$This is directed to Jim Bair and to the programmers of USEROPTIONS,
I can't separate the questions which speak to general recommendations
from those about the design & implementation.   1

$I've inserted my comments into relevant framework of
<LJOURNAL,22754,>, They're preceded by $ 2

BASIC DEFAULT MODULE for New NLS   3

These are the recommended defaults for user settable options in
response to a request from DCW and CHI, Note the summary
(Summary), (Changes from the current default are noted*)   3a

Feedback mode: VERBOSE (alternatives: terse, length,
indenting)   3a1

$If default is Verbose, Length will have SOME default, what?
Smokey said it's 50 characters--the limit for each
command-word and noise word, independently,   3a1a

Prompt mode: PARTIAL (alternatives: off, full)   3a2

$Partial fails to prompt options; is that its only
difference from Full?   3a2a

Recognition mode: FIXED (alternatives: anticipatory, demand,
expert)   3a3

$I agree, A brand-new NLS-user I introduced to the system
found Fixed best (You get all alternatives with ?, you
always type 3 letters, and the repetitive typing imprints
the word on one's mind), but within a few sessions found
Expert Anticipatory fast, not confusing, and flexible (if
you're not sure what's available you can always type <SP>
and ? to see all alternatives, while for the common commands
you know by this time, you only have to type one or two
letters),   3a3a

Herald mode: VERBOSE, length: 3 (alternative: terse, "*")   3a4

$Please make length 4 (see--LJOURNAL,22742,1a:g)   3a4a

Level adjust prompting: Off (*change, no field)   3a5

$What was the rationale for eliminating leveladjust for new
users? It is ordinarily used in the Primer, and statements
moved or inserted might end up in unexpected places if you
don't pay attention to level,   3a5a

Viewspecs   3a6

   levels: ALL, lines: ALL, hjm(*change)puzACFHJLP   3a6a

     $If you don't want user to see hierarchical levels (as
     in--summary), why do you have A as default?   3a6a1

   viewspec prompting: Off (*change, no.field)   3a6b

     $If the prompting is to go Off as default, does that mean
     the user can't put in viewspecs? In other words, is it
     not only prompting that goes off, but the whole
     capability? I think a beginner would outgrow a basic
     default module without Leveladjust or Viewspecs within 3
     or 4 sessions, but maybe you intend this limited
     configuration for people whose knowledge of NLS never
     grows beyond first-session capabilities.   3a6b1

Statement Name Delimiters (currently settable on a file basis)   3a7

   Suggested left: <NUL>, right: .   (*change to directory basis
   if possible)   3a7a

     $I suggest that the right delimiter be colon (:)   3a7a1

$If these defaults are used, what will be the function of the
Reset commands in USEROPTIONS? Will Reset always go back to
the most basic set of defaults? Or will it go back to some
default set for whatever "module" is defined for that user?
How does user set up a more advanced mode--   3a8

   (1) by specifying the appropriate command in the USEROPTIONS
   subsystem (where reset takes one back to the "basic module"
   settings), or   3a8a

   (2) is there some other procedure to set-up a different set
   of "defaults" (further temporary changes are made by using
   the subsystem commands but Reset goes back to standards for
   the advanced mode)?   3a8b

$As you may notice, my tendency is to interpret the word
"default" as meaning what you get when you use Reset commands.
Statement <1c1> & Smokey have seemed to imply this also, but I
may be misunderstanding your intent.   3a9

   $I notice that the Leveladjust commands do not include a
   Reset Leveladjust.   3a9a

(Summary) Summary: 3b

The new user who has had no training or prior NLS exposure
would not see viewspecs, hierarchial levels, or variable
character recognition (or the prompts for these), A mechanism
will have to be set up whereby he can easily advance beyond
this limitation, probably by contacting UD, who will change the
option settings, or (when developed, see below) select a
pre-set package of useroptions by calling a subsystem such as
"NLS2",,   3b1

The application purpose of this limited offering is to enable a
user to prepare and send text, Thus, we offer that basic
capability as a concrete response to the criticism that NLS is
too complex, etc, Some changes are necessary in the command
set available, but this will require programming modification
and a complete set of graduated NLS modules from basic default
through total capability (design recommendations forthcoming),   3b2

Comments/Questions from the documenter of USEROPTIONS

(J22813) 20-APR-74 18:49;   Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /JHB(* action *) CHI(* action *) ; Sub-Collections:
SRI-ARC; Clerk: JMB;

How do I explain why a user can Goto TENEX, but he can't Execute
command in TENEX?   1

KIRK 21-APR-74 10:41 22815

(J22815) 21-APR-74 10:41; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /CHI(* action *) NEWNLS(* action *) ; Sub-Collections:
SRI-ARC NEWNLS; Clerk: KIRK;

Substitute word "tstring" and "tae" made 7 and 4 substitutions correctly but did not find and substitute tstring.L and tae.L . I have had problems like this in the past with substitute word. Seems to be defined inaccurately as delimited only by invisibles. 1

(J22816)   21-APR-74 16:13;   Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /BUGS(* action *) ; Sub-Collections: SRI-ARC BUGS;
Clerk: KIRK;

To: Bart Cox   12 April 1974   1

From: Jim Norton   cc: Humphrey   2

Subject: Use of Office-1 by the SRI-Washington Office
---   3

Dean Meyer talked with Fran Greehan again 10 April about what NLS
could do for the SRI Marketing people in Washington, This was a
followup to a discussion I had with Fran several days earlier, Fran
described a query system he would like to see tried as an initial use
of NLS by the Marketing staff at SRI-Washington, The following is
borrowed from a report by Dean Meyer,   4

-----   5

...."Fran pictures one type of user as being a young researcher who
hasn't got the contacts nor the know-how to do his own marketing,
The role of the marketing staff is to put him in contact with
potential clients and to advise him on soliciting their research
monies,   6

   Much of Fran's time is spent answering simple questions repeatedly
   for people throughout the Institute, This leaves him short on
   time for making contacts in the field, and for long-range
   strategic planning,   6a

These potential users come in with the question "What are the
available programs in my area in which I might offer research?" They
need to know: 7

   what programs in which offices are concerned with his area of
   interest,   7a

   general information about the offices, including requirements for
   bids, etc,,   7b

   who the contacts are there, and what SRI's history is with them
   (when seen by whom about what),   7c

   program budgets and details,   7d

This database should be easily maintainable, He'd like it to be
structured so that it can generate special views (e,g, given a
contact, give us a list of his contact reports for the last year; is
there anyone we haven't contacted at least four times per year?...),   8

Fran would eventually like some statistics on how the system is used,

and is hnterested in spin-offs like an online calendar for budget
cycles of all the offices, for what his people are doing, etc,   9

Fran is aware of the problem of access to the computer (a non-ARPA
application) and suggested that his WATS line is free from 8 to 11
every morning, I told him about DEX (deferred execution with tape
cassette tapes), He is anxious to begin working with all of this and
arranging a trial database, and a demo for his colleagues,"   10

----   11

Bart: 12

   I think this is a very healthy NLS application situation that
   should be encouraged and brought into Tom Humphrey's activity as
   SRI Workshop Architect, Tom and I have agreed that in his absence
   (and since he's busy with the SRI editing study) ARC will carry
   out the architect role for him for this application--at least at
   first--if the SRI-Washington use of Office-1 is supported, Tom
   will want to follow the progress and perhaps get into it when he
   can.   12a

   SRI-WASHINGTON Are interested in this
   It is particularly fortunate that Fran and others there at
   ~~RRH,V'rhhnftnn 'rd hntdrdrtdd hn thhs~~ application, They are sharp
   people who seem to me to be able to get things done, In addition,
   the possibility of using the WATS lines before 11am EST and
   sharing the Office-1 job slot with Tom's Editing study seem to be
   very good opportunities for SRI to get the maximum out of its
   investment in Office-1,   12b

   Trained NLS typists already reside at the Washington office, It
   may be possible for Fran to arrange for some time from them, at
   least at first, Also, Dean Meyer is there, as you know, and could
   be of great help to Fran and his people at the start,   12c

   This potential effort seems to me to be one that can benefit SRI
   directly and also aid ARC in the further development and transfer
   of our technology,   12d

(J22817) 22-APR-74 18:41;   Title: Author(s): James C. Norton/JCN;
Sub-Collections; SRI-ARC; Clerk: JCN;
Origin: <NORTON>FRAN.NLS;1, 12-APR-74 20:29 JCN ;   ####;

d

User-Profile Defaults

Jim, I have the following suggestions for User-Profile defaults: 1)
herald length = 4 (gives one EDIT, HELP, CALC, ect.), 2) include
viewspec E, 3) *Q cannot be BS (Backspace Whole Typein) since it
invokes HELP, 4) we should come up with some reasonable defns for
INSERT and CD for the common devices we support, and 5) the right
margin setting should be based on the device, not just set at 72.

Also, I presume that we will have a different set of defaults inforce
when we bring the new NLS up at ARC so that people get default
recognition modes more consistent with old NLS,
-- Charles.   1

(J22818)   23-APR-74 09:12;   Title: Author(s): Charles H. Irby/CHI;
Distribution: /JHB(* action *) ; Sub-Collections: SRI-ARC; Clerk:
CHI;

Dave, Thanks for your comments aboout the user options...it was a
surprise to hear from you since you werent dirrectly on the
distribution. I'm glad you found the journal item ..please continue
to feel free to input thing like this anytime. I really like your
suggestion about the viewspec E and will include it in my
recommendations to Software Development. On the terminal type scope,
do you mean the system doesnt repsond to this command or what? Need
a little more info on that.   1

(J22819) 24-APR-74 08:04; Title: Author(s): James H. Bair/JHB;
Distribution: /DHC; Sub-Collections: SRI-ARC; Clerk: JHB;

Contact Reports Management Structure

proposed structure for satisfying the requirements of SRI Marketing
and contacts made for the ONR contract, perhaps contact report
managmement in general

Contact Reports Management Structure

This is a description of a data base structure which might satisfy
the requirements of the the SRI Marketing group, as discussed in
(LJOURNAL, 22631, 1:w) (LJOURNAL, 22696, 1:w) (LJOURNAL, 22765, 1:w)
and maintain a record of contacts under the ONR contract as proposed
in (HJOURNAL, 19938, 1:w).   1

The data base could consist of three types of files: 2

   1) a file representing the structure of all the organizations in
   which a user group is interested,   2a

   2) a file with a branch for each of the people with which the user
   group has had contact, and   2b

   3) a set of contact reports, each journalized seperately,
   permitting a choice of privacy for each.   2c

A suggestion for the initial structure of each of these is described
below. Uppercase are permanent; lowercase describes what should be
inserted in its place; slash means 'or'; text beginning with
uppercase letter is descriptive and not to be replaced.   3

   You will notice that the structure file at some point refers to
   the names file, which in turn lists the contact reports.   3a

STRUCTURE file -- different structure files can be established for
different purposes or user groups (e.g., ONR contract, SRI marketing
group, ARC personnel locator, etc.)   4

   (agency-acronym) full-name-of-agency   4a

     (agency-BUSINESS)   4a1

       notes-on-how-to-do-business-with-this-agency   4a1a

     (agency-bureau)   4a2

       (agency-bureau-MISSION)   4a2a

         general-long-term-objectives-of-bureau   4a2a1

       (agency-bureau-PROGRAMS)   4a2b

         vectors-intended-to-accomplish-mission   4a2b1

       (agency-bureau-BUDGET)   4a2c

       (agency-bureau-ORGANIZATION) Offices within bureau   4a2d

```
          (agency-bureau-office)                                    4a2d1

            (agency-bureau-office-MISSION)                          4a2d1a

              general-long-term-objectives-of-office               4a2d1a1

            (agency-bureau-office-PROGRAMS)                         4a2d1b

              vectors-intended-to-accomplish-mission               4a2d1b1

            (agency-bureau-office-CONTACTS)
            Prime contact first                                    4a2d1c

              (last-name)  full-name                               4a2d1c1

                link-to-names-file                                 4a2d1c1a

                                                                    4a2e
```

