NDM 15-SEP-72 17:31 11809

COM Users' Guide Notification

The first draft of the Output Processor Users' Guide for COM is in the latest versions of the following NLS files* 1

<MEYER>COMOPUGINTRO.NLS	introduction	1a
<MEYER>COMOPUGDIR.NLS	long list of all directives	1b
<MEYER>COMOPUGAA.NLS	appendix a: breif list of all directives	1c
<MEYER>COMOPUGAB.NLS	appendix b	1d
<MEYER>COMOPUGAC.NLS	appendix c	1e
<MEYER>COMOPUGAD.NLS	appendix d: description of COM	1f
<MEYER>COMOPUGINDEX.NLS	index	1g

The printer files of the above files are in the latest versions of the following NLS files* 2

<MEYER>COMOPUGINTRO.PRINT	introduction	2a
<MEYER>COMOPUGDIR.PRINT	long list of all directives	2b
<MEYER>COMOPUGAA.PRINT	appendix a: breif list of all directives	2c
<MEYER>COMOPUGAB.PRINT	appendix b	2d
<MEYER>COMOPUGAC.PRINT	appendix c	2e
<MEYER>COMOPUGAD.PRINT	appendix d: description of COM	2f
<MEYER>COMOPUGINDEX.PRINT	index	2g

Please feel free to call me at my apartment in Berkeley if you have any question with which I might be able to help. Barbara and Walt will have my number as soon as I know it, probably sometime after the 26th of September. 3

NDM 15-SEP-72 17:31 11809

COM Users' Guide Notification

(J11809) 15-SEP-72 17:31; Title: Author(s): N. Dean Meyer/NDM;
Distribution: Douglas C. Engelbart, Dirk H. van Nouhuys, Marilyn F.
Auerbach, Walt Bass, James C. Norton, Richard W. Watson, Elizabeth J.
Feinler, Jeanne B. North/DCE DVN MFA WLB JCN RWW JAKE JBN;
Sub-Collections: SRI-ARC; Clerk: NDM;
Origin: <MEYER>NOTICE.NLS;1, 15-SEP-72 17:27 NDM ;

NDM 15-SEP-72 17:36 11810

I'm off to San Diego for a week. I'll be moving to Berkeley on the 26th of Sept. If there's anything I can do fr anyone, give me a call.

Thank you very much for today's picnic. It's been a fantasit summer, working with you people. See you soon.

Dean

1

(J11810) 15-SEP-72 17:36; Author(s): N. Dean Meyer/NDM;
Distribution: Gus Matzorkis, Guest O. ARC, Elizabeth J. Feinler, Augmentation Research Handbook, Kirk E. Kelley, N. Dean Meyer, Kay F. Byrd, Ralph Prather, James E. (Jim) White, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Don Limuti, Ferg R. Ferguson, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor, Smokey C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC;
Sub-Collections: SRI-ARC; Clerk: NDM;

JBP 15-SEP-72 20:44 11811

lets get the numbers straight

bruce: at the meeting vint cerf held for the southern california people planning to be involved with the computer network demonstration at the iccc conference i had an argument with mort bernstein about the cost of joining the network the point of contention was wheather or not some part of the charge was per site or per host. any way what is important is that at the conference the people representing the network have a consistent story to tell, perhaps you could put together a crib sheet onnetwork costs an charges to potential subscribers. 1

JBP 15-SEP-72 20:44 11811

lets get the numbers straight

(J11811) 15-SEP-72 20:44; Title: Author(s): Jonathan B. Postel/JBP; Distribution: Bruce A. Dolan/BAD; Sub-Collections: NIC; Clerk: JBP;

KEV 17-SEP-72 9:17 11812

system loginmessage

this is a copy of the current <system>sysdoc.txt

system loginmessage

IDENTS:

The EXEC may ask for your IDENT at LOGIN time.

If it knows your IDENT it wont ask for it.

If it does ask, please type your NLS IDENT followed by a CR.

