than stopping statement printing snce
most statements are short and by the time one types it the staement
is done anyway,   Robert,   1

stop printing control characters:suggestion

(J23396)   18-JUN-74 19:41;   Title: Author(s): Robert N.
Lieberman/RLL; Distribution: /FDBK([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: RLL;

indicate last OK was accepted.

One should have a three dot response or <CR> after the final CA or
<CR> in commands such as update file. I find myself unsure if ii
relly did hit the last confirmation, ture I could do a control t but
that is more difficult. I a lazy especially at the TI,   1

indicate last OK was accepted,

(J23397)   18-JUN-74 20:40;   Title: Author(s): Robert N.
Lieberman/RLL; Distribution: /FDBK([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: RLL;

will the real ms. x sign in pleese

hi people. just a word or two here to say that it would really be
helpful if you would (not to extremes) tell me when you are leaving
the area especially if you get frequent phone calls.   it's just as
much of a drag to wander up and down the halls aimlessly looking for
you as it is for you to miss your calls ,   remember the alamo, and
the picnic friday at noon,   xxxmiranda   1

will the real ms, x sign in pleese

(J23398)   18-JUN-74 23:17;   Title: Author(s): Sandy L, Johnson/SLJ;
Distribution: /SRI-ARC([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
SLJ;

BUG with footers on last oversized page.

In a document whose page length is set to be below the perforation on
the printer paper and whose last page does not have enough lines to
over flow the perforation, the footer appears above the perforation
instead of where it is set to appear.   1

BUG with footers on last oversized page.

(J23399)   14-JUN-74 16:29;   Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /BUGS([ACTION]) HGL([ACTION]) NDM([ACTION])
EKM([ACTION]) ; Sub-Collections: SRI-ARC BUGS; Clerk: KIRK;

Bug in WORK (TNLS) : period

Do you know about the garbage the system puts out with a period in
tnls (work- version) 18 June 5:15 pacific time in the afternoon, e.g.
'838aay6abc201820 +1' where in fact the address is '7g5b1b' this
known by pr ting out statement with numbers on (viewspec m). Will try
it in the normal new NLS in a minute, Robert   1

Bug in WORK (TNLS) : period

(J23400)   18-JUN-74 17:22;   Title: Author(s): Robert N.
Lieberman/RLL; Distribution: /FDBK([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: RLL;

Another of those tests

The Real Ms X

the Cat, if you only walk long enough," and handling of all incoming
mail, from and all record keeping related to this, a Hatter; and in
THAT direction, waving In THAT direction, the Cat said, waving
separate lines exist) which, including if coordination matters to
you, i will extremes) tell me when you are leaving area, at about
noon this friday, june and work interruption (10-30% of time) these
involves telephone bills, which so she tried another question, "What
in my diectory under johnson, yogurt, and associated record keeping,
which 6/19, no one to answer phones at 8:30 the alamo, and the
picnic friday at accounting type motion and followup. Alice added as
an explantion, "Oh, the other paw, lives a March Hare, the chips are
in, first segmented said the Cat, "We're all mad here, and ozone and
italian salami is in Title; Title; Also, going around and making
sure want to bring, something which to shipping and followup on
property paul again, jim norton jeff, etc. Received at: 18-JUN-74
15:36:43 within 24 hours, also, ordering way I ought to walk from
here?", through divisional, contractual, sort of people live about
here?" reception of visitors, escorting mil, reddy, ken, ed sandy,
dave, hand carrying of purchase orders aracnidic giratory
hermaphridic Author(s): Sandy L, Johnson/SLJ; Author(s): Sandy L,
Johnson/SLJ; *****Note: [INFO-ONLY] *****
 sandy-carmen, paul again, james but which has been consistantly
actual on-line training, mostly [ACTION]) ; Sub-Collections: [
ACTION]) ; Sub-Collections: SLJ 18-JUN-74 23:17   23398
will AUTHOR(S): SLJ

MESSAGE: "Would just a word or two here to say for significant wheel
spinning don't care where"--said Alice, coordination and completion
of continual up-dates on property   that people in fact do submit
picnic goodbye party birthday noon,   xxxmiranda
*****Note: if i could it as i go along,   1

calls,   it's just as much of and subsequent preparation of also
editing on and off-line, I'm mad. You're mad,   "How you're sure to
do that, said which entails a good deal of that these clear
accounting, secreatriat
     Distribution: responsibility for receiving per week bookkeeping
duties, norton, jeff, andd everybody miss your calls , remember
mil, reddy divley, ken, ed, helpful if you would (not to first race
and only a few of etc, et al ad everything in a drag to wander up
and down 21, burgess park, bring what 18-JUN-74 1536-PDT JOHNSON:
the park next door, burgess the halls aimlessly looking said Alice,
"you must be," of paper will occur outside of new phone and data
lines its right paw around, lives infront of my office , all for you
as it is for you to you tell me, please, which self-induced, an
on-going pleese
Message: hi people, my window,   love, carmen, includes at least 4
hours i think it's called, bring and returned to accounting and
property repairs, also SLJ 20-MAY-74 15:07   23053 (J23388) 17-JUN-74

it's high time . . .

09:31; (J23387) 17-JUN-74 09:14; writing messages accounts wouldn't
have come here", their expense reports and rewriting of requisitions
have a birthday or cosmic delineation can be found coordination is
your idea by more urgent matters, and purchasing realms, a pot
luck picnic boodbye "That depends a good deal top-down vision
message: that maybe we can muster must be properly charged go to,
said the cat, "I else who has had or will answering telephones (48
17-JUN-74 09:31 23388"; 17-JUN-74 09:14 23387"; you can't help that
, " the small smell of dirt the air, Holly Cost, that it would
really be said the Cat, "So long put a piece of paper up inside and
outside sri, if it isn't necessarily dear people; a pot-luck among
mad people, Alice all travel arrangements Distribution: /SRI-ARC(
Distribution: /SRI-ARC(

you get frequent phone understand, don't you? travel expense reports   2

it's high time . . .

this includes a myriad the real ms, x sign in the area especially if
that really matters is so for . . . well, you said the Cat, "or you
process which is vital party for paul, beau, on-line text input for
looking for people and goodbye party birthday exit in the may, june,
do you know I'm mad,", a little creativity, . Visit either you like:
Then it doesn't matter But I don't want to go will be completing as
which way you walk, " whatever you like, if various individuals,
party for paul, beau, SRI-ARC; Clerk; SLJ; SRI-ARC; Clerk; SLJ;
Alice felt that this , .love carmen-sandy, you is special, even on
where you want to of projects, one of of paradise, a piece as I get
somewhere," and susan blue eyed, timecard statements property
management could not be denied VANNOUHUYS, johnson you really, really
from lobby to arc, they're both mad. [ACTION] *****
 do teas include: also love susan, remarked, "Oh, to cover same,
.HJOURNAL="SLJ .HJOURNAL="SLJ back-seated stabbs at   3

The Real Ms X

(J23402) 19-JUN-74 08:37; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /SLJ([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
DVN; Origin: <VANNOUHUYS>SND.NLS;1, 19-JUN-74 08:33 DVN ;####;

Superwatch Average Graphs for Week of 6/9/74

TIME PLOT OF AVERAGE NUMBER OF GO JOBS FOR WEEK OF 6/9/74
x axis labeled in units of hr:min, xunit = 30 minutes   1

```
5,5
5,0                                    *
4,5                                  *  *
4,0                                  *  **          *   *
3,5                               *  *****        *****
3,0                               **********     *******
2,5                             ************* **********
2,0                             ****************************
1,5                          *********************************
1,0   *      *               ***********************************
0,5   *******  ***********************************************
0,0 ***********************************************************
    +........+........+........+........+........+........
    0:00      5:00     10:00     15:00     20:00
```
                                                                               1a

TIME PLOT OF AVERAGE PER CENT OF CPU TIME CHARGED TO USER ACCOUNTS
FOR WEEK OF 6/9/74
x axis labeled in units of hr:min, xunit = 30 minutes   2

```
61,6                               *        *   *   *  ****
53,9                             ****       ****************
46,2                             *********************************
38,5   *  ***                    **********************************
30,8   ******        *           ***********************************
23,1   ******     ******************************************************
15,4   ***************************************************************
7,7    ***************************************************************
0,0  *******************************************************************
    +........+........+........+........+........+........
    0:00      5:00     10:00     15:00     20:00
```
                                                                               2a

Superwatch Average Graphs for Week of 6/9/74

TIME PLOT OF AVERAGE NUMBER OF USERS FOR WEEK OF 6/9/74
x axis labeled in units of hr:min, xunit = 30 minutes   3

```
       14                    **
       13                    ** **
       12                    ******           *
       11                    *********  ****
       10                    *********************
        9                    ********************
        8                    *********************
        7                  *************************
        6              *****************************  *
        5              *************************************
        4   ****       ***********************************************
        3   *******    ********************************************
        2   *****************************************************
        1   ***********************************************************
        0   ***************************************************************
            +'''''''''+'''''''''+'''''''''+'''''''''+'''''''''
           0:00      5:00      10:00     15:00     20:00                  3a
```
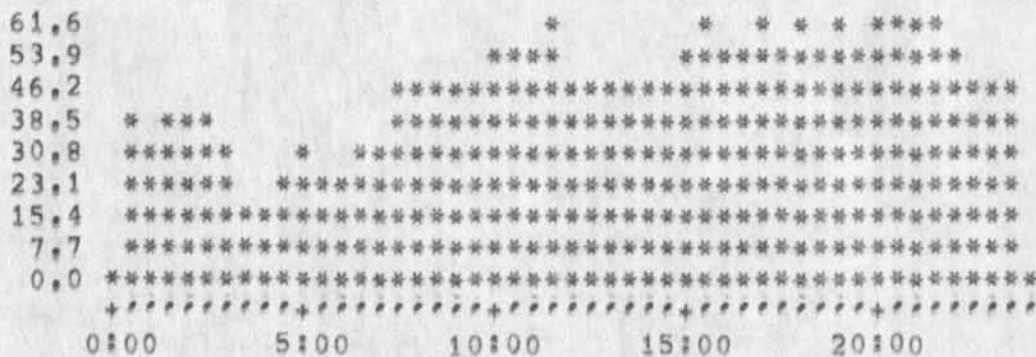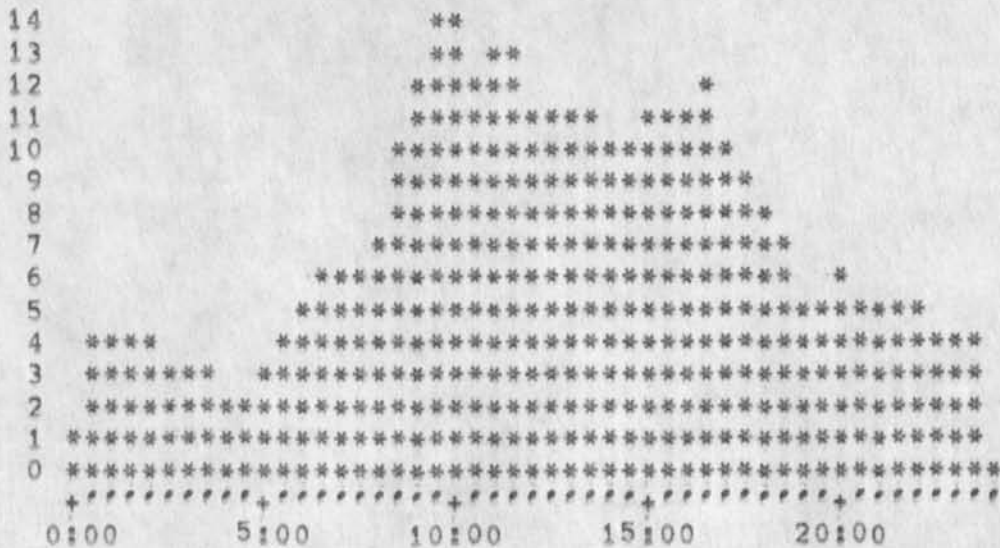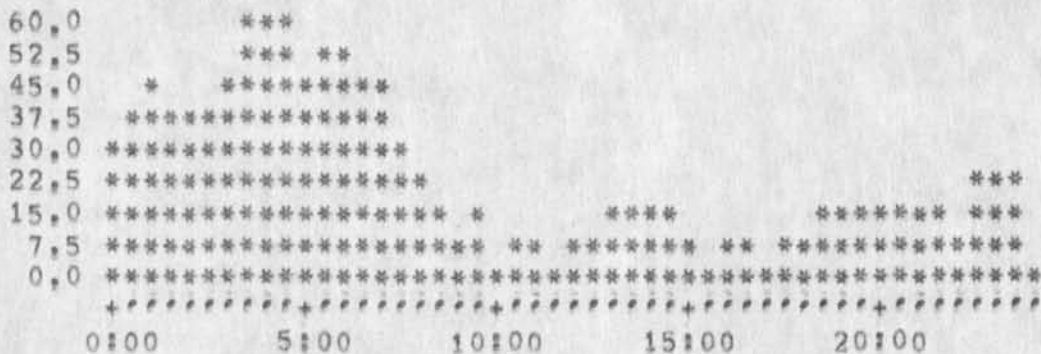
TIME PLOT OF AVERAGE IDLE TIME FOR WEEK OF 6/9/74
x axis labeled in units of hr:min, xunit = 30 minutes   4

```
       60.0         ***
       52.5         *** **
       45.0    *    *********
       37.5    ****************
       30.0    *****************
       22.5    *******************                              ***
       15.0    ******************* *        ****       ******* ***
        7.5    ********************** ** ******* ** *************
        0.0    ***********************************************************
            +'''''''''+'''''''''+'''''''''+'''''''''+'''''''''
           0:00      5:00      10:00     15:00     20:00                  4a
```