NAMES file -- idnum is of the form "xn" where x = the first letter of
the lastname and n = a number assigned to the n-th person with last
name beginning with x.   5

```
  (lastname)                                                          5a

    (idnum)  fullname (nicident) OF organization-acronym              5a1

      (idnum-ORGANIZATION)  fullname-of-organization                  5a1a

        (idnum-CODE)  organization-code                               5a1a1

        (idnum-ADDRESS)  full-address                                 5a1a2

      (idnum-PHONE)  phone-number                                     5a1b

      (idnum-POSITION)
      Position in organization                                        5a1c

        (idnum-JOB-TITLE)  job-title                                  5a1c1

        (idnum-PROJECT)  project-or-field-of-responsibility           5a1c2

        (idnum-SUPERIOR)  name (supidnum)                             5a1c3

      (idnum-INTERACTIONS)
      Citations of relevant interactions                              5a1d

        (idnum-REFERRED-BY)  date:
        name-or-organization-or-meeting                               5a1d1
```

Contact Reports Management Structure

(J22822)   25-APR-74 11:16;   Title: Author(s): Robert N, Lieberman, N,
Dean Meyer/RLL NDM; Distribution: /DCE JCN RWW FJG; Sub-Collections:
SRI-ARC; Clerk: NDM;
Origin: <LIEBERMAN>CONTACTS,NLS;30, 25-APR-74 11:07 NDM ;

Emir Shuford from RAND and a Name at NSF

Monday the 21 Emir Shuford of RAND (EHS2) was visiting SRI's Descion
Analysis Group, I talked to him on the phone and went to a seminar he
presented.   1

    Last summer I demonstrated the system to him, I seem to have
    failed to do a visitor log item at the time,   1a

Shuford is interested in probablistic test scorning, He talked here
about gving subjects many tests on graphic terminals and asking them
to predict how well they would do, The tests are on a scattering of
topics, The work is interesting, Almost all his subjects (found
around RAND) overrated their knowledge, Many seem unable to rate
their knowledge at all well and unable to learn to do better, The
best and the worst raters had Ph,D's, but the 3r and 4th best raters
were 9 and 12 years old, I had the feeling that his test sees a
little way into the diifference between knowledge and wisdom, Shuford
is interested in teaching people how to know their knowledge better,
but does not see clearly how to do it,   2

Some of his support comes from the National Science Foundation, He
feels tht NSF is a likely patron for our work, I said that we had
been in touch with them in the but had not come to a real
understanding to my knowledge, He suggested Howard Maraff as some
one to talk to at NSF, Shuford feels NLS might someday some how be
useful to work such as his and would like to keep in contact, If the
appropriate person wanted to get in touch with Maraff he might be
willing to make an introduction,   3

Emir Shuford from RAND and a Name at NSF

(J22823) 24-APR-74 09:01;   Title: Author(s): Dirk H, Van Nouhuys/DVN;
Distribution: /EHS2(If this little account of your work is inaccurate,
please send me correction.) DCE JCN EKM HGL; Sub-Collections: SRI-ARC;
Clerk: DVN;

help system : wrong info for menu item

In the help system, show sendmail, menu item 23, then show menu item
3 (information branch) prints out info on information space online,
which is not rleevant to the topic, 24 April 1204 pm edt,   1

help system : wrong info for menu item

(J22824)   24-APR-74 09:06;   Title: Author(s): Robert N.
Lieberman/RLL; Distribution: /FDBK; Sub-Collections: SRI-ARC; Clerk:
RLL;

I you think I know just ask,

There is a file (wallace,core-dump,) that contains words on various
subjects that may be of interest to persons working on things that i
was working on at ARC, If anyone wishs me to explain something please
sendmsg to me at wallace@parc and I will respond by creating a new
branch in tha above fileor just expanding a current one,   1

I you think I know just ask.

(J22825)   24-APR-74 09:25;   Title: Author(s): Donald C. (Smokey)
Wallace/DCW; Distribution: /SRI-ARC(* info-only *) ; Sub-Collections:
SRI-ARC; Clerk: DCW;

New TNLS: herald comment

I will have to agree with Bair, the three letter herald is for the
birds. Either one letter or symbol (for experts) or a more
descriptive set of letters (eg. edit, send, help, useropt, etc) in
most cases this only means four characters but is more transparent to
the naive user. To be able to change this on an individual basis is
not the point. It must be the default.   1

New TNLS: herald comment

(J22826)   24-APR-74 09:35;   Title: Author(s): Robert N,
Lieberman/RLL; Distribution: /FDBK; Sub-Collections: SRI-ARC; Clerk:
RLL;

   I want to thank everyone at ARC for a neat sendoff and for the
really nice gifts, I have already learned one new song on the guitar
and my new plant looks outstanding in my new office, Please come
visit, I consider myself a very wealthy person for having met and
worked with you all, It is my aim to keep in touch,   Smokey   1

(J22827) 24-APR-74 09:35; Title: Author(s): Donald C, (Smokey)
Wallace/DCW; Distribution: /SRI-ARC(* info-only *) ; Sub-Collections:
SRI-ARC; Clerk: DCW;

re 22816 and 22815

kirk, I don't understand your problem with substitute word, since I
have done precisely the same thing many, many times without problems.
We need more data. Also, I have no good suggestions about the
execute command in tenex business. Someday we may be able to do
that, but not in the near future.

1

re 22816 and 22815

(J22828)   24-APR-74 11:46;   Title: Author(s): Charles H, Irby/CHI;
Distribution: /KIRK(* info-only *) ; Sub-Collections: SRI-ARC; Clerk:
CHI;

ARPANET directory update for rll

My business address, etc, has changed since the last directory
printing. use Washington DC phone number but sri-arc address , for
home address and phone numbers see ident system I=RLL, Robert   1

ARPANET directory update for rll

(J22829)   24-APR-74 12:23;   Title: Author(s): Robert N,
Lieberman/RLL; Distribution: /MLK; Sub-Collections: SRI-ARC; Clerk: RLL;

Notice of DRAFT of "*HELP" Printout

(vannouhuys,chelp,) is a rough first cut at the printout for the
"*HELP" command you propose. Let's talk about it. I need to know a
couple of things like what recognition scheme to assume.   1

Notice of DRAFT of "*HELP" Printout

(J22830)   24-APR-74 21:13;   Title: Author(s): Dirk H, Van
Nouhuys/DVN; Distribution: /CHI DIRT(FYI); Sub-Collections: SRI-ARC
DIRT; Clerk: DVN;

Can't Get into NewNLS

- - - -   1

<rel- etc, yeilds "ILLEGAL INSTRUCTION TRAP IN EXEC   2

PC 10761 ACS 400001 0 0" etc, "work" yields "ILLEG INST 0 AT 1"   3

-------   4

                                                                                 5

Can't Get into NewNLS

(J22831) 25-APR-74 03:36;   Title: Author(s): Dirk H, Van Nouhuys/DVN;
Distribution: /NEWNLS; Sub-Collections: SRI-ARC NEWNLS; Clerk: DVN;

Response to ELF questionaire

This is a response to the ELF User Survey Questionaire. Sorry it's
so late, been servicing interrupts.   1

I.   2

   A. SRI-ARC   2a

   B. ANDREWS@SRI-ARC   2b

II. Applications of ELF   3

   A. no current applications   3a

   B. intended applications: 3b

      (We expect our PDP-11 will be delivered early MAY).   3b1

      We intend to use ELF at first as a terminal
concentrator/ARPANET access device for Line Processor
terminals.   3b2

      Mainly, we intend to develop a NLS-frontend command parser in
BCPL to run under ELF and drive 16 or so Line Processor
terminals.   3b3

iii. hardware   4

   A. currently we have a PDP-10 connected to am IMP   4a

   B. intiially we will have (A.) plus a PDP-11 connected to the
PDP-10 via the data line scanner and a DL-11 on the PDP-11. We
hope to load programs and do debugging with this configuration.   4b

      In about 6 mo, we will just have the PDP-11 connected to the
IMP via an ANTS interface. We then hope to run NLS ina
frontend/backend mode using a PDP-10 connected to the network
(such as OFFICE-1).   4b1

      The PDP-11 will be an 11/40 with 96K memory and a DJ-11
terminal mux.   4b2

IV. I don't quite understand what you intend by this section.   5

   We will have a few programmers working on the frontend system.
Probably only one or one and a half will be familiar with ELF.   5a

   B. We plan to send one of our hardward wizards to PDP-11
maintenance school.   5b

```
TITLE:
COMMENT:
AUTHOR(S):DIA
DISTRIBUTION:
SUBCOLLECTION:
CLERK:DIA
GO.
```
5c

C. We expect to do some messing around with some parts of ELF, but only out of absolute and dire necessity.   5d

D. We will be developing the NLS frontend thing with some parts possibly useful to others. We may do some work in the debugging aids field since there is not much there now.   5e

E. We will document our own developments.   5f

V. ELF support required   6

A. no hardware maintenance required.   6a

B. We hope ELF will be maintained and that simple requests for changes/additions will be heard.   6b

C. We would like to see a transparent mode in the ELF equivalent of TELNET. This is required for the Line Processor stuff. Also, we are very anxious to see the cross net debugger working.   6c

VI. special site requirements   7

A. It would be nice if ELF would work either over the ANTS interface to the network or over the TTY connection to hte PDP-10. This would allow us to checkout all part of our system before actual use of the ANTS interface, but at a lower bandwidth. We don't really expect this, but would be willing to put up some software work to make it possible...   7a

Response to ELF questionaire

(J22832)   25=APR=74 10:53;   Title: Author(s): Don I, Andrews/DIA;
Distribution: /DHC; Sub=Collections: SRI=ARC; Clerk: DIA;
Origin: <ANDREWS>ELF,NLS;2, 25=APR=74 10:50 DIA ;

In the running system, centerdot acts as a command delete when
inserting text in DNLS.

1

(J22833)   25-APR-74 12:06;   Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /JDH JHB BUGS; Sub-Collections: SRI-ARC BUGS; Clerk: KIRK;

New Directory

Which phone number is the Washington # that you want to appear in the
directory??? Wouldn't it be better to use the sri number, since you
will, I thought , be working here soon...?   1

(J22834) 25-APR-74 13:39; Title: Author(s): Marcia Lynn Keeney/MLK;
Distribution: /RLL; Sub-Collections: SRI-ARC; Clerk: MLK;

1

Craig: 2

Now I think I see what you want: the assurance that we will remove
the differeneces perceived from the USER'S point of view between the
Office-1 EXEC and the standard BBN EXEC. I was, of course, thinking
about the internal differences inside TENEX, the subject of much of
the recent TENEX discussion. OK, then: 3

During the past few years, ARC has made some "improvements" at the
EXEC command level that we feel have helped our users. Those changes
have been used by NIC users (many people), RADC and ARC people for
some time.   4

For the list of differences and what we are doing about them, please
refer to the annotated Appendix.   5

We agree that it would be much better for BBN to distribute new and
standard versions of the EXEC, although we at ARC and at Office-1
will need prior notice of what the changes will be in time to
interact with our users properly and to discuss any problems we might
feel they would create for us.   6

   Bill Ferguson and Ken Victor have already been in contact with
   Jerry Burchfiel and Bill Plummer at BBN. They are now preparing a
   request (discussing for each item of difference) for help from BBN
   in putting the changes we feel are needed into a standard EXEC. If
   some of those don't make it, we'll consider dropping those
   changes.   6a

Besides having EXEC changes well-coordinated, we would like to see
SNDMSG, NSNDMSG, RD, and NRD versions come to us in an orderly way.
Are there plans to have BBN release new versions of these programs in
a coordinated way also?   7

The basic TENEX differences are still an important subject, though
perhaps not what you were getting at. We still intend to work with
BBN in getting as many of those changes into standard TENEX   8

Has someone written (or will they write) a set of guidelines that
ARPA expects Service Sites to follow? It would help us to look at the
way we are running (and will run) Office-1 in light of your
expectations. Although Office-1 gives service to other than ARPA
users, we DO plan to be and want be considered a Service Site. If it
takes some reasonable transition period to reach that state, OK,
we'll work toward that. If we were NOT considered a service site (by
ARPA) until we reach that state, I'm not sure what that implies,
hmmm ... Can you let me know more about your views on this sometime?   9

