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NSRDC NLS Documentation (Draft)

Jim and Susan,
  Here is a preliminary draft of some NLS documentations that we are putting together, Thought you might like to see it, All comments appreciated,
Regards,
Frank

PROLOGUE

The following pages contain six seperate quick reference guides, an introductory overview of display NLS (the oN-Line System), a comprehensive report on NLS, and other useful information related to the system. The purpose of this material is to both refresh the memory of someone who has been away from the system, and to provide a trainee with enough information to go into NLS and do simple editing work.

If, upon viewing the following informal documents, the reader thinks he/she/it knows the magnitude of NLS...well, that would be a mistake, because the system has more than its share of idiosyncrasies and inconsistencies, enough to warrant the necessity of having an experienced user within earshot of a frantic voice in the night crying for help.

So this is, quite simply, a word of caution. The frustration you take into your hands will be your own...

About the contents:

The section on login/logout is intended to inform the viewer of the different procedures used to login/logout in TNLS (Terminal NLS) and those of DNLS (Display NLS). (This section is accompanied by a list of TIP telephone numbers.) 6

Simple editing commands are dealt with in the next section. This section is mainly concerned with creating files, loading files, and correcting files by substituting text. The procedure to do each of the aforementioned is set down in a step-by-step manner. 7

The third section, replete with login/logout instructions, tells the reader how to go into NLS, print out a file, and then get out. 8

The fourth section deals with the Sendmail subsystem. It includes a step-by-step instruction beginning at the Base subsystem, then going into the Sendmail subsystem to send a message or file, and finally returning to Base. 9

Fifth is a section on reading and taking care of NLS mail. 10

Searching a file, as well as viewing a file selectively, is the topic of this next section. Therein the would-be user is told how to login/logout (at a portable terminal), how to use viewspecs, how to set content patterns, and how to jump to statement names and literals. 11

The material on DNLS is intended to give the user an understanding of the hardware involved and how to use it to do simple editing at a display workstation. 12

The last section herein is an introductory course to the entire NLS system. It contains background information on the subsystems, prompts, procedures, and commands in NLS. Basically it is an overview of the system which provides the reader with foundations enough to get in and out of the system, as well as being able to execute simple commands. 13

The other brief sections include: a glossary of NLS terminology, a list of TIP phone numbers, examples of using viewspecs to view a file, and a helpful summary sheet. 14

Enjoy. 15

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TIP TELEPHONE NUMBERS 17

17a

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TIP Numbers 18

For the Washington D.C. Area: 18a

NBS-TIP: 301 948-5951 18a1

MITRE-TIP: 202 893-3214 18a2

For the New Haven Area: 18b

NCC-TIP: 617-491-5450 through 5465 18b1

CCA-TIP: 617-492-8400 through 8407, 617-492-8454,8455 18b2

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RML-TIP: 305-494-5030,2818,6975 18c1

or AUTOVON 854-5030,2818,6975 18c2

For the China Lake and San Diego Area: 18d

USC-TIP: 213-746-5208 through 5212, 5356-5358 18d1

For the Johnsville (Warminster,PA.) Area: 18e

RUTGERS-TIP: 201-932-2750,2751 18e1

Other: 18f

Cupertino, California 18f1

TYMSHARE-TIP: 408 255-7950 18f1a

DIRECT DIAL: 408 996-2300 18f1b

IN AND OUT OF NLS

"When we say <>, we mean..."

The symbols used in this informal document and their meanings follow:

<>	space
(cr)	carriage return
ctrl	control key

TIP Dial-A-'puter Numbers:

21b

21c

21d

NBS-TIP 301-948-5951 21e

MITRE-TIP 202-893-3214 21f

21g

21h

21i

21j

21k

21l

"How do I work this thing?" 22

22a

22b

22c

22d

IF YOU ARE WORKING AT A PORTABLE TERMINAL, you must first connect to a TIP. To do this on a portable terminal, you simply dial one of the two TIP phone numbers, wait for a high pitched sound to issue from the phone, then place the handset in the accoustic coupler. Then type: 22e

e 22e1

The system will respond by typing: 22f

Hello 22f1

(it's cute that way) and you connect to Office-1 by typing: 22g

@1 43(cr) 22g1

At this point you wait for the message: 22h

OPEN 22h1

followed by 22i

TENEX,,,OFFICE-1 EXEC,,, 22i1

@ 22i2

You are now connected to Office 1, (the symbol @ is a prompt character signalling you to respond by logging in). For example, you might type: 22j

nalcon nalcon (cr) 22j1

where the second nalcon is a password which will not be printed. The system responds by typing: 22k

JOB 21 on TTY22 22-APR-75 10:11 22k1

TENEX WILL GO DOWN,, 22k2

@ 22k3

In response to the prompting character, you type: 22l

nls(cr) 22l1

and the system returns with: 22m

IDENT= 22m1

where you are being asked to type in your ident. For example: 22n

fgb(cr) 22n1

When the text: 22o

Base C: 22o1

appears, you have entered NLS. 22p

IF, HOWEVER, YOU ARE WORKING AT A DISPLAY, the procedure is somewhat different. Basically, the display is a CRT (cathode-ray tube) screen symbiotically hooked to a line processor (a unit that functions as the interpreter between the TIP and the screen) which is, in turn, hooked on a permanent line to a TIP. To operate the display, then, you first turn on the line processor by pushing the "power" button located on the bottom half of the unit. This accomplished, you then turn on the screen by pulling out (not literally) the rear-most knob located on the side of the console, toward the bottom. Giving it a few minutes to warm up, you type: 22q

@r 22q1

and the system will echo: 22r

MITRE TIP... 22r1

you now type: 22s

@i 43 22s1

wait for the OPEN message, then log in as you would at a portable terminal: 22t

nalcon nalcon (cr) 22t1

when the @ symbol appears, you type: 22u

@i 25(cr) 22u1

te li(cr) 22u2

Then, when the prompt character returns, you type: 22v

nls(cr) 22v1

and the system responds with: 22w

IDENT= 22w1

where you are being asked to type in your ident. For example: 22x

fgb(cr) 22x1

and you have entered NLS when the screen returns with: 22y

Base C: 22y1

22y2

22y3

22y4

22y5

22y6

22y7

Getting out of the Clutches of NLS: 23

23a

23b

23c

23d

To get out of the NLS system you type: 23e

<>l(cr) 23e1

and the system says: 23f

Logout: OK: 23f1

KILLED JOB 22, USER NALCON,,, 23f2

The final step is to (at a portable terminal) type: 23g

@c(cr) 23g1

and the system replies: 23h

Closed 23h1

If at the display, you must depress the "system reset" button, then hold down the ctrl key type a "y", then release the control key and type: 23i

c (cr) 23i1

and the system responds with: 23j

Closed 23j1

23j2

23j3
23j4
23j5
23j6
23j7

Summary: 24

24a
24b
24c
24d

CONNECT TO TIP 24e

type e 24e1

@1 43 24e2

LOGIN (example) 24f

nalcon<>nalcon<>(cr) 24f1

ENTER NLS 24g

nls(cr) 24g1

fgb(cr) 24g2

LOGOUT 24h

<>l(cr) [if in the NLS system] 24h1

logout(cr) [if at EXEC level] 24h2

DISCONNECT FROM A TIP 24i

@c(cr) 24i1

CORRECTING A FILE IN NLS

"When we say <>, we mean..."

The symbols used in this informal document and their meanings follow:

<> space

(cr) carriage return

ctrl control key

And She Said: "Let there be a new file..."

27b

27c

27d

To create a file in which you can place, edit, and view text, you type: 27e

<>crfnewfile(cr) 27e1

The system fills in: 27f

Create C: File T/[A]: newfile 27f1

<NALCON, NEWFILE,NLS;1,> 27f2

You are now ready to enter text, 27g

27h

27i

27j

27k

27l

27m

Getting Your Paws on an Old File: 28

28a

28b

28c

28d

To get an already existing file, you type: 28e

lfoldfile(cr) 28e1

the system fills in: 28f

Load C: File T/[A]: OLDFILE 28f1

<NALCON, OLDFILE,NLS;7,> 28f2

To get to the end of a file, you type: 28g

je(cr)(cr) 28g1

The system then responds: 28h

Jump (to) C: End (of Branch) A: V: 28h1

and it does so. 28i

28j

28k

28l

28m

28n

28o

"But he forgot to put this in..." 29

29a

29b

29c

29d

TO INSERT NEW TEXT IN A FILE (whether it is one you created or an old file) you type: 29e

is(cr)(cr) 29e1

The system says in return: 29f

Insert Statement (to follow) A: L: 29f1

T/[A]: 29f2

which means you can now put text in to follow the current statement, At any rate, type in the text you wish, followed by a (cr). 29g

IF YOU ARE GOING TO BE INSERTING STATEMENTS ONE AFTER ANOTHER, after you type: 29h

is(cr)(cr) 29h1

This is the new text, 29h2

you can type: 29i

ctrl e(cr) 29i1

The system responds with: 29j

L: 29j1

T/[A]: 29j2

and you can type in the next statement to be inserted, Repeat this procedure as often as needed, 29k

WHEN YOU ARE DONE INSERTING TEXT, you type: 291

ctrl x(cr) 2911

and you have been rescued from the tyranny of ctrl e, 29m

29n

29o

29p

29q

29r

29s

Correcting Your Basic File: 30

30a

30b

30c

30d

When you have finished entering text into a file, the next step is to go back through the file and correct any mistakes you might have made. This procedure begins by typing: 30e

jo(cr)(cr) 30e1

and the system says: 30f

Jump (to) C: Origin A: V: 30f1

which takes you to the origin. To view each statement so you can find your errors, you depress the line feed (<lf>) button, which will print out the next statement (since you jumped to the origin, this will be the first statement inserted in the file). If there are no errors in the first statement, continue using the line feed button until you find one. When you find a statement with an error in it, you then type: 30g

sts(cr) 30g1

then the system says: 30h

Substitue C: Text (in) C: Statement (at) A: V: 30h1

(NEW TEXT) T/[A]: 30h2

this is where you should type in the correction, followed by a carriage return. For example: 30i

text(cr) 30i1

the system then responds with: 30j

(OLD TEXT) T/[A]: 30j1

and this is where you type in the error you are replacing, followed by a carriage return. For example, 30k

tewt(cr) 30k1

The system will then ask you: 30l

(Finished?) S/Y/N 30l1

and if that is the only correction to be made in that statement, type a "y" and the system replies: 30m

Substituions made: 1 30m1

If, however, there were more errors in the statement, type an "n" and the system will again ask for "NEW TEXT" and "OLD TEXT". Just keep following the above procedure. 30n

Should you want to see the statement you just worked on, you depress the "\" button, and this replays the statement. Depressing the "^" key prints the statement BEFORE the one you are working at. These keys are in addition to the control characters in the next section. 30o

30o1

30o2

30o3

30o4

30o5

30o6

"Oh, oh, I made a mistake..." 31

31a

31b

31c

31d

Fear not. The NLS system has a series of control characters to help you correct errors. To cause these characters to operate, you simply press down and hold the CTRL key, then strike the letter whose function you desire. The control characters and their functions are: 31e

ctrl q invokes the NLS HELP subsystem 31e1

ctrl x cancels the current command 31e2

ctrl o stops printout at terminal 31e3

ctrl a backspaces a character 31e4

ctrl w backspaces a word 31e5

ctrl r retypes current input 31e6

31e7

31e8

31e9

31e10

31e11

31e12

"Okay, I'm done. Now what?" 32

32a

32b

32c

32d

When you are finsihed working with a file, you should both update and verify it before you log out. To do this you type: 32e

uf(cr) 32e1

The system replies: 32f

Update File: OK: 32f1

<NALCON, NEWFILE,NLS;2,> 32f2

You then type: 32g

vf(cr) 32g1

and it says: 32h

Verify File: OK: 32h1

file verify in progress 32h2

Successful, internal structure is okay, 32h3

if not, you're in trouble, 32i

32j

PRINTING A FILE IN THE NLS SYSTEM 34

34a

34b

34c

34d

34e

34f

"When we say <>, we mean..." 35

35a

35b

35c

35d

The symbols used in this informal document and their meanings follow: 35e

<> space 35e1

(cr) carriage return 35e2

ctrl control key 35e3

35e4

35e5

35e6

35e7

35e8

35e9

TIP Dial-A-'puter Numbers: 36

36a

36b

36c

36d

NBS-TIP 301-948-5951 36e

MITRE-TIP 202-893-3214 36f

36g

36h

36i

36j

36k

36l

"How do I work this thing?" 37

37a

37b

37c

37d

Working at a portable terminal, you must first connect to a TIP. To do this on a portable terminal, you simply dial one of the two TIP phone numbers, wait for a high pitched sound to issue from the phone, then place the handset in the accoustic coupler. Then type: 37e

e 37e1

The system will respond by typing: 37f

Hello 37f1

(it's cute that way) and you connect to Office-1 by typing: 37g

@1 43(cr) 37g1

At this point you wait for the message: 37h

OPEN 37h1

followed by 37i

TENEX...OFFICE-1 EXEC... 37i1

@ 37i2

You are now connected to Office 1, (the symbol @ is a prompt character signalling you to respond by logging in). For example, you might type: 37j

nalcon nalcon (cr) 37j1

where the second nalcon is a password which will not be printed. The system responds by typing: 37k

JOB 21 on TTY22 22-APR-75 10:11 37k1

TENEX WILL GO DOWN... 37k2

@ 37k3

In response to the prompting character, you type: 37l

nls(cr) 37l1

and the system returns with: 37m

IDENT= 37m1

where you are being asked to type in your ident. For example: 37n

fgb(cr) 37n1

When the text: 37o

Base C: 37o1

appears, you have entered NLS. 37p

37q

37r

37s

37t

37u

37v

Loading a File: 38

38a

38b

38c

38d

Now that you have entered NLS, you want to load the file you wish to print, so you type: 38e

lffilename(cr) 38e1

where "filename" is the name of the file you wish to print (should you misspell the name, you may use either of two control characters to correct your error: ctrl a = to backspace a character, and ctrl w = to backspace a word). At any rate, the system responds: 38f

Load C: File T/[A]: filename 38f1

<NALCON,FILENAME,NLS;7,> 38f2

and the file is loaded and ready for action, 38g

38h

38i

38j

38k

38l

38m

Viewspecs: 39

39a

39b

39c

39d

If you have worked in the NLS system before, you should be familiar with the importance of viewspecs, if you have not, you probably won't have to worry about this. To get a print out of all lines and levels with statement names/ID's off, you type: 39e

<>sevnw(cr) 39e1

and the system says: 39f

Set C: Viewspecs T/[A]: nw 39f1

This is a singularly painless procedure which readies the terminal for the next step. 39g

39h

39i

39j

39k

39l

39m

Printing a File: 40

40a

40b

40c

40d

With the file loaded and the viewspecs set, you can print the file by typing: 40e

ot(cr) 40e1

Then the system says: 40f

Output (to) C: Terminal OK: 40f1

(Send Form Feeds?) Y/N: 40f2

You type: 40g

n 40g1

It askes: 40h

(Simulate?) Y/N: 40h1

You say: 40i

y 40i1

It askes: 40j

(Wait at page break?) Y/N: 40j1

You reply: 40k

n 40k1

It says: 40l

(Go?) Y/N: 40l1

You tell it: 40m

y 40m1

Then it says: 40n

Processing Output 40n1

and it shall print the file (should you want to stop the printing, you type ctrl o until it stops), 40o

40p

40q

40r

40s

40t

40u

Getting out of the Clutches of NLS: 41

41a

41b

41c

41d

To get out of the NLS system you type: 41e

<>l(cr) 41e1

and the system says: 41f

Logout: OK: 41f1

KILLED JOB 22, USER NALCON... 41f2

The final step is to (at a portable terminal) type: 41g

@c(cr) 41g1

and the system replies: 41h

Closed 41h1

41h2

41h3

41h4

41h5

41h6

41h7

Summary: 42

42a

42b

42c

42d

CONNECT TO TIP 42e

type e 42e1

@1 43 42e2

LOGIN (example) 42f

nalcon<>nalcon<>(cr) 42f1

LOAD FILE 42g

lffilename(cr) 42g1

<>sevnw(cr) 42g2

PRINT FILE 42h

ot(cr)nyny 42h1

LOGOUT 42i

<>l(cr) [if in the NLS system] 42i1

logout(cr) [if at EXEC level] 42i2

DISCONNECT FROM A TIP 42j

@c(cr) 42j1

NLS: SENDMAIL

Forethought:

The Sendmail subsystem is used for sending messages, files, or parts of files to other users on NLS. There are two ways to send messages: you can send them to an individual's ident, or you can send them to a group ident. The difference is that a message sent to an individual's ident goes to that person only, but a message sent to a group ident goes to everyone whose individual ident is associated with the group ident.

In this informal document, the symbol (cr) represents a carriage return.

Sendmail: 47

47a

47b

To enter the Sendmail subsystem, first enter the Base subsystem of NLS and type: 48

gs(cr) 48a

The system will respond thusly: 49

Goto (subsystem) C: Sendmail OK: 49a

Send C: 49b

and you are in the Sendmail subsystem. The procedure for sending a message, or file, begins by typing: 50

i(cr) 50a

and the system says: 51

Interrogate OK: 51a

(distribute for action to:) T/[A]: 51b

which means it wants either a group login name or an ident. For example, you might type in the ident: 52

wcg(cr) 52a

or you might type in the login name: 53

navimp(cr) 53a

In either case, the system replies: 54

(distribute for information-only to:) T/[A]: 54a

and it is again asking for an ident or a login name (this can be the same ident/login name as before or it can be a different one. The difference between the two distributions is that one tells the recipient that some sort of action should be taken, the other says that it is for information only. Either can be answered by a carriage return, but not both.) So, if there is no one else you wish the information sent to, you can type: 55

(cr) 55a

which causes the system to say: 56

(title:) T/[A]: 56a

and it, obviously, wants a title. So type one in: 57

INFORMATION OF THE SENDMAIL SUBSYSTEM(cr) 57a

it then asks 58

(type of source:) T/[A]: 58a

At this point your options are: branch, file, group, message, plex, or statement. To send a message, you would type in response to the prompt: 59

m 59a

and the system would say: 60

Message T/[A]: 60a

now you can type in the message followed by a carriage return (but do indeed be careful - the (cr) ENDS the message). For example: 61

The subsystem Sendmail has many capabilities, if you have any questions, you can always ask,(cr) 61a

and the system will reply: 62

(show status) Y/N 62a

typing a "y" replays everything you did. Thus typing: 63

y 63a

gives 64

TITLE: INFORMATION OF THE SENDMAIL SUBSYSTEM 64a

AUTHOR(S): FGB 64b

DISTRIBUTE FOR ACTION TO: wcg 64c

DISTRIBUTE FOR INFO-ONLY TO: 64d

MESSAGE: The subsystem Sendmail has many capabilities, if you have any questions, you can always ask. 64e

it also asks: 65

(send the mail now?) Y/N 65a

typing a "y" tells it to send the mail and it will eventually return the message: 66

Completed 66a

If, however, you didn't want to send a message, if you wanted to send a file, or part of a file, in response to: 67

(type of source:) C: 67a

you would have specified either branch, file, statement, group, or plex. To send a file you would have typed: 68

ffilename(cr) 68a

where filename is the name of the file. The system fills in: 69

File A: filename 69a

and the rest of the process is the same. To send part of the file, you might have typed: 70

bfilename,018(cr) 70a

then the system would have filled in: 71

Branch (at) A: filename,018 71a

Here, filename is the name of the file and 018 is the location (statement ID) of the branch you wish to send. The procedure for sending statements, groups, or plexes is virtually the same, the difference being what you type in response to the "type of source" prompt. (If no filename is specified, the system assumes that you mean the last file loaded while in the Base subsystem. And you would also do well to remember that your initial file is automatically loaded for you when you enter NLS.) 72

Afterthoughts: 73

73a

73b

Typing a "command delete" at any time in the Sendmail Interrogate process brings you back to Send C: where you can start over again. 74

Typing errors can be corrected by using the two control characters "a" and "w". Ctrl a means backspace a letter. Ctrl w means backspace a word. (To use them simply depress the control key and the letter you desire.) 75

To leave the Sendmail subsystem, you can either type: 76

q(cr) 76a

which means: 77

Quit OK: 77a

and it takes you back to the Base subsystem. Or you can type: 78

gb(cr) 78a

and the system says: 79

Goto (subsystem) C: Base OK: 79a

and it takes you there. 80

READING YOUR MAIL 81

81a

81b

81c

81d

Giving Your Mail A Home: 82

82a

82b

In NLS, any mail received (from the Sendmail subsystem) is automatically stored in your initial file under a branch called "Journal". The procedure for taking care of incoming mail begins by typing: 82c

is(cr)(cr)mail(cr) 82c1

[(cr) means a carriage return] This echoes as: 82d

Insert C: Statement (to follow) A: L: 82d1

T/[A]: mail 82d2

What you have done is placed a statement in your initial file where you can store all present and future mail. Obviously the creation of the "mail" statement need only be done once. 82e