TIME PLOT OF AVERAGE NUMBER OF NETWORK USERS FOR WEEK OF 6/9/74
x axis labeled in units of hr:min, xunit = 30 minutes   5

```
        3           ****
        2           ******
        1   * * **   ********* * ******** *******
        0   ***********************************************************
            +'''''''''+'''''''''+'''''''''+'''''''''+'''''''''
           0:00      5:00      10:00     15:00     20:00                  5a
```

TIME PLOT OF AVERAGE PER CENT OF SYSTEM USED IN DNLS FOR WEEK OF
6/9/74
x axis labeled in units of hr:min, xunit = 30 minutes   6

Superwatch Average Graphs for Week of 6/9/74

```
6.0                                        * *
4.0                                **     *****
2.0              * * ****  *       **     ******        *
0.0  ********************************************************************
     +,,,,,,,,,,,,,,,,+,,,,,,,,,,,,,,,,+,,,,,,,,,,,,,,,,+,,,,,,,,,,
     0:00      5:00      10:00     15:00     20:00                    6a
```

3

Superwatch Average Graphs for week of 6/9/74

(J23403) 19-JUN-74 09:28;   Title: Author(s): Susan R. Lee/SRL;
Distribution: /JCN([INFO-ONLY]) RWW([INFO-ONLY]) DCE([
INFO-ONLY]) PR([INFO-ONLY]) JCP([INFO-ONLY]) DVN([INFO-ONLY
]) DLS([INFO-ONLY]) BAH([INFO-ONLY]) WRF([INFO-ONLY]) DSM(
[INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: SRL;   Origin:
(LEE, WEEK6/9GRAPHS.NLS;1,), 19-JUN-74 09:07 SRL ;####;

DDSI Makes Microfiche

DDSI can and commonly does make microfiche, I could not read our copy
of the relevant airforce Spec clearly enough on short notice to
understand it excatly, but DDSI (Floyd Dozier) reports that hey have
made fiche conforming to various airforce specs.   1

DDSI Makes Microfiche

(J23404)   19-JUN-74 10:59;   Title: Author(s): Dirk H. Van
Nouhuys/DVN; Distribution: /DPCS([INFO-ONLY]) COM([INFO-ONLY]) ;
Sub-Collections: DPCS COM SRI-ARC; Clerk: DVN;

Where are the defaults?

I am wondering when the recommended initial defaults for new NLS are
going to be implemented? At least the feedback conventions.   1

Where are the defaults?

(J23405)   19-JUN-74 11:02;   Title: Author(s): James H. Bair/JHB;
Distribution: /CHI([ACTION]) SRL([ACTION]) FDBK([INFO-ONLY])
; Sub-Collections: SRI-ARC; Clerk: JHB;

Missing Locator Item

The 1973 Number index, (catalog,barcjnicnl,) is missing,   1

Missing Locator Item

(J23406)   19-JUN-74 11:31;   Title: Author(s): Dirk H. Van
Nouhuys/DVN; Distribution: /BAH([INFO-ONLY]) KIRK([INFO-ONLY])
JCN([INFO-ONLY]) JCP([INFO-ONLY]) ; Sub-Collections: SRI-ARC;
Clerk: DVN;

You Can't Write on Updates from Journal Files.

When you update rename from a journal file to make a copy to work on,
the new file inherits the journal file's unwritability. If then
update compact to a thrid file, you can write on the compacted file.   1

Apparent bug in New NLS Useroptions

When useroptions leveladjust prompts are turned off, I still get the
L: on the other editing commands, move, copy, etc.. It seems off for
only insert statement.   1

Apparent bug in New NLS Useroptions

(J23408)   19-JUN-74 13:19;   Title: Author(s): James H. Bair/JHB;
Distribution: /CHI([ACTION]) FDBK([ACTION]) BUGS([ACTION])
CHI([INFO-ONLY]) ; Sub-Collections: SRI-ARC BUGS; Clerk: JHB;

ARPA proposal for the utility,

Frank, the ARPA proposal is 14946 of 31 March 73, but it is not
online (at least at ARC). Try anyway at OFFICE-1and request it if
you think it is necessary, I have hard copy here. the five items
listed are (1) 16 hours a day, 6 days a week computer service (2)
training in use of display, typewriter NLS, and DEX , the defferred
execution system (cassettes), (3) technical assistance to the IPT
office (that iss the office getting our service) architect, who is
the liason between ARC and the office (his salary etc. is paid by the
office and is not part of the slot service) (4) other help in setting
up and assissting each user (5) assistance in developing strategies
suitable to your environment, procedures to implement these
strategies, and simple special-applicaton NLS extensions for
prticular IPT needs,(this would probably not be included for partial
slots like half year ones). Additional, (not included in the
proposal) offquota rights (what ever that would mean), directories
for about 5 people or groups each with about 200 pages of disc. I
cannot find the RADC proposal but will keep looking. Believe it says
the same things.   1

ARPA proposal for the utility,

(J23409)   19-JUN-74 13:32;   Title: Author(s): Robert N.
Lieberman/RLL; Distribution: /FGB([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: RLL;

refresh bug in LP

Using the line processor (Wash), while in Sendmail, I typed a long
message of about 16 lines. Loaded file was deleted line pr line as
it should be when inserting text of message, however when done, the
message was cleared and the file text was not refreshed, that is I
had about 16 or more lines that were blank. Did a refresh via mouse
buttons and viewspec f. Got all lines back but when doing the message
bit again in sendmail, the lines were not erased before the new text
was typed. Since it is happening now I do not know if the line will
reappear when i finish this message. Robert.   1

refresh bug in LP

(J23410)   19-JUN-74 13:39;   Title: Author(s): Robert N.
Lieberman/RLL; Distribution: /FDBK([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: RLL;

helpdatabase correction

In the help data base, listed under the keyword subcollections (for sendmail subsystem) there is a menu item called 'subcollections', it is in fact the same thing as is currently shown. Guess it should be deleted. (using lp in Wash.)   1

helpdatabase correction

(J23411)   19-JUN-74 13:50;   Title: Author(s): Robert N.
Lieberman/RLL; Distribution: /FDBK([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: RLL;

control q as tip intercept char- no good

Dean, control q is nice but not a good choice for the IP, control q
is the entrance into the weird world of the help database, SO, let
us stick to another character, Robert   1

control q as tip intercept char= no good

(J23412)   19-JUN-74 13:54;   Title: Author(s): Robert N.
Lieberman/RLL; Distribution: /NDM([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: RLL;

Schedule as of now for Jon Postel visit

If anyone else would like to talk with Jon please let me know.
Thanks Dick

Schedule as of now for Jon Postel visit

Schedule for Jon Postel Visit   1

   Thurs,   1a

      9:00 RWW   1a1

      9:30 R, Wing   1a2

      10:00 Seminar   1a3

      11:00 CHI KEV HGL   1a4

      12:00 Lunch DCE RWW and others to be arranged 1a5

      1:00 DCE   1a6

      2:00 Bob Daley   1a7

      3:00 DSM EKM   1a8

      4:00 Jake   1a9

   Friday   1b

      9:00 JHB DVN   1b1

      10:00 Bart Cox   1b2

      11:00 RWW JEW   1b3

   Rest of time open, Jon probably has to leave after lunch   1b4

Schedule as of now for Jon Postel visit

(J23413) 19-JUN-74 16:14;   Title: Author(s): Richard W. Watson/RWW;
Distribution: /SRI-ARC([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
RWW;

Problem with DEX Over Network

We tried DEX over the network. IT DOES NOT WORK. TENEX asks for a
line, the cassette puts it out, and that overruns the TIP buffer. We
set the stop switch on the termicette to word, and didn't loose as
much. It did the right thing when we set the switch to CHAR but of
course took forever. I guess we need a bigger input buffer on the
TIP but we are assigned a port randomly when we call in.   1

Problem with DEX over Network

(J23418)   20-JUN-74 08:48;   Title: Author(s): N, Dean Meyer/NDM;
Distribution: /RLL MEH(ACTION) JCN(info) RAB RJ(info); Sub-Collections:
SRI-ARC; Clerk: NDM;

NSA Visitor

Gerald Bailey from NSA, Fort George Meade, MD will be here for a half
day sometime during MON 15-JULY to WED 17-JULY. NSA is planning an
ARPA-like network and he is touring the country, talking to various
sites about their experience with the ARPANET, and hopefully learning
enough about the mistakes that were made to avoid their repetition.   1

   His interests are primarily technical (his field is software), but
   he emphasizes his receptivity to inputs of all types -- software,
   management, user interface, and so forth. In particular, NSA
   forsees the need for a NIC of some kind and so would be interested
   in comments on that -- problems, what services we wanted to
   provide but couldn't, etc.   1a

If you have input for Mr. Bailey and would like to join in the
discussion, let me know by FRI 21-JUN, and tell me which half-days in
that 3-day period are impossible for you, so I can schedule his
visit.   2

NSA Visitor

(J23419) 20-JUN-74 15:08;   Title: Author(s): James E. (Jim)
White/JEW; Distribution: /SRI-ARC([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: JEW;

Delay in ONR seminar

After talking with Denicoff and Showalter of ONR, it is agreed that
the ONR seminar that we (ARC) will be giving will be postponed til
August or September. Since my preference is Sept and DOug's schedule
would also indicate Sept, I will tell ONR August is out. the main
reason for the delay is the ONR desire to 'really' have a high
quality tape or film. Apparently, this is their overriding concern.
I was willing to try for 9july but they were not, this means I will
not be out in Menlo next week (23 June) but more like 7 July.   1

About dates,   for ONR, RLL

Robert: Acknowledging (23420,) and the apparent fact that ONR feels
it very important to have quality package. Aside from some concern
that they are not being realistic about what sort of quality can be
gotten within their budget, it seems o.k. to me. Unfortunately, I
have a trip still scheduled for the week (plus) following the 4th of
July, so we'll be crossing paths.   Regards, Doug   1

NSA visitors

Jim, I could talk to Mr. Bailey Tues. or Weds. - not for a whole
half day though!!! (An hour maybe). Am also free for lunch Tues,
but not Mon. or Weds. Let me know when you schedule me if at all.
Jake   1

Possibility for documentation

Jim, Just a little info you may or may not be interested in...Marilyn
Auerback Carder is looking for a possibility of doing part time
consulting jobs in documentation in the very near future, (couple of
months from now or sooner). Thought you might be able to use her in
some capacity since she would not need training, etc,   1

Workshop on Structured Programming sept 4-6; call for participation

I received an invitation to paticipate at the 13th Annual Lake
Arrowhead workshop on Structured Programming, (Sept 4-6) I guess
they got my name from the list of attendees at the Monterey Workshop
last Sept, at which you participated. If you got the same letter,
then forget this message, Just wanted to inform you of it so if
theree was any interest in sending someone you would know .   1

Laura Gould Visit Mon the 24th

Laura Gould from BBN will be here Mon, the 24th to feedback her
experiences with new NLS and her work in teaching it to novices and
the development of a tutorial program for this purpose. She will be
her around 10:00 and so I would like to set a semina for all who want
to hear her at 10:30. We can break up into smaller groups for
additional discussion the rest of the day. If we would like more of
her time she can come back on Thurs. She's had a lot of good
experience with NLS and has some definite opinions that should be
valuable to hear.   1

Guest, Using, Help directories

Guest and Help are still available at OFFICE-1. These should go away
by July 1 unless JCN wants them to remain. Also at one time USING
had a directory both at SRI-ARC and at OFFICE-1. If these are still
around they should go away too. Thanks, Jake   1

Enterprise numbers

The Enterprise phone numbers have been canceled - am now negotiating
demise of xerox. We probably will need to give Xerox people a
month's notice so that will give us some time to clean up loose ends,   1

Response to Feedback Received as of 6/21/74

This is directed specifically to Dick, Dirk, Mike, and Jim Bair.