3) tell user about new journal mail at login time   11c3
4) SRI-ARC MESSAGE command   11c4
   shorthand for using READMAIL subsystem   11c4a
5) SRI-ARC q4 changes to the scheduler   11c5
   this is meaningless unless the proper changes   11c5a
   have been made to the scheduler   11c5b
6) SRI-ARC BYE command   11c6
   this is equivalent to the BREAK (LINKS) command   11c6a
7) SRI-ARC FILSTAT command   11c7
   always prints connected directory   11c7a
8) SRI-ARC SYSTAT command   11c8
   doesn't type entire systat if load too high   11c8a
      unless user is a network user or an enabled wheel   11c8b
9) SRI-ARC COMMAND ACCEPT feature   11c9
   treats COMMAND ACCEPT (^D) as equivalent to EOL in exec   11c9a

D. Plan of Action   11d

As mentioned, all the items in Group A above have been accepted
by BBN. We will have an ongoing project with BBN to agree as
to which of the features in Group B and C should be included.
We will then work to have them incorporated in a manner which
is acceptible to all TENEX sites, and especially BBN and ARC.   11d1

Copy of Field's Memo on ARC-BBN EXEC Diffs

(J22835) 25-APR-74 14:59; Title: Author(s): Ferg R, Ferguson/WRF;
Distribution: /WRF JCN; Sub-Collections: SRI-ARC; Clerk: WRF;
Origin: (EXEC, FIELDS,NLS;7,), 25-APR-74 14:22 WRF ;

New Programmer

Karolyn Martin will be starting work as a programmer on May 1. She
still wanted to do her Sierra trip so will be gone during the summer.   1

New Programmer

(J22836)   25-APR-74 15:33;   Title: Author(s): Richard W, Watson/RWW;
Distribution: /NPG; Sub-Collections: SRI-ARC NPG; Clerk: RWW;

help

Dirk ... re (22830,), what *HELP command are you talking about ? Is
there a description of it somewhere ? ... Mike   1

help

(J22837)   25-APR-74 15:41;   Title: Author(s): Michael D, Kudlick/MDK;
Distribution: /DVN; Sub-Collections: SRI-ARC; Clerk: MDK;

If possible, I'd like comments by May 1,

Considerations for text editor comparison   1

  Introduction   1a

      The ANALYSIS group is once again planning a comparison of text
      editors. There are several questions to be decided concerning
      the experimental design. I have made a list of questions below
      with my opinion following most. Your comments or additional
      questions to be raised will be most welcome,   1a1

  Questions for Consideration   1b

      a. Should each typist be given a proficiency test?
      I think this would be a good idea to identify gross differences
      in typing speed and accuracy,   1b1

      b. Should any editing be allowed during text insertion, for
      example, ^A or ^W,
      Not all text editors may have this feature, or not all typists
      may use such commands while entering text, I find it slows me
      down and is confusing when I have to change my work patterns so
      it might be best to let typists work as usual, with a notation
      as to method used,   1b2

      c. Should a standard procedure for proofing be used? For
      example, some text editors necessitate the use of hardcopy
      while others (DNLS) allow you to proof and make edits online,
      I think hardcopy should be used in all cases with offline
      operator-time for proofing not being counted, The only time
      counted will be the online time for actually making
      corrections,   1b3

      d. Should the typist do the proofing?   1b4

      e. Should people have time, not to be counted, to think about
      and plan how to do edits, or let typists do edits as best they
      can, including time for thinking and doing,
      Part of the real issue is the degree to which we are trying to
      eliminate user differences and stick to measuring the various
      systems and not the users, If user's are allowed to optimize
      the editing operation, the amount of time for achieving the
      results should also be noted to point out gross differences,   1b5

      f. Should the time for producing a hardcopy be included in each
      step where a hardcopy is required or just listed once?
      I think it should be timed once, and not included with the
      times for text insertion or editing, The number of hardcopies
      required for completing a task should also be noted,   1b6

g. Length of texts. The previous test used a total of 50 pages
of text (with blank lines on between statements),
I think the texts should be shorter, probably between two and
five pages each, to reduce boredom and to be more consistent
with the majority of office tasks,   1b7

h. Should documents concerning NLS be used?   -
I think it would be best if documents on a miscellaneous
subject were used, The fact that the people testing XTNLS,
XDNLS, and DEX would be familiar with the terminology is a
potential biasing factor,   1b8

Considerations for Text Editor Comparison

Replacement??

I received a telephone message which was a bit unclear, so I thought
I'd check with you. It said that James R. Jenkins was to replace
you. Does this mean that he is to receive mailings from the NIC
rather than you?? Also, should your name be deleted from the
directory?? This is necessary only if you are leaving the Arpanet.
Please let me know as soon as possible so that I can incorporate the
necessary changes in the identfile as soon as possible.
Marcia Keeney   1

Replacement??

(J22839)   25-APR-74 16:43;   Title: Author(s): Marcia Lynn Keeney/MLK;
Distribution: /PHE; Sub-Collections: SRI-ARC; Clerk: MLK;

RLL: directory pphone options

At the moment it appears that I will move to Calif, in JULY or
August. It is up to you whether to put Menlo park or Wash, as
theeaddress and phone number. (Factors to be considered, I prresume,
are the projected date of the next update,Jim Norton's oopinion,etc,)
If there exist a strong probability that the next update might be
sometime off, then put the Menlo Park address and Phone number, To
clarify the numbers in the Ident system: 301-649-2707 is my home,
703-524-2053 is the SRI-WASH office number with 378 the extension,
The 301-649-4812 is my second home phone I use for the terminal most
of the time, Let me know your decision, Stay warm and cool, Robert,   1

(J22840)   25-APR-74 19:30;   Title: Author(s): Robert N,
Lieberman/RLL; Distribution: /MLK; Sub-Collections: SRI-ARC; Clerk: RLL;

SYNTAX: 1

    notation for command syntax:
    In NLS command syntax, each command word begins with a capital
    letter, and the rest is lower case. Recognition of command-word
    fields depends on the recognition mode set by the user. Terms all
    in capitals are variables, explained below, which stand for
    certain alternatives (like command-words) in that field.
     Other notation conventions:
    (...) = noise words echoed by system; prompts are not shown
    [...] = optional elements, precede by the OPTION character
    !...! = comments, not part of the command   1a

        verb-nominal
        ##<verb-nominal>##   1a1

        recognition
        ##<recognition>##   1a2

        squarebrackets [...] in the notation ##<optional>##   1a3

        noise: turning off noise words
        You can turn off noise words (as well as lessen command
        feedback) with Useroption's Feedback command. Specifying Terse
        turns off noise words. The default, Verbose, gives you noise
        words.   1a4

            Useroptions Feedback command
            ##<useroptions !feedback>##   1a4a

            Useroptions command to reset feedback to default - Verbose -
            ##<useroptions !Reset !feedback>##   1a4b

        Variables used in command syntax:
        Words all in upper case are acronyms for certain alternatives
        for that field. Some stand for command-words.   1a5

            Subsystems:
            ##<SUBSYSTEM>##   1a5a

            STRING
            ##<Statement>##   1a5b

            STRUCTURE
            ##<STRUCTURE>##   1a5c

            LEVEL
            ##<LEVEL-ADJUST>##   1a5d

        VIEWSPECS
        ##<VIEWSPECS>##   1a5e

        DESTINATION
        ##<DESTINATION>##   1a5f

        TYPEIN:
        TYPEIN = any string of characters from the keyboard,
        terminated by a CA (Command Accept)
        TYPEIN will be prompted by "T:"
        TYPEIN has a special form when a FILELINK or Ident is called
        for (You can tell from the noise words),   1a5g

          CA
          ##<CA>##   1a5g1

          T:
          ##<T-colon>##   1a5g2

          Ident
          ##<Ident>##   1a5g3

          FILELINK
          ##<FILELINK>##   1a5g4

        OPTION
        ##<OPTION>##   1a5h

        OK
        ##<OK>##   1a5i

        CA
        ##<CA>##   1a5j

        OKREPEAT
        ##<OKREPEAT>##   1a5k

        OKINSERT
        ##<OKINSERT>##   1a5l

    optional fields in commands:
    There are some optional fields in commands that won't be
    expected unless you specifically ask for them, Options are
    enclosed in squarebrackets in the syntax and in prompts, If you
    want to use the option, type the OPTION character and then
    specify the field that's between the squarebrackets, Show also:
    prompts   1a6

        OPTION:

2

OPTION = <control-u> (This is a control character, typed by
holding down the control key while striking the u key)   1a6a

Special meaning of alternative
 ##<alternatives>##   1a6a1

Special meaning of optional
 ##<optional>##   1a6a2

options vs alternatives
 ##<alternatives>##   1a6b

Universal: 1b

Execute (command in) SUBSYSTEM   1b1

Goto (subsystem) SUBSYSTEM OK   1b2

Quit OK   1b3

<control-q>
A brief description of the NLS capabilities you were using
follows:
...
For help with help, type <control-q> again,   1b4

questionmark (?)   1b5

"less-than" <   1b6

"greater-than" >   1b7

Editor: 1c

Accept Connect (from display #) CONTENT OK   1c1

]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c1a

]DNLS: CONTENT = TYPEIN or DESTINATION   1c1b

Append Statement (at) SOURCE (to) DESTINATION CONTENT OK   1c2

]TNLS: SOURCE = DESTINATION or [TYPEIN]
       CONTENT = TYPEIN or [DESTINATION]   1c2a

]DNLS: SOURCE = DESTINATION or TYPEIN
       CONTENT = TYPEIN or DESTINATION   1c2b

Archive File CONTENT [ARCHIVEOPT] OK

```
      ARCHIVEOPT = Delete (Finished?) ANSWER
               OR Do (not delete) (Finished?) ANSWER
               OR Not (allowed) (Finished?) ANSWER
               OR Deferred (Finished?) ANSWER
               OR Immediate (Finished?) ANSWER
      ANSWER = No !give another ARCHIVEOPT!
          OR Yes !option terminated!
          OR OK !same as Yes!                                   1c3

      ]TNLS: CONTENT = TYPEIN or [DESTINATION]                  1c3a

      ]DNLS: CONTENT = TYPEIN or DESTINATION                    1c3b

   Break Statement (at) DESTINATION LEVEL-ADJUST OK             1c4

   Clear Window (at) DESTINATION OK                             1c5

   Connect                                                      1c6

      Directory
      Connect (to) Directory CONTENT (Password) CONTENT OK      1c6a

         ]TNLS: CONTENT = TYPEIN or [DESTINATION]               1c6a1

         ]DNLS: CONTENT = TYPEIN or DESTINATION                 1c6a2

      Display
      Connect (to) Display  (number) CONTENT I/O OK
      I/O = Input (and output)  OR  Output (only)               1c6b

         ]TNLS: CONTENT = TYPEIN or [DESTINATION]               1c6b1

         ]DNLS: CONTENT = TYPEIN or DESTINATION                 1c6b2

      Tty
      Connect (to) Tty (number) CONTENT I/O OK
      I/O = Input (and output) OR  Output (only)                1c6c

         ]TNLS: CONTENT = TYPEIN or [DESTINATION]               1c6c1

         ]DNLS: CONTENT = TYPEIN or DESTINATION                 1c6c2

   Copy                                                         1c7

      STRING
      Copy STRING (from) SOURCE (to follow) DESTINATION OK      1c7a

         ]TNLS: SOURCE = DESTINATION or [TYPEIN]                1c7a1
```

]DNLS: SOURCE = DESTINATION or TYPEIN   1c7a2

STRUCTURE
Copy STRUCTURE (from) SOURCE (to follow) DESTINATION
LEVEL-ADJUST [(Filtered:) FILTER] OK
FILTER = any combination of the following VIEWSPECS -
terminated by a CA: a, b, c, d, e, g, h, l, w, i, j, k   1c7b

]TNLS: SOURCE = DESTINATION or [TYPEIN]   1c7b1

]DNLS: SOURCE = DESTINATION or TYPEIN   1c7b2

Archive
Copy Archive (directory from) CONTENT (to follow)
DESTINATION LEVEL-ADJUST [ADIROPT] OK
ADIROPT = a series of the ADIROPT command-words; Show
also--ADIROPT>   1c7c

]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c7c1

]DNLS: CONTENT = TYPEIN or DESTINATION   1c7c2

Directory
Copy Directory (from) CONTENT (to follow) DESTINATION
LEVEL-ADJUST [DIROPT] OK
DIROPT = a series of the DIROPT command-words; Show
also--DIROPT>   1c7d