82f

82g

82h

82i

Reading Your Mail: 83

83a

83b

To read your mail you type: 83c

pj(cr) 83c1

and the system responds: 83d

Print C: Journal OK: 83d1

and it will then proceed to print any citations you might have received, or it will say: 83e

No Mail 83e1

which means you have no mail. 83f

83g

83h

83i

83j

Moving Your Mail To Its New Home: 84

84a

84b

Once you view your mail, it is wise to move it elsewhere or everytime you print the journal it will also print all you old mail. This process begins by typing: 84c

mpjournal.d(cr)mail(cr)d(cr) 84c1

and the system tells you: 84c2

Move C: Plex (at address) A: journal.d 84c2a

(to follow) A: mail 84c2b

L[**]: d 84c2c

now all your mail is in your initial file in a branch called "mail". 84c3

Since you have made an addition to your initial file, you should then type: 84c4

uf(cr) 84c4a

which means: 84c5

Update C: File OK: 84c5a

and it will update the file. To verify it you type: 84c6

vf(cr) 84c6a

then the system says: 84c7

Verify C: File OK: 84c7a

File Verify in Progress 84c7b

Successful: internal structure is OK 84c7c

84c7d

84c7e

84c7f

84c7g

Summary: 84d

84e

84f

CREATING "MAIL" BRANCH 84f1

is(cr)(cr) mail(cr) 84f2

PRINTING MAIL 84g

pj(cr) 84g1

MOVING MAIL 84h

mpjournal,d(cr)mail(cr)d(cr) 84h1

uf(cr) 84h2

vf(cr) 84h3

SEARCHING A FILE IN THE NLS SYSTEM 85

85a

85b

85c

85d

85e

85f

"When we say <>, we mean,.," 86

86a

86b

86c

86d

The symbols used in this informal document and their meanings follow: 86e

<> space 86e1

(cr) carriage return 86e2

ctrl control key 86e3

86e4

86e5

86e6

86e7

86e8

86e9

TIP Dial-A-'puter Numbers: 87

87a

87b

87c

87d

NBS-TIP 301-948-5951 87e

MITRE-TIP 202-893-3214 87f

87g

87h

87i

87j

87k

87l

"How do I work this thing?" 88

88a

88b

88c

88d

Working at a portable terminal, you must first connect to a TIP. To do this on a portable terminal, you simply dial one of the two TIP phone numbers, wait for a high pitched sound to issue from the phone, then place the handset in the accoustic coupler. Then type: 88e

e 88e1

The system will respond by typing: 88f

Hello 88f1

(it's cute that way) and you connect to Office-1 by typing: 88g

@1 43(cr) 88g1

At this point you wait for the message: 88h

OPEN 88h1

followed by 88i

TENEX...OFFICE-1 EXEC... 88i1

@ 88i2

You are now connected to Office 1, (the symbol @ is a prompt character signalling you to respond by logging in). For example, you might type: 88j

nalcon nalcon (cr) 88j1

where the second nalcon is a password which will not be printed. The system responds by typing: 88k

JOB 21 on TTY22 22-APR-75 10:11 88k1

TENEX WILL GO DOWN... 88k2

@ 88k3

In response to the prompting character, you type: 88l

nls(cr) 88l1

and the system returns with: 88m

IDENT= 88m1

where you are being asked to type in your ident. For example: 88n

fgb(cr) 88n1

When the text: 88o

Base C: 88o1

appears, you have entered NLS. 88p

88q

88r

88s

88t

88u

88v

Viewing a File Selectively: 89

89a

89b

89c

89d

Many files are structured like books. That is, statements at level one correspond to chapter headings, statements one level down correspond to sections within a chapter, and so forth. 89e

There are several ways to search through such a file. One of the simplest, using viewspecs, begins by typing: 89f

ppi(cr)mw(cr) 89f1

which echoes as: 89g

Print C: Plex (at address) A: 1 V: md 89g1

This will print out all statements at level one (indicated by viewspec "d"). The number preceeding them in the left hand margin is the statement number (turned on by viewspec "m"). At this point you have obtained a Table of Contents (of a fashion) and you probably want to print out more of a particular section. Suppose it was at statement number 2. You would type: 89h

pb2(cr)b(cr) 89h1

and the systems tells you: 89i

Print C: Branch (at address) A: 2 V: b 89i1

This will print out the subsection headings (the "b" viewspec indicates that one level more is to be printed). You can continue this step until you find a section you wish to printed in its entirety Let's say it was 2a. So you'd type:. 89j

pb2a(cr)nw(cr) 89j1

and this comes back as: 89k

Print C: Branch (at address) A:2a V: nw 89k1

The viewspec "w" informs the system that statement 2a and all of its substatements are to be printed and the "n" viewspec turns off the statement numbers. 89l

If you wish to retrun to your "Table of Contents", you would type: 89m

<>sevdm 89m1

which echoes as: 89n

Set C: Viewspecs V: md 89n1

and you are back where you started. 89o

Other viewspecs which may be specified to help view a file selectively are: 89p

a show one level less 89p1

b show one level more 89p2

d first level only 89p3

t show first lines only 89p4

w all lines and levels 89p5

m statement numbers on 89p6

n statement numbers off 89p7

For instance, specifying "dbtm" for "V:" gets a printout of the first lines of the first two levels with statement numbers. To see the next level you would then set the "b" viewspec again, or, to see one level less, you would set the "a" viewspec. And so on... 89q

89r

89s

89t

89u

89v

89w

Jumping To A Particular Statement: 90

90a

90b

90c

90d

If you wish to jump to a statement, and you don't know the statement number, but you do know what the text in the statement looks like, several existing options allow you to jump to that statement. For example, if the statement would look like: 90e

FROGS Frogs are amphibious creatures that can traverse both land and water, but they cannot sustain themselves in just water or only on land. Besides, they're cute when they hop... 90e1

The word "FROGS" (set in capitals and isolated at the beginning of the statement by blanks) serves as a statement name. So to jump to it you would type: 90f

jifrogs(cr)mw(cr) 90f1

(where "mw" are viewspecs) and system would respond: 90g

Jump (to) C: Item (at) A: frogs V: mw 90g1

and this takes you to that statement (but it doesn't print it out.) 90h

Now if for some reason you didn't want to jump to the statement name (imagine it doesn't exist for now), and you knew that the word "amphibious" occured only once in the file, this being in that statement, you could type: 90i

ji"amphibious"(cr)mw(cr) 90i1

(the word must be contained within quotes) and the system would reply: 90j

Jump (to) C: Item (at) A: "amphibious" V: mw 90j1

and it takes you there, Using this same method, you can jump to a statement with any unique word, phrase, or misspellings by putting it in quotes, (The system, however, is capable of moving only forward in the file when dealing with literals, so to jump to something you've already passed you would have to jump to the origin first,) 90k

90l

90m

90n

90o

90p

90q

Setting A Simple Content Pattern: 91

91a

91b

91c

91d

If you wish to see only parts of the file which have certain words or phrases in common, you can set a simple content pattern to allow you to do this, For instance, if you wanted to see all statements with the word "amphibious" in them, you would follow this procedure: 91e

```
<>sect["amphibious"](cr)
```
91e1

and the system would echo: 91f

```
Set C: Content (pattern) C: To T/[A]: ["amphibious"]
```
91f1

you then type: 91g

```
pp1(cr)im(cr)
```
91g1

which means: 91h

```
Print C: Plex (at address) A: 1 V: im
```
91h1

and it will print those statements with the word "amphibious" appearing within the text. (viewspec "i" turns on the content analyzer. To turn it off you would specify viewspec "j".) 91i

You could also set the content analyzer to print all statements beginning with the word "FROGS". To do this you'd type: 91j

<>sect"FROGS"(cr) 91j1

pp1(cr)im(cr) 91j2

the system would say: 91k

Set C: Content (pattern) C: To T/[A]: "FROGS" 91k1

Print C: Plex (at address) A: 1 V: im 91k2

and the system will run through the file, find all statements BEGINNING with the word "FROGS" and print them. 91l

91m

91n

91o

91p

91q

91r

Getting out of the Clutches of NLS: 92

92a

92b

92c

92d

To get out of the NLS system you type: 92e

<>l(cr) 92e1

and the system says: 92f

Logout: OK: 92f1

KILLED JOB 22, USER NALCON... 92f2

The final step is to (at a portable terminal) type: 92g

@c(cr) 92g1

and the system replies: 92h

Closed 92h1

92h2

92h3

92h4

92h5

92h6

92h7

Summary: 93

93a

93b

93c

93d

CONNECT TO TIP 93e

type e 93e1

@1 43 93e2

LOGIN (example) 93f

nalcon<>nalcon<>(cr) 93f1

VIEWSPECS 93g

a show one level less 93g1

b show one level more 93g2

d first level only 93g3

t show first lines only 93g4

w all lines and levels 93g5

m statement numbers on 93g6

n statement numbers off 93g7

JUMPING 93h

jistatementname(cr)mw(cr) 93h1

ji"word"(cr)mw(cr) 93h2

SETTING CONTENT PATTERN 93i

<>sect["word"](cr) 93i1

<>sect"word"(cr) 93i2

LOGOUT 93j

<>l(cr) [if in the NLS system] 93j1

logout(cr) [if at EXEC level] 93j2

DISCONNECT FROM A TIP 93k

@c(cr) 93k1

94

95

96

97

DNLS 98

98a

98b

98c

98d

98e

98f

98g

98h

98i

98j

98k

98l

98m

98n

98o

98p

98q

98r

98s

98t

Introduction: 99

99a

Although it is true that Display NLS (DNLS) has the same set of NLS commands that Terminal NLS (TNLS) has (they both are, after all, working in the same system), differences exist which can cause real trouble for the casual NLS user. The reason for these differences is simple: in TNLS all you need to be successful is a terminal and a couple of fast-moving fingers; in DNLS, however, you need a mouse (not the "eek!" kind), a keyset (and/or a keyboard), a Cathode-Ray Tube (CRT) screen, a lineprocessor, and, of course, those digital marvels you call your fingers. 99b

99c

The Hardware: 100

100a

Sitting at a display workstation, if you were to look up and find yourself staring at yourself, then you are probably looking at the display (your reflection is on the screen). If you do not see yourself, clean the glass. At any rate, to turn the screen on, locate the rear-most knob on the right side of the unit and gently pull it out. It will click, the unit will squeak and hum, and the screen will gradually lighten. 100b

The lineprocessor is the rectangular shaped box next to the screen (it's the one with all the impressive lights, symbols, and toggle switches). To turn it on, you simply depress the button marked "ON/OFF" and the button will light up (flashy but effective). 100c

The keyset is a small square shaped flat thing vaguely resembling five piano keys. (Figures 1 and 2 are representations of a keyset.) You don't have to turn the keyset on.

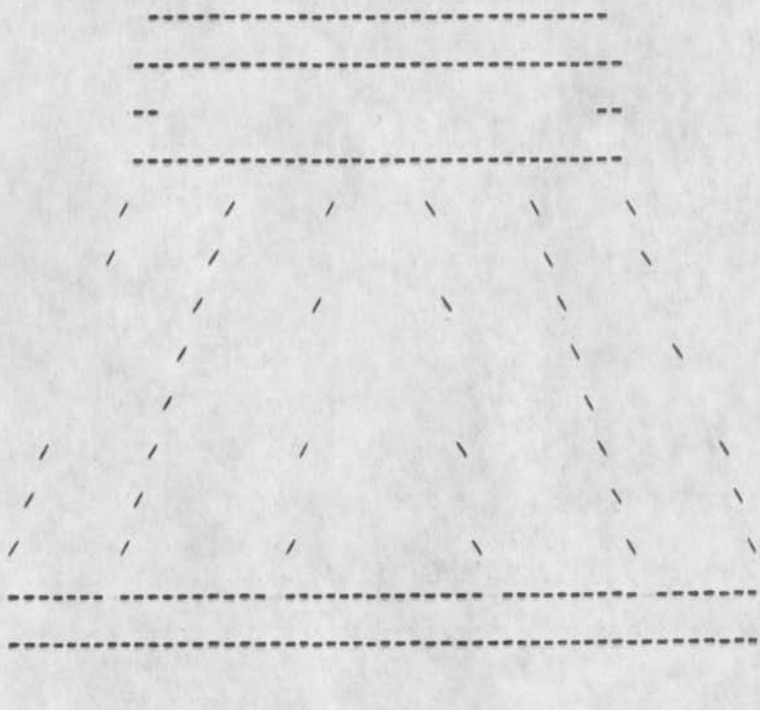


Figure 1: Keyset (front view)

Figure 2: Keyset (top view)

100av

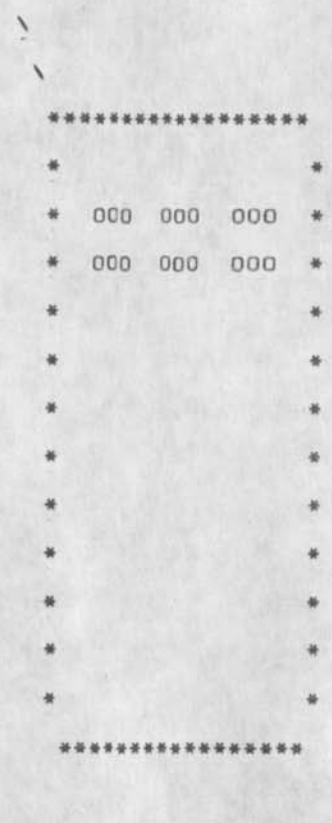
100aw

The keyboard looks like the keyboard of a terminal. It should not be hard to find. 100ax

That small rectangular box with three buttons on top and wheels on the bottom is the mouse. (Figures 3 and 4 are representations of the mouse while Figure 5 shows how it got its name.) 100ay

100az

100b@



100bq

Figure 3: Mouse (top view)

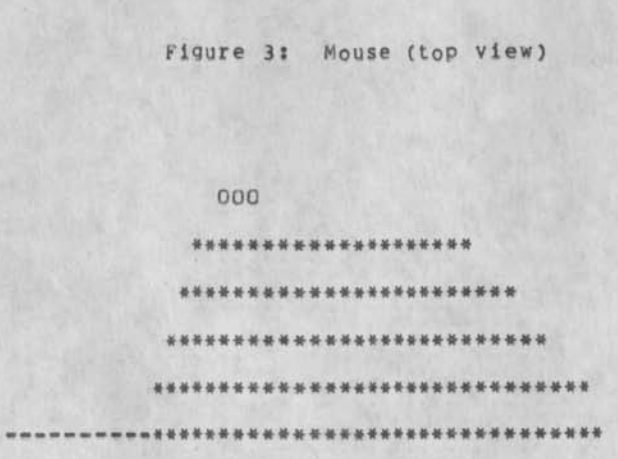


Figure 4: Mouse (side view)

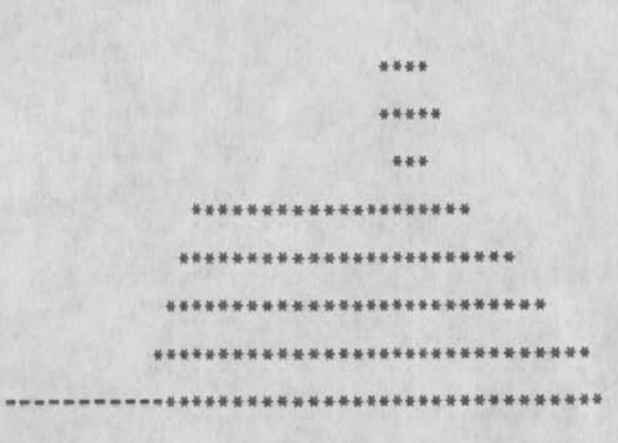


Figure 5: Another Mouse (side view)

Put all these things together and you have a display workstation. 100co

How To Talk In DNLS: 101

101a

There is a choice involved in working at the display. In as much as the keyset (with the mouse) sends out all the symbols/letters/characters the keyboard does, it doesn't matter which you use (you must use the mouse, though). the keyset and the mouse work together to form a simple binary alphabet; the following chart details the codes: 101b

101c

MOUSE 101d

BUTTONS: 000 010 100 001 110 011 101 111 101e

Case: 0 1 2 3 4 5 6 7 101f

KEYSET CODE 101g

00000		CD	BC	CA	BW	RPT	ESC	101h
00001	a	A	!					101i
00010	b	B	"					101j
00011	c	C	#					101k
00100	d	D	$					101l
00101	e	E	%					101m
00110	f	F	&					101n
00111	g	G	'					101o
01000	h	H	(					101p
01001	i	I	)					101q
01010	j	J	@					101r
01011	k	K	+					101s
01100	l	L	-					101t
01101	m	M	*					101u

01110	n	N	/	101v
01111	o	O	-	101w
10000	p	P	0	101x
10001	q	Q	1	101y
10010	r	R	2	101z
10011	s	S	3	101a@
10100	t	T	4	101aa
10101	u	U	5	101ab
10110	v	V	6	101ac
10111	w	W	7	101ad
11000	x	X	8	101ae
11001	y	Y	9	101af
11010	z	Z	=	101ag
11011	,	<	[	101ah
11100	.	>	]	101ai
11101	;	:	_	101aj
11110	?	/	ALT	101ak
11111	SP	TAB	CR	101al

101am

Case 3: 001 Search for marker named by keyset combination. 101an

Case 4: 110 Take each keyset code as a lowercase viewspec. 101ao

Case 5: 011 Has no meaning with keyset input. 101ap

Case 6: 101 Has no meaning with keyset input. 101aq

Case 7: 111 Take each keyset code as a capital viewspec. 101ar

For instance, if you depress the middle button on top of the mouse, and the right-most button on the keyset, you are actually sending out the capital letter "A". In this manner (and similiar ones) you can send out any character(s) you desire. But if you have no desire to memorize the chart, you can push the keyset away and use the keyboard. 101as

In either case it is wise to learn what the three buttons on the mouse do (see the chart for all possibilities). The most important ones are: 001, Command Accept; 010 Command Delete; 100, Backspace Character; and 110, Backspace Word. 101at

Now you're ready for the Big Time. 101au

101av

A Useful Legend: 102

102a

It might be helpful to show some of the symbols used in this informal document and their meanings: 102b

<> space 102b1

(cr) Carriage Return 102b2

[CA] Command Accept 102b3

102c

Login/Enter DNLS: 103

103a

Once the screen and lineprocessor are warmed up, you type: 103b

@r(cr) 103b1

and the system responds: 103c

MITRE TIP,,, 103c1

you then type: 103d

@1 43(cr) 103d1

and it should reply: 103e

OPEN 103e1

TENEX...OFFICE 1 EXEC... 103e2

so now you login: 103f

nalcon nalcon (cr) 103f1

it replies: 103g

JOB 21 on TTY22,,, 103g1

PREVIOUS LOGIN,,, 103g2

TENEX WILL GO DOWN,,, 103g3

When the @ symbol reappears you type: 103h

@i 25(cr) 103h1

te 11(cr) 103h2

and you're ready to enter NLS by typing: 103i

nls(cr) 103i1

then, when it asks, you give your ident. For example: 103j

fgb(cr) 103j1

and the screen will black out, signalling that you have entered NLS. 103k

When the screen returns it will then display your initial file (which is automatically loaded whenever you enter NLS). On the upper left-hand corner of the screen you should see "Base C:" and on the upper right-hand corner "All All hjuCP" or something similiar (those are the viewspecs in use). 103l

103m

A Warning: 104

104a

CAUTION: ONCE YOU HAVE ENTERED NLS DO NOT USE THE CARRIAGE RETURN BUTTON, INSTEAD USE EITHER THE COMMAND ACCEPT BUTTON ON THE MOUSE OR THE "CA" (ALSO "OK") BUTTON ON THE KEYBOARD. (IF YOU DON'T BELIEVE, JUST TRY IT A COUPLE OF TIMES.) 104b

104c

Loading A File: 105

105a

Obviously you didn't enter NLS just for the sake of doing so (it isn't Mount Everest), so you probably want to load (or create) a file. To load a file you type: 105b

lfFILENAME[CA] 105b1

and eventually your intiial file will blink out to be replaced by the file you specified. [NOTE: You no longer use the command "Print" because the screen displays your file automatically. To see other parts of the file, you must "Jump" to them (but more about that a little later, if you don't mind.)] 105c

To create a new file you type: 105d

<>crfFILENAME[CA] 105d1

and the screen will again blink out, then return to display the origin statement of your new file. 105e

Now you're ready to work. (About time, too.) 105f

105g

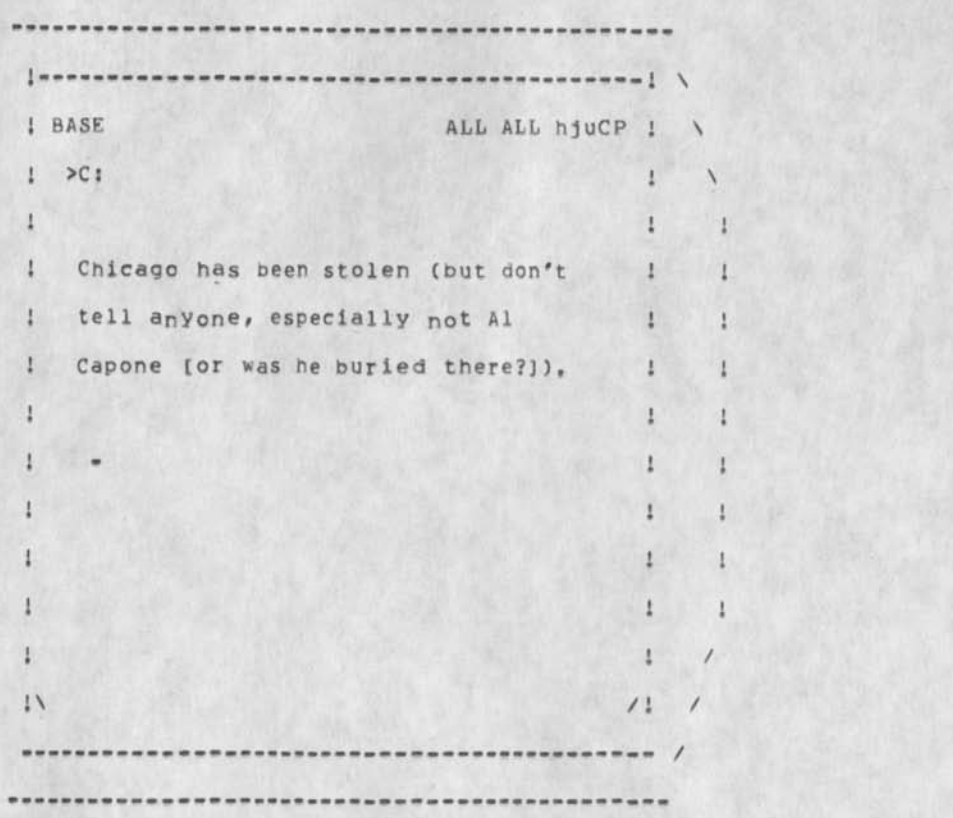
Editing A File: 106

106a

Let us say that your file is loaded and you wish to do some simple editing work. For instance, let's say your file looks like this on the screen: 106b

106c

106d


BASE ALL ALL hjuCP
>C:
Chicago has been stolen (but don't
tell anyone, especially not Al
Capone [or was he buried there?]).