Response to Feedback Received as of 6/21/74

Response to feedback received as of 6/21/74   1

   Bugs listed below as fixed, are fixed in XNLS and will be a part
   of the running system probably by the end of the week,   1a

   For other lists of fixed bugs and answers to questions see,
   (23358,) (23214,) (23019,) (22973,) (22915,) (22896,),   1b

   Dick and Jim Bair -   1c

      The .<lastname> search has not yet been implemented but will be
      soon,   1c1

   Dirk -   1d

      ref: (23392,) It is agreed that Substitute character in text
      would be nice - it will be put on the list of NP's and I'll let
      you know when it's done,   1d1

   Mike -   1e

      You may now type the disconnect terminal command without
      getting an error message when you are not connected to a
      terminal,   1e1

INTRODUCTION   1

This document was prepared for the purpose of giving Development a
concise list of items submitted to the ARC feedback mechanism
needing their attention. It is a compilation of items which have
been accumulating in the Needs and Possibilities branch related to
the new command language. Additional older NP's falling into the
following categories may be found at the corresponding links: 1a

NLS Development - (feedback,fdbk,01338)
Operations & User Development - (feedback,fdbk,01248)
Network Information Development - (feedback,fdbk,01153)
Help & Documentation Development - (feedback,fdbk,01174
Analysis - (feedback,fdbk,01249)   1a1

I would like to see users comment on this document (using the
Feedback mechanism) if they feel strongly for or against an item
to give additional input to both Development and Analysis. The
next course of action should probably be for a representative
group of Development people to meet, possibly with myself and
others, to discuss items on this list and decide how to act on
these suggestions.   1b

The items included in this file are issues to be resolved and not
bugs and are therefore stated in the form of recommendations.
Please view them as recommendations by an individual and not by
Analysis.   1c

Most items have links to the feedback file where either further
explanations or a link to a Journal item exist. In the feedback
file, links sometimes follow an item, other times a file has been
copied directly and the link will be in a usual Journal citation.   1d

Suggestions have been divided into two groups in an initial
attempt to assign priorities. The division is based on whether a
suggestion consists of a fundamental change to the current system
or an addition to it. An addition would be in the form of a new
feature or an addition to an old command or feature which would
not change its present form. I view the "CHANGES" group as having
the highest priority,   1e

There has been no attempt to assign priorities according to how
the author of an item feels. Obviously, authors felt very
strongly about some items and not so about others. If there
are any questions about an item's importance, I would suggest
checking with the author.   1e1

The number of suggestions submitted to the FDBK file has been
large and I have attempted to include everyone's suggestions.

NP Items Dealing with New NLS

However, if I have forgotten something which is important to you, let me know and I'll add it to this file before it is reviewed by Development.   1f

CHANGES   2

GENERAL SYNTAX   2a

    1. Many people have submitted varying complaints about command parsing. These range from comments such as commands now require too much typing, commands are not used now because of the amount of typing required, and commands could be simpler with more options. For example,   2a1

        a. Set Case, Show File Markers, (feedback,fdbk,01915), (feedback,fdbk,02997) Update File, Split Window, Simulate Terminal, Institute Program, (feedback,fdbk,02658) Connect to Directory, and Output Quickprint (feedback,fdbk,02671) were submitted as commands requiring too much input.   2a1a

        b. Typing "U before an address was also disliked by many, (feedback,fdbk,02664), (feedback,fdbk,02777), (feedback,fdbk,02790)   2a1b

        c. The syntax for Append and Break Statement could be made easier with more options, (feedback,fdbk,02667) (feedback,fdbk,02690) (feedback,fdbk,02691) Break should also allow for the insertion of text, (feedback,fdbk,03277)   2a1c

    2. The method used to repeat a command seems to be slower for many users, (feedback,fdbk,02454), (feedback,fdbk,03240)   2a2

        One suggestion was to have the system recognize that characters being typed are illegal at that point and try to interpret them as commands, (feedback,fdbk,02628)   2a2a

    3. A set of commands should be available in any subsystem, for example, jump, show, set, reset, and split, (feedback,fdbk,02541)   2a3

    4. The sequence Replace From To By seems to be clearer than Replace At Through By and similarly for other commands having Through By as noise words, (feedback,fdbk,02693)   2a4

    5. To aid the beginning user, link syntax should appear in the same form required when typing in a link, i.e. no spaces after delimiters, (feedback,fdbk,02687)   2a5

    6. After a user has gotten the message "illegal text entity" it

would be nice to be able to backspace over the missplaced bugs,
(feedback,fdbk,02726)   2a6

7. Change "record session" to "start recording-session" to
correspond to "stop recording-session", (feedback,fdbk,03258)   2a7

8. In expert-expert allow the option of CA for the second
command word when there is only one option for the second
command word. Another suggestion is to have more defaults like
in the Jump to Item command, such as in Break and Append where
Statement could be the default, (feedback,fdbk,03162)   2a8

9. Let "p" be used for a top-level command (playback or
protect) even though it's used for Print in TNLS,
(feedback,fdbk,03243)   2a9

10. Let a user bug the tty window when using the Clear Window
command,   2a10

SEARCHING   2b

1. It was felt that searching from current position to the end
of a file was not as intuitive as searching from the beginning
to the end or from the current position to the end, wraparound
and search to the original position, (feedback,fdbk,02634),   2b1

2. Content searches would be easier to type in (especially in
TNLS) if delimiters were a lowercase rather than uppercase
character, (feedback,fdbk,02652)   2b2

3. A user should not get an error message after typing an
alternative listed after typing a "?". For example, <tab> is
listed as an alternative but if not typed in the proper context
is responded to by "Illegal Search Type". It should probably
not be listed as an alternative, (feedback,fdbk,02651)   2b3

4. When searching with a Content Analyzer pattern, why not have
the compile command automatically institute the program,
(feedback,fdbk,03286)   2b4

PROMPTS, NOISEWORDS, AND HERALDS   2c

1. Incorrect prompts   2c1

    a. L: should be replaced by L:/T:/B:/[A:],
    (feedback,fdbk,02822)   2c1a

    b. After the first option is typed in, the prompt should
    continue to be opt C: instead of C:, (feedback,fdbk,02642)   2c1b

    2. Length   2c2

        a. Default herald length should be 4 instead of 3.
        (feedback,fdbk,02647)   2c2a

        b. The herald could be set to zero length leaving just a
        prompt. (feedback,fdbk,02907))   2c2b

    3. Appearance   2c3

        a. Repeating prompts is unnecessary, i.e. Update C: File
        OK:/C C: Compact OK:, the two C'S are not necessary.
        (feedback,fdbk,02828)   2c3a

        b. Fewer colons would look better, i.e. A/[T]: rather than
        A:/[T]:. (feedback,fdbk,02649)   2c3b

        c. In TNLS a space should be fedback after a prompt and a CR
        before a herald and prompt. (feedback,fdbk,02648)   2c3c

    4. Miscellaneous   2c4

        a. Since in the copy with filter command you have to specify
        the filter before the level the prompt would better be
        [**]/L: rather than L:/[**]. (feedback,fdbk,03380)   2c4a

        b. When multiple characters or words are allowed, the
        noiseword should be Character(s) or Word(s) etc.
        (feedback,fdbk,02900)   2c4b

SENDMAIL   2d

    1. Several people have responded that they would rather enter
    interrogate immediately as the default. Several orders for
    commands have been suggested. (feedback,fdbk,02629)   2d1

    2. Action or Information?   2d2

        a. One suggestion was to make Information the default with
        Action an option. (feedback,fdbk,02823)   2d2a

        b. Another suggestion was to add a choice like none of the
        above. (feedback,fdbk,02704)   2d2b

        c. Another was to use the syntax "... for Action? Y/N" and
        if no, automatically "for Information".
        (feedback,fdbk,02905)   2d2c

    3. Trouble with specific commands: a-c(feedback,fdbk,02905)   2d3

a, It is difficult at first glance to determine which
command is used for distribution,   2d3a

b, Send sounds like the choice to use when finished,   2d3b

c, Double verification should not be necessary after typing
Done,   2d3c

d, Plex should be on the same level as branch, statement,
message and file,   2d3d

4, It seems inconsistent that when in Sendmail you type "SH"
and you get (Sh)ow Status when anywhere else you would have to
type "SHS" for (Sh)ow (S)tatus, (feedback,fdbk,03340)   2d4

RECOGNITION   2e

1, Expert-expert should not be the default recognition for new
users, (feedback,fdbk,02714)   2e1

2, The space is not fedback to TNLS users when second-level
commands are typed in expert-expert, One suggestion is to feed
it back, another is to change the character required for second
level recognition to period, (feedback,fdbk,02711),
(feedback,fdbk,02712)   2e2

3, Naming   2e3

a, Expert recognition should be called efficient
(feedback,fdbk,02714)   2e3a

b, There should be fewer recogniton modes with more
intuitive names like novice, expert and tenex-like,
(feedback,fdbk,02715)   2e3b

4, In Demand Recognition initial spaces should be ignored,
(feedback,fdbk,02709)   2e4

5, CONFIRM should work for recognition so that SP or ESC is not
required when an entire command has been typed,
(feedback,fdbk,02709)   2e5

6, A new recognition mode has been suggested which would
consist of typing spaces instead of unique letters, for example
the sequence, substitute, show, and set would be specified by
S, <SP>s, and <SP><SP>s rather than s, sh, and se,
(feedback,fdbk,03346), (feedback,fdbk,03363)   2e6

STATEMENT NAMES   2f

NP Items Dealing With New NLS

1, Setting name delimiters should change the Statement
Signature. (feedback,fdbk,02717)   2f1

LEVELS   2g

1, Either upper or lowercase letters should be allowed as a
typein for levels. (feedback,fdbk,02898)   2g1

FINAL CONFIRMATION   2h

1, In the Substitute command, when you have said you are
finished, you should not have to type another confirmation
character. (feedback,fdbk,02899)   2h1

2, Final confirmation in the Goto and Execute commands should
be consistent. (feedback,fdbk,02804)   2h2

TENEX FUNCTIONS   2i

1, It would be nice to be able to Execute a command in Tenex
and return to another subsystem as when interacting with any
subsystem. (feedback,fdbk,02722), (feedback,fdbk,03246)   2i1

2, How about putting all Tenex commands in a subsystem.
(feedback,fdbk,02720)   2i2

VIEWSPECS   2j

1, When using Jump to Link command with viewspecs specified,
let viewspecs entered after the V: override those in the link.
(feedback,fdbk,03271)   2j1

2, In Print Structure commands, when a link with viewspecs is
used as an address, the viewspecs should effect the printout.
(feedback,fdbk,03273)   2j2

3, Allow viewspec "o" and "p" to be set before the completion
of freeze and release commands and let "release all"
automatically result in viewspec "p". (feedback,fdbk,03249)   2j3

4, Let Output File obey viewspecs "i" and "k" to allow results
of a content search to be saved without splitting screen,
creating new file and copy filtered. (feedback,fdbk,03260)   2j4

NEW COMMANDS DESIRED   2k

1, Help instead of or in addition to Goto Help
(feedback,fdbk,01104)   2k1

2, Link and Break Links in NLS (feedback,fdbk,03257)   2k2

3, Since you can set and reset link-default-directory you
should be able to show it, (feedback,fdbk,03256) Also, since
you can reset prompt, you should be able to set and show it,
(feedback,fdbk,03251)   2k3

4, Logout Job instead of Logout, (feedback,fdbk,02688)   2k4

5, Execute Verbose - resulting in most verbose mode for all
feedback for the single following command,
(feedback,fdbk,02640)   2k5

SYSTEM MESSAGES   2l

1, File Verify in Progress could be Verifying File or just the
..., could be sufficient, Also if a person is told a file is
bad, he should also be told it is good, (feedback,fdbk,02764)   2l1