]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c7d1

]DNLS: CONTENT = TYPEIN or DESTINATION   1c7d2

File
Copy File (from) CONTENT (to) CONTENT OK   1c7e

]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c7e1

]DNLS: CONTENT = TYPEIN or DESTINATION   1c7e2

Sequential
Copy Sequential (file from) CONTENT (to follow) DESTINATION
LEVEL-ADJUST [ALGORITHM] OK
ALGORITHM = Heuristic OR Justified OR Assembler   1c7f

]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c7f1

]DNLS: CONTENT = TYPEIN or DESTINATION   1c7f2

Create File CONTENT OK   1c8

      ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c8a

      ]DNLS: CONTENT = TYPEIN or DESTINATION   1c8b

Delete   1c9

  STRING
  Delete STRING (at) DESTINATION OK   1c9a

  STRUCTURE
  Delete STRUCTURE (at) DESTINATION [(Filtered:) FILTER] OK
  FILTER = any combination of the following VIEWSPECS =
  terminated by a CA: a, b, c, d, e, g, h, l, w, i, j, k   1c9b

  All
  Delete All (markers) OK   1c9c

  Archive
  Delete Archive (file) CONTENT OK   1c9d

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c9d1

    ]DNLS: CONTENT = TYPEIN or DESTINATION   1c9d2

  File
  Delete File CONTENT OK   1c9e

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c9e1

    ]DNLS: CONTENT = TYPEIN or DESTINATION   1c9e2

  Marker
  Delete Marker (named) CONTENT OK   1c9f

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c9f1

    ]DNLS: CONTENT = TYPEIN or DESTINATION   1c9f2

  Modifications
  Delete Modifications (to file) OK (really?) OK   1c9g

Disconnect Terminal OK   1c10

Edit Statement (at) DESTINATION EDITSTRING OK
EDITSTRING = a mixed string of the following characters:
<control-f>, <control-u>, <control-z>, <control-o>,
<control-s>, <control-g>, <control-p>,
<control-e>TYPEIN<control-e>, <control-h>, <control-w>,
<control-g>, <control-n>, <control-r>,   1c11

The command syntax for the new NLS copied from HELP

Evaluate (expression) CONTENT OK   1c12

    ]TNLS: CONTENT = TYPEIN or [DESTINATION] of an expression of
the following form: 1c12a

    ]NUMBER OPERATOR NUMBER followed by any number of:
OPERATOR NUMBER
    Where OPERATOR = one of the following:
      a OR + OR <SP> =(add)
      s OR -   =(subtract)
      m OR * OR x   =(multiply)
      d OR /   =(divide)   1c12a1

    ]DNLS: CONTENT = TYPEIN or DESTINATION of an expression of
the following form: 1c12b

    ]NUMBER OPERATOR NUMBER followed by any number of:
OPERATOR NUMBER
    Where OPERATOR = one of the following:
      a OR + OR <SP> =(add)
      s OR -   =(subtract)
      m OR * OR x   =(multiply)
      d OR /   =(divide)   1c12b1

Execute (command in) SUBSYSTEM   1c13

Expunge   1c14

  Archive
  Expunge Archive (directory) OK   1c14a

  Directory
  Expunge Directory OK   1c14b

Freeze Statement (at) DESTINATION VIEWSPECS OK   1c15

Goto (subsystem) SUBSYSTEM OK   1c16

Insert   1c17

  STRING
  Insert STRING (to follow) DESTINATION CONTENT OK   1c17a

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c17a1

    ]DNLS: CONTENT = TYPEIN or DESTINATION   1c17a2

  STRUCTURE

        Insert STRUCTURE (to follow) DESTINATION LEVEL-ADJUST
        CONTENT OK   1c17b

          ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c17b1

          ]DNLS: CONTENT = TYPEIN or DESTINATION   1c17b2

        Date
        Insert Date (to follow) DESTINATION OK   1c17c

        Journal
        Insert Journal (submission form to follow) DESTINATION
        LEVEL-ADJUST OK   1c17d

        %The preceding statement is unnamed so that we can get to
        the journal subsystem.   1c17e

        Time
        Insert Time (and date to follow) DESTINATION OK   1c17f

      Jump   1c18

      DNLS   1c18a

        BUG
        Jump (to) BUG VIEWSPECS OK   1c18a1

        DESTINATION
        Jump (to) DESTINATION (relative to) BUG ADDRESS VIEWSPECS
        OK
        ADDRESS = a sequence of one or more dynamic DESTINATION
        elements, separated by spaces, Show--ADDRESS>   1c18a2

        Back
        Jump (to) Back DESTINATION VIEWSPECS OK   1c18a3

        Content: 1c18a4

          First
          Jump (to) Content First SEARCH VIEWSPECS OK
          SEARCH = CONTENT or OKREPEAT |accept displayed one| 1c18a4a

            ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c18a4a1

            ]DNLS: CONTENT = TYPEIN or DESTINATION   1c18a4a2

          Next
          Jump (to) Content Next SEARCH VIEWSPECS OK
          SEARCH = CONTENT or [CA]   1c18a4b

```
                       ]TNLS: CONTENT = TYPEIN or [DESTINATION]        1c18a4b1

                       ]DNLS: CONTENT = TYPEIN or DESTINATION          1c18a4b2

            Down
            Jump (to) Down DESTINATION VIEWSPECS OK                    1c18a5

            End
            Jump (to) End (of branch) DESTINATION VIEWSPECS OK          1c18a6

            File:                                                      1c18a7

               BUG
               Jump (to) File BUG VIEWSPECS OK                         1c18a7a

               <SP>
               Jump (to) File <SP> CONTENT VIEWSPECS OK                1c18a7b

                  ]TNLS: CONTENT = TYPEIN or [DESTINATION]             1c18a7b1

                  ]DNLS: CONTENT = TYPEIN or DESTINATION               1c18a7b2

               Return
               Jump (to) File Return CA ANSWER OK
               ANSWER = No !return one more!
                     or yes !accept this one!
                     or OK !execute command at this point!            1c18a7c

            Head
            Jump (to) Head DESTINATION VIEWSPECS OK                     1c18a8

            Item
            Jump (to) Item DESTINATION VIEWSPECS OK                     1c18a9

            Link
            Jump (to) Link CONTENT OK                                  1c18a10

               ]TNLS: CONTENT = TYPEIN or [DESTINATION]                1c18a10a

               ]DNLS: CONTENT = TYPEIN or DESTINATION                  1c18a10b

            Name
            Jump (to) Name WHICHNAME VIEWSPECS OK
            WHICHNAME = BUG  or  Only CONTENT  or  First CONTENT
                  or Next CONTENT                                      1c18a11

               ]TNLS: CONTENT = TYPEIN or [DESTINATION]                1c18a11a

               ]DNLS: CONTENT = TYPEIN or DESTINATION                  1c18a11b
```

```
                    Next
                    Jump (to) Next DESTINATION VIEWSPECS OK                1c18a12

                    Origin
                    Jump (to) Origin DESTINATION VIEWSPECS OK              1c18a13

                    Predecessor
                    Jump (to) Predecessor DESTINATION VIEWSPECS OK         1c18a14

                    Return
                    Jump (to) Return CA ANSWER OK
                    ANSWER = No !return one more!
                         or Yes !accept this one!
                         or OK !execute command at this point!             1c18a15

                    Successor
                    Jump (to) Successor DESTINATION VIEWSPECS OK           1c18a16

                    Tail
                    Jump (to) Tail DESTINATION VIEWSPECS OK                1c18a17

                    Up
                    Jump (to) Up DESTINATION VIEWSPECS OK                  1c18a18

                    Word:                                                 1c18a19

                       First
                       Jump (to) Word First SEARCH VIEWSPECS OK
                       SEARCH = CONTENT  or  OKREPEAT !accept displayed one!
                                                                          1c18a19a
                          ]TNLS: CONTENT = TYPEIN or [DESTINATION]         1c18a19a1

                          ]DNLS: CONTENT = TYPEIN or DESTINATION           1c18a19a2

                       Next
                       Jump (to) Word Next SEARCH VIEWSPECS OK
                       SEARCH = CONTENT  or  OKREPEAT !accept displayed one!
                                                                          1c18a19b
                          ]TNLS: CONTENT = TYPEIN or [DESTINATION]         1c18a19b1

                          ]DNLS: CONTENT = TYPEIN or DESTINATION           1c18a19b2

                 TNLS                                                     1c18b

                    DESTINATION
                    Jump (to) DESTINATION OK                              1c18b1

              Load File CONTENT OK                                        1c19
```

   ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c19a

   ]DNLS: CONTENT = TYPEIN or DESTINATION   1c19b

Logout OK   1c20

Mark Character (at) DESTINATION (with marker named) CONTENT OK   1c21

   ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c21a

   ]DNLS: CONTENT = TYPEIN or DESTINATION   1c21b

Merge STRUCTURE (at) DESTINATION (into) DESTINATION OK   1c22

Move   1c23

  STRING
  Move STRING (from) SOURCE (to follow) DESTINATION OK   1c23a

    ]TNLS: SOURCE = DESTINATION or [TYPEIN]   1c23a1

    ]DNLS: SOURCE = DESTINATION or TYPEIN   1c23a2

  STRUCTURE
  Move STRUCTURE (from) SOURCE (to follow) DESTINATION
  LEVEL-ADJUST [(Filtered:) FILTER] OK
  FILTER = any combination of the following VIEWSPECS -
  terminated by a CA: a, b, c, d, e, g, h, l, w, i, j, k   1c23b

    ]TNLS: SOURCE = DESTINATION or [TYPEIN]   1c23b1

    ]DNLS: SOURCE = DESTINATION or TYPEIN   1c23b2

  Boundary
  Move Boundary (from) BUG (to) BUG OK   1c23c

  File
  Move File (from old filename) CONTENT (to new filename)
  CONTENT OK   1c23d

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c23d1

    ]DNLS: CONTENT = TYPEIN or DESTINATION   1c23d2

Output   1c24

  Assembler
  Output Assembler (file) CONTENT [Force (upper case)] OK   1c24a

                    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c24a1

                    ]DNLS: CONTENT = TYPEIN or DESTINATION   1c24a2

    Com
    Output Com [COPYOPT] OK
    COPYOPT = File CONTENT   OR   Copies TYPEIN!number of copies
    wanted!   1c24b

        ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c24b1

        ]DNLS: CONTENT = TYPEIN or DESTINATION   1c24b2

    Journal
    Output Journal (quickprint) [COPYOPT] OK
    COPYOPT = File CONTENT   OR   Copies TYPEIN!number of copies
    wanted!   1c24c

        ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c24c1

        ]DNLS: CONTENT = TYPEIN or DESTINATION   1c24c2

    %The preceding statement is unnamed so that we can get to
    the journal subsystem,   1c24d

    Printer
    Output Printer [COPYOPT] OK
    COPYOPT = File CONTENT   OR   Copies TYPEIN!number of copies
    wanted!   1c24e

        ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c24e1

        ]DNLS: CONTENT = TYPEIN or DESTINATION   1c24e2

    Quickprint
    Output Quickprint [COPYOPT] OK
    COPYOPT = File CONTENT   OR   Copies TYPEIN!number of copies
    wanted!   1c24f

        ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c24f1

        ]DNLS: CONTENT = TYPEIN or DESTINATION   1c24f2

    Remote
    Output Remote (printer TIP) CONTENT (port #) CONTENT (send
    form feeds?) CHOICE (wait at page break?) ANSWER (Go?) START
    CHoICE = Yes or No (simulate?) ANSWER
    ANSWER = Yes or OK!same as Yes! or No

```
        START = Yes   or   OK!same as Yes!
            or No (Type <SP> when ready, CD to abort) <SP>          1c24g

        ]TNLS: CONTENT = TYPEIN or [DESTINATION]                    1c24g1

        ]DNLS: CONTENT = TYPEIN or DESTINATION                      1c24g2

    Sequential
    Output Sequential (file) CONTENT [Force (upper case)] OK        1c24h

        ]TNLS: CONTENT = TYPEIN or [DESTINATION]                    1c24h1

        ]DNLS: CONTENT = TYPEIN or DESTINATION                      1c24h2

    Terminal
    Output Terminal (send form feeds?) CHOICE (wait at page
    break?) ANSWER (Go?) START
    CHOICE = Yes   or   No (simulate?) ANSWER
    ANSWER = Yes   or   OK!same as Yes!   or   No
    START = Yes   or   OK!same as Yes!
        or No (Type <SP> when ready, CD to abort) <SP>             1c24i

Playback Session (from file) CONTENT OK                            1c25

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]                       1c25a

    ]DNLS: CONTENT = TYPEIN or DESTINATION                         1c25b

Print OK                                                          1c26

    STRUCTURE
    Print STRUCTURE (at) DESTINATION VIEWSPECS OK                  1c26a

Protect File CONTENT CONTROLS OK
CONTROLS = Reset
        or Allow WHOM DOING (Finished?) ANSWER
        or Forbid WHOM DOING (Finished?) ANSWER
        or Private (for) WHOM
        or Set (to) 18BIT#
WHOM = Self   or   Group   or   Public
DOING = Read (access)
    or Write (access)
    or Execute (access)
    or List (access)
    or All (access)
    or Set (to) 6BIT#
18BIT# = a TYPEIN of a 18-bit TENEX protection number
6BIT# = a TYPEIN of a 6-bit TENEX protection number
ANSWER = No !cycles back to DOING!
```

```
                    or Yes
                    or OK !execute command at this point!                1c27

              ]TNLS: CONTENT = TYPEIN or [DESTINATION]                   1c27a

              ]DNLS: CONTENT = TYPEIN or DESTINATION                     1c27b

        Quit OK                                                          1c28

              Nls
              Quit Nls OK                                                1c28a

              To
              Quit To SUBSYSTEM OK                                       1c28b

        Record Session (on file) CONTENT OK                             1c29

              ]TNLS: CONTENT = TYPEIN or [DESTINATION]                   1c29a

              ]DNLS: CONTENT = TYPEIN or DESTINATION                     1c29b

        Release                                                         1c30

              All
              Release All (frozen statements) OK                        1c30a

              Frozen
              Release Frozen (statement at) DESTINATION OK              1c30b

        Renumber Sids (in file) OK                                      1c31

        Replace                                                         1c32

              STRING
              Replace STRING (at) DESTINATION (by) CONTENT OK           1c32a

                 ]TNLS: CONTENT = TYPEIN or [DESTINATION]               1c32a1

                 ]DNLS: CONTENT = TYPEIN or DESTINATION                 1c32a2

              STRUCTURE
              Replace STRUCTURE (at) DESTINATION (by) CONTENT OK        1c32b

                 ]TNLS: CONTENT = TYPEIN or [DESTINATION]               1c32b1

                 ]DNLS: CONTENT = TYPEIN or DESTINATION                 1c32b2

        Reset                                                           1c33
```

The command syntax for the new NLS copied from HELP

Archive
Reset Archive (request for file) CONTENT OK   1c33a

   ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c33a1

   ]DNLS: CONTENT = TYPEIN or DESTINATION   1c33a2

Case
Reset Case (mode) OK   1c33b

Character
Reset Character (size for window) OK   1c33c

Filter
Reset Filter OK   1c33d

Link
Reset Link (default for file) OK   1c33e

Name
Reset Name (delimiters in) STRUCTURE (at) DESTINATION OK   1c33f

Prompt
Reset Prompt OK   1c33g

Recognition
Reset Recognition (mode) OK   1c33h

Temporary
Reset Temporary (modifications for file) OK   1c33i

Tty
Reset Tty (window) OK   1c33j

Viewspecs
Reset Viewspecs OK   1c33k

Retrieve File (from archive) CONTENT OK   1c34

  ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c34a

  ]DNLS: CONTENT = TYPEIN or DESTINATION   1c34b

Set   1c35

Case   1c35a

  STRING
  Set Case STRING (at) DESTINATION OK   1c35a1

The command syntax for the new NLS copied from HELP

                    STRUCTURE
                    Set Case STRUCTURE (at) DESTINATION OK   1c35a2

                    Mode
                    Set Case Mode CASEMODE OK
                    CASEMODE = Upper or Lower or Initial (upper)   1c35a3

              Character
              Set Character (size for window to) NUMBER OK
              NUMBER = TYPEIN: 0 or 1 or 2   1c35b

              Filter   1c35c

                    Off
                    Set Filter Off OK   1c35c1

                    On
                    Set Filter On OK   1c35c2

                    To
                    Set Filter To (pattern) CONTENT OK   1c35c3

                       ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c35c3a

                       ]DNLS: CONTENT = TYPEIN or DESTINATION   1c35c3b

              Link
              Set Link (default for file to directory) CONTENT OK   1c35d

                 ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c35d1

                 ]DNLS: CONTENT = TYPEIN or DESTINATION   1c35d2

              Name
              Set Name (delimiters in) STRUCTURE (at) DESTINATION (left
              delimiter) CONTENT (right delimiter) CONTENT OK   1c35e

                 ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c35e1

                 ]DNLS: CONTENT = TYPEIN or DESTINATION   1c35e2

              Prompt
              Set Prompt PMODE OK
              PMODE = Off or Partial or Full   1c35f

              Recognition
              Set Recognition (mode) RMODE OK
              RMODE = Expert or Fixed or Anticipatory or Demand   1c35g

        Temporary
        Set Temporary (modifications for file) OK   1c35h

        Tty
        Set Tty (window to window) BUG OK   1c35i

        Viewspecs
        Set Viewspecs VIEWSPECS OK   1c35j

    Show   1c36

        Archive
        Show Archive (directory) KEN [ADIROPT] OK
        ADIROPT = a series of the ADIROPT command-words: Show
        also--ADIROPT>   1c36a

            ]TNLS: KEN = CA !directory connected to!
                        or TYPEIN
                        or [DESTINATION]   1c36a1

            ]DNLS: KEN = CA !directory connected to!
                        or TYPEIN
                        or [BUG or ADDRESS]
            ADDRESS = a sequence of one or more dynamic DESTINATION
            elements, separated by spaces, Show--ADDRESS>   1c36a2

        Directory
        Show Directory KEN [DIROPT] OK
        DIROPT = a series of the DIROPT command-words: Show
        also--DIROPT>   1c36b

            ]TNLS: KEN = CA !directory connected to!
                        or TYPEIN
                        or [DESTINATION]   1c36b1

            ]DNLS: KEN = CA !directory connected to!
                        or TYPEIN
                        or [BUG or ADDRESS]
            ADDRESS = a sequence of one or more dynamic DESTINATION
            elements, separated by spaces, Show--ADDRESS>   1c36b2

        Disk
        Show Disk (space status) OK   1c36c

        File   1c36d

            Link
            Show File Link (default directory) OK   1c36d1

The command syntax for the new NLS copied from HELP

Marker
Show File Marker (list) OK   1c36d2

Modification
Show File Modification (status) OK   1c36d3

Return
Show File Return (ring) OK   1c36d4

Size
Show File Size OK   1c36d5

Status
Show File Status OK   1c36d6

Name
Show Name (delimiters for statement at) DESTINATION OK   1c36e

Viewspecs
Show Viewspecs (status) [Verbose] OK   1c36f

Simulate Terminal (type) TYPE OK
TYPE = Ti (terminal) or Tasker or Execuport or
    33-tty or 35-tty or 37-tty   1c37

Sort STRUCTURE (at) DESTINATION OK   1c38

Split Window DIRECTION OK
DIRECTION = Horizontally or Vertically   1c39

Stop Record (of session) OK   1c40

Substitute STRING (in) STRUCTURE (at) DESTINATION (new STRING)
CONTENT (for old STRING) CONTENT (Finished?) ANSWER
[(filtered:) FILTER] OK
ANSWER = Yes or OK !execute command at this point! or No
!cycles back to "new"!
FILTER = any combination of the following VIEWSPECS -
terminated by a CA: a, b, c, d, e, g, h, l, w, i, j, k   1c41

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1c41a

    ]DNLS: CONTENT = TYPEIN or DESTINATION   1c41b

Transpose   1c42

    STRING
    Transpose STRING (at) DESTINATION (and) DESTINATION OK   1c42a

```
            STRUCTURE
            Transpose STRUCTURE (at) DESTINATION (and) DESTINATION
            [(Filtered:) FILTER] OK
            FILTER = any combination of the following VIEWSPECS -
            terminated by a CA:  a, b, c, d, e, g, h, l, w, i, j, k          1c42b

     Trim Directory (No, versions to keep) CONTENT OK (really?) OK          1c43

        ]TNLS: CONTENT = TYPEIN or [DESTINATION]                            1c43a

        ]DNLS: CONTENT = TYPEIN or DESTINATION                             1c43b

     Undelete                                                               1c44

        Archive
        Undelete Archive (file) CONTENT OK                                  1c44a

           ]TNLS: CONTENT = TYPEIN or [DESTINATION]                        1c44a1

           ]DNLS: CONTENT = TYPEIN or DESTINATION                         1c44a2

        File
        Undelete File CONTENT OK                                           1c44b

           ]TNLS: CONTENT = TYPEIN or [DESTINATION]                       1c44b1

           ]DNLS: CONTENT = TYPEIN or DESTINATION                        1c44b2

        Modifications
        Undelete Modifications (to file) OK                                1c44c

     Update File PAGING
     PAGING = Old (version) OK
          or Compact OK
          or Rename (filename) CONTENT OK
          or OK [defaults to update new]                                   1c45

        ]TNLS: CONTENT = TYPEIN or [DESTINATION]                           1c45a

        ]DNLS: CONTENT = TYPEIN or DESTINATION                            1c45b

     Verify File OK                                                         1c46

     backslash
     \                                                                      1c47

     period
     .                                                                      1c48
```

The command syntax for the new NLS copied from HELP

]DNLS: CONTENT = TYPEIN or DESTINATION	1f1b

Compile   1f2

Assembler
Compile Assembler (file at) DESTINATION (using) CONTENT (to
file) CONTENT OK   1f2a

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1f2a1

    ]DNLS: CONTENT = TYPEIN or DESTINATION   1f2a2

File
Compile File (at) DESTINATION (using) CONTENT (to file)
CONTENT OK   1f2b

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1f2b1

    ]DNLS: CONTENT = TYPEIN or DESTINATION   1f2b2

L10
Compile L10 (user program at) DESTINATION OK   1f2c

Deinstitute   1f3

Content
Deinstitute Content (analyzer program) OK   1f3a

Seqgenerator
Deinstitute Seqgenerator (program) OK   1f3b

Sort
Deinstitute Sort (key extractor program) OK   1f3c

Delete   1f4

All
Delete All (programs in buffer) OK   1f4a

Last
Delete Last (program in buffer) OK   1f4b

Execute (command in) SUBSYSTEM   1f5

Goto (subsystem) SUBSYSTEM OK   1f6

Institute Program CONTENT (as) PROGTYPE OK
PROGTYPE = Content (analyzer program)

21

     OR Sort (key extractor program)
     OR Seqgenerator (program)   1f7

   ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1f7a

   ]DNLS: CONTENT = TYPEIN or DESTINATION   1f7b

Jump ##<syntax ieditor ljump>##   1f8

Load Program CONTENT OK   1f9

   ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1f9a

   ]DNLS: CONTENT = TYPEIN or DESTINATION   1f9b

Process Commands (from) STRUCTURE (at) DESTINATION OK   1f10

Quit OK   1f11

  Nls
  Quit Nls OK   1f11a

  To
  Quit To SUBSYSTEM OK   1f11b

Reset   1f12

  Buffer
  Reset Buffer (size) OK   1f12a

  Nddt
  Reset Nddt (control-h) OK   1f12b

Run Program CONTENT OK   1f13

   ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1f13a

   ]DNLS: CONTENT = TYPEIN or DESTINATION   1f13b

Set   1f14

  Buffer
  Set Buffer (size to) CONTENT OK   1f14a

   ]TNLS: CONTENT = TYPEIN or [DESTINATION] 1f14a1

   ]DNLS: CONTENT = TYPEIN or DESTINATION 1f14a2

```
        Nddt
        Set Nddt (control-h) OK                                  1f14b

    Show Status (of programs buffer) OK                          1f15

    semicolon ##<syntax editor semicolon>##                      1f16

    %                                                            1f17

%Query ...                                                       1g

Readmail:                                                        1h

  Accept:                                                        1h1

      Authors
      Accept Authors ALL/SOME OK                                 1h1a

        ]ALL/SOME = All !or! CONTENT                             1h1a1

      Titlewords
      Accept Titlewords ALL/SOME CONTENT OK                      1h1b

        ]ALL/SOME = All !or! CONTENT                             1h1b1

      Dates
      Accept Dates (from) CONTENT (to) CONTENT OK                1h1c

        ]Note: Null date after "from" accepts everything,  Null
        after "to" specifies today,                              1h1c1

  Brief (view for catagory) CONTENT OK                           1h2

  Catagory CONTENT OK                                            1h3

  Delete (item number:) CONTENT (from all catagories?) ANSWER OK 1h4

  Expunge (all deleted items) OK                                 1h5

  File (item number:) CONTENT (under catagory) CONTENT OK        1h6

  Forward (item number) CONTENT (for) ACT/INFO (only  to) CONTENT
  OK                                                             1h7

      ]ACT/INFO = Action !or! Information                        1h7a

  Interrogate OK
  (Catagory:) CONTENT
  (file it?) ANSWER (catagory:) CONTENT
```