Notice that the little dash located below the "a" in "Capone" is the cursor. (On the screen it will be brighter than the other characters.) Now, by taking your hand, placing it firmly on the mouse (come now, let's not be squeamish) and moving the mouse, you will see that the cursor (miraculously) moves as you move the mouse. The cursor is the most important thing in DNLS; you should learn how to use it. (If no one is looking, you can play with it until you get the hang of moving it around.) 106v

Back to the subject at hand: 106w

Suppose you want to replace the "A" in "Al" by another letter (don't ask why). In TNLS you would probably use the command "Substitute Text in Statement" (or some variant thereof), but in DNLS it is better to use the "Replace" or "Insert" commands (depending on the circumstances). For instance, you would type: 106x

rc 106x1

and the system would respond by saying: 106y

Replace Character (at) B/A: 106y1

It is now asking you to show what character you want replaced. Move the cursor so it is under the "A", then press the [CA] button. The "A" will disappear to be replaced by a bright square, thus the screen will now look something like this: 106z

```
                                                                   106a@

                                                                   106aa

---------------------------------------------                      106ab

 !------------------------------------------! \                    106ac

 ! BASE                         ALL ALL hjuCP ! \                  106ad

 !   Replace Character (at)                 !  \                   106ae

 !                 >B/A:                    !   !                  106af

 !                                          !   !                  106ag

 !   Chicago has been stolen (but don't     !   !                  106ah

 !   tell anyone, especially not Ol         !   !                  106ai

 !   Capone [or was he buried there?]).     !   !                  106aj
```

106aK
106al
106am
106an
106ao
106ap
106aq
106ar
106as

With this done the system will then ask you what you are replacing the character with. You can either type in a character followed by a [CA], or "bug" (point the cursor and press the [CA] button) the character if it is on the screen. Another [CA] gives you the change you desire. 106at

In this manner you can Replace Character or Text (bug the beginning and end of the text) or you can Insert Character or Text, as well as being able to Replace or Insert Statements. 106au

To insert a statement you type: 106av

is 106av1

and it replies: 106aw

Insert Statement (to follow) B/A: 106aw1

you then bug any character in the statement you want it to follow, specify the level (ended by a [CA]) and type in the new statement, followed bu a [CA]. 106ax

106ay

Jumping Around: 107

107a

To move around in DNLS, you can either use the cursor or Statement Numbers/ID's. For example, if you wanted to see what folllowed the last statement on the screen, point the cursor to that statement and type: 107b

j[CA][CA] 107b1

which means: 107c

Jump (to) B/A: 107c1

and that statement will be moved to the top of the screen and statements below it will be displayed. 107d

The other option, using Statement Numbers/ID's, follows a similiar proceedure. Type: 107e

j1023[CA][CA] 107e1

which echoes as: 107f

Jump (to) Item 023 107f1

where 023 is a Statement ID. The screen will then display this statement and those which follow it. 107g

107h

Viewspecs And Their Use: 108

108a

Viewspecs also help you view a file on the display. To set new viewspecs you depress the 110 buttons on the mouse and then (while they are depressed) you type in the viewspecs from the keyboard [Note: These will be read as lower-case viewspecs.] Upper-case viewspecs can be set by depressing all three (111) button and typing from the keyboard. Always add an "F" viewspec when you change viewspecs (this will refresh the screen and implement your changes). Following are some helpful viewspecs: 108b

a show one level less 108b1

b show one level more 108b2

d show first level only 108b3

t show first lines only 108b4

w all lines and levels 108b5

m statement numbers on 108b6

n statement numbers off 108b7

108c

Leaving DNLS: 109

109a

To leave DNLS you type: 109b

<>1[CA] 109b1

which means: 109c

Logout OK: 109c1

the screen will blink out and return the message (after a time): 109d

KILLED JOB 21... 109d1

Now you depress the control key, hit a "y", release the control key and type: 109e

c(cr) 109e1

which causes: 109f

Closed 109f1

to appear. Now you can turn off the machine. 109g

109h

Summary: 110

110a

CONNECTING TO TIP: 110b

@r(cr) 110b1

@l 43(cr) 110b2

LOGIN: 110c

nalcon nalcon (cr) 110c1

ENTER NLS: 110d

@i 25(cr) 110d1

te li(cr) 110d2

nls(cr) 110d3

fgb(cr) 110d4

MOUSE CODES: 110e

001 Command Accept 110e1

010 Command Delete 110e2

110 Backspace Word 110e3

100 Backspace Character 110e4

110 + letter Lower-case Viewspec 110e5

111 + letter Upper-case Viewspec 110e6

EDITING COMMANDS: 110f

Replace (Character Text Statemment) 110f1

Insert (Character Text Statement) 110f2

JUMPING: 110g

Jump (to) /bug the statement\ [CA] 110g1

Jump (to) Item 023 [CA] [CA] 110g2

VIEWSPECS: 110h

a show one level less 110h1

b show one level more 110h2

d show first level only 110h3

t show first lines only 110h4

w all lines and levels 110h5

```
    m    statement numbers on                                          110h6
    n    statement numbers off                                         110h7
  LOGOUT:                                                             110i
    <>1[CA]                                                           110i1
  CLOSE CONNECTION:                                                   110j
    /depress control button, type "y" release control button\ c(cr)   110j1
                                                                      110k
```

AN OVERVIEW OF NLS: WHAT HEREIN LIES 111

111a

111b

111c

111d

111e

Introduction 113

This document is intended to provide sufficient information to "get your started" in NLS, However, someone who is already familiar with NLS should be available for advice, Other documents available include: 113a

- A guide to the TENEX Operating system 113a1

- Some extracts from an old NLS guide giving a glossary of terms,information on file structure, etc, 113a2

- the NLS "cue card" (which has much information packed in little space) 113a3

- the NLS Primer and the Basic NLS Course 113a4

- a number of transcripts of NLS sessions that will be available from time to time, 113a5

I suggest you glance through this document once, call someone who is familiar with NLS, and then sign on to NLS and practice using either the primer or basic course as a guide, 113b

This document is still in rough form and I would appreciate any suggestions you may have for its improvement,

113c

For help in using the system, call Frank Brignoli at 202 227-1618/1533 or Autovon 287-1618/1533, 113d

114

NLS Notes 115

This note is intended to give some background information on NLS and is based on frequently asked questions. It will be updated from time to time as reader comment warrants. 115a

116

Subsystems 117

NLS can be viewed as a collection of subsystems. Currently, there are four: BASE, SENDMAIL, USEROPTIONS, and PROGRAMS. 117a

The BASE subsystem can be thought of as the document editor. It is in this subsystem that one can use commands to input and edit text. 117a1

The SENDMAIL subsystem is used to distribute and catalog documents. A document can be an entire file, a part of a file (i.e., plex, group, branch, or statement), or a message (text typed when in the SENDMAIL subsystem and designated as a message). 117a2

The USEROPTIONS subsystem is used to tailor the user's interface to NLS. 117a3

The PROGRAMS sybsystem is used to compile, load, and execute user programs (written in an Algol like language called L-10). These programs are typically used to manipulate NLS files in some way (e.g., sort file on specified sort key). 117a4

The two systems that you will be using most often are BASE and SENDMAIL. 117b

118

Prompts in NLS 119

One enters the NLS system by typing NLS (cr) (thats carriage return) and possibly typing an ident (e.g., ILA) in response to the typeout IDENT=. The first text that appears in NLS is the string. 119a

BASE C: 119b

After a command has been entirely processed, the text BASE C: is again printed to inform the user that he may enter another command. 119c

The BASE is meant to inform the user that he is in the BASE subsystem. This printout is referred to in the NLS documentation as a herald. 119d

The C: means that the user is expected to enter a command, word. The single letter (or several letters) followed by a colon is referred to in NLS documentation as a prompt. 119e

The other common prompts are: 119f

A: Address Expression 119g

L: indicate a level by typing u for a level up and d for a level down 119h

V: indicate some viewspecs (e.g., w for all lines, all levels) 119i

T/[A]: input some text (e.g., the statement text ended by (cr)) 119j

OK: confirm that the system is indeed to take the action just indicated (e.g.,delete some text) by typing CTRL D (by first pressing the CTRL key and , while holding the key down, depressing the d key) or by typing a carriage return 119k

At any point after a prompt (e.g., C:), you can type a ? (it is not echoed by the system so wait) and a list of alternatives that can be taken at that point are listed. You may then type one of those alternatives. For example, typing I will cause the system to print 119l

Insert C: 119m

If you don't know what you can insert, typing ? will give you a list of alternatives. Statement is one of those alternatives. 119n

So typing S (not IS since the system remembers the I for Insert) will cause the system to echo Statement (at) A: 119o

To summarize, 119p

The Heralds are: BASE, SEND, USER, PROG 119q

The Prompts are: A:, C:, T/[A]:, L:, V:, OK: 119r

Help in NLS 121

There are two flavors of Help available in NLS. 121a

Typing ? after a prompt (e.g., C:) will cause the system to print out a list of alternatives available at that point (e.g., typing ? after BASE C: will cause all the commands in the Base subsystem to be listed out). 121b

For detailed help, type CTRL Q (by first pressing the ctrl key and , while holding the key down, depressing the q key) and wait. An on-line help system will be invoked. It will explain a bit about the point at which you were when you invoked the subsystem and then give a menu of choices from which you can select the appropriate items with which you wish to be helped. 121c

122

Command Recognition in NLS 123

The default command recognition scheme in NLS in termed terse recognition. In this scheme, the most common commands are all invoked by typing a single letter. The alternative commands beginning with that same letter are invoked by typing a space and then a sufficient number of characters (but no more than that) to uniquely identify the command. The notation for a space (depressing the space bar one and only once) in NLS is <>. 123a

For example, typing ? after BASE C: will produce, among others, the following commands: 123b

<>Accept 123b1

Append 123b2

<>Archive 123b3

Typing a after BASE C: will cause the system to typeout 123c

Append C: 123c1

To execute the command Accept, one must presss the space bar once (denoted by <>) and then type ac . This will cause the system to typeout 123d

Accept C: 123d1

A similar procedure in used to invoke the command Archive. 123e

Errors in Typing NLS Commands 125

A bell sounds if you attempt to input an inappropriate option after a prompt. For example, you type I and the system echos Insert C:. You intend to type S but instead type X. A bell rings and you realize what happened and you type S. The system then echoes Statement (at) A: 125a

If you do do not realize what happened and the system starts to act in a way you do not expect, the safest thing to do is type CTRL X (first press the ctrl key and then the x key). This action cancels the command and returns you to the starting point (e.g., in the Base subsystem the BASE C: will printout again). Any action you started to take is aborted. 125b

Unfortunately, when you are using a TIP, the bell will also sound if the TIP buffer you are using is full. It may also mean the TIP has lost some characters. Wait for the printout to catch up with you and then continue typing. 125c

If a character has been dropped in an inappropriate place, it may be necessary to backspace a word or a character. Which brings us to: 125d

126

Editing Characters 127

As you are inputting text, you will from time to time mistype it. There are several control characters (gotten by depressing the CTRL key and the appropriate character key). These are 127a

CTRL a This backspaces a character and shows you the result by echoing the character backspaced over. 127a1

CTRL w This backspaces a word and echoes as a backarrow. 127a2

CTRL r This replays whatever has been typed up to this point (e.g., the statement currently being typed) 127a3

In addition, one can tab to the next tabstop by typing 127b

CTRL I tabstops are: 9,17,25,33,41,
49,57,65,73,81,89,97,105 127b1

128

Summary of Control Characters 129

A control character is transmitted by first depressing the CTRL key and then, while holding down the CTRL key, depressing the appropriate character (e.g., to transmit control x, hold down the CTRL key and then press the x key). The control characters to be aware of in NLS are: 129a

CTRL q invokes the NLS HELP subsystem 129a1

CTRL x cancels the current command 129a2

CTRL o stops printout at terminal 129a3

CTRL a backspace a character 129a4

CTRL w backspace a word 129a5

CTRL r retype current input 129a6

CTRL c returns you to executive level (i.e., point before you typed NLS; to re-enter nls type either cont(cr) which returns you to the point you were at when you typed the CTRL c or , if you wish to start over again, nls(cr)) 129a7

130

An NLS Session 131

One uses the NLS system to create, edit and view files. In general, a session with NLS is composed of the following steps: 131a

1. Sign on to a local TIP 131a1

2. Connect to the Office-1 Computer 131a2

3. Sign on to the Office-1 Computer 131a3

4. Invoke the NLS System 131a4

5. View the File 131a5

6. Sign off the Office-1 Computer 131a6

7. Sign off the local TIP. 131a7

Details of each sequence are given in the sections below. 131b

The TIP sign on procedure may change somewhat from time to time. If you have trouble signing on to a TIP, please call me for additional information. 131c

132

TIP Numbers 133

For the Washington D.C. Area: 133a

NBS-TIP: 301 948-5951 133a1

MITRE-TIP: 202 893-3214 133a2

For the New Haven Area: 133b

NCC-TIP: 617-491-5450 through 5465 133b1

CCA-TIP: 617-492-8400 through 8407, 617-492-8454,8455 133b2

For the Panama City Area: 133c

RML-TIP: 305-494-5030,2818,6975 133c1

or AUTOVON 854-5030,2818,6975 133c2

For the China Lake and San Diego Area: 133d

USC-TIP: 213-746-5208 through 5212, 5356-5358 133d1

For the Johnsville (Warminster,PA.) Area: 133e

RUTGERS-TIP: 201-932-2750,2751 133e1

Other: 133f

Cupertino, California 133f1

TYMSHARE-TIP: 408 255-7950 133f1a

DIRECT DIAL: 408 996-2300 133f1b

134

Signing on to a TIP 135

- If you are not at a full duplex terminal with upper and lower case, call me for additional information. 135a

- dial the number of the TIP nearest you (see TIP numbers) 135b

- when you get a carrier signal and the modem is directly connected to the terminal, press the data button and replace the handset in the cradle. If the modem is not directly connected or you are using a telephone (i.e., your terminal has an accoustic coupler), place the handset in the accoustic coupler 135c

- type the letter e and wait until the TIP echos Hello 135d

- at this point, you are signed on to the TIP 135e

136

Connecting to the Office-1 Computer (NOTE: (CR) = carriage return) 137

- type (note the space between the 1 and the 4) 137a

@1 43(CR) 137a1

This asks the TIP to connect to host number 43 (Office-1) 137b

- wait for a message containing the word OPEN, anything else (e.g., can't) means you should hang up and try again later 137c

- when the message 137d

TENEX .....OFFICE-1 EXEC ... 137d1

@ 137d2

appears, you are connected to Office-1 the computer offering the NLS service. The symbol @ is the prompt character sent by the computer and means that it is now ready to accept a command. The first command you give it will be the sign on sequence. 137e

138

SIGNING ON AT THE OFFICE-1 COMPUTER

Signing on at the Office-1 Computer (NOTE: (CR) = carriage return) 139

- After the prompt character @ appears at your terminal, type 139a

  nsrdc nsrdc 3(CR) 139a1

The second nsrdc is a password and will not be printed. 139b

- The system will respond by typing a line of the form 139c

  IDENT= 139c1

You respond by typing 139d

  (CR) 139d1

- Eventually, the system will respond with some messages of the day such as 139e

  JOB 21 on TTY22 24-OCT-74 10:11 139e1

  TENEX WILL GO DOWN THU 10-24-74 2100 TIL FRI 10-25-74 0500 139e2

  @ 139e3

When the prompting character @ appears, you are ready to enter NLS.