2, Exceed Capacity should probably be changed to something like
"System error;string variable overflow" to eliminate confusion
over disk allocation being exceeded, (feedback,fdbk,02765)   2l2

3, When someone tries to load a file which is protected, he
should not get the message that the file cannot be opened,
(feedback,fdbk,02800)   2l3

4, Work needs to be done to make error messages more meaningful
to an ordinary user (giving him some idea what his course of
action should be) while still giving information useful to
programmers, (feedback,fdbk,03298)   2l4

APPEARANCE   2m

1, Rather than having left over prompts at the top of the
screen, such as "Replace Text at through by through", put the
actual text typed in following the prompt with an appropriate
symbol for a bug mark (possibly the word or character bugged,
if structure, the statement number, or a symbol such as <bug>),
(This would more closely approximate TNLS,
(feedback,fdbk,01927), (feedback,fdbk,03236)   2m1

SPLIT SCREENS   2n

1, If there are to be limitations on how narrow a window may
be, attempts to make it narrow should be met with an error
message rather than the window disappearing,
(feedback,fdbk,02802)   2n1

Another suggestion was that the system give a user the
smallest non-zero window rather than an error message, if a
boundary position is bugged that's invalid.   2n1a

QUESTION MARK   2o

1. Do not list alternatives that are not implemented, or if
they must be listed, don't let the user type in the complete
command before he gets the not-implemented message.
(feedback,fdbk,03184)   2o1

2. Alphabetize alternatives. (feedback,fdbk,03189)   2o2

3. When the second command word is a phrase, e.g. (d)elete
(a)ll markers, list the entire phrase as an alternative,
preferably hyphenated. (feedback,fdbk,03248)   2o3

4. Valid alternatives should be available in Help exactly as
stated in questionmark. (feedback,fdbk,03191)   2o4

5. Alternatives are intuitively commands, not words, and should
be specified as such when a question mark is typed.   2o5

6. Execute command in Help should not print the lengthy
introduction. (feedback,fdbk,03244)   2o6

7. Unavailable alternatives should not appear after question
mark, i.e. Load Busy file.   2o7

CONTROL CHARACTERS   2p

1. Change the default setting for ESC in TNLS to be ESC.
(feedback,fdbk,02906)   2p1

2. Have Control-O stop printing alternatives after a question
mark has been typed. (feedback,fdbk,02796)   2p2

3. Change the option character from ^U to <SP>.
(feedback,fdbk,02795)   2p3

4. Altmode should cause filename recognition for a file in
Programs directory without typing programs first.
(feedback,fdbk,03018)   2p4

SUBSYSTEMS   2q

1. Editor subsystem is too big resulting in unnecessary
alphabetic conflicts. Suggested replacement: Editor,

File-Handler, and Terminal Handler, and possibly more. See
(feedback,fdbk,03196) for a detailed description.   2q1

2, Programs subsystem should be renamed Userprograms and
Useroptions should be renamed Profile, (feedback,fdbk,02767)   2q2

USERPROGRAMS   2r

1, Userprograms are too difficult for users to use. Why not
have commonly used ones such as inmes and letter instituted as
a regular subsystem and simply say Goto subsystem message or
whatever. (feedback,fdbk,03335)   2r1

RETURNING   2s

1, Some people preferred rings to stacks especially in TNLS,
(feedback,fdbk,02655)   2s1

2, Some people dislike having to type Y/N after CA in the Jump
to Return command. (I think it's good as is.)
(feedback,fdbk,02654)   2s2

ADDITIONS   3

GENERAL SYNTAX   3a

1, Load File - be able to bug a visible for filename and enter
viewspecs, (feedback,fdbk,03270)   3a1

2, Can the simulate terminal command "know" which mode you're
in so it won't offer you your current mode as an alternative,
(feedback,fdbk,03245)   3a2

3, Have the Load Program command automatically set Buffer Size,
(feedback,fdbk,03261)   3a3

4, Upgrade sort and merge commands as per (jjournal,17234,),
(feedback,fdbk,03265)   3a4

SENDMAIL   3b

1, It should be possible to add journal items to new
subcollections and to add comments when using secondary
distribution, (feedback,fdbk,02702)   3b1

RECOGNITION   3c

1, You should be able to do a backspace character to delete a
space when in expert-expert mode, (feedback,fdbk,02724) Also,

after typing a space and one character, a backspace character
should result in you being able to type another second-level
command. (feedback,fdbk,03151)   3c1

STATEMENT NAMES   3d

1. The validity of name delimiters should be checked as they
are typed in. (feedback,fdbk,02718)   3d1

TENEX FUNCTIONS   3e

1. Have the system automatically write a branch in initial
files containing a listing of the person's directory upon
login. (feedback,fdbk,02721)   3e1

VIEWSPECS   3f

1. When viewspecs B and l or g are used the view on the screen
and on a printout are different and they should be the same.
(feedback,fdbk,03284), (feedback,fdbk,02731)   3f1

2. Since ;filter; is defined as a viewspec in a link or an
address it should be a valid viewspec whenever the prompt V:
appears. (feedback,fdbk,02741)   3f2

3. New Viewspecs (feedback,fdbk,02742)   3f3

a. A viewspec to limit the display of viewspecs unless they
were different than a set of default values.   3f3a

b. A viewspec to indicate the number of lines to display.   3f3b

NEW COMMANDS DESIRED   3g

1. Append Branch and Group (feedback,fdbk,0920),
(feedback,fdbk,02755)   3g1

2. Break Branch and Group (feedback,fdbk,02756),
(feedback,fdbk,02757)   3g2

3. Transpose Window (feedback,fdbk,02758)   3g3

4. Jump to Line (feedback,fdbk,02759)   3g4

5. Quit Tenex and Quit Job (feedback,fdbk,02754)   3g5

6. Show Return Stack (feedback,fdbk,03390),
(feedback,fdbk,03159)   3g6

7, Jump to previous screen composition, including windows that
have been moved away, (feedback,fdbk,03395)   3g7

PRINTING   3h

1, Names on the right look different on an output quickprint
than on a display, (feedback,fdbk,02761)   3h1

USEROPTIONS   3i

1, The control characters command should allow you to define
any number of characters to be a single control character,
(feedback,fdbk,02770)   3i1

2, In TNLS, the Show Feedback command should show the feedback
mode as well as length and indenting, (feedback,fdbk,03156)   3i2

APPEARANCE   3j

1, Have a user-settable field in the feedback area where a user
can choose to have certain alternatives displayed, i,e, various
information obtained with the Show File Status command, unusual
viewspecs, etc, (feedback,fdbk,02752), (feedback,fdbk,02773)   3j1

2, Let words containing hyphens break at the hyphen when it is
at the end of a line, (feedback,fdbk,02775)   3j2

3, In TNLS let control characters echo as <LF> or whatever to
help users remember what has been typed to achieve a certain
result, (feedback,fdbk,02772)   3j3

4, Have Output Quickprint put the heading only on the first
page of a document with "Page #" on each succeeding page,
(feedback,fdbk,03263)   3j4

ADDRESSING   3k

1, ! should be used instead of & for jump to name external,
(feedback,fdbk,02781)   3k1

2, <SP> in front of a statement name should specify searching
for "name in branch" and no space would imply "jump to name
any" and would also search external files,
(feedback,fdbk,02784)   3k2

QUESTION MARK   3l

1, Key alternatives to a person's recognition, i,e, specify

<SP> as an alternative when in expert-expert,
(feedback,fdbk,03187), (feedback,fdbk,01362)   311

RETURNING   3m

1, Allow bugging of an item in a return stack,
(feedback,fdbk,03390)   3m1

I haven't gotten to JBN's draft yet; talked to her at noon and she
said that she will be quite ready and willing (like maybe she expects
it) to confer etc, after 30 June. She will be gone on a vacation
trip sometime in July, so this doesn't offer us unlimited timing
relief -- I will get to it as soon as I can. Regards, Doug   1

Proposal for Research No. ISU 74-84
Network Information Center for the Arpanet

SUBJECT: Network Information Center for the Arpanet

SUMMARY:

The Network Information Center (NIC) of SRI will be
restructured to provide a subset of the network-based
information services previously provided by the NIC. These
services will include the Arpanet Resource Handbook online and
in hardcopy, the Arpanet Directory in hardcopy, the Official
Host Names List online, and other user-oriented information
services as time and funds permit.

Initially these products will follow already established
formats, but an attempt will be made to continue their
evolution into a more efficient package with respect to both
information input and retrieval.

OBJECTIVES:

PRIME OBJECTIVE

The prime objective of this proposed work is to produce
hardcopy versions of the Arpanet Resource Handbook and the
Arpanet Directory.

SECONDARY OBJECTIVES

Although an important part of the proposed effort,
producing and maintaining an online version of the Arpanet
Resource Handbook is considered a secondary objective
because user access to this product will be limited
officially to one host (OFFICE-1) and one user slot. (In
actuality other Arpanet users with directories at OFFICE-1
will be able to access the files also.) As time and
funding permit, an attempt will be made to introduce
design concepts that will lead to more extensive online
distribution and access of the contents of this data base.

The NIC will continue to provide the Official Host Names
List. This list will be maintained as an ASCII sequential
file accessible to all in a well defined, easily readable
format (see Refs. 1, 2, 7, and 8).

The NIC will also continue to maintain the SRI-ARC
Identfile or other appropriate files that are needed for
the production of the Arpanet Directory.

We will produce an abbreviated version of the Arpanet

News, if time and funds permit, Hopefully this will be
produced on a bimonthly basis and contain information
supplied by interested parties around the network,

An attempt will be made to further define and standardize
procedures for gathering information from information
contributors (such as Liaison),

In addition we will contribute to user-oriented design
features for the NIC/Query language,

BACKGROUND AND TECHNICAL NEED:

The Arpanet Working environment has the potential for creating,
organizing, distributing, and sharing information more rapidly
than ever before. It also has the potential for making
computer processing more readily accessible than ever before,
On the other hand, the abundance of information and resources
available on the network creates a particular need for a
mechanism to collect and organize this abundance into a usable
entity.

Originally most server sites on the Arpanet maintained their
own information and information handling procedures, When
users from a given host began trying to use resources on other
hosts, it soon became apparent that more information and easier
access were needed, Finding the right process or piece of
information on the right host, then learning all the commands
and procedures needed to locate and access the process or piece
of information, presented a task destined to discourage all but
the most persistent network users, The result was that users
were not very adventuresome about using resources available on
hosts other than their own,

During the last two years many new nodes have been added to the
Arpanet, The majority of these are users only of the network,
and do not have interactive computer resources of their own,
Invariably, the first questions asked by these new users are:

- What is there to use on the Arpanet?
- Where is it available?
- How do I go about using it?

These conditions then have brought together three concepts that
have been evolving separately throughout the history of the
Arpanet, One concept is that of a network information center
that gathers and channels information to network users about
the people, the computer resources and, the knowhow available

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Network Information Center for the Arpanet

on the Arpanet. The second concept is that of network
information and procedure-handling protocols. The third concept
addresses itself to data and resource distribution.

The Arpanet has now arrived at a degree of sophistication and
maturity where it becomes advantageous to merge these three
concepts into a whole new system of handling information about
network resources that is tailored to the unique conditions of
the networking environment.

The NIC and the Augmentation Research Center (ARC) of SRI have
been involved in furthering all three of these concepts for
several years (see Refs. 3 and 4). Both NIC and ARC have
contributed substantially to procedures and mechanisms needed
to develop the three concepts outlined above. Because of this
we feel we can provide ARPA with valuable expertise needed to
merge these separate concepts into a new unified concept for
making network information available. We propose that this be
done through continuation of the NIC by evolving present
services into new, more appropriate services based upon user
interests and needs.

ACCOMPLISHMENTS:

The Augmentation Research Center has maintained the Network
Information Center since its inception in 1969. During this
time the NIC performed these five main roles for the Arpanet:

   1. Served as a prototypical information center in a
   networking environment.

   2. Supported dialog among the geographically distributed
   individuals and research teams through use of the SRI-ARC
   Journal, the Network Working Groups, and the SRI-ARC Ident
   System.

   3. Published and distributed the functional documents,
   RFCs, and other information vital to the growth of the
   network.

   4. Provided reference information about network resources
   and facilities both offline and online through use of the
   user-oriented NIC/Query language.

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5. Stimulated the use of and interest in the network by
assisting in marketing the Arpanet and by contributing to
the development of network protocols.