The command syntax for the new NLS copied from HELP

```
        (forward it?) ANSWER (to) CONTENT
        (delete it from this catagory?) ANSWER                      1h8

           ]Note: the last three interrogations repeat for each item in
           the specified catagory.                                  1h8a

        Next (item) OK                                              1h9

        Omit:                                                       1h10

           Authors
           Omit Authors ALL/SOME OK                                 1h10a

              ]ALL/SOME = All !or! CONTENT                          1h10a1

           Titlewords
           Omit Titlewords ALL/SOME OK                              1h10b

              ]ALL/SOME = All !or! CONTENT                          1h10b1

           Dates
           Omit Dates (from) CONTENT (to) CONTENT OK                1h10c

              ]Note: Null date after "from" omits nothing.  Null after
              "to" specifies today.                                 1h10c1

        Output (item number:) ALL/SOME (to printer) OK              1h11

           ]ALL/SOME = All !or! CONTENT                             1h11a

        Resend (item number:) CONTENT (when?) CONTENT OK            1h12

           ]Note: will accept days of the week or the date after
           "when?".                                                 1h12a

        Show (item number:) ALL/SOME  OK                            1h13

           ]ALL/SOME = All !or! CONTENT                             1h13a

        Undelete (item number:) CONTENT (in all catagories?) ANSWER OK   1h14

        Verbose (view for catagory) CONTENT OK                      1h15

     Sendmail:                                                      1i

        Authors CONTENT OK                                         1i1

        Branch (at) SOURCE OK                                      1i2
```

The command syntax for the new NLS copied from HELP

```
Comments CONTENT OK                                              113

Done OK                                                          114

Execute SUBSYSTEM OK                                             115

Expedite OK                                                      116

File SPECIFICATION OK                                            117

    DESTINATION: File DESTINATION OK:                            117a

    Named: File Named CONTENT OK:                                117b

Goto SUBSYSTEM OK                                                118

Group (from) SOURCE OK                                           119

Hardcopy (located at) CONTENT OK                                 1110

Initalize (specifications) OK                                    1111

Insert:                                                          1112

    Link: Insert Link (to follow) DESTINATION OK [Won't work
    9APR74]                                                      1112a

    Status:  Insert Status (form to follow) DESTINATION
    LEVEL-ADJUST OK:                                             1112b

Interrogate OK
(type of source:) ITEM
(title:) CONTENT
(send to:) CONTENT
(show status?) ANSWER
(finished?) ANSWER                                               1113

    ]ITEM = STRUCTURE (at) CONTENT !or!
            File DESTINATION !or!
            File Named CONTENT !or!
            Message CONTENT !or!
            Hardcopy CONTENT                                     1113a

    ]TNLS: CONTENT = TYPEIN or [DESTINATION]                     1113b

    ]DNLS: CONTENT = TYPEIN or DESTINATION                       1113c

    ]ANSWER = y or CA for yes; n for no.                         1113d
```

        Keywords CONTENT OK   1114

        Message CONTENT OK   1115

        Number SPECIFICATION   1116

           ]SPECIFICATION = OK   !to get one number or!
                        CONTENT OK !to specify a reserved number!   1116a

        Obsoletes (item number(s)) CONTENT OK   1117

        Plex (at) SOURCE OK   1118

        Process (send-mail form at) DESTINATION OK   1119

        Quit OK   1120

        Reserve   1121

           Journal
           Reserve Journal (numbers -- how many?) CONTENT OK   1121a

           Hardcopy
           Reserve Hardcopy (numbers -- how many?) CONTENT OK   1121b

           Nic
           Reserve Nic (numbers -- how many?) CONTENT OK   1121c

           Rfc
           Reserve Rfc (number) OK
           (title) CONTENT
           (author) CONTENT
           (send to) CONTENT
           (online document?) ANSWER
           (show status?) ANSWER
           OK   1121d

           Rins
           Reserve Rins (numbers -- how many?) CONTENT OK   1121e

           Special
           Reserve Special (numbers -- how many?) CONTENT OK   1121f

        Rfc (number) CONTENT OK   1122

        Send (for) CATAGORY (only to) CONTENT OK   1123

           ]CATAGORY = Action !or! Information   1123a

    Show (status) OK   1i24

    Statement (at) CONTENT OK   1i25

    Subcollections CONTENT OK   1i26

    Title CONTENT OK   1i27

    Update (to item number(s)) CONTENT OK   1i28

    Unrecorded OK   1i29

Useroptions: 1j

    Control (characters for terminal) DEVICES OK (control
    character) CONTROLFUNCTIONS (character(s)) CONTENT (echo as)
    CONTENT OK
    DEVICES = Tasker or Ti (terminal) or Nvt
        or Lineprocessor or Imlac or Execuport
        or 33-tty or 35-tty or 37-tty
    CONTROLFUNCTIONS = Ca or Cd or Rpt or Insert
               or Bc or Bw or Bs or Litesc
               or Ignore or Sc or Sw or Tab   1j1

      ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1j1a

      ]DNLS: CONTENT = TYPEIN or DESTINATION   1j1b

    Currentcontext (length) NUMBER OK
    NUMBER = CONTENT !of the number of characters printed!   1j2

      ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1j2a

      ]DNLS: CONTENT = TYPEIN or DESTINATION   1j2b

    Execute (command in) SUBSYSTEM   1j3

    Feedback FEEDSPECS OK
    FEEDSPECS = Verbose
         or Terse
         or Length NUMBER
         or Indenting NUMBER
    NUMBER = CONTENT !of the number of characters or spaces!   1j4

      ]TNLS: CONTENT = TYPEIN or [DESTINATION]   1j4a

      ]DNLS: CONTENT = TYPEIN or DESTINATION   1j4b

    Goto (subsystem) SUBSYSTEM OK   1j5

```
        Herald HERALDSPECS OK
        HERALDSPECS = Verbose
                  or   Terse
                  or   Length NUMBER
        NUMBER = CONTENT !of the number of characters printed!        1j6

          ]TNLS: CONTENT = TYPEIN or [DESTINATION]                    1j6a

          ]DNLS: CONTENT = TYPEIN or DESTINATION                      1j6b

        Jump RINGTYPE (ring entries) NUMBER OK
        RINGTYPE = Return     !infile-return ring!
              or  Filereturn !file-return ring!
        NUMBER = CONTENT !of number of entries in ring!               1j7

          ]TNLS: CONTENT = TYPEIN or [DESTINATION]                    1j7a

          ]DNLS: CONTENT = TYPEIN or DESTINATION                      1j7b

        Printoptions PRINTSPECS OK
        PRINTSPECS = Right (margin is column) NUMBER
                  or   Left (margin is column) NUMBER
                  or   Bottom (margin is line) NUMBER
                  or   Page (size is (lines)) NUMBER
                  or   Indenting (per level) NUMBER
                  or   Tab (stop settings) TABTEXT
        NUMBER = CONTENT !of a number!
        TABTEXT = CONTENT !of one of the following forms:
        (1) c      c    c    c      c    c   c  c         c
            where c stands for any character except <SP>
        (2) 8,16,24,39,...
            where the number represents the column position (starting
            from 1 not 0) for the next tab stop!                      1j8

          ]TNLS: CONTENT = TYPEIN or [DESTINATION]                    1j8a

          ]DNLS: CONTENT = TYPEIN or DESTINATION                      1j8b

        Prompt PMODE OK
        PMODE = Off  or  Partial  or  Full                            1j9

        Quit OK                                                       1j10

          Nls
          Quit Nls OK                                                 1j10a

          To
          Quit To SUBSYSTEM OK                                        1j10b
```

```
Recognition (mode) RMODE OK
RMODE = Anticipatory
    or  Demand
    or  Fixed
    or  Expert (secondary mode) RMODE2
RMODE2 = Anticipatory  or  Demand  or  Fixed  or  Expert            1j11

Reset                                                               1j12

  All
  Reset All OK                                                      1j12a

  Control
  Reset Control (characters for terminal) TERMINALS OK
  TERMINALS = Ti (terminal)  or  Tasker  or  Nvt
          or  Lineprocessor  or  Imlac  or  Execuport
          or  33-tty  or  35-tty  or  37-tty  or  All               1j12b

  Currentcontext
  Reset Currentcontext (length) OK                                 1j12c

  Feedback
  Reset Feedback FEEDPARAMS OK
  FEEDPARAMS = Mode  or  Length  or  Indenting                     1j12d

  Herald
  Reset Herald HERALDPARAMS OK
  HERALDPARAMS = Mode  or  Length                                  1j12e

  Jump
  Reset Jump RINGTYPE (ring entries) OK
  RINGTYPE = Return  or  Filereturn                                1j12f

  Printoptions
  Reset Printoptions PRINTSPECS OK
  PRINTSPECS = Right (margin)
          or  Left (margin)
          or  Bottom (margin)
          or  Page (size)
          or  Indenting (per level)
          or  Tab (stop settings)                                   1j12g

  Prompt
  Reset Prompt (mode) OK                                            1j12h

  Recognition
  Reset Recognition (mode) OK                                       1j12i
```

The command syntax for the new NLS copied from HELP

        Viewspecs
        Reset Viewspecs OK   1j12j

    Show   1j13

        All
        Show All OK   1j13a

        Control
        Show Control (characters for terminal) TERMINALS OK
        TERMINALS = Ti (terminal) or Tasker or Nvt
                or Lineprocessor or Imlac or Execuport
                or 33-tty or 35-tty or 37-tty or All   1j13b

        Currentcontext
        Show Currentcontext OK   1j13c

        Feedback
        Show Feedback OK   1j13d

        Herald
        Show Herald OK   1j13e

        Jump
        Show Jump OK   1j13f

        Printoptions
        Show Printoptions Ok   1j13g

        Prompt
        Show Prompt OK   1j13h

        Recognition
        Show Recognition OK   1j13i

        Viewspecs
        Show Viewspecs OK   1j13j

    Viewspecs VIEWSPECS OK   1j14

    semicolon
    ; TYPEIN OK   1j15

  Calculator: ...
  This section of the HELP database is incomplete.   1k

    %   1l

The command syntax for the new NLS copied from HELP

(J22841) 25-APR-74 19:41;   Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /SRI-ARC(* info-only *) ; Sub-Collections: SRI-ARC;
Clerk: KIRK;

Comparing NLS to other text editors seems to me a meaningless task. 1

NLS is not a text editor. It is an online system of which a
relatively small subset acts as a powerful text editor. It has never
been suggested that use of NLS by stenographers for editing documents
is economical. 2

In fact, the study that was done a year ago (MJOURNAL, 16264, 1:w)
indicated that NLS is a very expensive tool for such work. 3

I feel confident that a second study designed around the guidelines
suggested in (LJOURNAL, 22838, 1:w) will only confirm the results of
the earlier comparison. There will undoubtedly be differences in the
numbers and ARC managers and ARC customers will spend time
contemplating these differences and they won't mean anything anyway. 4

More important, invalid decisions may be made regarding global NLS
based on this micro analysis. 5

There are so very many cost saving potentials in fully using NLS that
I won't go into them here. The proposed study does not measure any
of these features. 6

Suggestion: RADC is preparing a book (Jovial Manual) using NLS. I
understand they obtained cost estimates for this project using a
number of alternative methods. This seems to me as good a test as
any we could design of the relative cost of NLS as a simple data
entry, editing, and formatting tool. 7