139f

NOTE: The sign on nsrdc, and the account 3 are for illustration only. You will be assigned your own ident and told which sign on quantity (e.g., nalcon) you are to use. 139g

SIGNING ON AT THE OFFICE-1 COMPUTER

Sending A Message 140

USING SNDMSG 140a

One can use the SNDMSG facility at the EXEC level to send a message to a directory (e.g., NAVIMP, NALCON, BRIGNOLI, etc.) 140a1

To do this , type 140a2

SNDMSG(CR) 140a2a

The system responds 140a3

To: 140a3a

Type one or more directory names separated by commas and terminated by a carriage return. For example, 140a4

BRIGNOLI,NALCON(CR) 140a5

The system responds 140b

CC: 140b1

for carbon copy. Either type some more directory names or just type (CR). 140c

The system then responds: 140d

Message: 140d1

Type in your message. When you are done, type CTRL Z (i.e., hold down the CTRL key then press the Z key). 140e

The system responds by typing 140f

* 140f1

At this point, type a carriage return and wait for the message to be sent. 140g

141

Invoking the NLS System (NOTE: (CR) = carriage return) 142

- To enter NLS type 142a

NLS(CR) 142a1

- When the text 142b

  ident= 142b1

appears, type YOUR ident. For example, 142c

  FGB(CR) 142c1

- When the text 142d

  BASE C: 142d1

appears, you have entered the NLS system and may begin entering commands. 142e

143

Using NLS 144

See the section entitled "Notes on NLS" for further information. 144a

145

NLS FILES 146

The basic entity dealt with by NLS is the file. A file is a collection of text that has been structured in some way. A file can be created, retrieved, copied, merged with another, etc. The two basic commands are discussd below. 146a

1. Create File 146a1

   This command creates an empty file into which information will be entered. To create a file, called newfile, you type: 146a1a

   <>crfnewfile(cr) 146a1a1

   The system echoes: 146a1b

   Create C: File T/[A]: newfile 146a1b1

   <NALCON, NEWFILE.NLS;1, > 146a1b2

   when the file has been created, Textual information may now be entered into this file. 146a1c

2. The Partial Copy 146a2

Information is not actually entered into an existing file until the Update File command is issued. Instead, the changes made to the file are kept track of in a special file called a partial copy. 146a2a

For example, when any text is entered into the file Newfile created above, a partial copy of newfile is created. Until a file update is performed, there are two files in the directory: 146a2b

Newfile.nls; 1 and Newfile.Pc;1 146a2c

The person who makes any change to an up to date file (i.e., one which has been updated and for which a partial copy no longer exists) has the effect of "locking" it until he performs a file update. This means that the original version of the file (which does not reflect any changes made to it) is available in a Read-Only mode. 146a2d

3. Updating a File 146a3

To update a file, say newfile, you type 146a3a

uf(cr) 146a3a1

The system echoes: 146a3b

Update C: File OK: 146a3b1

<NALCON,NEWFILE,NLS;2, > 146a3b2

when the file has been updated, The effect is to merge the changes contained in NEWFILE,PC;1 with the original file NEWFILE,NLS;1 to produce a new version , or cycle, of the file . 146a3c

4. Verifying a File 146a4

To verify that a file is still intact (e.g., after updating) 146a4a

you type: vf(cr) 146a4b

the system echoes: Verify C; File OK: 146a4c

file verify in progress 146a4d

and some words telling you the status of your file. 146a4e

5. Retrieving a File 146a5

When you first enter NLS, by typing NLS(CR) and, possibly, an identifier if asked, the first file that is automatically retrieved for you is the one that is associated with your own ident, For example, if your ident is FGB, the file FGB,nls will be automatically retrieved. 146a5a

To indicate t the system that you wish to work with another file, say newfile, 146a5b

you type: lfnewfile(cr) 146a5c

the system echoes: load C: File T : newfile (Newfile) 146a5d

This indicates that the file is now available for viewing and/or modification. Unless you specify another file name in response to the prompt A: , all actions requested will be performed on this file. The system keeps a stack of the last 10 files accessed. To return to any previous file in this stack, 146a5e

you type: jfr(cr) 146a5e1

the system echoes: Jump (to) C: File C: Return OK: 146a5e2

and then gives you a choice of files. 146a5f

147

Structure of NLS files 148

The structure of an NLS file is best given by example. In the file below there are statements at three levels, as reflected by the indentaton. 148a

This statement is at level one 148a1

This statement is at level two 148a1a

This statement is at level three 148a1a1

This statment is also at level two 148a1b

This is another statement at level one 148a2

This is another statement at level two 148a2a

This structure could represent the format of chapter headings, section headings, and paragraphs within sections found in many documents. 148b

There are three types of identifiers associated with a statement in an NLS files. 148c

The statement number is RELATIVE (i.e., may change when statements are added or deleted) 148c1

The Statement Identifier is an absolute quantity and remains fixed throughout the life of the file. It reflects the order in which the statement was entered in the file. 148c2

The statement signature reflects the time,date, and identity of the person who entered the statement. 148c3

Viewspecs, which are discussed in a later section, govern the way in which the textual material in a file is presented for viewing. The viewspecs are a series of upper and lower case letters which represent certain options for viewing ; they may be turned "on" and "off" through NLS commands. 148d

When the m viewspec is on (show statement numbers/ids) and the J viewspec is on (J is the default), a printout of the file looks like: 148e

1 This statement is at level one 148e1

1A This statement is at level two 148e1a

1A1 This statement is at level three 148e1a1

1B This statement is also at level two 148e1b

2 This is another statement at level one 148e2

2A This is another statement at level two 148e2a

When the m viewspec is on and the I veiwspec is also on, statement ID's will be printed and the file look like: 148f

01 This statement is at level one 148f1

02 This statement is at level two 148f1a

03 This statement is at level three 148f1a1

04 This statment is also at level two 148f1b

05 This is another statement at level one 148f2

06 This is another statement at level two 148f2a

When the K viewspec is on (show statement signatures), a printout of the file looks like: 148g

This statement is at level one FGB 4-NOV-74 17:38 148g1

This statement is at level two FGB 4-NOV-74 17:38 148g1a

This statement is at level three FGB 4-NOV-74 17:39 148g1a1

This statement is also at level two FGB 4-NOV-74 17:39 148g1b

This is another statement at level one FGB 4-NOV-74 17:39 148g2

This is another statement at level two FGB 4-NOV-74 17:39 148g2a

You will notice that statement numbers consist of a number followed by a letter followed by a number, etc, while statement ID's are always numbers and always begin with a zero. 148h

Statement numbers always reflect the level of a statement. That is, statements 1,2,3 etc, are all at level one,statements 1a,2a,etc, are all at level two, and so on. 148i

A BRANCH is a statement and all its substatments. 148j

For example, 148j1

The branch at address 1 consists of statements 1, 1A, 1A1, and 1B. 148j1a

The branch at address 2 consists of statements 2 and 2A. 148j1b

the branch at address 1A1 consists solely of the statement 1A1 148j1c

A GROUP is delineated by two statements at the same level and consists of those two statements,all their substatements and all the statements between them. 148k

For example, 148k1

The group defined by addresses 1,2 consists of statements 1, 1A, 1A1, 1B, 2, 2A . 148k2

A PLEX consists of all branches (i.e., statements and all their substatements) at the same level having the same source. The source is the statement one level "up" from which they are all descended. 1481

For example, 14811

The Plex at address 1A consists of statements 1A, 1A1, and 1B. They are all descended from statement 1. 14811a

The Plex at address 2A consists only of statement 2A. It is the only statement descended from statement 2. 14811b

The Plex at address one consists of statements 1, 1A, 1A1, 1B, 2, 2A (i.e., the entire file). They are all descendents of statement 0 (not shown). 14811c

149

Moving Around in NLS 150

In Typewriter NLS, a marker is kept which indicates where in the file you are currently positioned, It is the equivalent of a cursor on a display screen. 150a

In order to determine your current position, you may type 150b

. The period causes the system to type out the current statement number followed by the number of characters into the statement that is your current position. 150b1

/ The slash causes a printout of the marker plus several characters before and after it. 150b2

For example, 150b2a

abc==>d 150b2a1

means that the marker is currently pointing to the character d and that the characters abc precede it. The ==> is intended to be an arrow. 150b2b

The JUMP command in NLS explicitly moves the position marker (cursor) around in the file. However, the cursor may be moved after the execution of a command requiring an ADDRESS to be supplied (e.g., the PRINT command). An NLS address may be quite complex and contain one or more of the elements shown on the cue card under ADDRESSING & LINKS. Again, the easiest way to become familiar with moving around in NLS is to experiment. 150c

151

Viewspecs Viewing an NLS File 152

The viewspecs are single letters that represent options which can be used when viewing a file. 152a

Some of the more frequently used viewspecs are: 152b

n statment numbers/id's off 152b1

m statement numbers/id's on 152b2

t show one line, all levels 152b3

w show all lines, all levels 152b4

d show first level only 152b5

c show all levels 152b6

I show statments id's 152b7

J show statement numbers 152b8

K show statement signatures 152b9

Notice two things: 152c

- viewspecs come in pairs; what one does, another undos 152c1

- UPPER and lower case is significant 152c2

The viewspecs are set thru either the Set Viewspecs command or by typing them in in repsonse to a V: prompt in a Print Command. 152d

The best way to become accustomed to them is to try them. For example, Print Plex at 1 with Viewspecs md or mct etc. 152e

153

Viewing an Entire File (NOTE: (CR) = carriage return) 154

Before you can view a file, you must first load it into your workspace, Assume you wish to view the file named TESTFILE, To do this, type 154a

LFTESTFILE(CR) 154a1

which echoes as 154b

Load C: File T: TESTFILE 154b1

When the herald BASE appears, the file is now available, 154c

To view the entire file type 154d

PF(CR) 154d1

which echoes as 154e

Print C: File OK: 154e1

The entire file will now be printed out, To stop printing at any time, type CTRL O one or more times, 154f

155

Viewing A File Selectively (NOTE: (cr) = carriage return) 156

Many files are structured like books. That is, statements at level one correspond to chapter headings, statements one level down correspond to sections within a chapter, an so forth. 156a

There are several ways to search through such a file. One of the simplest, using viewspecs, is detailed below. 156b

Step 1: Obtain a Table of Contents view of the document 156c

To do this, type 156c1

pp1(cr)md(cr) 156c1a

which echoes as 156c2

Print C: Plex (at address) T: 1 V: md 156c2a

This will print out all statements at level one (indicated by viewspec d). The number preceeding them in the left hand margin is the statement number (turned on by viewspec m) 156c3

Step 2: Print Out the Subsections within a Chapter 156d

From the Table of Contents view obtained in Step 1, select the chapter of interest and note the statement number at the left. For example, suppose it is statement number 2. 156d1

To obtain the subsections within this chapter, type 156d2

PB2(cr)b(cr) 156d2a

which echoes as 156d3

Print C: Branch (at address) T: 2 V: b 156d3a

This will print out the subsection headings (the b viewspec indicates that one level more is to be typed). The number in the left hand margin is the statement number. 156d4

Repeat Step 2 as needed until you reach a section you wish to print out in its entirety. Then, proceed to Step 3. 156d5

Step 3: Print Out A Complete Section 156e

When you have reached a section you wish printed in its entirety,say section 2A, type 156e1

PB2A(cr)wn(cr) 156e1a

which echoes as 156e2

Print C: Branch (at address) T: 2A V:wn 156e2a

The viewspec w informs the system that statement 2A and all of its substatements are to be printed and the n viewspec turns off statement numbers, 156e3

Step 4: Reset the Level Viewspec 156f

If you wish to repeat the above procedure with another chapter of interest, type 156f1

<>sevd(cr) where <> indicates a space 156f1a

which echoes as 156f2

<>Set C: Viewspecs T: d 156f2a

this resets the level indicator so Step 2 can be repeated. Steps 2 through 4 should be followed for all chapters of interest. 156f3

157

Involuntary Disconnect 158

There will be times when you are involuntarily disconnected from OFFICE-1, For example, the TIP may go down while you are in the middle of an NLS session. 158a

Such a disconnect causes your job to be placed in a queue of detached jobs (i.e., those jobs not associated with a "teletype"). 158b

When you establish another connection to Office-1, you must determine if your job is "detached". If it is, DO NOT LOGIN. Instead, you must "attach" the job. 158c

Suppose you logged on with ident NALCON. To determine if you are in a detached state, type 158d

WH NALCON (CR) 158d1

If the system responds 158e

NOT LOGGED IN 158e1

your job is not detached. You may log in in the normal manner. 158f

If the system responds 158g

DETACHED TENEX JOB #XX 158g1

where XX is an integer job number, you must attach the job. To do this type 158h

ATTACH NALCON [] XX (CR) 158h1

where [] represents the password which is not echoed and XX the Tenex job number. If the system accepts this command (i.e., nothing happens after the carriage return) , you are connected to your job and probably in command mode. At this point, you may re-enter nls and continue. 158i

If you cannot get a response from the system (e.g., you type and nothing happens), type CTRL C (first depress the CTRL key and then, while holding the key down, press the C key). This will get you back to the executive level. You may then type RESET(CR) which will reset system parameters and then NLS(CR) to return to NLS. 158j

159

Signing off the Office-1 Computer 160

NOTE: 160a

(CR) = carriage return 160a1

<> = space (press the space bar once) 160a2

- If you are in the NLS system, you sign off the Office-1 computer by typing 160b

<>L(CR) 160b1

- If you are not in the NLS system, you sign off the Office-1 computer by typing 160c

The system will eventually respond with a sign off message. Again, be patient this might take 30 seconds or so. When it appears, you are ready to break the connection with the TIP. 160d

logo(CR) 160d1

161

Signing off the local TIP 162

To break the TIP connection type 162a

@c(cr) 162a1

and then press the carriage return. When the tip responds with "closed" or some variant thereof, hang up the modem and turn off your terminal. 162b

163

163a

163b

163c

163d

Given a file which has branches replete with substatements, an NLS user can view this file in a variety of ways, by specifying viewspecs. For example, in a file which looks like: 164

164a

164b

< NALCON, TESTY-FI,NLS;3, >, 17-JUN-75 07:35 FGB ;;;; 165

In a vast, forgotten land, in a valley long withstanding, there stood upon a high butte a fool that took the form (while the sky was clear and bright) of a maniken in the night. 166

He stood upon the plateau to see the crimson dawn, 166a

And he heard the whistling wind, 166a1

Yet he did not seem to care, 166a1a

Yes, he stood upon the mourning cliff, his eyes fixed on the sight 166b

Of a land of foolish intrigue, 166b1

Of a land of foolish death. 166b1a

He sighed but once, before he jumped, 167

And he fell, 167a

And fell, 167a1

And fell... 167a1a

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By specifying the "d" viewspec (first level only), you get a printout consisting of: 168

168a

V: d 168b

168c

In a vast, forgotten land, in a valley long withstanding, there stood upon a high butte a fool that took the form (while the sky was clear and bright) of a maniken in the night, 169

He sighed but once, before he jumped, 170

By then adding a "b" (show the next level), you get the next level: 171

171a

V: db 171b

171c

In a vast, forgotten land, in a valley long withstanding, there stood upon a high butte a fool that took the form (while the sky was clear and bright) of a maniken in the night. 172

He stood upon the plateau to see the crimson dawn, 172a

Yes, he stood upon the mourning cliff, his eyes fixed on the sight 172b

He sighed but once, before he jumped, 173

And he fell, 173a

Another "b" gives you another level: 174

174a

V: dbb 174b

174c

In a vast, forgotten land, in a valley long withstanding, there stood upon a high butte a fool that took the form (while the sky was clear and bright) of a maniken in the night, 175

He stood upon the plateau to see the crimson dawn, 175a

And he heard the whistling wind, 175a1

Yes, he stood upon the mourning cliff, his eyes fixed on the sight 175b

Of a land of foolish intrigue, 175b1

He sighed but once, before he jumped, 176

And he fell, 176a

And fell, 176a1

By saying "dt" (first level only, first line only) you get: 177

177a

V: dt 177b

177c

In a vast, forgotten land, in a valley long withstanding, there 178

He sighed but once, before he jumped, 179

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Viewspecs "mw" (statement numbers on, all lines and levels) give you: 180

180a

V: mw 180b

180c

1 In a vast, forgotten land, in a valley long withstanding, there stood upon a high butte a fool that took the form (while the sky was clear and bright) of a maniken in the night. 181

1A He stood upon the plateau to see the crimson dawn, 181a

1A1 And he heard the whistling wind, 181a1

1A1A Yet he did not seem to care, 181a1a

1B Yes, he stood upon the mourning cliff, his eyes fixed on the sight 181b

1B1 Of a land of foolish intrigue, 181b1

1B1A Of a land of foolish death, 181b1a

2 He sighed but once, before he jumped, 182

2A And he fell, 182a

2A1 And fell, 182a1

2A1A And fell... 182a1a

By adding an "I" (statement ID's on) to "mw" you then get: 183

183a

V: mIw 183b

183c

02 In a vast, forgotten land, in a valley long withstanding, there stood upon a high butte a fool that took the form (while the sky was clear and bright) of a maniken in the night, 184

03 He stood upon the plateau to see the crimson dawn, 184a

04 And he heard the whistling wind, 184a1

05 Yet he did not seem to care, 184a1a

06 Yes, he stood upon the mourning cliff, his eyes fixed on the sight 184b

07 Of a land of foolish intrigue, 184b1

08 Of a land of foolish death, 184b1a

09 He sighed but once, before he jumped, 185

010 And he fell, 185a

011 And fell, 185a1

012 And fell... 185a1a

Saying "nw" (no statement numbers/ID's) takes away the statement identifiers and gives you:

V: nw

In a vast, forgotten land, in a valley long withstanding, there stood upon a high butte a fool that took the form (while the sky was clear and bright) of a maniken in the night,

He stood upon the plateau to see the crimson dawn,

And he heard the whistling wind,

Yet he did not seem to care,

Yes, he stood upon the mourning cliff, his eyes fixed on the sight

Of a land of foolish intrigue,

Of a land of foolish death,

He sighed but once, before he jumped,

And he fell,

And fell,

And fell...

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"dtB" (B turns level indenting off) again gives you the first lines

of the first level in the form: 189

189a

V: dtB 189b

189c

In a vast, forgotten land, in a valley long withstanding, there 190

He sighed but once, before he jumped, 191

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Adding more "b's" to the viewspecs gives you more levels: 192

192a

V: dbbbtB 192b

192c

In a vast, forgotten land, in a valley long withstanding, there 193

He stood upon the plateau to see the crimson dawn, 194

And he heard the whistling wind, 195

Yet he did not seem to care. 196

Yes, he stood upon the mourning cliff, his eYes fixed on the 197

Of a land of foolish intrigue, 198

Of a land of foolish death, 199

He sighed but once, before he jumped, 200

And he fell, 201

And fell, 202

And fell... 203

Saying "a" (one level less) gives you the same printout as before,
except it takes away one level (the lowest):

V: a

In a vast, forgotten land, in a valley long withstanding, there
He stood upon the plateau to see the crimson dawn,
And he heard the whistling wind,
Yes, he stood upon the mourning cliff, his eyes fixed on the
Of a land of foolish intrigue,
He sighed but once, before he jumped,
And he fell,
And fell,

Then, by specifying "A", you return the level indenting, and you get: 213

213a

V: A 213b

213c

In a vast, forgotten land, in a valley long withstanding, there 214

He stood upon the plateau to see the crimson dawn, 214a

And he heard the whistling wind, 214a1

Yes, he stood upon the mourning cliff, his eyes fixed on the 214b

Of a land of foolish intrigue, 214b1

He sighed but once, before he jumped, 215

And he fell, 215a

And fell, 215a1

216

217

[NOTE: Viewspecs are cumulative; there is no need to keep specifying the same viewspecs if you have already set them. They also come in pairs; what one does another undoes.] 218

219

219a

219b

STRUCTURE 220

BRANCH 220a

an entity that consists of a specified statement and all its substatements, all their substatements, etc. 220a1

GROUP 220b

a subset of a plex identified by two branches (which must be in the same plex) consisting of those two branches plus all branches that fall between them in the same plex. 220b1

PLEX 220c

an entity consisting of a specified branch plus all other branches of the same level that have the same source. 220c1

STATEMENT 220d

the basic element of an NLS file. 220d1

SUBSTATEMENT 220e

a statement one level down in the same branch as the referenced statement. 220e1

ADDRESSING 221

BACK 221a

the statement immediately preceding the current statement regardless of level and source. 221a1

DOWN 221b

the statement immediately following the current statement that is one level lower. 221b1

END 221c

the last statement in the branch defined by the specified statement. 221c1

HEAD 221d

the first statement at the same level that has the same source. 221d1

NEXT 221e

refers to the statement immediately following the current statement regardless of level or source. 221e1

PREDECESSOR 221f

the statement immediately preceding the referenced statement that is the same level and has the same source. 221f1

SOURCE 221g

the statement of which the referenced statement is a substatement. 221g1

SUCCESSOR 221h

the statement immediately following the referenced statement that is the same level and has the same source. 221h1

TAIL 221i

the last statement at the same level as the referenced statement that has the same source. 221i1

UP 221j

the statement preceding the current statement that is one level higher than the current statement. 221j1

SUMMARY SHEET 222

223

224

The symbols used in this informal document and their meanings follow: 225

<> space 225a

(cr) carriage return 225b

ctrl control key 225c

225d

TIP PHONE NUMBERS: 226

For the Washington D.C. Area: 226a

NBS-TIP: 301 948-5951 226a1

MITRE-TIP: 202 893-3214 226a2

For the New Haven Area: 226b

NCC-TIP: 617-491-5450 through 5465 226b1

CCA-TIP: 617-492-8400 through 8407, 617-492-8454,8455 226b2

For the Panama City Area: 226c

RML-TIP: 305-494-5030,2818,6975 226c1

or AUTOVON 854-5030,2818,6975 226c2

For the China Lake and San Diego Area: 226d

USC-TIP: 213-746-5208 through 5212, 5356-5358 226d1

For the Johnsville (Warminster,PA,) Area: 226e

RUTGERS-TIP: 201-932-2750,2751 226e1

Other: 226f

Cupertino, California 226f1

TYMSHARE-TIP: 408 255-7950 226f1a

DIRECT DIAL: 408 996-2300 226f1b

LOGIN/LOGOUT: 227

e 227a

@l 43(cr) 227b

nalcon<>nalcon<>(cr) 227c

nls(cr)IDENT(cr) 227d

<>l(cr) 227e

@c(cr) 227f

SPECIFIC LOGIN SEQUENCE: 228

nalcon<>nalcon<>(cr) 228a

navimp<>imp<>(cr) ;implementation 228b

navaps<>navaps<>(cr) ;application 228c

navinfo<>info<>(cr) ;information exchange 228d

navmini<>mini<>(cr) ;mini-software 228e

mathsci<>mathsci<>(cr) ;management 228f

VIEWSPECS: 229

a show one level less 229a

b show one level more 229b

d first level only 229c

t show first lines only 229d

w all line and levels 229e

m statement numbers on 229f

n statement numbers off 229g

CREATING A FILE: 230

<>crfFILENAME(cr) 230a

CLEANING UP A FILE: 231

uf(cr) 231a

vf(cr) 231b

LOADING A FILE: 232

```
   lfFILENAME(cr)                                                    232a
JUMPING TO END OF FILE:                                              233
   je(cr)(cr)                                                        233a
PRINT FILE:                                                          234
   ot(cr)nyny                                                        234a
CORRECTING A FILE:                                                   235
   jo(cr)(cr)                                                        235a
   <lf>                                                              235b
   sts(cr)                                                           235c
JUMPING:                                                             236
   jiSTATEMENTNAME/NUMBER/ID(cr)VIEWSPECS(cr)                        236a
   ji"WORD"(cr)VIEWSPECS(cr)                                         236b
CONTROL CHARACTERS:                                                  237
   ctrl q  invokes the NLS HELP subsystem                            237a
   ctrl x  cancels the current command                               237b
   ctrl o  stops printout at terminal                                237c
   ctrl a  backspaces a character                                    237d
   ctrl w  backspaces a word                                         237e
   ctrl r  retypes current input                                     237f
USING SENDMAIL:                                                      238
   gs(cr)                                                            238a
   i(cr)                                                             238b
READING JOURNAL MAIL:                                                239
   pj(cr)                                                            239a
MOVING JOURNAL MAIL:                                                 240
   mpjournal,d(cr)mail(cr)d(cr)                                      240a
```

NSRDC NLS Documentation (Draft)

(J33247) 18-AUG-75 12:36;;;; Title: Author(s): Frank G. Brignoli/FGB; Distribution: /JHB([ACTION]) SGR([ACTION]) ; Sub-Collections: NIC; Clerk: FGB;

33247 Distribution
James H. Bair, Susan Gail Roetter,

Journal Mail - 1974

JPC 31-DEC-74 11:57 31563
IS Accounting system
Location: (HJOURNAL, 31563, 1:w)
*****Note: [INFO-ONLY] *****

1

Comments: These are the notes of a meeting held with F. Tomaini on this subject.