During this time the NIC has served as the network's
information nucleus, and has played a major role in providing
for the network's rapidly changing information needs (see
Refs. 3, 5, 6, 9 and 10).

PROPOSED EFFORT:

INTRODUCTION

Our experience has shown that users of the Arpanet are
primarily interested in three major activities -
computation and data structuring, data transmittal, and
data storage and retrieval. Successfully carrying out
these activities across the network, requires knowledge of
and access to network hardware, software, and
communication resources. Before a user can proceed to use
these resources he must know where to find them, how to
use them, and when they are available (see Ref. 11).

His need for information about the Arpanet often ranges
from highly specific to global in scope and is best met by
his having access to a variety of online and offline
products.

For instance a user may want to compose an extensive
document online, but he may not want to read a
similar length document online. A user may want to
use a program online, but unless he is a programmer,
he will probably never wish to see a hardcopy
printout of the program he is using.

The challenge of the networking environment, then, is to
provide a design for handling information and resources
that allows the user to easily access as much information
or as many resources as he cares to use online, while at
the same time permitting him to create, store, transmit,
and reproduce information that he would prefer to use
offline.

The proposed effort presented below outlines a plan that
attempts to meet both the online and offline needs of
users with respect to information about the Arpanet.

THE ARPANET RESOURCE HANDBOOK

Proposal for Research No. ISU 74-84
Network Information Center for the Arpanet

The Arpanet Resource Handbook data base will be built and
maintained online in a series of files corresponding to
hosts on the network. Altogether these files will form a
compendium of hardware, software, available protocols, and
other pertinent information about the Arpanet. The format
of these files will be that of a concise outline with well
labeled and easily identified data elements.

The online resource handbook data base will provide the
following:

   1. An easily edited master file containing
   information about resources available on specific
   hosts.

   2. Information for the online browsing version of
   the Arpanet Resource Handbook that runs under the
   NIC/Query language at OFFICE-1.

   3. Basic data for production of the host-description
   portion of the hardcopy version of the Arpanet
   Resource Handbook.

In addition simple user programs can be applied to this
data base to produce the tables that summarize host data.

The online data base will be produced at SRI-ARC using the
NLS system since NLS has unique capabilities for fast
input and ease of organizing and editing. Initially, the
online version will be maintained as an NLS file, but ways
will be investigated to distribute part or all of this
data base in some other form (as an ASCII sequential file,
for instance) compatible with the systems of other hosts
on the network that wish to make this data further
accessible to their users.

The hardcopy version of the Arpanet Resource Handbook will
follow a terse handbook format and will no longer be
produced as a loose leaf and continuously updated hardcopy
document. Instead, the handbook will be published
annually as a bound issue. In the interim new information
will be added to the online data base, and important
changes will be announced through a newsletter or message
medium. (See Arpanet News below.)

THE ARPANET DIRECTORY

The Arpanet Directory will be produced semiannually in

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hardcopy from information taken from both the Resource
Handbook files and the SRI-ARC Identfile, We propose that
the hardcopy format be similar to the current version of
the Arpanet Directory - that is, an inexpensive, widely
distributed document designed for easy look-up,

Production of the current directory is contingent upon
upkeep of the SRI Identfile, At present information is
entered by a clerk as it is received from individuals or
hosts, We propose to continue producing the directory in
this manner, but we will attempt to implement procedures
that will make it easier for users to input and access
data,

THE ARPANET OFFICIAL HOST NAMES LIST

The Official Host Names List will be provided online as an
ASCII sequential file accessible to all in a well defined
and easily readable format (see Refs, 1, 2, 7 and 8),
Information will be added as it is supplied to the NIC by
the ARPA IPT Office or its designated representative,
Other pertinent attributes such as FTP byte, apropriate
line length, etc,, will be added to this file if time and
funds permit,

ARPANET NEWS

An Arpanet News will be produced if time and funds permit,
We propose that this newsletter have a brief format and be
maintained online in such a fashion that any network user
can transfer a copy via FTP or other network procedure to
his own host or terminal for viewing, The newsletter
should also be made available for distribution to sites
that wish to maintain viewing copies in their own systems,

The newsletter will cover such items as new resources; new
network programs; notes and memos from ARPA, hosts, and
working groups; references to pertinent network documents
and papers; and announcements, and will also serve as a
mechanism for reporting updates to the Arpanet Resource
Handbook,

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RELEVANCE TO DOD/ARPA MISSION AND FUNCTIONS

The present concept of the Arpanet is that of a group of
diverse computers being connected by a sophisticated
communications network for the purpose of transmitting
information and sharing resources. To realize this
concept most effectively, there is a need to know who and
what is on the network. This is particularly true now
because so many new users ahave recently joined the
network. SRI proposes to collect this needed information
for the Arpanet while continuing to evolve a more
efficient and effective distribution system for this
information.

WORK STATEMENT: Covering a one-year period from July 1974 to July
1975

SRI will provide:

1. One hardcopy edition of the Arpanet Resource Handbook
the contents of which are contingent upon receipt of valid
information from the network host Liaison or other host or
ARPA appointed representatives.

2. An online version of the Arpanet Resource Handbook to
be available for access through a NIC account on one
network slot at OFFICE-1 separately funded by ARPA,
(Other Arpanet users of OFFICE-1 may also access this
fileset from their own directories.) Production of this
fileset will have the same contingency as the hardcopy
version.

3. Two hardcopy editions of the Arpanet Directory the
contents of which are contingent upon receipt of
information from the individuals wishing to be listed
within the directory.

4. The Official Arpanet Hostname File containing official
Arpanet hostnames, nicknames, and host addresses. All
information for this file will be provided by ARPA or its
appointed representative. The file will meet the criteria
outlined in RFC 608 (see Ref. 7). If time and funds
permit, other pertinent attributes will be added.

5. Other services and publications, such as production of
a brief newsletter, design of a more efficient information
gathering and distributing mechanism, etc., will be
attempted to the extent that time and funds are available.

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PERSONNEL:

   Biographies of personnel likely to be involved with the
   proposed tasks follow. In addition ARC will hire two to three
   additional software personnel; one will be assigned to this
   project.

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CONTRACTUAL PROVISIONS:

I   ESTIMATED TIME AND CHARGES

The estimated time required to complete this project and report
its results is twelve months starting 1 July 1974. The
Institute could begin work on receipt of a fully executed
contract,

Pursuant to the provisions of ASPR 16-206.2, attached is a cost
estimate and support schedules in lieu of the DD Form 633-4,
Also enclosed is a signed for complete except for the "Detail
Description of Cost Elements,"

II CONTRACT FORM

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

III ACCEPTANCE PERIOD

This proposal will remain in effect until 30 June 1974. If
consideration of the proposal requires a longer period, the
Institute will be glad to consider a request for an extension
of time,

IV REPORTS

Production of one issue of the Arpanet Resource Handbook and
two issues of the Arpanet Directory within the twelve month
period will fulfill the reporting schedule,

V SECURITY CLASSIFICATION

SRI holds a Top Secret facility clearance, which may be
verified through the cognizant military security agency: San
Francisco Defense Contract Administration Services Region,
Attn: Office of Industrial Security, 866 Malcolm Road,
Burlingame, California 94010, Staff assignments will be in
accordance with the level of security assigned to the work,

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Cost Estimate:

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COST ESTIMATE

(For the one year period starting 7/1/74)

PERSONNEL COSTS

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    Project supv (1760 hrs @x.xx/hr) $xx,xxx
    Programmer (582 hrs @x.xx/hr)     x,xxx
    Clerical (1480 hrs @x.xx/hr)      x,xxx
       Total direct labor                $xx,xxx
       Payroll burden @28.0% *            x,xxx
       Total salaries and wages          xx,xxx
       Overhead @107% salaries *         xx,xxx
             Total personnel costs      $xx,xxx
```

DIRECT COSTS

```
    Travel *                             $ x,xxx
    Facility costs for NIC staff work     xx,xxx
       Computer time          xx,xxx
       Line processor          x,xxx
       TI terminal @100/mo      x,xxx
       Hazeltine terminal @100/mo x,xxx
    Communications                        x,xxx
    Mailing costs                         x,xxx
    Report costs  *                       x,xxx

       Total direct costs                $ xx,xxx
       Total estimated cost              $ xx,xxx
       Fixed fee                           x,xxx

    TOTAL ESTIMATED COST-PLUS-FIXED FEE  $xxx,xxx
```

* See following Schedules

Proposal for Research No, ISU 74-84
Network Information Center for the Arpanet

Cost Schedules:

SCHEDULE A

DIRECT LABOR

Direct labor charges are based on the actual salaries for the
staff members contemplated for the project work plus a 4%
judgmental factor of base salary for merit increases during
the contract period of performance. The precise factor
applied is dependent on the estimated period of performance.
Frequency of salary reviews and level of merit increases are
in accordance with the Institute's Salary and Wage Payment
Policy as published in Topic No. 505 of the SRI
Administration Manual and as approved by the Defense Contract
Administration Services Region.

SCHEDULE B

OVERHEAD AND PAYROLL BURDEN

These rates have been found acceptable by the Department of
Defense for billing and bidding purposes for the calendar
year of 1974. We request that these rates not be
specifically included in the contract, but rather that the
contract provide for reimbursement at billing rates
acceptable to the Contracting Officer, subject to retroactive
adjustment to fixed rates negotiated on the basis of
historical cost data. Included in payroll burden are such
costs as vacation, holiday and sick leave pay, social
security taxes, and contributions to employee benefit plans.

SCHEDULE C

TRAVEL COSTS