Again, this type of cost comparison ignores most of the potential
cost saving inherent in NLS. 8

Text Editor Cost Comparison

(J22842) 26-APR-74 10:17;   Title: Author(s): Elizabeth K.
Michael/EKM; Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk:
EKM;
Origin: (MICHAEL, EDITORS.NLS;3,), 26-APR-74 09:54 EKM ;

Change of ident

It's not a good idea to change your ident (you requested a change
from SB to SOB) -- because mail sent to your old ident by people not
aware of the new one will fall through the cracks. Since you are a
Liaison, particularly, this might be disastrous. So I'm leaving your
ident as is, but did modify the name field to include your middle
initial.
Marcia Keeney   1

Change of ident

(J22843)   26-APR-74 10:49;   Title: Author(s): Marcia Lynn Keeney/MLK;
Distribution: /SB; Sub-Collections: SRI-ARC; Clerk: MLK;

%   MAP OF NLS SYSTEM--   1

Pages 0 -- 377:   1a

Low segment of code is loaded up from page 0; the symbol table
is loaded down from page 400. If they overlap, we are in
trouble. (Also, the loader someties blows up in mysterious
ways in this case!) When a user program is loaded, a mark is
placed at the end of the symbol table and the user program
symbol's are placed down from that. Thus it pays to have some
room there. The code in this segment is generally core
routines.   1a1

Pages 400 -- 553:   1b

High segment is used for the CML parser and interpreter code as
well as parse support code (X- routines, etc.) When processors
(compilers, output processors) are run, this code is swapped
out and the processors mapped into this area. Upon completion,
this code is brought back. (See (nls, seqfil, processor).)
Page 552 is used for the user-option system. Page 553 is used
for mapping pages out in Output File. These two pages must not
be overwritten by code!   1b1

Pages 554 -- 653:   1c

These pages are used for the User Program Buffer area (lower
part) and for the File buffer area (upper part). The boundary
may be moved by the user using the Set Buffer command in the
Program subsystem. The default size of the Program Buffer is 4
pages.   1c1

Pages 654 -- 657:   1d

Currently unused. May be used to extend the size of the loader
hash table area.   1d1

Pages 660 -- 677:   1e

Loader hash table area. Filled from 677777B down.   1e1

Page 700:   1f

Used by the loader.   1f1

Pages 701 -- 710:   1g

Sequence stack area. Four stacks of 2 pages each.   1g1

1

Pages 711 -- 757:   1h

   Storage allocator space, 47 Octal (39 Decimal) pages used for
   1srt tables, string storage, etc,   1h1

Pages 760 -- 764:   1i

   Loader,   1i1

Pages 765 -- 767:   1j

   Currently unused,   1j1

Pages 770 -- 777:   1k

   DDT,   1k1

(J22844) 26-APR-74 13:10;   Title: Author(s): Harvey G, Lehtman/HGL;
Distribution: /NPG RWW DCE; Sub-Collections: SRI-ARC NPG; Clerk: HGL;

I checked with Wozencraft's secretary, and he did indeed receive the
ASS notes.
Marcia

1

ASS Notes

(J22845)   26-APR-74 13:59;   Title: Author(s): Marcia Lynn Keeney/MLK;
Distribution: /REK2; Sub-Collections: SRI-ARC; Clerk: MLK;

TO: RWW CHI KIRK JHB DVN HGL EKM JMB   1

Dirk mentioned to me that Charles has recently devised a scheme for
providing the users with a HELP command, and an introductory HELP
message, The way I understand it, the message would be output only
when users enter NLS AND require that their initial files be created,   2

I don't know many details of the scheme, but what I got from Dirk
makes me believe that the scheme is inconsistent with the HELP data
base concepts and mechanisms, If my understanding of Charles' scheme -
is correct, then I am opposed to it for reasons listed below,   3

The HELP data base contains most of the mechanisms needed to provide
information to users in need of help, The only issues are, how do
they get to the information, and are the mechanisms and text
sufficient, intuitively easy to use, and useful,   4

We have proposed that a universal HELP command (valid in all NLS
subsystems including EDITOR) should put the user in a section of the
HELP data base relevant to the subsystem he was in when HELP was
invoked, I see no reason to change or modify this approach,   5

IN PARTICULAR, NO LENGTHY HELP-TYPE MESSAGE SHOULD BE GIVEN AT THE
TIME A USER ENTERS NLS, CERTAINLY, NOTHING MORE THAN "IF YOU NEED
HELP, TYPE "HELP <CR>",   "   6

Any lengthy HELP message that is not part of the HELP data base is
clearly the wrong way to go, Such messages can't be easily
maintained, improved, etc, by the data base maintainers, And users
are stuck with it: they get it whether they want it or not; and
there's no way for them to interact with it until they go into HELP
anyway,   7

The HELP command

(J22846) 26-APR-74 16:15;   Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /RWW CHI KIRK DVN JHB HGL EKM JMB; Sub-Collections:
SRI-ARC; Clerk: MDK;
Origin: <KUDLICK>H.NLS;8, 26-APR-74 16:13 MDK ;

Output Processor Race

(Ljournal, 13041,) is the last final report which in the latter days
of its creation I ran through the Output Processor more times than I
care to think of. As I remember it took about 6 minutes cpu time; I
might be able to dig up an old journal item with the actual figure.   1

This afternoon with load averages running beetween 1 and 5 I
Processed it once in XNLS and once in NLS.   2

   XNLS: 8.04   2a

   NLS: 8:42   2b

(J22847) 26-APR-74 17:28;   Title: Author(s): Dirk H, Van Nouhuys/DVN;
Distribution: /DPCS DCW; Sub-Collections: SRI-ARC DPCS; Clerk: DVN;

Successive stages of XDOC cataloging

Mil and Jim: Mil and I had a short talk today about priorities in
the tasks that might be accomplished between now and Jun 30 on the
XDOC data base. This is a summary of our talk.   1

I would choose as first priority to catalog ALL OF THE ITEMS in the
current "to be catalogued" stack; BUT NOT TO DO the usual "whole
catalog process on them."   2

    Mil and I defined a "Stage-1 Catalog process" where only the
    minimal data ar inserted into the catalog entry to make unique
    bibliographic ientification of the catalogued item -- i.e., from
    which can be generated one of the "formal and complete"
    bibliographic citations. This would include author, title,
    source, date ..., perhaps a few other data elements.   2a

    Further cataloging action, especially those requiring examining
    the contents of the item and assigning "subjective descriptors
    (keywords(" I would definitely not do on this first stage.   2b

    Mil thinks that this first-level of cataloging would go quite
    rapidly.   2c

    I also feel that if we have to put XDOC on ice for a while, it
    would be very wise to have this much cataloging done -- to clean
    out the waiting stack for which there have been assigned numbers
    yet for which there are not cataloging records.   2d

I'd suggest that a suitable descriptor be put into an appropriate
data-element field in the catalog, that describes the level of
cataloging that has so far been done on that item. For instance,
there would be such a descriptor on these final entries such as
"clev1" (Cataloging Level 1); later we could perhaps define other
levels. Assume that not having a "clev" descriptor implies "full
catalogin" as Mil has been doing?   3

Later, we can go back and extend the degree of cataloging -- either
on all of the items, or on selected ones as they are found of
interest.   4

In general, for a dynamic entry and cataloging process, after XDOC
becomms living energetically again someday, I'd recommend anyway that
the standard process be to get everything cataloged up to Level 1
immediately upon receipt of the item, and that raising things to
higher levels be done selectively and as coordinated with other-task
priorities.   5

(J22848) 27-APR-74 16:08;   Title: Author(s): Douglas C. Engelbart/DCE
; Distribution: /jcn mej ; Sub-Collections: SRI-ARC; Clerk: DCE ;

Successive stages of XDOC cataloging

DCE   27-APR-74 16:08   22848

(J22848) 27-APR-74 16:08;   Title: Author(s): Douglas C. Engelbart/DCE
; Distribution: /jcn mej ; Sub-Collections: SRI-ARC; Clerk: DCE ;

I get an Illegal Instruction crash (of course can't catch more info)
whenever I get a link while line processor is recreating display.   1

(J22850)   29-APR-74 10:26;   Title: Author(s): N, Dean Meyer/NDM;
Distribution: /CHI DIA; Sub-Collections: SRI-ARC; Clerk: NDM;

Dirk van Nouhuys on Vacation May 2-10th

I will be away for those dates. Kirk Kelley is handling DEIS
problems for ARC in my absence. Phone:3056, ident KIRK, Network
address Kelley@ARC.   1

(J22851)   29-APR-74 11:40;   Title: Author(s): Dirk H. Van
Nouhuys/DVN; Distribution: /&DEIS NDM DRB KIRK ECW &DEIS NDM;
Sub-Collections: SRI-ARC DEIS; Clerk: DVN;

Revised Quick Reference of New NLS for Old NLS Users

This is a very brief account of the most important ways in which New NLS is different to use from Old NLS. 1

Questionmark (?) 2

The new NLS is blessed with excellent questionmark facilities. In both display and TNLS "?" at any point will list the choices available to you. Note that the posibilities change every time the system sees a new character. Thus "?" correctly gives you different answers each time you type and according to the recognition scheme see--6) you have chosen. 2a

   If you want to insert "?" as a character of text, put <^V> ahead of it. 2a1

<^Q> 3

   <^Q> puts you into the HELP subsystem and into the HELP data base at a point corresponding to the command step you took just before you struck the character. 3a

   The HELP system attempts to provide its own instruction. 3a1

   The HELP data base was basically written for new users of TNLS, the group we believed has the most desparate need. It gives short shrift to some comands peculiar to DNLS, e. g. the subvarieties of jump. We plan to fill out the DNLS material as priorities permit. 3b

   The HELP system necessarilly grows a little behind the system it describes. There are some empty spots, some features of questionable design, and some program bugs. Please report them to the feedback system. (journal,22669,) 3c

Subsystems: 4

   The commands in NLS have been divided into subsystems. The commands we use most are in the Editor subsystem. Others are available through: Calculator, Help, Identification, Sendmail, Programs, TENEX, and User-options. 4a

   "Goto" takes you to another subsystem. Quit returns you to the previous subsystem in a ring. The name of your current subsystem appears in the upper left corner of the screen."<" prints out your subsystem ring. 4b

   Execute allows you execute one command in a subsystem and pop back to the previous subsystem. 4c

The Journal: 5

The journal has split into two subsystems, Sendmail and Readmail.   5a

The only old commands that have a new command word in Sendmail are
"Go" which has become "Done",and "Distribute" which has become
"Send".   5b

Readmail doesn't work yet. You must read your mail as you do any
NLS file.   5c

To send mail, Goto Sendmail as a subsystem, Commands are then
availalbe to you in any order. (You don't have to begin by naming
the thing you want to send.) The command "Initialize" gives you a
fresh start without saying "Done".   5d

 For information on new services in Sendmail, Goto Help and show
"sendmail".   5e

Recognition: 6

New NLS has several command recognition schemes. My guess is that
most people familiar with NLS will use a mode called "expert
anticipatory".   6a

You may set your own recognition mode through the Useroption
Subsystem (,14).   6b

<documentation,help,recognition>describes the poossiblities.   6c

In expert mode some list of command words is possible at any point
following the prompt C:. From that list, NLS will recognize and
echo the most commonly used word by its first character. To use a
command word that is not commonest, you have to type a space and
then type characters until NLS can recognize.   6d

  E.g. from the command base state, "S" will evoke "substitute",
  but to get "Set" you must type "<SP>se" and to get Stop
  "<SP>st". At the command base state, "L" will elicit "Load" but
  "<SP> L" will elicit "Logout".   6d1

  I have found that 3/4 or more of my commands are
  first-character commands.   6d2

In expert mode, if you type an impossible letter, NLS will
question you, but nicely allow you to put in another letter
instead. I.e."O D P" will succeed althought the command is now
"Output Printer" because no "D" may follow "Output".   6e

New Command Names:											7

  Old Commands:										7a

The most important commands that have changed the first command word are as follows, with the old name first. They are in the Editor Subsystem unless noted.											7a1

Execute Assimilate = The filter option in the commands that copy or de₁te structures											7a1a