1a

EJK 27-DEC-74 13:16 31552
Missing Equipment
Message: On Thursday, 26 Dec, 1974, a number of equipment items were reported to be missing. These included; one TI, one Execuport, one Beehive, two Tycom control boxes, and two or three acoustic couplers.
*****Note: [INFO-ONLY] *****

2

EJK 26-DEC-74 15:05 31550
Pre-Christmas Present
Message: At about 7:10 on Dec. 24, my daughter called us from Maine. She told us that at 6:46 she had had a daughter. Seven pounds one ounce. Daughter and daughter's daughter doing fine. After nine or more months of planning daughter and her husband still haven't settled on name.
*****Note: [ACTION] *****

3

Comments: How about that!!!

3a

DLS 23-DEC-74 11:14 31545
New Directory for RADC
Location: (HJOURNAL, 31545, 1:w)
*****Note: [INFO-ONLY] *****

4

DLS 19-DEC-74 08:45 31518
Draft Statement of Work for continuation of Office-1
Location: (HJOURNAL, 31518, 1:w)
*****Note: [INFO-ONLY] *****

5

Comments: Please take a look at this, and make any comments etc. Especially interested in the system load definition. We have a week or two here to effect changes.

5a

EJK 6-DEC-74 09:25 31443
6 Dec 1974 Meeting on SAI Statement of Work.
Message: The meeting was held to pound out the final version of the Statement of Work. Attendees: John Corbin, John Kaske, Ed LaForge,

Ed Kennedy, The discussion concerned details on the handling of the symposia and meetings that ARPA wants SAI to administer under the new contract, the proposed sample QRC tasks and the form of the reporting to be required under the contract, Procurement is now finally satisfied and the PR Unit will be going full speed ahead, after we agree on the wording of the reqirements for the reports, This is a small problem that needs to be followed closely in order to resolve it today, This will be done,
*****Note: [INFO-ONLY] *****

6

DLS 2-DEC-74 13:16 31417
Decision on SAMSO Plan
Location: (GJOURNAL, 31417, 1:w)
*****Note: [ACTION] *****

7

Comments: Why am I going on the trip? 7a

DLS 25-NOV-74 12:26 31383
Critique of IBM/SP Documentation Standards Document,,,Vol,VII
Location: (GJOURNAL, 31383, 1:w)
*****Note: [ACTION] *****

8

Comments: Should we let this report be published in its current form? 8a

JPC 23-NOV-74 09:31 31379
PR-B-5-3254 Meeting
Location: (GJOURNAL, 31379, 1:w)
*****Note: [INFO-ONLY] *****

9

Comments: I would like to arrange a meeting to settle this questions- perhaps on Tuesday morning after the section meeting. 9a

EJK 18-NOV-74 14:25 31359
Follow-up comment on earlier message
Location: (JOURNAL, JRNL23, J31359:gw)
*****Note: [ACTION] *****

10

EJK 15-NOV-74 13:41 31352
Meeting Report on ARPA/RADC/SAI contract,
Location: (GJOURNAL, 31352, 1:w)
*****Note: [ACTION] *****

11

FJT 18-AUG-75 13:19 33251

Comments: Prepared by ELF modified by EJK. 11a

WFS 15-NOV-74 12:43 31349
Becky Levine
Message: On premises skiing (double chair lift) tight here at Hidden -Valley. For the professional skiing at nearby Gore Mtn, and West Mtn Hidden Valley Ski School (beginners). Entire sski area illuminated.
*****Note: [ACTION] *****
12

RJC 15-NOV-74 11:22 31347
Test
Location: (GJOURNAL, 31347, 1:w)
*****Note: [ACTION] *****
13

Comments: practice 13a

EJK 14-NOV-74 13:25 31337
Info on Jack Giordano
Location: (GJOURNAL, 31337, 1:w)
*****Note: [INFO-ONLY] *****
14

Comments: This is a copy of something Clara sent out to the Branches. I am sending it via the system to get wider distribution. 14a

DLS 13-NOV-74 14:28 31336
Potential ARPANET connection, via VDH to RADC-TIP
Location: (GJOURNAL, 31336, 1:w)
*****Note: [INFO-ONLY] *****
15

DLS 12-NOV-74 18:52 31314
Meeting with Bob McCaully, Manager of FEC Computer Support for the Western Test Range
Location: (MJOURNAL, 31314, 1:w)
*****Note: [ACTION] *****
16

Comments: A NSW customer?? 16a

JLM 6-NOV-74 11:09 31272
iModern Proramming eval
Location: (MJOURNAL, 31272, 1:w)
17

FJT 18-AUG-75 13:19 33251

Comments: oThis is a brief set of notes made on our visit to IBM,Dick Nelson and I 17a

DLS 6-NOV-74 09:25 31271
Modern Programming Practices--Test and Evaluation Section of 5550 Writeup
Location: (MJOURNAL, 31271, 1:w)
*****Note: [INFO-ONLY] *****
18

Comments: This writeup was done quickly, under time pressure...however I feel I can support most of the statements With quotes from the Monterey Study....Journaling for the record 18a

EJK 4-NOV-74 15:04 31252
Meeting on System analysis support contract
Location: (MJOURNAL, 31252, 1:w)
*****Note: [INFO-ONLY] *****
19

JHB 2-NOV-74 21:59 24391
New printer
Message: Congratulations on your new printer!! It was certainly needed. What kind is it?
*****Note: [INFO-ONLY] *****
20

DLS 1-NOV-74 13:32 31247
New Network Printer
Location: (MJOURNAL, 31247, 1:w)
*****Note: [ACTION] *****
21

DLS 24-OCT-74 11:59 31199
Experiences in Preparing an Address List
Location: (MJOURNAL, 31199, 1:w)
*****Note: [INFO-ONLY] *****
22

DLS 23-OCT-74 06:13 31191
NSW Meeting with AFSDC
Location: (MJOURNAL, 31191, 1:w)
*****Note: [INFO-ONLY] *****
23

Comments: Note last paragraph on Col Wells. 23a

RJC 9-OCT-74 06:17 31142
DICTRAN

Journal Mail - 1974

Message: In regards to the DICTRAN Notice I sent previously, the date for the demo is 10 October,,,Bobbie

24

RJC 9-OCT-74 06:30 31143
AF 1152s
Message: Due Date - ISIM/ISIS - Request AF Forms 1152s for USC Term III, 28 Oct through 20 Dec 74, courses be submitted to this office by 15 Oct 74, Courses to be offered are:
SSM 531 - Man-Machine Factors in Systems Management
SSM 510 - Aerospace Management Communication Theory
The NEW Tuition Rate is $291.00.

25

RJC 8-OCT-74 07:09 31135
PRESENTATION - DICTRAN
Message: NOTICE - Mr. William Wolf, President of Wolf Computer Corp, will present DICTRAN - a new word processing system which enables man-machine communication using the spoken word. "In a word processing environment, the programmer would probably communicate his program at a rate of 100 words per minute or more, using a standard kind of dictation machine or other word processing system." Briefing will be held at 0930 hrs, in Bldg. 3, Conference Room 1006. For further details, contact Michael Landes, ISIS, X7546.

26

JLM 1-OCT-74 13:02 31108
meeting with comm
Location: (MJOURNAL, 31108, 1:w)

27

Comments: ...sharon,,,

27a

EJK 30-SEP-74 14:47 31105
Close-out Report - Maj. Smith, Sgt. Mixon, AFCS
Location: (MJOURNAL, 31105, 1:w)
*****Note: [INFO-ONLY] *****

28

Comments: This is several pages long don't print it out on a teletype terminal.

28a

EJK 27-SEP-74 09:46 31102
Pso Schedule
Location: (MJOURNAL, 31102, 1:w)
*****Note: [INFO-ONLY] *****

29

EJK 27-SEP-74 09:12 31101

Journal Mail - 1974

Interim Report
Location: (MJOURNAL, 31101, 1:w)
*****Note: [INFO-ONLY] *****
30

DLS 26-SEP-74 16:04 31099
NSW; Components, Tools and Senerio of Use
Location: (MJOURNAL, 31099, 1:w)
*****Note: [INFO-ONLY] *****
31

Comments: A draft of my view of the NSW, with reasons why the Air Force should support it,
31a

EJK 26-SEP-74 14:21 31096
Interim Report on AFCS Request
Location: (MJOURNAL, 31096, 1:w)
*****Note: [INFO-ONLY] *****
32

RJC 20-SEP-74 12:17 31087
DL Tech Review
Location: (MJOURNAL, 31087, 1:w)
33

Comments: If you would like a hard copy, please let me know by way of sndmsg...,there are ODP directives in the file if you would like some sort of format,
33a

RJC 20-SEP-74 11:27 31086
Revised Job Order Register for ISI
Location: (MJOURNAL, 31086, 1:w)
34

Comments: sharon...
34a

RJC 20-SEP-74 08:18 31083
Tickler - Week of 23 Sept
Location: (MJOURNAL, 31083, 1:w)
35

RJC 17-SEP-74 06:04 31059
ISI Confessions
Message: As you probably know by now, ISI Confessions has been cancelled until 25 September,
36

RJC 16-SEP-74 06:55 31056
Tickler - Week of 16 Sep 74

Location: (MJOURNAL, 31056, 1:w)

37

comments: Please note that ISI confessions are being held this week.

37a

DLS 11-SEP-74 19:16 31047
Defense of RADC Support of NSW
Location: (MJOURNAL, 31047, 1:w)
*****Note: [ACTION] *****

38

comments: Dick Watson is available for phone consultation if need be. DON'T LET THEM SEPERATE THE SRI EFFORT FROM THE NSW....ITS EITHER ALL, OR NOTHING, ie 2/3rds of an NSW has no meaning..

38a

DLS 10-SEP-74 17:12 31043
SADPR 85 References
Location: (MJOURNAL, 31043, 1:w)
*****Note: [INFO-ONLY] *****

39

Comments: Am using the new sendmail to deliver this...of no particular importance, except to test the system and to clean out my files.

39a

DLS 10-SEP-74 17:06 31042
SADPR 85 References
Location: (MJOURNAL, 31042, 1:w)
*****Note: [INFO-ONLY] *****

40

Comments: Am using the new sendmail to deliver this...of no particular importance, except to test the system and to clean out my files.

40a

EJK 5-SEP-74 08:28 31036
RJCINFO for use in DC
Location: (MJOURNAL, 31036, 1:w)
*****Note: info*****

41

EJK 23-AUG-74 14:53 31024
Ciao,
Location: (MJOURNAL, 31024, 1:w)

42

RJC 8-AUG-74 13:14 30990

FJT 18-AUG-75 13:19 33251

Message: The system will be down all morning on 14 aug, wednesday for repairs.

43

Comments: ...duayna 43a

RJC 8-AUG-74 08:35 30988
tickler
Location: (MJOURNAL, 30988, 1:W)

44

Comments: ...DONNA 44a

RJC 8-AUG-74 08:26 30987
NEW PROCEDURES
Message: Subj: Submission of Items for Weekly Lab Activity Report
NEW PROCEDURES: Just submit title of item and name of the responsible engineer to me on a buck slip NLT Wednesday of each week. This will then be coordinated with DOT/D, Craig, who, if the item is determined to be acceptable, will get together with the engineer to prepare a writeup. This item should still be coordinated with the respective branch chief.

45

Comments: ...DONNA 45a

RJC 7-AUG-74 08:25 30978
5 -Aug 1974
Message: Subject: Management Assessment Review SChedule - In view of the new trial procedure for Management Assessment Reviews (MARs) (involving incorporation of Management Assessment Reports into the -Executive Management Review (EMR) and accomplishment of detailed reviews only for programs designated by the -Commander at the EMR), the MARs previously scheduled to be accomplished by IR, IS, and RB are cancelled.

46

RJC 5-AUG-74 06:57 30965

Message: From now on, all work will be done in Bobbie's directory and later (when the work is completed), be transferred into your directories. This is upon the request of Roger Panara.

47

Comments: Sharon 47a

RJC 2-AUG-74 07:42 30962
-Tickler

Location: (MJOURNAL, 30962, 1:w)
48

EJK 30-JUL-74 10:00 30955
WELCOME TO NLS
Location: (MJOURNAL, 30955, 1:w)
*****Note: for Becky*****
49

RJC 25-JUL-74 08:37 30947
Special Achievement Award - DiNitto & Nelson
Location: (MJOURNAL, 30947, 1:w)
50

Comments: ...SHARON
50a

RJC 25-JUL-74 06:50 30946
Farewell Luncheon
Message: Farewell luncheon for Major William Patterson on August 1 - Coalyard Charlies - 12:00 noon - $3.50 includes everything - contact Henry Power or Ceil Friedman
51

Comments: ....DONNA
51a

RJC 25-JUL-74 06:48 30945
Demonstration
Message: On 30 July 1974 at 0930 in the Display Facility, Bldg 3, there will be a demonstration of teletype corporation's model 40 data terminal systems which consist of a display - 24 x 80 and high speed impact printer up to 314 lines per minutes. For further information on the demonstration of the model 40 system, contact Frank Triolo X2242.
52

Comments: ...DONNA
52a

RJC 24-JUL-74 07:16 30942
tickler
Location: (MJOURNAL, 30942, 1:w)
53

RJC 22-JUL-74 07:10 30936
SPEAKER
Message: Dr. Pennington, SDC, 24 July - 0900 hrs. - Conf. Rm 1A Re: Software Productivity and Cost Estimation - Focal Point Robinson
54

RJC 19-JUL-74 10:52 30933

Message: Dr. Pennington, SDC, 24 July - 0900 hrs. - Conf. Rm 1A Re: Software Productivity and Cost Estimation - Focal point Dick Robinson

55

RJC 12-JUL-74 08:03 30929
MEETING NOTICE
Message: MEETING NOTICE: 19 July 74 focal point, Rocco Iuorno - 0930hrs. - Conf. rm. 1 - Bldg. 3 - Speaker: Dr. Eldred C. Nelson, TRW, Redondo Beach, Calif. - Topic: Mathematical Representaion of Logical Properties of DM-1.

56

DLS 8-JUL-74 11:05 30922
JOVIAL Manual--COM Statement of Work
Location: (MJOURNAL, 30922, 1:w)

57

Comments: Unless there are changes up-line, this will be the SOW for the JOVIAL manual job,,,Project 5550, eng, change to 0076 (Workshop Utility Service).

57a

RJC 19-JUL-74 11:32 30934

Message: Dr. Pennington, SDC, 24 July - 0900 hrs. - Conf. Rm 1A Re: Software Productivity and Cost Estimation - Focal Point Robinson

58

DLS 3-JUL-74 09:05 30912
SuPort of operation of ARC PDP-10X for 6 mo.
Location: (MJOURNAL, 30912, 1:w)

59

Comments: Memo signed by Col Krutz 2 JUL 74

59a

EJK 2-JUL-74 10:41 30910
Computer Aided Instruction For NLS - Demonstration
Location: (MJOURNAL, 30910, 1:w)

60

EJK 28-JUN-74 13:41 30907
Notes on trip to IBM.
Location: (MJOURNAL, 30907, 1:w)

61

EJK 28-JUN-74 13:30 30906
Notes on trip to IBM
Location: (MJOURNAL, 30906, 1:w)

62

Journal Mail - 1974

EJK 26-JUN-74 13:47 30901
A pointer from your friendly AKW.
Location: (MJOURNAL, 30901, 1:w)
63

EJK 25-JUN-74 14:47 30898
More info on CAI/NLS demonstration.
Location: (MJOURNAL, 30898, 1:w)
64

EJK 21-JUN-74 15:08 30894
Multics Report
Location: (MJOURNAL, 30894, 1:w)
*****Note: info*****
65

RJC 20-JUN-74 05:50 30893

Message: Wine and cheese party - Charlie Breece - $2,50 per person - Display Facility - 1700 Hrs. - see Marilyn Rossi X7009, Tickets NLT 22 June.
66

comments: 28 June
66a

EJK 18-JUN-74 09:52 30889
Visit to RADC for discussion and demonstration of CAI for NLS.
Location: (MJOURNAL, 30889, 1:w)
67

RJC 17-JUN-74 12:52 30883
when ISI confessions are
Message: ISI confessions 0830 hrs.
68

comments: confessions are held on 19 June, Wednesday
68a

RJC 17-JUN-74 05:34 30881
ISI Confessions
Message: ISI Confessions 0830 hrs.
69

RJC 13-JUN-74 11:07 30879
RADC Technology Plan Submission
Location: (MJOURNAL, 30879, 1:w)
70

comments: For further instructions, guidance or whatever, see Tom Bucciero!
70a

Journal Mail - 1974

EJK 7-JUN-74 11:08 30854
Gov't Property Misappropriation,
Message: Who swiped my terminal?

71

ELF 29-MAY-74 06:20 30822
bridge
Location: (MJOURNAL, 30822, 1:w)

72

DLD2 24-MAY-74 07:14 30805
PROGRAM NAME PR3
Location: (MJOURNAL, 30805, 1:w)

73

DLD2 24-MAY-74 07:11 30804
PROGRAM NAME: CONTR
Location: (MJOURNAL, 30804, 1:w)

74

RJC 22-MAY-74 08:46 30783
MINIMIZE
Message: Due to MINIMIZE, before making Autovon or long distance calls, permission must be obtained from Branch Chief: Report to Becky for logging the call, after permission is granted. PLEASE COMPLY

75

RJC 22-MAY-74 07:24 30782
FAREWELL PARTY - 5 JUNE 74
Message: SAY FAREWELL - 1800 - 2000 hrs. GAFB Officers Club $3.00 per person Stand-up Buffet Pay as you go Happy hour prices first hour Tickets may be obtained by contacting M. Xobos by 31 May 74.

76

RJC 22-MAY-74 07:16 30781
Tickler
Location: (LJOURNAL, 30781, 1:w)

77

FEED 20-MAY-74 17:10 30773
Interaction of substitute and viewspecs.
Message: Ed, The substitute command is designed to be controlled by the current viewspecs. This gives the user a powerful way to control its effect. If you want to have it work on all of the entity specified merely ensure that viewspec w is in force. See Section 5, page 15 of the TNLS User's Guide, statement 10c. Copy to all RADC because this is probably notcommon knowledge.

FJT 18-AUG-75 13:19 33251

*****Note: for your info*****

78

AAC 16-MAY-74 08:09 30752
message
Location: (LJOURNAL, 30752, 1:w)

79

AAC 16-MAY-74 07:35 30750
message
Location: (LJOURNAL, 30750, 1:w)

80

AAC 16-MAY-74 07:45 30751
Info
Location: (LJOURNAL, 30751, 1:w)

81

RJC 13-MAY-74 11:20 30730
Movie
Message: OPSEC Film - 1:30 - Tuesday - Conference Room, Those who didn't attend should!