```
2 trips to Washington, D.C, and Boston @416/fare  S832
5 trips to Los Angeles and San Diego @55/fare      275
Subsistence 5 days at Washington, D.C @42.50/day   213
            5 days at Boston @38.00/day            190
           10 days at Los Angeles @30.00/day       300
Car Rental  5 days at 15/day                        75
   Total Travel                                 $1,885
```

Air fares and car rental rates are based on prices
established in the current Official Airline Guide.
Domestic subsistence rates and travel by private auto are
quoted at published standards.

SCHEDULE D

REPORT COSTS

Report costs are estimated on the basis of the number of
pages of text and illustrations and the number of copies of
reports required in accordance with the following rates per
page which have been reviewed by DCAA:

    Editing $ 2.29
    Composition   2.22
    Report coordination   .63
    Proofreading   .92
    Illustration   19.14
    Press and Bindery   .021 per impression

Following is a breakdown of the estimated cost of report
production:

    Resource Notebook,
        1 issue, 300 pp/issue, 1000 copies/issue $x,xxx
    Arpanet Directory,
        2 issues, 50 pp/issue, 1000 copies/issue x,xxx
    Arpanet News,
        6 issues, 5 pp/issue, xxx copies/issue   xxx
                Total Estimated Report Costs $x,xxx

1 May 74
SRI-ARC 22849

Proposal For Research
SRI No. ISU 74-84

NETWORK INFORMATION CENTER FOR THE ARPANET

Part One--Technical Proposal

Prepared for:

Information Processing Techniques Office
Advanced Projects Research Agency
1400 Wilson Boulevard
Arlington, Virginia 22209

Attn: Craig Fields

Prepared by:

Elizabeth Feinler
Information Specialist
Network Information Center

Approved:

Douglas C. Engelbart, Director
Augmentation Research Center

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

1 May 74
SRI-ARC 22849

Proposal For Research
SRI No. ISU 74-84

NETWORK INFORMATION CENTER FOR THE ARPANET

Part Two--Contractual Provisions

Prepared for:

Information Processing Techniques Office
Advanced Research Projects Agency
1400 Wilson Boulevard
Arlington, Virginia 22209

Attn: Craig Fields

18-JUN-74 22:09:32,1450   1

Date: 18 JUN 1974 2209-PDT   2

From: NORTON   3

To: hardy   4

Subject: Hudson Tip Connection Approval   5

cc: norton   6

Martin:
 The following sndmsg tells all about ARPA position, Can you call
Dave Walden at BBN telling him ARPA is ready to support a 4800
baud line connectin (in pprinciple) to the Rutgers tip if it will
not adversely affect other rutgers tip users, Craig Fiels needs a
note from Walden, Also call a man named Amarel at Rutgers for me
(and for Rudy Ruggles of Hudson) and tell him the story and ask
that he send a note (sndmsg is ok) to fields @ISI saying he wont
mind the line? Probably bet to call Rudy Ruggles first and tell
him we will help him with these details if its ok with him If HE
wants to call ok,,,the main thing is need for 2 sndmsgs from BBN
and Rutgers to Fields@isi, ok? Thanks It will sure help to
facilitate Hudson's getting the 4800 baud line, The actual cost
will be paid by Hudson, not ARPA directly if I implied that,
here's Craig's msg: 6a

   Net mail from site USC-ISI rcvd at 18-JUN-74 13:49:11   6a1

   Date: 18 JUN 1974 1348-PDT   6a2

   From: FIELDS at USC-ISI   6a3

   Subject: HUDSON-RUTGERS LINE   6a4

   To: NORTON at SRI-ARC   6a5

     JIM,   6a5a

        APPROVAL FOR THE LINE WILL DEPEND ON TWO THINGS,   6a5a1

        1, I NEED A NOTE FROM WALDEN AT BBN SAYING THAT CONNECTING
        THE LINE WILL NOT   6a5b

        ADVERSELEY IMPACT ON OTHER TIP USERS,   6a5c

        2, I NEED A NOTE FROM AMAREL AT RUTGERS SAYING HE WON'T MIND
        THE LINE,   6a5d

1

6a5e

BEST

6a5f

6a5g

CRAIG

6a5h

6a5i

=======

6a5j

6a6

7

8

9

Bob Belleville may visit on 3 Jul

Bob Belleville is getting his PhD at Purdue, under Dick Garrett. He
has done a lot of work, at many levels, in the Computer-Aided Design
area; he is very productive and inventive, and seems genuinely
interested in the basic aim of augmenting people (as opposed to the
relatively narrow interests of many people in the CAD area). RWW and
I feel that he is a promising candidate and want to have him visit
us. Pending his submitting an SRI application form (sent to him
today), we have a tentative arrangement for him to come on 3 July.
He is visiting INTEL on 2 July, and can thus split travel expenses
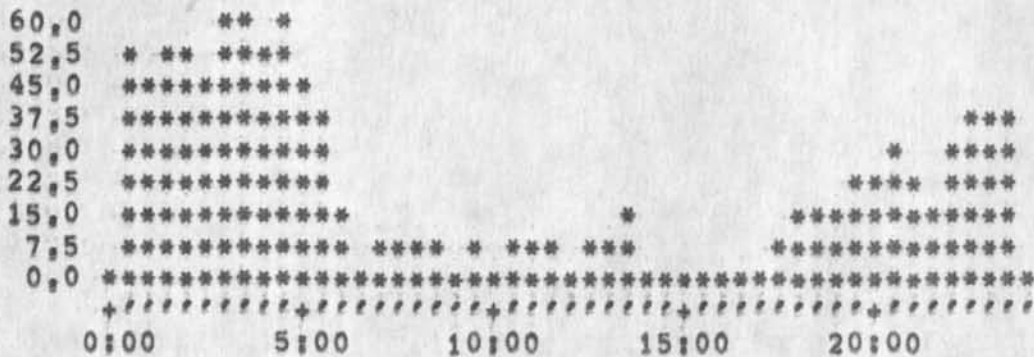between two recruiting organizations.   1

We have a resume', and a publication of his. MDK is their custodian.   2

Superwatch Average Graphs for Week of 6/16/74

TIME PLOT OF AVERAGE IDLE TIME FOR WEEK OF 6/16/74
x axis labeled in units of hr:min, xunit = 30 minutes   1

```
60,0          ** *
52,5     * ** ****
45,0     **********
37,5     ***********                                        ***
30,0     ***********                              *    ****
22,5     ***********                              ****  ****
15,0     ************                    *        *************
 7,5     ************ **** * *** ***           **************
 0,0     **********************************************************
        +/////////+/////////+/////////+/////////+/////////+/////////
        0:00        5:00       10:00      15:00      20:00                     1a
```

TIME PLOT OF AVERAGE NUMBER OF GO JOBS FOR WEEK OF 6/16/74
x axis labeled in units of hr:min, xunit = 30 minutes   2

```
5,5                              **
5,0                        *     ** *
4,5                       ***    *******
4,0               *      ****    *******
3,5              **     ****  ************
3,0            ********************************* *
2,5            ******************************
2,0            *******************************   * *
1,5 *          ****************************************
1,0 *          ***************************************
0,5 ****** **  *********************************************
0,0 **********************************************************
   +/////////+/////////+/////////+/////////+/////////+/////////
   0:00        5:00       10:00      15:00      20:00                          2a
```

Superwatch Average Graphs for Week of 6/16/74

TIME PLOT OF AVERAGE NUMBER OF USERS FOR WEEK OF 6/16/74
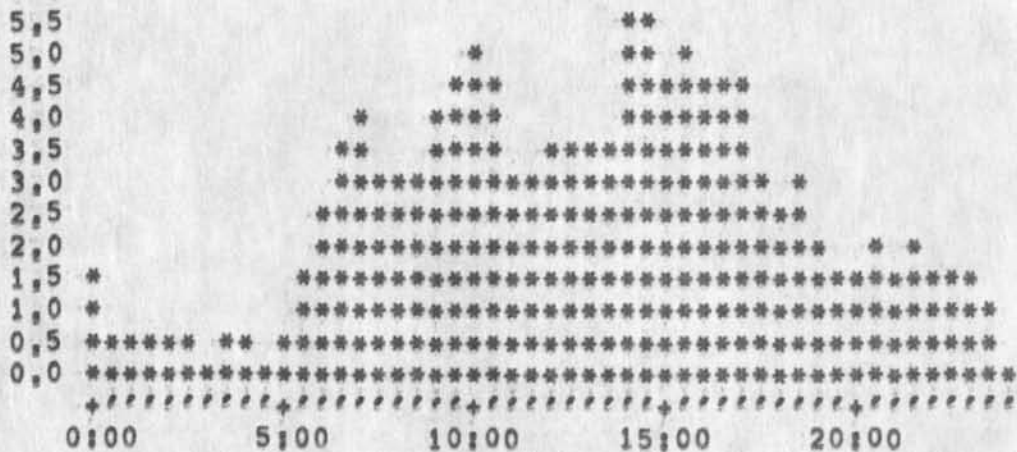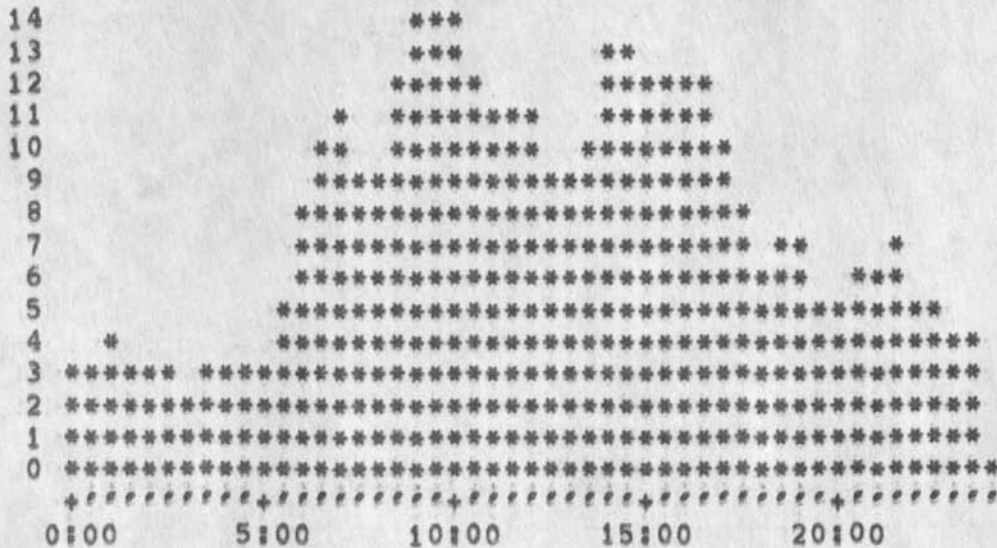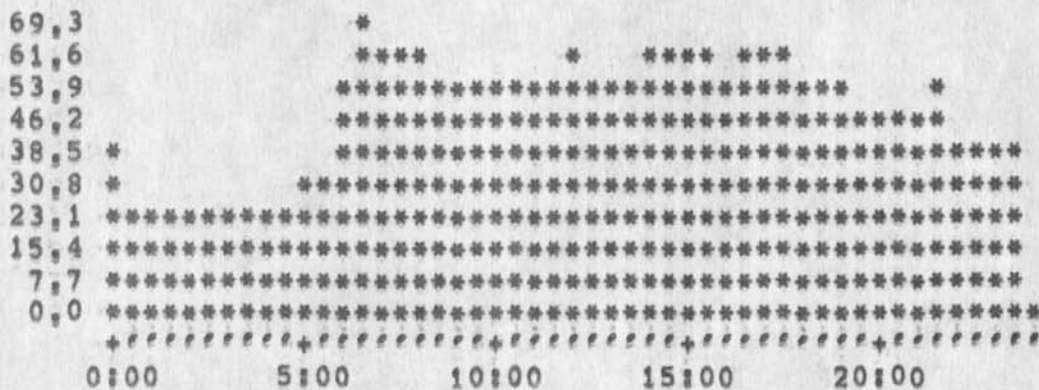x axis labeled in units of hr:min, xunit = 30 minutes   3

```
14                          ***
13                          ***           **
12                          *****         ******
11              *     ********       ******
10             **    ********     ********
 9                  **************************
 8                  *****************************
 7                  ********************** **        *
 6                  ************************** ***
 5              *************************************
 4      *       ***************************************
 3  ****** *****************************************
 2  *************************************************
 1  *************************************************
 0  *************************************************
    +++++++++++++++++++++++++++++++++++++++++++++++++
    0:00      5:00     10:00     15:00     20:00              3a
```

TIME PLOT OF AVERAGE PER CENT OF CPU TIME CHARGED TO USER ACCOUNTS
FOR WEEK OF 6/16/74
x axis labeled in units of hr:min, xunit = 30 minutes   4

```
69.3              *
61.6            ****      *    **** ***
53.9           *************************      *
46.2           ****************************
38.5 *         ****************************
30.8 *         *******************************
23.1 *************************************************
15.4 *************************************************
 7.7 *************************************************
 0.0 *************************************************
     +++++++++++++++++++++++++++++++++++++++++++++++++
     0:00      5:00     10:00     15:00     20:00            4a
```
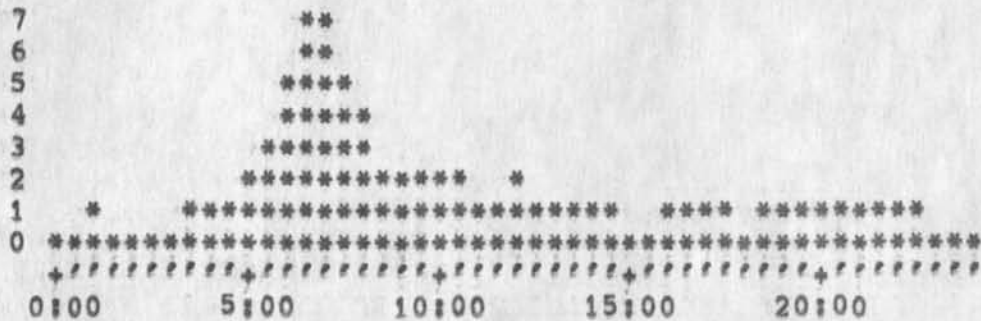
2

Superwatch Average Graphs for Week of 6/16/74

TIME PLOT OF AVERAGE NUMBER OF NETWORK USERS FOR WEEK OF 6/16/74
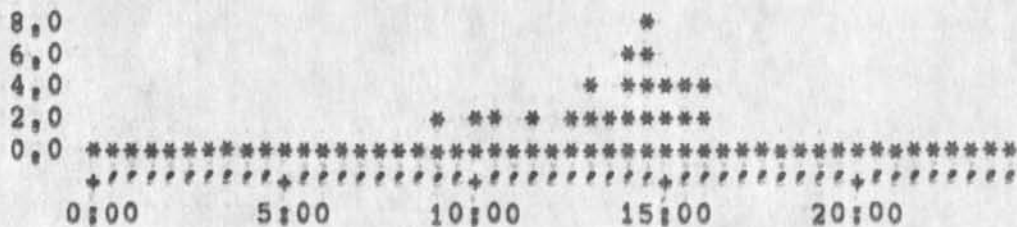x axis labeled in units of hr:min,   xunit = 30 minutes   5