Execute Connect to Terminal = Connect to Terminal				7a1b

Execute Device Type = Simulate Terminal Type						7a1c

Execute Display Area Format Character Size = Set Character Size								7a1d

Execute File Veryfy = Verify File									7a1e

Execute Insert Sequential= Copy Sequenctial						7a1f

Execute Logout = Logout										7a1g

Execute Marker Fix = Mark Character (also Delete Marker)			7a1h

Execute Marker List = Show Marker List							7a1i

Execute Status = Show Status									7a1j

Execute Unlock = Delete Modifications (also Undelte Modifications)										7a1k

Execute Viewchange = Goto Useroptions [subsystem]				7a1l

Execute Journal = Goto Sendmail [subsystem]						7a1m

Goto Display Area Vertical/Horizontal Split = Split Window Vertically/Horizontally.										7a1n

Goto Display Area Move Boundry = Move Boundry					7a1o

Link (in TENEX) = Connect to [In the NLS Editor]					7a1p

Null File = Create File										7a1q

Output Device Printer = Output Printer							7a1r

Output File = Update File Compact								7a1s

Sendprint (in TENEX) = Output Remote Terminal[In the NLS
Editor]   7a1t

Update = Update File + Options   7a1u

New Comands: 7b

Directory Commands:
Now you can deal with your directory in NLS as well as in
TENEX, Delete File, Undelete File, Trim, Expunge, Connect to,
etc are commands in NLS, Copy Directory copies your directory
into a file as a plex, Options in Copy Directory allow you to
see the information TENEX has about your files in various
orders. Show Directory sends the same information on the
screen so command accept wipes it away For more information,
Goto Help and show "show directory" and "copy directory",,   7b1

The directory commands have a few bugs left, The most
troublesome is that in specifying the options of "show
directory" or "copy directory" you must take the option "for
file", which allows you to quize one file, last,   7b1a

Set Commands:
With Alternatives following set you can control recognition,
prompts, viewspecs, and create what used to be called a content
analyser pattern, For every Set a Reset command returns you to
the default, For more information, Goto Help and show "set",   7b2

Repetition: 8

By default the system now returns to base command state after
every command, BUT, if you end any command with A Repeat Character
the system will carry out the command, return to base command
state, and go forward in the same command until it meets a field
that is not a command word, The Repeat character is <^B> by
default (The right hand two mouse buttons down an up),   8a

You may then step back through the command word-by-word with
<^A>, The parser will continue to repeat the command in that
way until you hit Command Delete, The effect is very much like
creating a mode for each command like the old jump mode,   8a1

If you hit Repeat Character at command reset, it will repeat your
last command out to the first field that is not a command word, 8b

Optionss and Alternatives   9

When several command terms may follow a given command term (as
plex, branch, etc, may follow delete or typing or a bug may follow

4

Replace) we speak of alternatives. When typing the Option
Character allows you to put in command terms that are otherwise
inacessible, we speak of options. With full prompting on, square
brackets, [], inclose optional terms.   9a

By default <"U> is the option character   9b

Addressing   10

Bugging works as in old NLS. B: prompts for bugging.   10a

All other adresses are speciial cases of links. The prompt is A:,
Following A: you can put a directory name and file name separated
by commas, you may force recognition with altmode, you may omit
them and default to the directory you are connected to and the
current file. After the filename position you may use the
intrafile address forms in any order as in old TNLS.   10b

Thus a full NLS address looks like this: 10c

    SITE,DIRECTORY,FILE,INFILEADDRESS   10c1

You can address a character in an off-screen statement by
naming it in quotes in a string . Thus a full address of a
certain *o is (ARC,vanNouhuys,onetest,"crypto"). Following A:
you would not need the parentheses and could force recognition
after "vann" and "one".   10c2

In general you must type the option character <"U> to enter an
address (prompted by A:). Jump to Link allows you to enter an
address without askinng for an option.   10d

Do NOT put periods in front of statement names or numbers or
SID's; instead put them in front of structural relationships (i.e.
.u .d .b .a or ,2d or ,5p, or ,uussr,j etc.).   10e

Prompting   11

New Display NLS has prompts like the V: and I: in old TNLS and the
journal. You can set prompting in one of three modes: Full,
Partial, or off. The default is Full. Partial does not show
options and some alternatives. The complete list of prompts is: 11a

    C: calls for a Command Word   11a1

    A: calls for an Address.   11a2

    T: calls for you to type something in, e.g. free text, or an
    ident.   11a3

OK: calls for confirmation of the command, usually CA or REPEAT
(<control-b>).   11a4

B: calls for a Bug.   11a5

[], Square Brakets indicate that you have to use the Option
Character to specify the thing named inside the brackets. In
many cases, for example, you may either bug something on the
screen or enter an Option Character followed by any Address.
The prompt would be: B:/[A:].   11a6

CA: calls for a command accept.   11a7

Y/N: calls for "y" for "yes" or "n" for "no" in commands like
substitute where NLS wants to know if you want to repeat a
specification step.   11a8

[**] shows that you may use <control-u> to gain acces to a list
of optional command word.   11a9

V: calls for viewspecs   11a10

L: calls for level adjustment.   11a11

SP: calls for a space as a quasi CA e,g, following idents in
journal submission.   11a12

RPT: calls for a <^B> to repeat the use of some buffer as in
content searches.   11a13

"> ..." generally appears in the command feedback line when the
system is doing something; it is roughly synonymous with
"RUNNING"   11a14

My experience is that it is nicest to run with prompts off once
you get the hang of most of the commands you use.   11b

Jumping: 12

Jump commands no longer have a special mode of repetition; CA or
<^B> terminate them in the same way they do other commands.   12a

In my use anyway, the most common jump comomand is simply "j"
which echos "jump to" and takes a bug.   12b

Jump to Return and Jump to File Return no longer follow a ring,
but go down a stack. Every time you move you add an address to the
top of the stack. Jump to Ahead no longer exists. By default you
have ten addresses on the stack.   12c

From/To   13

Now you Move and Copy things from someplace to someplace else
instead of vice versa. It's not too hard to get used to and the
noise words help.   13a

The Usroptions Subsystem   14

The Useroption Subsystem takes over some of the work of the old
Viewchange System and adds many new ways for you to cut NLS to
suit yourself. It controls feedback in the form of heralds,
prompts, noise words, etc.; it controls recognition and default
viewspecs; it redefines control characters (like the old
NLSControlCharacters branch); and it formats pages in the TNLS
print command. Execution of commands in the User Option subsystem
rewrites a file (the profile) that determins how these paramaters
are set when you log in from then on.   14a

The Prorgrams Subsystem   15

It replaces and augments the old "Go to Program" commands.   15a

Old Commands with New Names: 15b

    Get = Load   15b1

    Deinstitute = Delete   15b2

    Status = Show   15b3

For information on new commands, Goto HELP and show "Prorgrams".   15c

(J22852) 29-APR-74 12:19;   Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /SRI-ARC NJN DHC LEG &DIRT; Sub-Collections: SRI-ARC DIRT;
Clerk: DVN;
Origin: (VANNOUHUYS, XDRAFT.NLS;5,), 29-APR-74 12:13 DVN ;

There is a new user program which reformats journal citations to look
like the citation which INMES produces, to allow one to integrate
handling of journal and sequential mail. It will include a date of
receipt and a distribution list if possible. The name of this
Content Analyzer program is JFORM3. Questions and problems to NDM
(meyer@sri-arc).   1

(J22853)   29-APR-74 12:50;   Title: Author(s): N, Dean Meyer/NDM;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: NDM;

DRAFT

This is a first drafft of the notethat we intend to send tto all NIC
users, annoncing the substantial changes in the NIC services,

Please read and comment by May 1st, so that we can distribute the
note this week. Because many of the services that will be
discontinued (such as RFC's) are likely to require significant
changes among the NIC user population, I believe it is in our and
their best interests to distribute this note as soon as possible,
whence the May 1st deadline,

DRAFT

                    TO ALL USERS OF NIC SERVICES: 1

EFFECTIVE JULY 1, 1974, THE SCOPE OF SERVICES PROVIDED BY THE NETWORK
INFORMATION CENTER WILL BE REDUCED, DUE TO A CUTBACK IN FUNDS BY
ARPA.   2

THIS NOTE DESCRIBES THE NIC SERVICES TO BE PROVIDED AFTER JULY 1st,
AND THOSE SERVICES THAT WILL BE DISCONTINUED ON THAT DATE.   3

IF YOU HAVE ANY QUESTIONS REGARDING THESE CHANGES, PLEASE CONTACT
J.C.NORTON (NORTON@SRI-ARC) OR C. FIELDS (FIELDS@USC-ISI).

                                                                        4

            I.   NIC Services to be provided
                  after July 1, 1974

                                                                        5

ON-LINE NIC SERVICES AT OFFICE-1   5a

    1) There will be one "GUEST" directory maintained at OFFICE-1
    for use by all NIC users, for the purpose of accessing the
    Resource Notebook and Arpanet News through the NIC/QUERY
    system, and for using the OFFICE-1 Tenex "SNDMSG" capabilities.   5a1

    2) The ASCII file of official Network hostnames and addresses,
    as described in RFC# 608, will be maintained at OFFICE-1 and
    continue to be accessible from that host via FTP.   5a2

    3) The NIC "identfile" will be maintained on-line at SRI-ARC,
    and a frequently updated copy will be available at OFFICE-1.
    (This file provides the basic information on individuals and
    organizations that appears in the Arpanet Directory.)   5a3

    4) No other on-line services will be provided. In particular,
    no NIC user directories will be provided unless separate
    contractual arrangements are made by interested users with
    OFFICE-1 management.   5a4

OFF-LINE NIC SERVICES   5b

    1) The NIC will continue to maintain, publish, and distribute
    the Arpanet Directory in its present format.   5b1

    2) The NIC will maintain, publish, and distribute the Arpanet
    Resources Notebook in a new, compact format.   5b2

    3) The NIC will Publish and distribute a modified version of
    the Arpanet News.   5b3

DRAFT

OTHER SERVICES   5c

    1) The role of Station Agent will be discontinued,   5c1

    2) The role of Technical Liaison will be continued in order to
    provide a mechanism for the NIC to obtain information about
    sites for inclusion in the Resource Notebook,   5c2

    3) The role of the NIC's staff in maintaining the NIC
    identfile will be continued, The mechanism by which
    name/address changes are to be sent to the NIC will be
    announnced,   5c3

                                                                        5d

                    II, NIC Services to be discontinued
                         after July 1, 1974

                                                                        6

ON-LINE NIC SERVICES AT OFFICE-1   6a

    1) Use of NLS at OFFICE-1 by NIC users will be discontinued,   6a1

    2) Use of the NIC Journal via NLS or FTP will be discontinued,   6a2

    3) Support of special interest groups such as INWG, SUR, CBI,
    etc, will be discontinued, Discontinued services include
    publication and distribution of group notes and membership
    lists,   6a3

    4) Support of the Network protocol developers, through
    publication and distribution of RFC's (and RFC indexes), and
    publication and distribution of the Protocol Notebook, will be
    discontinued,   6a4

    5) Auxiliary services, such as the "NIC Locator", NIC Journal
    "indexes", NIC user "feedback" mechanisms, and on-line "HELP"
    for NIC users, will be discontinued.   6a5

OFF-LINE NIC SERVICES   6b

    1) The Station Agent Collection of NIC Functional Documents
    will be discontinued, No further loose-leaf updates will be
    provided, And no replacements for these Functional Documents
    will be provided, other than the Arpanet Directory and Resource
    Notebook as discussed above,   6b1

    2) All off-line services that supported or were supplementary
    to the discontinued on-line services listed above, will

DRAFT

themselves be discontinued. These discontinued off-line
services are primarily the hardcopy distribution of NIC Journal
documents, including personal and group coorrespondence and
RFC's.   6b2

OTHER SERVICES   6c

1) The availability of Enterprise and Zenith phone numbers for
placing toll-free calls to the NIC from certain areas of the
country will be discontinued.   6c1

DRAFT

(J22854) 29-APR-74 15:28;   Title: Author(s): Michael D, Kudlick/MDK;
Distribution: /DCE RWW JCN JAKE; Sub-Collections: SRI-ARC; Clerk: MDK;
Origin: <KUDLICK>D,NLS;5, 29-APR-74 15:19 MDK ;