82

AAM 13-MAY-74 06:46 30729
Scheduled Software Maintenance
Location: (LJOURNAL, 30729, 1:w)

83

RJC 8-MAY-74 10:29 30712
International Conference
Message: 1975 International Conference on Reliable Software to be held 22-25 April 1975 - CALL FOR PAPERS - Abstract Deadline of 15 July - Expect minimum of two (2) papers in ISI to be submitted per Col Thayer,

84

RJC 8-MAY-74 10:21 30711
1152s
Message: Due Date - AF Form 1152s for Summer Term MVCC Courses Submitted to ISM NLT by today,

85

RJC 8-MAY-74 10:19 30710
luncheon
Message: Luncheon for -Grant Strength - Holiday Inn - 1200 hrs, - $3.00 - Contact Marilyn Rossi or Dick VanDresar by Noon - 9 May 74,

86

RJC 8-MAY-74 09:09 30709
Luncheon
Location: (LJOURNAL, 30709, 1:w)

87

EJK 8-MAY-74 07:45 30708
Test Message for the WWMCCS People
Message: Thhis is being sent to the address wwmccs. If it goes at all it should go to the people in the WWMCCS sub-group that we asked SRI to set up. Please let me know if you receive this. If this is successfully working it will be a way to distribute materal to the WWMCCS people on the system using a singele address. Pardon the spelling

88

AAC 3-MAY-74 11:17 30634
Opsec
Location: (LJOURNAL, 30634, 1:w)

89

RJC 2-MAY-74 11:55 30622
PSO Office Concerning Absences for Friday - 3 May 74
Message: This concerns the PSO office...Just for your own information, Duayna will be out all day tomorrow (Friday) and I plan on taking the whole afternoon off unless it rains...Bobbie

90

AAM 16-NOV-1858 16:25 30610
Scheduled Software Maintenance
Location: (LJOURNAL, 30610, 1:w)

91

DLS 30-APR-74 15:00 30588
Comments on IBM Structured Programming Effort
Location: (LJOURNAL, 30588, 1:w)

92

Comments: There must be more to it than I see on the surface. I would like to talk with some in Nelson's section. I think it would benefit both of us to better understand the other's area. 92a

EJK 30-APR-74 10:05 30587
Viewspecs and 'Substitute' interaction.
Message: I just found, the hard way, that there is an interaction between viewspecs and the substitute command. In trying to substitute i.e. for ie. I got nowhere until viewspec w was used to replace x. Is this the way it is supposed to work or is this an accident? If this is the way it is supposed to work - WHY???

93

RJC 29-APR-74 07:36 30576
Tickler Item
Message: Form 2's (employee time expenditures) are due today.

94

EJK 25-APR-74 10:31 30556
New link for the Tickler file
Location: (LJOURNAL, 30556, 1:w)

95

Comments: Since we have the new instructions for the Laboratory Activities Report, and since it is now required weekly, I suggest that the PSO update the tickler.

95a

RJC 25-APR-74 07:45 30554
message
Message: On Thursday, April 25, 1974, Congressman Mitchell will be speaking on recent legislation of interest to engineers. A question and answer period will follow his talk. This will be at Trinkaus Manor at 8 PM, sponsored by ASME. All interested are welcomed. A dinner is available at 7 PM at $4.25. For further information please contact Mr. Dick White, ext. 2151.

96

RJC 25-APR-74 07:40 30553
tickler for the week of 29 Apr
Location: (LJOURNAL, 30553, 1:w)

97

EJK 24-APR-74 15:27 30551
ESD/RADC/AFBITS Support Request
Location: (LJOURNAL, 30551, 1:w)

98

Comments: I have Journaled this request from ESD's L/Col Harvell. Will take any required actions after discussion with DCLP.

98a

AAC 24-APR-74 13:20 30547
Tardiness
Location: (LJOURNAL, 30547, 1:w)

99

AAC 24-APR-74 07:45 30539
report
Location: (LJOURNAL, 30539, 1:w)

100

RJC 22-APR-74 12:35 30513
Some PSO Thoughts

Journal Mail - 1974

Location: (JJOURNAL, 30513, 1:w)

101

RJC 22-APR-74 12:18 30512
ATTENTION ALL PERSONNEL
Message: ISI Confessions 0830 hrs.

102

RJC 22-APR-74 12:12 30510
ATTENTION ALL PERSONNEL
Message: Training on Maintaining R&D Case Files - 1330 hrs. - Conference Room 1 - MANDATORY that all Administrative personnel and engineering personnel who are involved in R&D projects attend.

103

RJC 11-APR-74 07:25 30450
Tickler for Week of 15 April 1974
Location: (JJOURNAL, 30450, 1:w)

104

Comments: oMain Concern for next week is ISI Confessions! 104a

JPC 5-APR-74 13:34 30418
funds
Location: (JJOURNAL, 30418, 1:w)
*****Note: Please forward to Dick Nelson for his comments.*****

105

Comments: Barnum, Nelson & Panara had a meeting on 2 April regarding main thrust of the reply. 105a

JLM 4-APR-74 10:14 30407
istaffnotes/4 April
Location: (JJOURNAL, 30407, 1:w)

106

AAM 4-APR-74 08:01 30406
Scheduled Software Maintenance
Message: This is a reminder that Network Software Maintenance is scheduled between the hours of 0700 and 0900 (Eastern Time) on Tuesday, 9 April 1974. Although software releases are checked out as much as possible in the BBN test cell, there are sometimes problems of scale which are not detected until after a release; hence there is a small but finite possibility that the software will be troublesome for a few hours after the scheduled release.
Sincerely,
Alex McKenzie (for the Network Control Center)

107

DLS 3-APR-74 09:32 30395
Request for Additional RADC Directories
Location: (JJOURNAL, 30395, 1:w)

108

RJC 2-APR-74 07:53 30380
Tickler for Week of 1 Apr - 5 Apr 74
Location: (JJOURNAL, 30380, 1:w)

109

RJC 28-MAR-74 07:16 30320
Tickler for week of 1 April
Location: (JJOURNAL, 30320, 1:w)

110

Comments: Form 2s due FRIDAY!!! 110a

AAM 28-MAR-74 07:10 30319
Scheduled Software Maintenance
Location: (JJOURNAL, 30319, 1:w)

111

AAM 21-MAR-74 05:53 30263
Scheduled Software Maintenance
Message: This is a reminder that Network Software Maintenance is scheduled between the hours of 0700 and 0900 (Eastern Time) on Tuesday, 26 March 1974. Although software releases are checked out as much as possible in the BBN test cell, there are sometimes problems of scale which are not detected until after a release; hence there is a small but finite possibility that the software will be troublesome for a few hours after the scheduled release.
Sincerely,
Alex McKenzie (for the Network Control Center)

112

AAC 19-MAR-74 13:22 30252
Standard Formats For Commander
Location: (JJOURNAL, 30252, 1:w)

113

Comments: For your information. Suggest you use the command Print Plex ,1 with View specs xm for an outline. 113a

TJB 19-MAR-74 10:00 30248

Journal Mail - 1974

PR Statistics 19 Mar 74
Location: (JJOURNAL, 30248, 1:w)
114

RJC 15-MAR-74 12:54 30233
Tickler for the Week of 18 March 1974
Location: (HJOURNAL, 30233, 1:w)
115

RJC 12-MAR-74 13:10 30217
Tickler Time
Location: (HJOURNAL, 30217, 1:w)
116

RJC 11-MAR-74 17:22 30207
trip esd
Location: (HJOURNAL, 30207, 1:w)
117

DLD2 11-MAR-74 13:06 30206
Match 11 Notice on WWDMS Testing at Gunter AFB
Location: (HJOURNAL, 30206, 1:w)
118

Comments: Kindly give this your immediate attention!! 118a

JHB 9-MAR-74 14:58 22364
Visit to RADC --User Development Support
Message: Jim Bair (User Development at SRI/ARC) will be visiting RADC/IS on the 14th and 15th of March (Thurs and Fri) to assist in the AKW project by providing DNLS, TNLS, and DEX Courses and help/refresher support to those who request it, Let Duane Stone know if you have any specific requests before Thurs,
119

EJK 8-MAR-74 11:19 30200
Project ADMIN - ROC USAF 17-73 - Administrative Management Information System
Location: (HJOURNAL, 30200, 1:w)
120

Comments: This copy is as close as I can get it, Some small liberties have been taken in format, NOTE: This is several pages long. 120a

RJC 7-MAR-74 13:04 30193
Tickler for week of 11 March - 15 March
Location: (HJOURNAL, 30193, 1:w)
121

Comments: oIn case, you are interested, Frank Tomaini will be on travel the week of 18 March (THE WHOLE WEEK) 121a

DLS 5-MAR-74 13:57 30180
Outline of steps for COMming JOVIAL Manual
Location: (HJOURNAL, 30180, 1:w)
122

Comments: To document work in progress for IS managers and to ask SRI for a little help. 122a

DLD2 5-MAR-74 06:52 30175
Summary of events 4 March related to WWDMS
Location: (HJOURNAL, 30175, 1:w)
123

JLM 4-MAR-74 08:43 30169
AFBITS
Location: (HJOURNAL, 30169, 1:w)
124

Comments: I have agreed to meet with Bob Kenyon,theursday,7 March to resolve which task if any we would propose to work on in conjunction with this progrma,so need your inputs, reactions by then 124a

RFI 28-FEB-74 13:19 30159
new syracuse univ contr,
Location: (HJOURNAL, 30159, 1:w)
125

DLS 28-FEB-74 11:22 30158
Comparison of RADC User Statistics for two 6 monthe periods
Location: (HJOURNAL, 30158, 1:w)
126

Comments: For those of you interested in how yyyou compare with others at RADC in use of NLS, % SYS column really has little meaning. To find out your weekly averages for any number, divide the number by 25 (or multiply by 4 and shift the decimal point 2 places to the left), 126a

RJC 27-FEB-74 06:49 30152
REMINDER FOR FORM 2s
Message: Form 2's (employee time expenditures) are due today,
127

RJC 27-FEB-74 06:48 30151
Reminder & Info

Message: Demonstration on common aspects of the ARPANET and the NLS - FOR Charles Strom and Comm people - Focal point - E. Kennedy,

128

EJK 25-FEB-74 14:18 30139
Meetings
Location: (HJOURNAL, 30139, 1:w)

129

DLS 19-FEB-74 14:39 30130
Potential use of COM Output by RADC
Location: (HJOURNAL, 30130, 1:w)

130

Comments: Would appreciate any guidance, help etc. that can be given..Thanks.

130a

AAM 22-FEB-74 07:02 30123
Scheduled Software Maintenance
Message: This is a reminder that Network Software Maintenance is scheduled between the hours of 0700 and 0900 (Eastern Time) on Tuesday, 26 February 1974. Although software releases are checked out as much as possible in the BBN test cell, there are sometimes problems of scale which are not detected until after a release; hence there is a small but finite possibility that the software will be troublesome for a few hours after the scheduled release.
Sincerely,
Alex McKenzie (for the Network Control Center)

131

DLS 21-FEB-74 09:58 30122
Response to staged forms system , # (21808)
Location: (HJOURNAL, 30122, 1:w)

132

DLS 20-FEB-74 08:59 30112
Visit by Bell Canada to RADC
Location: (HJOURNAL, 30112, 1:w)

133

TJB 19-FEB-74 13:46 30110
Branch Meeting Notes - 19 Feb 1974
Location: (HJOURNAL, 30110, 1:w)

134

RJC 19-FEB-74 05:56 30108
tickler for 19 - 22 Feb

Location: (HJOURNAL, 30108, 1:w)
135

EJK 14-FEB-74 15:05 30087
communications on Cavano
Message: Suggest that those of us who have recent info on Joe's condition use the system to keep the rest of us informed,
136

EJK 14-FEB-74 14:00 30084
notes briefdo
Location: (HJOURNAL, 30084, 1:w)
*****Note: info*****
137

RJC 14-FEB-74 06:07 30083
tickler for week of 18 Feb through 22 Feb
Location: (HJOURNAL, 30083, 1:w)
138

comments: Please note that 1152s are due for all those interested 138a

JHB 8-FEB-74 22:41 21849
Evaluation and Analysis of an Augmented Knowledge Workshop, Final Report to RADC, AFSC, USAF,
Location: (GJOURNAL, 21849, 1:w)
139

Comments: Phase 1 study completed at the Rome Air Development Center in 1973. The only psychometric investigation of the augmentation of an organizational structure emphasizing impact upon the behavior of users in an application environment.
Journalized for reference; approximately 100 pp long if printed; hardcopy available off-line.
Published as a Technical Report for RADC (in press), complete study is the basis for other publications in the open literature and pending.
Table of Contents included. 139a

JHB 8-FEB-74 20:40 21847
Office-1 Phone Number for Operations Problems
Location: (GJOURNAL, 21847, 1:w)
140

comments: Connie: Please distribute this to the appropriate users at ARPA. Thanks. 140a

EJK 8-FEB-74 17:08 30063
Queries and Speculations on System

Location: (GJOURNAL, 30063, 1:w)
*****Note: info*****

141

SRL 8-FEB-74 10:05 21844
Proposed Methodology for Data Collection of Feedback from Workshop Utility Users
Location: (GJOURNAL, 21844, 1:w)

142

EKM 6-FEB-74 09:14 21809
Ambiguities about Form System Phases
Message: We received and read Duane Stone's comments (JOURNAL 30053,) on the form system. We are unclear as to which version of our paper you read. There were significant changes made in the last version which was journalized today. Please note, in particular, changes to Phase 0 and Phase 1 and let us know what you mean by 'Phase 0' in terms of the journalized version.

143

EKM HGL 6-FEB-74 09:02 21808
Staged Forms System
Location: (GJOURNAL, 21808, 1:w)

144

EJK 6-FEB-74 10:14 30058
Lab Acivity Report - Base Comm Review
Location: (GJOURNAL, 30058, 1:w)

145

DLS 4-FEB-74 14:57 30051
Reply To NLS Forms System Interface with Data Computer
Location: (GJOURNAL, 30051, 1:w)

146

comments: The picture as best I can determine it. All comments welcome. Every firm stand contained herein is assailable by the slighest bit of logic.

146a

MLK 4-FEB-74 08:29 21775
Change in RADC Journal Delivery
Message: At the suggestion of Mike Kudlick and Jim Bair , we are changing the journal delivery of all RADC members from hardcopy to online. Sorting through, stapling, and mailing every journal message sent to RADC members seems an unnecessary and untimely (it's over a week old by the time it is received) task. If online delivery is for some reason less convenient than hardcopy, please notify me, and I will change it back.

Journal Mail - 1974

Marcia Keeney

147

DLD2 5-FEB-74 06:59 30045

Location: (GJOURNAL, 30045, 1:w)

148

Comments: Program notive ...please read immediately and let me know if date is bad

148a

DLS 4-FEB-74 14:57 30043
Reply To NLS Forms System Interface with Data Computer
Location: (GJOURNAL, 30043, 1:w)

149

Comments: The picture as best I can determine it. All comments welcome. Every firm stand contained herein is assailable by the slighest bit of logic.

149a

RJC 4-FEB-74 06:22 30041
tickler for month of January
Location: (GJOURNAL, 30041, 1:w)

150

DLS 2-FEB-74 09:50 30039
EXPERIMENTAL TRAVEL PACKAGE..1st TRY
Location: (GJOURNAL, 30039, 1:w)

151

Comments: For those interested in more detail about the travel package, read this document and/or see me,

151a

DLS 2-FEB-74 09:48 30038
PROPOSED TRAVEL REQUEST
Location: (GJOURNAL, 30038, 1:w)

152

Comments: Create a file and call it Travel, Trip, etc. Copy Plex 1 of the file in the above link to the newley created file. Instructions on how to fill out the file are contained in it. When finished, update your travel file and notify Bobbie that its done. Give her the file name. Do not delete the file, since it will be used to prepare your trip report when you return.

152a

EJK 1-FEB-74 14:46 30037
Lab Activity Report - Base Communications Review
Location: (GJOURNAL, 30037, 1:w)

153

EJK 1-FEB-74 14:14 30036
RADC MIS
Location: (GJOURNAL, 30036, 1:w)
154

Comments: Journaled for archival purposes and distributed for information.
154a

TFL 1-FEB-74 08:47 30034
RADC TIP DIALUP NUMBERS
Location: (GJOURNAL, 30034, 1:w)
155

DLS 31-JAN-74 13:48 30027
PROPOSED TRAVEL REQUEST
Location: (GJOURNAL, 30027, 1:w)
156

Comments: Create a new file, call it travel, trip, etc. Copy the contents of the file indicated in the link above into the newly created file. Instructions for filling out the file are contained therein. Sndmsg or link to Bobbie when you have completed filling out the form. Don't delete the file, until Bobbie gives you the word.
156a

DLS 31-JAN-74 13:57 30030
TRAVEL PACKAGE..FIRST CUT
Location: (GJOURNAL, 30030, 1:w)
157

Comments: Additional information for those that wonder what is going on behind the scenes.
157a

TFL 31-JAN-74 08:53 30028
RADC TIP DIALUP NUMBERS
Location: (GJOURNAL, 30028, 1:w)
158

RJC 29-JAN-74 11:22 30020
reminders
Message: This is remind you that CONFESSIONS is tomorrow (Wednesday)...also, remindng you about form 2s!!!
159

DLS 25-JAN-74 09:41 30011
Initial Plan for 74 AKW Activity
Location: (GJOURNAL, 30011, 1:w)
*****Note: I hope to accomp. most of these in next 1-2 mos.*****
160

Comments: This plan was reviewed by AKW group and JLM & RFI in an informal manner. Stone appointed himself implementer, with assurances from JLM that management directives would be issued to implement each package as it passed review and initial test. 160a

DLS 25-JAN-74 09:00 30009
Initial Thoughts for AKW Direction in CY-74
Location: (GJOURNAL, 30009, 1:w)
*****Note: for your information*****
161

Comments: This document plus Joe's formed the beginning thinking on where the AKW group should go in 74. A highly disorganized meetion was subsequently held. The result of this meeting was that Stone would prepare an initial plan, to make the direction more explicit. This is in Journal (,30010,). 161a

DLD2 28-JAN-74 07:25 30015
Top Secret clearance for WWMCCS personnel
Location: (GJOURNAL, 30015, 1:w)
162

JDH 25-JAN-74 01:09 30005
Test message to new users
Message: Test to New Users moved as of Friday, Jan 25 1973
163

EJK 22-JAN-74 08:49 21554
System Concept for TPG
Location: (GJOURNAL, 21554, 1:w)
164

RJC 22-JAN-74 05:45 21551
Action Items due for Col Thayer
Location: (GJOURNAL, 21551, 1:w)
165

Comments: Frank, these particular items are supposedly wanted by a week from this Friday,,,thought I would remind you as with Thayer being out, they might be delayed or whatever...or Barnum might want to go on as usual,,,Bobbie 165a

RJC 21-JAN-74 12:42 21541
piece of info
Message: No longer will AF Form 674s be required for any DOD sponsored seminar/symposium.
166

RJC 21-JAN-74 06:53 21526

info
Message: Farewell Reception for Col Hepfer - Officer's Club - 27 Jan - 1600 - 1800 hrs. - See Division Rep for tickets ($2,25)
167

RJC 21-JAN-74 06:41 21522
project 5550
Message: Project 5550 funds in regards to travel has been temporarily frozen - See Tom Bucciero if any questions.
168

RJC 21-JAN-74 06:38 21521
confessions
Message: Again, ISI confessions has been cancelled until next week...I'll let you know then if it will be for real.
169

RJC 21-JAN-74 05:59 21520
reminder
Message: This is to remind you that when sending message or journal mail to Thayer, his ident is RHT2...or else he won't get it.
170

DLS 17-JAN-74 12:21 21498
Trip to SRI...KWAC Seminar
Location: (GJOURNAL, 21498, 1:W)
171

DLD2 17-JAN-74 05:41 21446
WWMCCS TRAINING (GCOS Analysis)
Location: (GJOURNAL, 21446, 1:W)
172

Comments: Please advise ASAP
172a

JPC 15-JAN-74 10:53 21410
Agenda for Navcossact meeting
Location: (GJOURNAL, 21410, 1:W)
173

Comments: This agenda is up for grabs... make any suggestions you feel will be appropriate.
173a

RJC 10-JAN-74 08:28 21349
Item of Interest
Message: 1152s due for Spring Semester for Utica College
174

Comments: I don't know if this is going to work, but I thought I

would try. There was only one item of interest in the tickler so I said execute journal and then submit statement ,10c...I hope it works as it will make things much easier...if it doesn't, sorry for you to get the whole thing. 174a

DVN 8-JAN-74 15:54 18374
Qucik Reference New DNLS for Old DNLS Users
Location: (GJOURNAL, 18374, 1:w)

175

AAM 7-JAN-74 12:55 21308
Scheduled IMP Software Release
Message: This is a reminder that Network Software Maintenance is scheduled between the hours of 0700 and 0900 (Eastern Time) on Tuesday, 8 January 1974. Although software releases are checked out as much as possible in the BBN test cell, there are sometimes problems of scale which are not detected until after a release; hence there is a small but finite possibility that the software will be troublesome for a few hours after the scheduled release.
Sincerely,
Alex McKenzie (for the Network Control Center)

176

JHB 7-JAN-74 12:43 21307
Status of the Utility, Office-1, 7 Jan.
Message: For your information: the Utility will probably not be up this week due to the continuing failure of the BBN Pager. Due to the extreme nature of the difficulty with this vital piece of hardware, the top BBN expert is flying to Cupertino now (Mac McKinly). We all share the disappointment that this continued delay brings, and everything possible is being done to rectify the situation as soon as possidle.