```
   7                  **
   6                  **
   5                  ****
   4                  *****
   3                ******
   2            ***********  *
   1    *    ***************************  ****  ********
   0  *********************************************************
     +,,,,,,,,,+,,,,,,,,,+,,,,,,,,,+,,,,,,,,,+,,,,,,,,
     0:00      5:00     10:00     15:00     20:00                          5a
```

TIME PLOT OF AVERAGE PER CENT OF SYSTEM USED IN DNLS FOR WEEK OF
6/16/74
x axis labeled in units of hr:min,   xunit = 30 minutes   6

```
  8,0                      *
  6,0                      **
  4,0                    * *****
  2,0              * ** * ********
  0,0  *********************************************************
      +,,,,,,,,,+,,,,,,,,,+,,,,,,,,,+,,,,,,,,,+,,,,,,,,
      0:00      5:00     10:00     15:00     20:00                         6a
```

3

VISITORS, subject: Evaluation of PDP-10 Equipment to be Transfered.

VISITORS: (15 JUNE 74)   1

   Jon D. Brommeland   1a

      Program Manager   1a1

      Command and Control Activities   1a2

      Electronic Navel Systems Command, Western Division   1a3

      Mare Island Navel Shipyard, Vallejo, CA,   1a4

   Robert Nalingberg,   1b

      Electronic Engineer,   1b1

      Same Address,   1b2

REASON FOR VISIT: 2

   To evaluate our PDP-10 equipment ARPA intends to buy and transfer
   to Control Systems, -- ENSC is the contracting office that will
   administer Control Systems contract,   2a

   They were interested mainly in equipment condition and maintenance
   history; particularly the Bryant drum, pager, and tape drives, 2b

   They reviewed the DEC maintenance log, and sampled our journalized
   up-time records and were quit impressed with what they saw and
   left convinced the equipment was in good transfer condition,
   Before leaving I showed them around and Jim Norton gave them a
   short Demo,

   ,,,martin,,   2c

re <GJOURNAL,23429,2k3> New NLS NPs

Under CHANGES-New Commands Desired, No.3 - Those features DO
presently exist! In Editor, use Show File Default (directory for
links), In Useroptions, Prompt and Show Prompt and Reset Prompt are
the commands wanted,   1

re <GJOURNAL,23429,3g6> New NLS NPs

I think that #3 Show Return Stack which is under the New Commands
Desired section of ADDITIONS should be moved up in priority to the
New Commands Desired section of CHANGES, because the lack of such a
command, or an alternative solution, is an inconsistency (there is a
Show File Return stack command) and a serious frustration in TNLS
(there is no way to see where you will find yourself before you go
there, changing your stack--Slash in an address now works only after
you give the <CA>), and is even more than an NP in my opinion,

1

ARCLOCATOR filename changed to LOCATOR

Toward the cause of clear, simple filenames the old <USERGUIDES>
ARCLOCATOR now contains only a link (with appropriate instructions)
to <userguides,locator,> wherein all of the document-locating links
now exist. You might want to update your personal link list to
<userguides,locator,> and save an extra step. This change will not
take place at OFFICE-1 immediately. Those users will be notified by
user development when the change occurs.   1

Gerald Bailey Visit

Mr, Bailey from NSA will be here for as much of Tuesday afternoon,
16-JUL as is required, Those who've expressed an interest in talking
with him are JEW, JAKE, KIRK, and MIL, I don't think I'll structure
the afternoon (unless one of you needs a more definitive time
schedule), --Jim   1

some thoughts about you, capability theory, and help

Harvey,
I don't know how you feel about Capability Theory, but I would expect
it to turn you off. Capability theory is for people who require some
sort of system to make decisions for them, be it christianity, est,
or whatever. You do not seem to be that type of person. You are not
enslaved to a "philosophy" like the majority of people,   1

   I think the reason most people are enslaved to some religeous like
   decision making system is that natural selection has resulted in
   mostly humans that are well adapted to being slaves. Due to the
   lack of capabilities, the vast majority of people in the past have
   been slaves,   1a

As the process of life increases capabilities to the place where
slave-like behavior is not only no longer necessary, but downright
harmful to life, the philosophical frameworks for human action have
not progressed correspondingly. I see capability theory as a
necessary step in the direction of freeer people. I hope you can
understand this and see it in that light, not as a new fad like est
to which I am enslaved. Though this is hypocritical, I do not expect
to consciously live by a standard such as Capability Theory, even
though it was created by me via a process that determined what best
filled my needs in this area,   2

I come from the midwest where people, almost to a person, are
enslaved to some religeon of the more traditional sort. I find
people in California are different only in that their religeons are
less traditional. There also seem to be more people like myself who
don't need to be enslaved to such things. This tendancy towards
freedom from doctrines appears to be happening all over, but much
more so here than in the midwest. As evidenced by the new types of
standards that are gaining popularity here, the old ones no longer
work for a growing number of people. I think capability theory can
provide a better standard than any of these others. This is using
the standard to measure the standard against other standards,   3

I think the goal in this area is for each indiviual to be as free as
possible. In capability theory, one's freedom is measured by the
capabilities one posseses. I think capability theory will create
more capabilities than any of the current "religeons". However, it
is just a theory. I have a lot of development to do on it before I
can ever expect to communicate it to very many other people. I would
like to foster debate in these areas and eventually see capability
theory grow into a science with practical applications in many
fields, including everyday decisions,   4

As for the whole universe catalog, I see it as a necessary step in
the directon of maximizing capabilities and I see capability theory
as a necessary ingredient of this typy of technology if it is to be

some thoughts about you, capability theory, and help

used to increase human freedom rather than eliminate human freedom
which is equivalent to death,   5

The WUC accessing system was designed from this philosophy of
maximizing capabilities and I think it is evident that it contains
more capabilities than the current help system, It has drawbacks to
be sure, The major drawback expressed by it's critics comes from the
apparent inconsistency with nls, This has been expressed by jhb
primarily and by you, This argument just doesn't make sense to me
when comparing the wuc accessing system to the current system because
in many more ways, the current system is inconsistent with nls,   6

I'm afraid I see so many capabilities in my system compaired to the
current system that I can't place much weight in arguments against
inconsistencies between my system and the current view in people's
heads of what nls traveling around, viewing, and information
retrieval interfaces should be,   7

Of what good is consistency when it limits capabilities?? Of course
one must count the capabilities gained by consistency, I have
measured both sides by my standards, and I think if you measured both
systems by your standards you would determine, as I have, that the
capabilities gained in the WUC system would vastly outweigh any
capabilities lost due to whatever view of inconsistancy and the total
capabilities would be much greater than the current system,   8

some thoughts about you, capability theory, and help

Dirk,
I don't know how you feel about Capability Theory, but I would expect
it to turn you off. Capability theory is for people who require some
sort of system to make decisions for them, be it christianity, est,
or whatever. You do not seem to be that type of person. You are not
enslaved to a "philosophy" like the majority of people.   1

   I think the reason most people are enslaved to some religeous like
   decision making system is that natural selection has resulted in
   mostly humans that are well adapted to being slaves. Due to the
   lack of capabilities, the vast majority of people in the past have
   been slaves.   1a

As the process of life increases capabilities to the place where
slave-like behavior is not only no longer necessary, but downright
harmful to life, the philosophical frameworks for human action have
not progressed correspondingly. I see capability theory as a
necessary step in the direction of freeer people. I hope you can
understand this and see it in that light, not as a new fad like est
to which I am enslaved. Though this is hypocritical, I do not expect
to consciously live by a standard such as Capability Theory, even
though it was created by me via a process that determined what best
filled my needs in this area.   2

I come from the midwest where people, almost to a person, are
enslaved to some religeon of the more traditional sort. I find
people in California are different only in that their decision making
standards are less traditional. There also seem to be more people
like myself who don't need to be enslaved to such things. This
appears to be happening all over, but much more so here than in the
midwest. As evidenced by the new types of standards that are gaining
popularity here, the old ones no longer work for a growing number of
people. I think capability theory can provide a better standard than
any of these others. This is using the standard to measure the
standard against other standards.   3

I think the goal in this area is for each indiviual to be as free as
possible. In capability theory, one's freedom is measured by the
capabilities one posseses. I think capability theory will create
more capabilities than any of the current "religeons". However, it
is just a theory. I have a lot of development to do on it before I
can ever expect to communicate it to very many other people. I would
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theory grow into a science with practical applications in many
fields, including everyday decisions.   4

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the directon of maximizing capabilities and I see capability theory
as a necessary ingredient of this typy of technology if it is to be

some thoughts about you, capability theory, and help

used to increase human freedom rather than eliminate human freedom
which is equivalent to death.   5

The WUC accessing system was designed from this philosophy of
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be sure. The major drawback expressed by it's critics comes from the
apparent inconsistency with nls. This has been expressed by jhb
primarily and by hgl. This argument just doesn't make sense to me
when comparing the wuc accessing system to the current system because
in many more ways, the current system is inconsistent with nls.   6

I'm afraid I see so many capabilities in my system compaired to the
current system that I can't place much weight in arguments against
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heads of what nls traveling around, viewing, and information
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Of what good is consistency when it limits capabilities?? Of course
one must count the capabilities gained by consistency. I have
measured both sides by my standards, and I think if you measured both
systems by your standards you would determine, as I have, that the
capabilities gained in the WUC system would vastly outweigh any
capabilities lost due to whatever view of inconsistancy and the total
capabilities would be much greater than the current system.   8

Air Force NSW Manual

subject: Air Force Manual - Schedule   1

   Dirk and I talked with Elizabeth Riddle and learned that they want
   only microfiche for this manual. They would like the fiche as
   soon as possible.   1a

   DDSI does microfiche.   1b

   Do you have the information you need to put in directives?   1c

   If so, when can you get started and when do you think you will
   have something worthwhile to run a test and sample for Carlson's
   appoval?   1d

PDP-10, letter from DEC confirming buy-out price and rent if we do
not buy,

This is a copy of the letter received from DEC quoting 10 purchase
Price if purchased by Aug 31 1974,   1

TO: Mr Tom Little, Purchasing (SRI),   2

    Dear Mr Little: 2a

    Per our earlier conversations, this letter is confirming the
    system buy-out balance of $404,263 (less taxes and assuming all
    rental invoices are paid), It is my understanding thaat SRI will
    issue to DEC a purchase order for that amount before June 28,
    1974,   2b

    The purchase order will be contingent upon ARPA approval, If ARPA
    should approve, SRI may buy the machine at the above price through
    August 31, 1974, If ARPA should not approve the buy-out, SRI may
    at it's option continue the rental through Augest 31, 1974 at the
    current monthly rate $22,105 (less taxes and maintenance), After
    August 31, 1974, the monthly rental rate will increase to $28,868
    (less taxes and maintenance),   2c

    Should you have any questions, please give me a call,   2d

    Sincerely, Donald R, Farrow (DEC)   2e

PDP-10, buy-out, what we need to do by Thursday june 27,

Jim:
Dec has given us a letter (23445,) quoting sale price of the 10 at
$404,263 if ARPA purchases by Aug 31 1974, The letter also states
that if ARPA does not buy, WE MAY ELECT to rent it until Aug 31 at
the existing rate of $22,105 per month; not including maintenance,
and any tax if applicable,   1

What DEC needs from us is a purchase order confirming our intent to
buy by Aug 31 SUBJECT TO ARPA APPROVAL, -- if they do not approve we
are not obligated, It is very important and critical that DEC get
this PO by Thursday this week (27 June) to confirm acceptance, This
means that we have to get it through all the proper approval
signatures by Wednesday so that the order can be cut and phoned in on
Thursday,   2

Wing says that before the Division office will sign someone will have