177

RJC 3-JAN-74 06:10 21268
Tickler for week of 2 January through 11 January
Location: (MJOURNAL, 21268, 1:w)

178

Comments: The Tickler is underway again...I have to admit that I have been kind of lax the last couple of weeks in regards to this file...Unfortunately, there is nothing of interest to any of you except for the fact that 1152s are due so please take note...then it will be worth the time! 178a

RJC 3-JAN-74 05:22 21267
tickler for 10 Dec through 31 Dec

FJT 18-AUG-75 13:19 33251

Journal Mail - 1974

Location: (MJOURNAL, 21267, 1:W)

179

Journal Mail - 1974

(J33251) 18-AUG-75 13:19;;;; Title: Author(s): Frank J. Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;

Journal Mail - 1973

EJK 28-DEC-73 14:21 21234
Statement of Agreement AFCS/NCA/RADC - (Draft two)
Location: (MJOURNAL, 21234, 1:w) 1

EJK 28-DEC-73 12:27 21230
Statement of Agreement NCA/AFCS/RADC (DRAFT)
Location: (MJOURNAL, 21230, 1:w) 2

DLS 26-DEC-73 13:49 21199
Potential L-10 Programmer
Location: (MJOURNAL, 21199, 1:w) 3

Comments: Should I persue this any further, or is it impossible? I promised I would let her know one way or the other. 3a

JPC 26-DEC-73 08:06 21182
Some Very Early Impressions of IDS
Location: (MJOURNAL, 21182, 1:w) 4

Comments: This was writte well over a year ago when everyone wa a lot younger, Anyway it gives you some of my early impressions. Make of it what you will! 4a

EJK 19-DEC-73 12:21 21025
Status of EJK's wife (hit control o if you are not interested)
Location: (MJOURNAL, 21025, 1:w) 5

DLS 19-DEC-73 08:50 20973
Instructions on how to use the IMLAC
Location: (MJOURNAL, 20973, 1:w) 6

DLD2 19-DEC-73 08:24 20972

Location: (MJOURNAL, 20972, 1:w) 7

Comments: WWMCCS STATUS REPORT AS OF 19 December 1973 7a

JPC 19-DEC-73 07:38 20971
Some Old Thoughts on IDS
Location: (MJOURNAL, 20971, 1:w) 8

Comments: This ws written approx a year and a half ago but it might be of interest today in light of our current effort. 8a

JPC 19-DEC-73 07:31 20970
PRC/PACER MEETING
Message: I was not particularly impressed in what Mr. Nichols of PRC had to tell us under such short notice. Out of 4 main poits that he brought up, we had stumbled on three of them ourselves with our local ranch effort:
1) Detailed analysis or study before any IDS design - we tried to do this as much as possible and have recommended it for all proposals although nobody else seems interested.
2) Back-up procedures for recovery of database - the procedure for recovery in our system were een more detailed, i.e. a back-up database, a data entry log to record updates, and a number of file saves as well as testing programs out on the back-up data base.
3) data base experts for "chain-chasing" to maintain validity of database- I knew we needed this type of support but we were never able to get it.
The final point was the most noteworthy and I had only begun to suspect it.
4) that IDS itself was incapable of supporting an operation like PACER withou modifications to IDS and GCOS. One important type of mod was the directory for faster retrieval. We might be able to use that idea in our current effort to provide more responsiveness to our system. Howver, I have serious doubts now whether stand-alone IDS in an unmodified GCOS can handle the job.

One final thought: the Pacer effort currently uses upwards of 50 people ...maybe our guessitimate is too small.

9

Comments: These are a few of my comments abot what we learned from PRC. 9a

DLS 19-DEC-73 06:28 20969
The Initial RADC MIS Proposal
Location: (MJOURNAL, 20969, 1:w)

10

Comments: This is the way the proposal finally looked (for those of you who have not seen it). Its 50 pages, so see me for hard copy if interested. This is the one that Gabe rejected, although he did not see it. I am journaling it in the hopes that we can use it later in the game...like maybe 20 years! 10a

DLS 19-DEC-73 05:45 20967
Executive Summary for Initial RADC-MIS Proposal

Location: (MJOURNAL, 20967, 1:w)

11

Comments: Who knows, maybe we can dig this up in a couple of years and shove it back into the system. 11a

DLS 19-DEC-73 05:13 20966
Suggestions for Tickler
Location: (MJOURNAL, 20966, 1:w)

12

Comments: in response to DLD's message 12a

TFL 18-DEC-73 06:32 20941
RADC TIP EXTENSIONS
Location: (MJOURNAL, 20941, 1:w)

13

RJC 17-DEC-73 06:54 20922
Tickler for week of 17 Dec
Location: (MJOURNAL, 20922, 1:w)

14

JHB 16-DEC-73 10:23 20912
Notice of NLS Training at RADC
Location: (MJOURNAL, 20912, 1:w)

15

Comments: Duane, Would you please see that everyone has a copy of this in hardcopy form if they are not likely to receive it on-line, Thanks. 15a

FJT 18-AUG-75 13:21 33252

Journal Mail - 1973

(J33252) 18-AUG-75 13:21;;;; Title: Author(s): Frank J, Tomaini/FJT;
Sub-Collections: RADC; Clerk: FJT;

DVN 18-AUG-75 17:06 33254

Proposed Changes for Handling Right Margins on Different Devices

I favor the changes proposed in <26270,3b2> I believe the number of people who are trying to print text wider than screen width is small and that they are sophisticated, that they will expect problems and be able to deal with them. I favor <26370,3b2> over <26370,3b1> moderately because I generally feel it is better for users to be able to set things. How about the Useroptions Command "Set Wraparound (point to)". 1

DVN 18-AUG-75 17:06 33254

Proposed Changes for Handling Right Margins on Different Devices

(J33254) 18-AUG-75 17:06;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /JDH([ACTION]) DMB([ACTION] dpcs notebok please) DPCS([INFO-ONLY]) FEEDBACK([INFO-ONLY]) ; Sub-Collections: SRI-ARC DPCS FEEDBACK; Clerk: DVN;

33254 Distribution

J. D. Hopper, Delorse M. Brooks, Delorse M. Brooks, Elizabeth F. Finney, Beverly Boli, Joseph L. Ehardt, James H. Bair, Robert N. Lieberman, Pat Whiting O'Keefe, James H. Bair, Robert Louis Belleville, Ann Weinberg, Thomas L. Humphrey, Jeanne M. Leavitt, Kirk E. Kelley, Duane L. Stone, Elizabeth J. Feinler, N. Dean Meyer, Dirk H. Van Nouhuys, Douglas C. Engelbart, James C. Norton, Richard W. Watson, Charles H. Irby, Special Jhb Feedback,

JGN 18-AUG-75 21:01 33255

File Status

The NAVIMP directory is getting too big for its britches. If you are using a file, send me a note telling me its name. Any file not so nominated by this Friday(Aug 22) will be archived. We are short of space, so be sure you do need the file.

Greg Noel (NLS ident: JGN)

1

JGN 18-AUG-75 21:01 33255

File Status

(J33255) 18-AUG-75 21:01;;;; Title: Author(s): J. Gregory Noel/JGN;
Distribution: /NAVIMP([ACTION]) FGB([INFO-ONLY]) ILA([
INFO-ONLY]) ; Sub-Collections: NIC NAVIMP; Clerk: JGN;

33255 Distribution

John C. McGilvary, James Peterson Shores, I. Larry Avrunin, Frank G. Brignoli, Edward Lewis Aiken, George Egeland, John J. Zenor, Robert D. Archer, Paul C. Bishop, J. Gregory Noel, Eugene P. Stemple, Robert A. Unger, Connie Heitmeyer, Frank G. Brignoli, I. Larry Avrunin,

GSG 19-AUG-75 01:27 33256

ARPAnet directories.

I have recieved our bundle of ARPAnet directories from the NIC and have put a copy in everyones office that had their name in it. Since we are the first ones to get them, the NIC (Network Information Center), would kindly appreciate it, if we would not advertise this, since it maybe several days before the rest of the network recieves their copies. [Geoff] 1

GSG 19-AUG-75 01:27 33256

ARPAnet directories.

(J33256) 19-AUG-75 01:27;;;; Title: Author(s): Geoffrey S. Goodfellow/GSG; Distribution: /SRI-AI([INFO-ONLY]) ; Sub-Collections: NIC SRI-AI; Clerk: KEV;

33256 Distribution
Stanford Research Institute ,

Formats for Printing RADC Paperwork on the TYCOM

(gen)eral instructions...Preparation of correspondance using these formats is really only feasible on the Imlac, where one can see his invisibles and easily replace text within statements. Copy the appropriate branch from this file to your file and replace statements, text, visibles etc. with your content. When you think everything is set, dump to the line printer first, if at all possible. This can save a lot of time and hassle with the TYCOM. Look for things like titles or subjects that are 2 lines long and insert a literal carriage return in a "natural" place. If there are attachments to memos, insert a tab after NAME and on the next line a tab after Branch, like this 1

```
    ENGINEER'S NAME                                 2 Atch
    Information Management Sciences Section         1.  Proc Memo
    Information Processing Branch                   2.  Equip List
```
1a

A quick feel for page breaks can be gotten from the Imlac (if you're not afraid of a "blown screen") by giving the command <>SImulate Ti <CA> hitting the control 7 and then doing a Output Terminal
Y
Y
Y
This will cause the file to be "printed", stopping at the end of each page, just like you were a Ti terminal. 1b

(memo)s to procurement...use letterhead paper for 1st page
number of copies = 1 + # of office symbols on list
align with top of paper, roll back 1 line
left margin 12 spaces in
more than one page long? use bond paper for 2nd,3rd...pages

2

ISIM/X#### 19 AUG 75 2a

Replace Statement with the title of the memo 2b

RADC/ISIM
ISI
ISM
PMRB(R. Lemke)
IN TURN 2c

1. Replace this text with the text of your memo. Two spaces between the paragraph number/letter and the beginning of the text. 2d

a. Type 5 spaces before paragraph numbers at this level. 2e

Type 10 spaces before paragraph numbers at this level. 2f

Type 15 spaces before paragraph numbers at this level. 2g

ENGINEER'S NAME
Information Management Sciences Section
Information Processing Branch 2h

DLS 19-AUG-75 06:17 33257

Formats for Printing RADC Paperwork on the TYCOM

These are the formats we worked up in early July...am Journaling for the record.

DLS 19-AUG-75 06:17 33257

Formats for Printing RADC Paperwork on the TYCOM

(J33257) 19-AUG-75 06:17;;;; Title: Author(s): Duane L. Stone/DLS;
Distribution: /RJC([INFO-ONLY]) EJK([INFO-ONLY]) ;
Sub-Collections: RADC; Clerk: DLS;

33257 Distribution
Roberta J, Carrier, Edmund J, Kennedy,

DLS 19-AUG-75 06:26 33258

File Design for Financial System

This is the file design I worked up for the branch financial management system, in the event that FMS was delayed. It looks like FMS is coming along well, so am journaling for the record. FMS developers might think of including an additional field, which would contain a link to the effort writeup that should accompany each JON...as per Mac's comment.

File Design for Financial System

< STONE, FINANCE.NLS;5, >, 17-JUL-75 04:40 DLS ;;;;

File Design for Financial System

```
(JON-XXXXXXXX)        PRI      TITLE-LESS-THAN-25-CHARAC
                             ENGINEER
CONTRACTOR    CONTRACT#        MYS      SOWDATE STRDATE MO
                             $0000000
                  (LINK,EFFORTWRITEUP,STATUS:wy)

 FY      JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN   TOTAL
75-EST 000 000 000 000 000 000 000 000 000 000 000 000 0000000          1a

   (B-X-XXXX)    PROJ-TK-LN     SOUR     USE     LD        0000000      1a1

   FY-75 PR TOTAL                                          0000000      1a2

76-EST 000 000 000 000 000 000 000 000 000 000 000 000 0000000          1b

6T-EST 000 000 000 000                                     0000000      1c

77-EST 000 000 000 000 000 000 000 000 000 000 000 000 0000000          1d

              (TpO=11) SOFTWARE SCIENCES TECHNOLOGY                      1e

   (TECH-AREA-A) HIGHER ORDER LANGUAGES                                  1e1

   (TECH-AREA-B) SOFTWARE ERROR & QUALITY CONTROL                        1e2

   (TECH-AREA-C) DISCIPLINED PROGRAMMING ENVIRONMENT                     1e3

      (JON-55500819) PRI      NSW FRONT END    STONE
      SRI     F30602-75-C-0156        0,4      10OCT74 18JUL74 12
      $ 701635
      (STONE,EFF-NSW-FE,STATUS:wy)

      FY      JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN
      TOTAL
      75-EST  25  58  58  58  58  58  58  58  58  58  58  58
      653000                                                           1e3a

         (B-5-3273)     5550-08-01     AFSC     ISI     IS
         322691                                                        1e3a1

         (B-5-3274)     2853-01-02     ARPA     ISI     IS
         384000                                                        1e3a2

         FY-75 PR TOTAL
         706691                                                        1e3a3

      76-EST  49 000 000 000 000 000 000 000 000 000 000 000
      49000                                                            1e3b
```

```
(JON-28420101) PRI      ARPANET INFORMATION CENTER        STONE
SRI     F30602-75-C-0123          0,1      01NOV74 11JUL74 12
$ 99990
FY      JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN
TOTAL
75-EST   4   8   8   8   8   8   8   8   8   8   8   8
96000                                                        1e3c

   (B-5-3256)    2842-01-01    ARPA     ISI     IS
   77000                                                     1e3c1

   (B-5-3112)    2842-01-02    ARPA     ISI     IS
   22900                                                     1e3c2

76-EST   4 000 000 000 000 000 000 000 000 000 000 000 000
3900                                                         1e3d

(TECH-AREA-D) R&D COMPUTER FACILITY SUPPORT                  1e4

(TECH-AREA-E) EDP SECURITY                                   1e5
```

DLS 19-AUG-75 06:26 33258

File Design for Financial System

(J33258) 19-AUG-75 06:26;;;; Title: Author(s): Duane L. Stone/DLS;
Distribution: /JPC([INFO-ONLY]) EJK([INFO-ONLY]) FSL([
INFO-ONLY]) JLM([INFO-ONLY]) ; Sub-Collections: RADC; Clerk: DLS;

File Design for Financial System

< STONE, FINANCE,NLS;5, >, 17-JUL-75 04:40 DLS ;;;;

33258 Distribution
Joe P. Cavano, Edmund J. Kennedy, Frank S. LaMonica, John L. McNamara,

RMS2 19-AUG-75 06:26 33259

Fall KWAC Meeting

The week of October 13 - 17 seems to be the best week for the next KWAC meeting. This period is more acceptable to ARC than any other week in the near future. Most KWAC'ers have no problem making this week although a couple of members indicated possible conflicts with this schedule.

Monday, October 13, is a holiday here in Massachusetts but unless there are objections to beginning the meeting on that day we will convene at 8:30. I will send directions and a list of hotels, etc in about a month.

Frank Brignoli (FGB) is making up the agenda and would welcome comments and suggestions on topics you think should be covered during the week.

1

Fall KWAC Meeting

(J33259) 19-AUG-75 06:26;;;; Title: Author(s): Robert M. Sheppard/RMS2; Distribution: /KWAC([INFO-ONLY]) RTL([INFO-ONLY]) MC([INFO-ONLY]) ; Sub-Collections: NIC KWAC; Clerk: RMS2;

33259 Distribution

Elizabeth F. Finney, Lawrence A. Crain, E. S. VonGehren, Glenn A. Sherwood, Kathey L. Mabrey, Jeanne M. Beck, David A. Potter, Robert N. Lieberman, Terry H. Proch, Ronald P. Uhlig, Susan Gail Roetter, Michael A. Placko, Stanley M. (Stan) Taylor, Elizabeth J. Feinler, Rudy L. Ruggles, Frank G. Brignoli, Robert M. Sheppard, Richard W. Watson, Douglas C. Engelbart, James C. Norton, James H. Bair, Duane L. Stone, Inez M. Mattiuz, Connie K. McLindon, Richard T. LaCoss, Michael Chinnery,

LAC 19-AUG-75 07:29 33260

Operating plan

Betty, could you please see Maj Hignett gets a copy or the journal item 33242 i forwarded to you, Thanks Larry 1

LAC 19-AUG-75 07:29 33260

Operating plan

(J33260) 19-AUG-75 07:29;;;; Title: Author(s): Lawrence A. Crain/LAC; Distribution: /EFF([ACTION]) ; Sub-Collections: NIC; Clerk: LAC;

33260 Distribution
Elizabeth F. Finney,

DLS 19-AUG-75 08:01 33261

Memo to Runninger, ARPA Support of NSW

background for briefing to RADC Commander

DLS 19-AUG-75 08:01 33261

Memo to Runninger, ARPA Support of NSW

< STONE, JACK,NLS;1, >, 14-AUG-75 05:48 DLS ;;;;

DLS 19-AUG-75 08:01 33261

Memo to Runninger, ARPA Support of NSW

ISIM/X3857 19 AUG 75

ARPA Briefing to Commander

RADC/ISIM
ISI
IS
DOR(J, Runninger)
IN TURN 1

a, Reference attached memo from DOR, The efforts under Arpa Orders 0967, 2541, 2853, 2931 and 3061 represent joint funding with RADC and other DOD agencies in areas where there is mutual benefit, RADC benefits by augmenting their meager supply of development funds, ARPA benefits by having an active agent who is, intimately familiar with the technology, guiding its development and is therfore in a position to apply it once the initial research is completed, 1a

b, The ARPA orders cited above have two thrusts, To use and evaluate an advanced text processing system to support internal documentation and to develop the National Software Works (NSW), 1b

(1) Workshop Utility Service--see attachment 2 1b1

(a) This effort is aimed at improving both the efficiency and effectiveness of government organizations by applying the latest in text processing systems to support the managerial, engineering and clerical personnel, The system used is NLS, developed by SRI under ARPA sponsorship, over the past 10 years, It is now available on three machines attached to the ARPANET, It was first used on a regular basis by RADC/ISIM in 1972, Since then its use within RADC has grown, it has been adopted by a number of ARPA offices and is now being used by elements of the Navy, Army, NSA and several ARPA contractors, as well as private organizations, It has been chosen as the basic medium for programming, documentation and communication under the NSW project (below), 1b1a

(2) NSW--see attachment 3 1b2

(a) The NSW project is aimed at reducing the cost and improving the reliability of software developed for the AF by providing AF and AF contractors easy and consistent access to software development tools via ARPANET, The project started in 1974 and will continue through 1977, It is funded jointly by ARPA, RADC and AFDAA, RADC acts as the intermediary between research (ARPA) and operations (AFDSDC & AFDSC), RADC actively sought inclusion in this project for three reasons: 1b2a

1.2.2.1.1 We feel that this is the most cost effective alternative for providing tool access to software developers. 1b2a1

1.2.2.1.2 The NSW should greatly shorten the technology transfer time, ie, the time it takes for research results to become an operational way of life. 1b2a2

1.2.2.1.3 The NSW offers an unique opportunity to allow operational use of RADC developed tools. 1b2a3

c. ARPA funding of the Workshop Utility is $400K/year. It funds the NSW at about $2,000K per year. It is expected that both these projects will continue at present levels through the 1977 time period. 1c

DUANE L. STONE
Information Management Sciences Section
Information Processing Branch

3 Atchs
1. DOR Memo
2. SRI Doc #12445
3. NSW Overview

1d

DLS 19-AUG-75 08:01 33261

Memo to Runninger, ARPA Support of NSW

(J33261) 19-AUG-75 08:01;;;; Title: Author(s): Duane L. Stone/DLS;
Distribution: /JLM([INFO-ONLY]) MAW([INFO-ONLY]) WER([
INFO-ONLY]) ; Sub-Collections: RADC; Clerk: DLS;

33261 Distribution
John L. McNamara, Mike A. Wingfield, William E. Rzepka,

FJT 19-AUG-75 10:49 33262

Meeting among RADC, ESD, and USAF Data Services to discuss plans for MULTICS implementation at Data Services

Date: 3 May 1973 1

Subject: Meeting among RADC, ESD, and USAF Data Services to discuss plans for MULTICS implementation at Data Services 2

To: John McNamara, Col Kortz, Dr. Crocetti, Mr. Bethke, Col Thayer, Rocco Iuorno, Al Barnum 3

1. Reference attachments 1 and 2 for Agenda Item listings and some explanation. Reference attachment 3 for a list of attendees. 4

2. Col Bell opened the meeting by stating that a letter had been sent from Data Services to GSA to obtain authority for acquisition of: MULTICS Hardware; Priority Software, and Security Software. Engineering Services is an additional item to be acquired, but does not require GSA approval. Col Bell stated he expected delivery of the MULTICS capability approximately April 1973. 5

3. After much discussion, the following agenda items were singled out as items on which some immediate actions can be initiated and plans of cooperative effort be formulated: 6

a. Security Software to permit processing of TOP SECRET and SECRET. 6a

AFSC Task Responsibility: ESD with MITRE, HIS, and DSC. RADC will be kept informed and abreast of progress because of impact on agenda items "e," "f," and "h." 6b

Focal Pts: DSC, Major Leong - ESD, Major Schell - RADC, Rocco Iuorno 6c

"d." Open Source Security Program Responsibility: To be developed by Security Panel chaired by Dr. Ted Glasser of Case Institute. 6d

ESD expects to initiate an Advanced Development Plan for resources (hardware and software) to implement the program developed by the Glasser Panel. No earlier than FY74 money is expected. 6e

RADC offered FY73 6.2 money to pay for a couple of MITRE experts, some consultant services, and a preliminary study (approx $200K). ESD representatves turned this down, preferring to stay with a total Advanced Development Plan, even though meaningful implementation for Data Services would be delayed until FY74. 6f

RADC, ESD, and DSC have working panel membership and will be kept

Meeting among RADC, ESD, and USAF Data Services to discuss plans for MULTICS implementation at Data Services

abreast of progress because of impact on agenda items "e," "f," and "h." 6g

Focal Pts: DSC, Major Leong ESD, Major Schell RADC, Rocco Iuorno 6h

"h" A Multics Data Management System AFSC Responsibility: RADC with MITRE and DSC support and participation. 6i

RADC would pay for the assignment of a couple of competent MITRE personnel to the task (90K). 6j

RADC, with DSC and selected consultant, would define the DSC (Tucker) requirement and implement on RADC machine for test and evaluation. Contractor Services in the amount of approx 95K will be sought. It is expected that a subset of a total DMS can be implemented for DSC (Tucker) use by end of Calendar Yr 73. 6k

Total Resources: 2-3 RADC personnel 6l

1-2 MITRE personnel 6m

1-2 DSC personnel 6n

95K Contractual Effort 6o

RADC Facility 6p

Since RADC needs a DMS for their own use, they are willimg to work with DSC and orient the initial implementation phase to coincide with the DSC initial requirement (if at all possible). 6q

FOCAL Pts: DSC, Capt Reed 6r

RADC, Bill Rzepka 6s

ESD, Russ Meier 6t

"k" and "L" Terminals 6u

AFSC Responsibiity: RADC with DSC support and participation will assist DSC in evaluation of hardware and, where necessary, develop interface software. 6v

Again, since RADC must interface MULTICS for its own use (OLPARS, WFS, & Associative Processor), they are willing to include DSC requirements as part of their own overall problem. 6w

Focal Pts: DSC, Capt Reed 6x

FJT 19-AUG-75 10:49 33262

Meeting among RADC, ESD, and USAF Data Services to discuss plans for MULTICS implementation at Data Services

RADC, DIck MetZger 6y

ESD, Lt Coulter 6z

"m" Applications Software 6a@

AFSC Responsibility: RADC Facility & Software Consultation 6aa

Focal Pts: DSC, Col Bell 6ab

RADC, John McNamara & Lou Comito 6ac

4. CONCLUSIONS & FOLLOW-UP: Col Bell wants to "get-going." We can expect to hear from him through his trip report and a phone call suggesting we get together on the details of agenda items: "h" (A MULTICS DMS); "k" & "l" (terminals); and "m" (Applications Software Support). We can expect to hear only negative things from ESD; I suggest Mr. Bethke, Dr. Crocetti, and Mr. Barnum follow-up on this meeting by meeting with Col Fernandez. 7

s/Frank J. Tomaini 8

Frank J. Tomaini 3 Atch, 1 Explanation, 2 Agenda, 3 Attendees 9

SOME ELABORATION ON AGENDA ITEMS (REF ATTACHMENT 2) 10

a. Security Software (Closed System, i.e., Secret and Top Secret only), 11

1. Identify strengths & weaknesses of existing MULTICS, 11a

2. Addition of Fail Safe capability (separate secret from top secret), 11b

3. Addition of Features and develop procedures for management of removable media (agenda item "e.") 11c

b. Priority System 12

1. Guarantee a level of system resources to selected users (under control of Administrator) 12a

c. Absentee User (Something like what Card-In is to GCOS or a form of background batch) 13

1. Evaluate existing capability 13a

d. Security, Open System (Unclassified and levels of security) 14

1. Initiate a development program 14a

e. Removable Disc Pack 15

1. Under development by HIS per Henry Nye 15a

2. Evaluate security factors 15b

f. File Compatibility (GCOS/MULTICS) 16

1. Would like to reduce MULTICS overhead on this problem by shifting responsibility to GCOS if it does not introduce a problem, i.e., security. 16a

g. Compilers (Promised by HIS) 17

1. PL-1 17a

2. FORTRAN 17b

3. COBOL 17c

4. BASIC 17d

5. LISP 17e

6. APL 17f

7. SIMPLE 17g

h. MULTICS Data Management System 18

1. A subset of a total DMS will be implemented by RADC with the help of MITRE, a contractor, DSC. The DSC (Tucker) requirement will be the main thrust. The DMS, thus implemented, will exploit the security capabilities of MULTICS. 18a

i. Conversion Aids 19

1. A GMAP to MULTICS translator for certain programs 19a

j. Utility Programs 20

1. Complete Library for DSC to be provided by HIS 20a

k & l. Terminals 21

FJT 19-AUG-75 10:49 33262

Meeting among RADC, ESD, and USAF Data Services to discuss plans for MULTICS implementation at Data Services

1. Help and Guidance from RADC on Hardware selection and interface software development. Emphasis on Graphics. 21a

m. Facilities for Application Software Development to support OASD/SA requirements 22

1. RADC will support with some financial aid and moral support 22a

2. Capt Duane Adams will be the OSD Focal Point. 22b

AGENDA May 2 1972 23

a. Security software to permit processing of top secret and secret information simultaneously. 24

1 Design - ESD, H, DSC 24a

2 Implementation H, ESD 24b

3 Installation DSC, H, ESD 24c

b. Priority system to guarantee levels of resource support to selected users of the system. 25

1 Design H, DSC 25a

2 Implementation H 25b

3 Installation H, DSC 25c

c. Investigation of the capabilities of the absentee user command under MULTICS to insure it meets Data Services Center needs. Problems identified will be corrected. 26

1 Investigation DSC 26a

2 Design H 26b

3 Implementation H 26c

4 Installation H, DSC 26d

d. Specification of hardware/software modification to provide an open secure multi-level system. 27

1 Specification DSC 27a

e. Removable disc pack software to treat disc packs either like tape or as a part of the MULTICS virtual memory. 28

1 Design H 28a

2 Implementation H 28b

3 Installaation H, DSC 28c

f. File compatibility for all languages between GCOS and MULTICS must be developed. For example, a MULTICS GEFRC package for GCOS to create and access MULTICS compatible files. 29

1 Design H, DSC 29a

2 Implementation H 29b

3 Installation H, DSC 29c

g. Compilers for the following languages must be included in the standard HIS - supported MULTICS software: 30

1 PL-1 30a

2 FORTRAN 30b

3 COBOL 30c

4 BASIC 30d

5 LISP 30e

6 APL 30f

7 SIMPLE 30g

8 Design HIS 30h

9 Implementation HIS 30i

10 Installation HIS,DSC 30j

h. A MULTICS Data Management System must be developed and implemented. It would be desirable for this system to eventually become a part of the standard, HIS-supported MULTICS. 31

1 Design RADC, HIS, according to DSC requirements 31a

2 Implementation RADC, HIS 31b

3 Installation RADC, HIS, DSC 31c

i. Convsersion aids such as a G600 simulation package (GECOS encapsulation) and possibly a GMAP - MULTICS assembly language translator must be a part of the standard HIS - supported MULTICS. 32

1 Design HIS 32a

2 Implementation HIS 32b

3 Installation HIS, DSC 32c

j. Various utility programs must be developed and implemented: 33

1. Certain programs which are normally provided with major - vendor-supported operating systems (e.g. sort, media conversions, etc.) must be included in the standard HIS - supported MULTICS. 33a

2. HIS must supply and support the equivalent of the GECOS TSS library under MULTICS. 33b

3. AFDSC must develop and implement specialized utility software as directed by customer requirement. 33c

34

1 Design (1&2) HIS; (3) DSC, customer 34a

2 Implementation (1&2) HIS; (3) DSC 34b

3 Installation (1&2) HIS, DSC; (3) DSC 34c

k. The standard MULTICS software must support the following basic terminal types: 35

1. Typewriter terminal comparable to the TY37 and IBM 2741. 35a

2. Data CRT's wich are capable of displaying the full ASCII character set with a minimum display size 12 lines of 80 characters each. 35b

3. Full graphics CRT's such as the IMLAC PDS-1. 35c

1 Design HIS 35c1

2 Implementation HIS 35c2

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Meeting among RADC, ESD, and USAF Data Services to discuss plans for MULTICS implementation at Data Services

3 Installation HIS, DSC 35c3

1. Software to support more exotic terminals must be developed as directed by customer requirements. 36

1 Design HIS, DSC 36a

2 Implementation HIS, DSC 36b

3 Installation HIS, DSC 36c

m. Application software must be developed to support the OASD/SA requirements. 37

1 Design OASD/SA, AFDSC, OASD/SA support team, 37a

2 Implementation AFDSC, OASD/SA support team, 37b

3 Installation AFDSC, OASD/SA support team, 37c

LIST OF ATTENDEES - -2 May 1972 38

JOHN MCNAMARA	RADC	ISIM	39
ROCCO IUORNO	RADC	ISIM	40
EDWARD J. BELL, LTCOL	AFDSC	XM	41
CLYDE S. REED, CAPT	AFDSC	SFS	42
RAY L. PIEPER	AF/ACDC		43
LEON L. KORTZ, LT	RADC	ISI	44
ROGER R. SCHELL, MAJ	ESD	MCI	45
DENIS A. CONRADY, LTCOL	ESD	MCI	46
FRANK J. TOMAINI	RADC	ISI	47
F. WAH LEONG, CAPT	AFDSL	EO	48

FJT 19-AUG-75 10:49 33262

Meeting among RADC, ESD, and USAF Data Services to discuss plans for MULTICS implementation at Data Services

(J33262) 19-AUG-75 10:49;;;; Title: Author(s): Frank J. Tomaini/FJT; Sub-Collections: RADC; Clerk: FJT; Origin: < TOMAINI, 2-MEMO.NLS;1, >, 19-AUG-75 10:38 FJT ;;;;####;

GSG 20-AUG-75 04:12 33271

WUC

It seems that when I use the WUC from a terminal and it says to type a Ca or OK for an outline view, and a RETURN or LINEFEED for a full vew, that I get my initial file printed out and get the WUC Herald again. Why doesn't it do as advertized? [Geoff] 1

GSG 20-AUG-75 04:12 33271

WUC

(J33271) 20-AUG-75 04:12;;;; Title: Author(s): Geoffrey S. Goodfellow/GSG; Distribution: /KIRK([ACTION]) ; Sub-Collections: NIC; Clerk: GSG;

33271 Distribution
Kirk E. Kelley,

FGB 20-AUG-75 04:45 33272

NALCON 'Terminal type' Interfaces

Caution-very rough draft. However, I think it's necessary background to explain a 'request for terminal info,' that will probably go around later today or tomorrow. Happy reading.

NALCON 'Terminal type' Interfaces

FOREWORD 1

The implementation of NALCON raises a number of issues which, although the subject of many informal discussions, have not yet been set down in a comprehensive manner for review and comment. This series of NALCON Implementation Group working papers will identify issues, explore their ramifications, and define the elements upon which to base an orderly implementation. 1a

NALCON 'Terminal type' Interfaces

INTRODUCTION 2

Unlike most other ELF sites, we may be using this operating system to communicate not only with existing ARPANET hosts but also with host computers having little or no operating system modifications. Thus, for example, it does us no good to have an ELF "user" Telnet when we have not implemented a "server" Telnet (or its equivalent). 2a

In short, the capabilities many take for granted, we will have to acquire by a software development effort. This paper is an initial attempt to explore that subset of capabilities which might be acquired by using an interactive terminal interface to a NALCON Host computer with little or no modifications to the Host operating system. 2b

The exact meaning of "terminal" type interface will be determined by the individual site choosing to interface to the front end in this manner. However, in general, such an interface would appear to have at least three major implications: 2c

- with little or no host software changes, capabilities (e.g., FTP, RJE) must be implemented either by application programs on the host computer or by software modules in the front end. 2c1

- the front end must accomodate itself to the characteristics of the local host operating system. In particular, a software module common to every front end may have to accomodate itself to the characteristics of all NALCON host operating systems. 2c2

- a high degree of interaction is involved either by the interative user or by a process acting on his behalf (i.e., an "automaton" user). 2c3

The existence of a ELF Host-Front End protocol is assumed but, for the moment, the treatment of error conditions has been ignored. 2d

AN INTERACTIVE INTERFACE - "SERVER" TELNET 3

This version of a "server" Telnet could be ELF based. When receiving a RFC over the net, the Host-Front End Process could make an association of H-FE index with network send and receive sockets. 3a

A copy of the server Telnet process could then be created and associated with: 3b

- a terminal port on the host side (i.e., the PDP 11 I/O registers for this terminal) 3b1

- the H-FE index on the net side 3b2

Such a server process would, at a minimum, perform the following functions: 3c

- Accept messages over index, map them into the ASCII subset accepted by the serving host, and transmit them to the host 3c1

- Accept data from the serving host, format into messages by removing trailing carriage return, line feed, and pad characters, and sent the data as one or more messages on index 3c2

FILE TRANSFER - FTP OVER TELNET 4

In this paper, we will consider only an FTP of the kind that requires a great degree of control by the interactive user. One step slightly further up the ladder could involve semi-automatic connections through a more sophisticated FTP process utilizing Telnet on the users behalf. 4a

The paragraphs that follow indicate only that FTP over Telnet may be possible. Futher study of the characteristics of each Host operating system is needed in order to construct a series of realistic file transfer scenarios upon which an implementation of FTP may be based. 4b

Two points to consider in the FTP process are: 4c

- The type of file to be transmitted. Initially, we could transmit either card image files or (carefully) binary data. 4c1

- A mapping must be defined for such file transfers which avoids conflicts with either Telnet or any Host character set. The inefficiencies of a mapping strategy must also be carefully examined. If only card image files are transferred, we might then let the local Telnet server insure that all characters are within the ASCII subset used by the particular host. 4c2

For most, possibly all, systems a file "send" can be effected by a copy from the file to the output device (e.g., the connected terminal); otherwise, an application program can be used to read the file and write it to the output device. Similarly, a file "receive" can be effected by a copy from the input device to a file name; if necessary, an application program can be used to perform the task. 4d

In this mode of operation, the user would utilize the ELF user Telnet process to connect to each system in turn and ready each to push/pull the file. The ELF user FTP could then activate the

sending proceses (e.g., by transmitting a carriage return to the sender), strip non data characters (e.g., pad characters), and send messages over the appropriate index established by the Telnet connection. The ELF server FTP accepts messages and transmits them to the local host. The sender, upon detecting that a file has been completely copied (e.g., by scanning for the Tenex @ prompt) posts a message to the local user, interrupts the receiving FTP (to notify it tha all is done), and then both processes can fade away. 4e

It would be the responsability of the user to "clean-up" after such an FTP operation (e.g., logout, catalogue the file, etc.). 4f

REMOTE JOB ENTRY - RJE OVER TELNET 5

We make the assumption that the user can use FTP to transfer a file to the target computer system and that the file is in the format needed for the target computer system to process the file as a batch job. 5a

Most, hopefully all, computer systems will allow a file input over a terminal type connection to be designated as a batch job either by an executive level command (e.g., CDC's "Batch" command) or by, at system generation time, assigning the appropriate capabilities to the terminal. 5b

Thus the initial sketch of a user assisted RJE would appear to be as folows: 5c

(1) Prepare the terminal is necessary (via Telnet) 5c1

(2) FTP the file from source to target computer 5c2

(3) Place the file on the batch queu (if necessary) 5c3

(4) Retrieve output (if necessary) 5c4

(5) Clean up (i.e., drop connections, etc, over Telnet) 5c5

Such a brief sketch, however, leaves many details unanswered, Three items that immediatedly come to mind are: 5d

(1) How can the status of the job be checked if necessary? 5d1

(2) How is the output from the job handled? 5d2

That is, do we have any control over what happens to the output? Can it be diverted (e.g., to a file) for later disposition? Can the terminal be notified that output is waiting? 5d3

(3) How does the ELF handle such a connection? 5d4

Since it may be many hours before a job runs to completion and output is delivers, what does the ELF do with the connection? Tie it up? Drop it and re-establish it? 5d5

The abiltiy to implement some sort of a user assisted RJE would appear to depend on two key elements: 5e

(1) How does the Host operating system treat remote batch jobs? That is, what constraints placed on remote jobs in terms in system resources consumed, output dispostiion, etc. 5e1

(2) How flexible are the terminals of the machine on which the job is to be run? Here, we must consider items such as speed of terminal, character set excepted, full/half duplex, line width, etc. 5e2

Before attempting to fill in the sketch of an RJE over Telnet, information on the characteristics of remote batch jobs and terminals of the various NALCON sites is needed. Once assembled, the question of RJE over Telnet can be properly addressed. 5f

USER PROCESSES - PROCESS-TO-PROCESS OVER TELNET 6

Very little will be said about such communication among User Processes because more information is needed about Host operating system characteristics. However, we will observe that Reads and Writes are normally the only means of communicaton that an executing interactive program has with the terminal to which it is connected. Thus, a program can issue many consecutive writes but if a read is issued and there is no input, the executing program will block. This property leads to many interesting questions about the behavior of two processes cooperating via read/write mechanisms (e.g., synchronization, whether they might be viewed as coroutines, etc.). In view of the limited amount of information available, the question of user processes communicating in this way will be addressed at a later date. 6a

IN CONCLUSION 7

This note addresses the question the the capabilities that could possibly be available with little or no modification to the host operating system and some of the implications of such an approach. 7a

Once again, this paper is intended to serve as a basis upon which we can build to identify the issues relevant to the implementation effort and to work towards their resolution. Your comments are not only invited, they are needed. Please feel free to respond in writing (via U.S. or ARPANET mail) or verbally (the mailing/telephone information is at the end of the report). 7b

RESPONSES 8

U.S. Mail Address 8a

Frank Brignoli 8a1

Naval Ship R and D Center 8a2

Code 1833 8a3

Bethesda, Md, 20084 8a4

Network Mail Address 8b

BRIGNOLI@OFFICE 1 8b1

Telephone 8c

202 227-1618/1533 8c1

Autovon 287-1618/1533 8c2

FGB 20-AUG-75 04:45 33272

NALCON 'Terminal type' Interfaces

(J33272) 20-AUG-75 04:45;;;; Title: (Unrecorded) Title: Author(s): Frank G, Brignoli/FGB; Distribution: /NAVIMP([ACTION]) ; Sub-Collections: NIC NAVIMP; Clerk: FGB;

33272 Distribution
John C. McGilvary, James Peterson Shores, I. Larry Avrunin, Frank G. Brignoli, Edward Lewis Aiken, George Egeland, John J. Zenor, Robert D. Archer, Paul C. Bishop, J. Gregory Noel, Eugene P. Stemple, Robert A. Unger, Connie Heitmeyer,

JLC 20-AUG-75 09:29 33273

initial file

reference inital file for RAR2 user should be DSDC-SC instead of REID
for network distribution, 1

JLC 20-AUG-75 09:29 33273

initial file

(J33273) 20-AUG-75 09:29;;;; Title: Author(s): Johnny L. Crabtree/JLC; Distribution: /FEEDBACK([ACTION]) ; Sub-Collections: NIC FEEDBACK; Clerk: JLC;

33273 Distribution
Special Jhb Feedback,