to talk to Bart about what will happen if ARPA does not buy (where
the rent will come from), perhaps you can do this by phone tomorrow?,
-- or should I ask Doug or Watson (I think Watson will be gone)??   3

    Personally I see no problem here because we do not have to
    obligate ourslves to DEC to rent after July 1, If the contract
    does not come through (Facility) buy or rent, which we most likely
    will know by July 1 ?, we just turn off the machine and inform
    DEC,   3a

..: martin..   4

PDP-10, Buy-out, wWhat we need to do by Thursday June 27,

Jim:
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$404,263 if ARPA purchases by Aug 31 1974, The letter also states
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    does not come through (Facility) buy or rent, which we most likely
    will know by July 1 ?, we just turn off the machine and inform
    DEC,   3a

... martin,.   4

USGS Interest in Office-1 and Tymnet

The USGS is interested in less than one slot, perhaps half of one,
according to Elizabeth. In addition to the availabilty of a half
slot, they need to access Office-1 from Denver through some medium,
preferably, Tymnet. Thus we need to provide answers to the
following:
Is Tymnet available?
What is the cost of using it?
Will, or are there any plans to hook Office-1 into the Tymnet?
In addition, they want to know about printer sevices. I'm aware that
there wer some arrangements made to have Tymshare send printouts to
us and would like to know if this can be made available as a service
to Utiltiy users?   I think the timing is fairly critical, so please
let us know or tell me who to contact (if I should) at Tymshare.
Thanks, JHB   1

PDP-10, SCI and IBM visitors, discussion about word conversion and archiving.

VISITORS: (20 JUNE 74)   1

   H. Robert Downs   1a

      Manager,
      Computer Science Division
      System Control Inc
      Palo Alto Ca,
      (415) 494-1165   1a1

   Jon o. Brommeland   1b

      Program Manager
      Command Control Activities
      ENSC, Western Div
      Mare Island Navy Ship Yard,   Vallejo, Ca,   1b1

   And   IBM frends (8),   1c

      Program Manager, and programmers,   1c1

REASON FOR VISIT: 2

   To look see at our PDP-10 and discuss our proposed operation and
   their use,   2a

      IBM may become a subcontractor for SCI in support of their ARPA
      contract, If they do, SCI intends for them to use resources
      here until the 10 is moved,   2a1

      What they were concerned about: Converting their IBM 32 bit
      words to PDP-10 36, if they gave us a physically compatable
      tape with 32 bit words, do we have a utility program that
      convert it?, and; would we provide archive storage, like 7 or 8
      tapes per month,   2a2

         IBM intend to pack their data on tapes physically compatible
         the 10 tape drives, but with shorter word lengths, and,
         after conversion and some computing (which they would
         discuss with us later) have us dump and store until the
         transfer,   2a2a

      I talked to Elizeith Michael and Freguson, they seemed to think
      that there exists a utility program that could be used, if not,
      SCI said they could make special arrangements for developing a
      program or have IBM do the conversion before sending the tape
      to us,   2a3

PDP-10, SCI and IBM visitors, discussion about word conversion and
archiving.

     In addition, I told them how our archiving worked and that we
     intended to provide it as a normal service to all customers,
     they said that would be fine for their needs.   2a4

  ... martin..   2b

Hudson Institute, Walden's approval to connect to Rutgers TIP.

Augmentation Research Center
Menlo Park, California 94025
Stanford Research Institite
24 June 74

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

Dear Mr Ruggles:

The attached page is a copy of a sendmessage from Walden at BBN
to Fields at ISI giving his approval to connect to the Rutgers
TIP; still necessary before you can make the physical connection
is approval from Saul Ameral at Rutgers. I expect to hear from
him by end of this week, and when I do, I will send you a copy.

I might note, to make a pitch, that if you were an Office-1
user, you would have received this sendmessage Fri June 21, the
same day Fields and I received it.

                                Menlo Park, California 94025

                                Sincerely,

                                Augmentation Research Center

                                Martin Hardy
                                Supervisor, Computer Facility
                                (415) 326-6200 X3921

MEH/jcn

21-JUN-74 12:13:01,918
Net mail from site BBN-TENEX rcvd at 21-JUN-74 12:12:57
Date: 21 JUN 1974 1512-EDT
From: WALDEN at BBN-TENEX
Subject: 4800 BAUD CONNECTION TO THE RUTGERS TIP
To: FIELDS at ISI
cc: HARDY at SRI-ARC, WALDEN

CRAIG,
HARDY HAS TOLD ME THAT THE NCC MUST OK CONNECTION OF
A FULL DUPLEX 4800 BAUD CONNECTION TO THE RUTGERS TIP,
A QUICK CHECK SHOWS THAT THERE IS PLENTY OF SPARE
BUFFER CAPACITY (AT THIS TIME) ON THE RUTGERS TIP
AND THE 4800 BAUD CONNECTION SHOULD THEREFORE BE POSSIBLE
WITH OUT ADVERSLY AFFECTING OTHER USERS WITH REGARD
TO BUFFERING, WITH REGARD TO TIP BANDWIDTH THERE SHOULD
ALSO BE NO PROBLEM, FINALLY, THE PROPSED CONNECTION
IS AS I UNDERSTAND IT A FULL DUPLEX CONNECTION LIKE
ONE WHICH ALREADY EXISTS ON THE MITRE TIP
AND THEREFORE SHOULD CAUSE THE NCC
MINIMAL EXTRA WORK,
IN SHORT, I DON'T SEE ANY REASON WHY YOU SHOULDN'T
ALLOW THIS CONNECTION,
REGARDS,
DAVE

State of AF-NSW Documentation Formatting

I have been working on formatting the Air Force Document for two
days. I found I needed a program to do some figuring, so it was
easier to put all the directives in the program and let it work
through the file. The program was an easy modification of the
already existing Content Analyzer SRIFORM.   1

The fiche format is expressed as a modification of the regualar COM
publication format, so I did the regular one first, then modified it
piece by piece to fit my perception of the fiche format. I'm not
sure I understood all the specs well enough, but we may come prety
close for a first try. The programs are (meyer,afcom,nls,) and
(meyer,affiche,nls,).   2

I will produce COM files as soon as EKM and DVN tell me the DDSI and
our Output Processor are ready with matching character width tables. 3

MEH 25-JUN-74 08:18   23455

SRI   MEMO

TO: PURCHASING   DATE: 14 JUNE 74

FROM: Martin Hardy   LOCATION: J-2072, X3921

SUBJECT: Memory addition to Office-1, Explanation.

                                       CC: JCN

These memories are needed to increase the operating
capacity of our Office-1 PDP-10 Computer leased from
Tymshare and operated by them at their Cupertino facility.
This lease add-on must be coterminous with existing lease
terminating Feb 10 1975. The MF-10 memories are the only
reliable memories of that class compatable with the PDP-10
computer.

                        Martin Hardy

Yes, and thanks

Yes, I was refferring to TNLS in 23397. In fact almost all my
comments relate to TNLS since that is where these things are
bothersome. Sorry I did not specify that in the last message, will
do in future. thnaks and keep up the great work. Especially the
recent collectin of NP, that must have been hard to organize. It
really is great. thanks again.   1

WUC VT announcement

Many people have expressed an interest in seeing the video tape of
the Whole Universe Catalog prototype who did not get to see it last
thursday, It will be shown again this thursday in the conference
room at 5:00. It lasts 25 minutes,   1

WUC VT announcement

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Summary of trip 20-Jun and 21-Jun 1974

Summary of trip to Wash DC with Jim Norton 20-Jun and 21-Jun 1974
    NOTE This summary is from MDK's notes; JCN will undoubtedly
    have things to add/subtract.   1

Purpose --- to determine potential needs and applications for NLS in
various governmental office environments   2

Visited at SRI-WASH, 1611 N, Kent, Arlington Va, approx two hours
each with: 3

  DCA --- Defense Communication Agency
      Capt, Jefferson (USN), Dr, Defiore, plus
      two representatives from SRI-WASH   3a

  OSHA --- Occupational Safety and Health Administration
      Howard Forsyth, Bob Gluck (Cluck?)
      Bob Dehn (SRI-WASH) and RLL joined us   3b

  DOT --- Department of Transportation
      Greg Haugan
      Fran Greehan (SRI-WASH) joined us   3c

  HRRO --- Human Resource Research Office
      Tom O'Sullivan   3d

DCA   4

  Within this agency, Jefferson is respons for the Defense
  Communication Engineering Center (DCEC) in Reston, a part of the
  Defense Communication System (DCS), This is in the larger
  technical support section of the NMCS orgzn (Nat'l Military
  Command System), under Adm Capone,   4a

  One of their main responsibilities is the use of WWMCCS (Worldwide
  Military Command and Control System)   4b

  They are interested in improving and enhancing internal DCA
  community dialog, and in providing some computer-based,
  management-oriented systems for SENIOR Executive officers   4c

  Following JCN's demo, keen interest expressed by Jefferson to have
  a demo given to his Admirals, oriented to their decision making
  processes, information gathering and dissemination problems, etc, 4d

OSHA   5

  Background of these two men is that Gluck is relatively new to
  OSHA i.e,, w/i last six months, and enthusiatic; Forsyth was a

1

Summary of trip 20-Jun and 21-Jun 1974

retired govt employee --- had worked in NBS Center for Comp Sci
and Techn --- and is now a consultant to OSHA.   5a

"There is no immediate interest", says Forsyth; "I'm very
excited, and want to know costs, availability, procedures, etc,"
intimates Gluck.   5b

Their work is concerned with creating many documents (initially
about 300-400, eventually some several thousand) each about 5 to
10 pages long, describing WORKADAY PROCEDURES AND STANDARDS for
industrial use in preventing and/or reporting occupational safety
and health problems.   5c

They'd eventually like to do this on-line,   5d

Gluck is at (703) 961-4243,   5e

DOT   6

Haugan is very competent, a graduate of IIT, with MS from U of
Wash at St Louis and PhD from U of Md,   6a

Haugan's boss is Robt Cannon, an Ass't Secty in DOT, formerly the
Dean of Engr School at Stanford Univ,   6b

Haugan's group operates with LIMITED staff; primarily works by
getting largish budget and then subcontracting their tasks,   6c

Their responsibility wthin the $1 billion 6-yr development project
for high-speed passenger rail service (30,000 miles of RR in 17
states in the Northeast and Midwest) is the 450 mile WashDc -
Boston circuit,   6d

They need economically feasible, technologically attractive
communications among their scattered offices,   6e

Several ideas for achieving such a state were discussed: 6f

   Haugan thought that DOT might pay for a grad student to look at
   pblms of DOT from fresh, not necessarily end-item-oriented
   viewpoint. This would be similar to DOT's on-going univ
   research program, of $2 to $3 million a year, that is designed
   to build up knowledge of transportation problems throughout the
   university community, without being limited to implementation
   constraints,   6f1

   Haugan also wanted one of his staff -- a Ms. Madonna Coffee ---
   to go to SRI-WASH to get a brief but thorough initial
   indoctrination into NLS, learning how to use it herself, and

then report back to Haugan on what she has found, She is purported to be an experienced computer buff, and a very competent quick learner, trusted implicitly by Haugan,   The tutoring should stress such fundamentals as switching the terminal on (making conections), handling the mouse and keyset, and switching from one system to another on the ARPANET,   6f2

Fran Greehan, in discussions after Haugan left, suggested we might consider a totally different tack, putting TI terminals in local offices along the RR route (in mayor's offices, say) so that the many small towns along the route could be in communication with the DOT -- even if only via sndmsg -- about problems during the construction phases, This would give a PR type of advantage both to DOT and to the mayors, who could be demonstrating to local citizens what was taking place,   6f3

Other features that might prove to be of benefit would be incorporation of a bar-graph type of NLS output (a user-invokable "super-watch" graph operating on user data),   6f4

HRRO   7

O'Sullivan wants to build a CBI-oriented NIC at the Educational Testing Service (ETS) in Princeton NJ, using NLS and based on some of the concepts and technology that we used at the NIC, ETS contacts are Ernie Anastasio and Bryan McNally,   7a

The CBI-NIC would not provide all the services that ARPA-NIC did, concentrating instead on agressive acquisition of external documents, and dissemination of these to CBI community members, along with formatted bibliographies,   7b

The bibliographies should include both final reports etc and work-in-progress,   7c

The format should be carefully designed to be compatible with the bibliographic formats currently in use at Wright Patterson AFB, CONTACT = COTTERMAN at AFHRL, These formats include abstracts and annotations,   7d

Several constraints exist: 7e

There must be interaction among ETS, ISI, and ARC,   7e1

ETS still needs to get authorization to USE the ARPANET,   7e2

Wm, C, Mann at ISI is responsible for certain behavioral studies under CBI contract, and will be ETS's main programming

and technical support, including consulting help on the use of
NLS.   7e3

O'Sullivan wants CBI to use NLS from the outset; wants us to
tutor Mann to get him up to speed, so that he can handle ETS
user questions, build appropriate user programs, etc. He
suggested but did 't push the idea that ISI might get a
line-processor to use DNLS.   7e4

ETS will use the Rutgers TIP (15 miles away) and could possibly
be given a line processor. But pblms exist in making the
connection of mouse and keyset to a PLATO terminal, which the
CBI community uses. PLATO is being interfaced to the ARPANET
technology, but it is a weird terminal in many technical
respects and Tom wasn't certain that our line processor design
concepts could be adaptable to the PLATO. In particular, PLATO
has only a single I/O port.   7e5