If you do not have an IDENT just type a CR.

The new EXEC command "SET (IDENT TO)" can be used after LOGIN.

Also, JOBSTAT will indicate the current setting of your IDENT.

NLS no longer asks for your IDENT if it can get it from TENEX,

Device Type:

NLS no longer asks for your device type; it gets it from TENEX,

Use the EXEC command "TERMINAL (TYPE is)" to set your device

type (all terminals except our local displays are initialized

to be ti-terminals).

We have changed the "TERMINAL (TYPE IS)" command to accept actual

device names, instead of numbers.

Type a ? to the command to find out actual parameters.

Running Subsystems:

The EXEC will search directories as follows for subsystem names:

(1) the directory <SUBSYS>,

system loginmessage

(2) the directory to which you are connected,

(3) your LOGIN directory.

Also, you can now include a directory name as part of a subsystem

name (without using the RUN command) e.g., <victor>xxx.sav

Running NLS:

There are now three EXEC commands which can be used to start NLS

NLS -- as before but does not ask for IDENT or device,

TNLS -- starts nls with device type ti-terminal

(useful primarily from displays),

DEX -- starts nls in deferred execution mode

(old device "offline").

KEV 17-SEP-72 9:17 11812

system loginmessage

(J11812) 17-SEP-72 9:17; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Distribution: Gus Matzorkis, Guest O. ARC, Elizabeth J. Feinler, Augmentation Research Handbook, Kirk E. Kelley, N. Dean Meyer, Kay F. Byrd, Ralph Prather, James E. (Jim) White, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Don Limuti, Ferg R. Ferguson, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor, Smokey C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: KEV;
Origin: <VICTOR>SYSDOC.NLS;2, 7-SEP-72 18:31 KEV ;

KEV 17-SEP-72 9:19 11813

automatic system accounting

this is the proposal that led to the soon to be implemented
changes of handling accounting at LOGIN and CHANGE ACCOUNT time

automatic system accounting

The following is a proposal on how to handle restricting users to specific accounts and supplying default accounts at login time. 1

We will keep a file around (either in directory <ACCOUNTS> or <IDENTFILE>) that will keep for each login directory the following information: 1a

The default account for this user 1a1

Other valid accounts for this user 1a2

An indication as to whether or not this user is restricted in his use of accounts 1a3

This file would be kept in both NLS and TECO format. Thus to make changes, one would edit the NLS file and then do an output sequential to the TECO file. 1b

This file would then be used as follows: 1c

At LOGIN time: 1c1

When it is tme for a user to type in his account, we would search this file for the default account for this user and simulate his typing in of the account. 1c1a

At this point in time, he could either accept this account or edit it to be some other account. 1c1a1

After acceptance (which could be after editing) we would then check the supplied account against this file to check for validity. 1c1a1a

A valid account would then complete login and an invalid account would cause the typing of an appropriate message to the user. 1c1a1b

At CHANGE ACCOUNT time: 1c2

We will check the new account against the set of valid accounts for this user and either let him change his account or give an appropriate message. 1c2a

KEV 17-SEP-72 9:19 11813

automatic system accounting

(J11813) 17-SEP-72 9:19; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Distribution: Gus Matzorkis, Guest O. ARC, Elizabeth J. Feinler, Augmentation Research Handbook, Kirk E. Kelley, N. Dean Meyer, Kay F. Byrd, Ralph Prather, James E. (Jim) White, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Don Limuti, Ferg R. Ferguson, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor, Smokey C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: KEV;
Origin: <VICTOR>ACCOUNTING-PROPOSAL.NLS;2, 6-SEP-72 13:25 KEV ;

KEV 17-SEP-72 9:31 11814

new jsys

this jsys will be implemented in version 129.01 of tenex

new jsys

GCDSA - JSYS 405 - GET DISK ALLOCATION FOR CONNECTED DIRECTORY 1

Accepts: 1a

nothing 1a1

Returns: 1b

+1: always, with allowed disk allocation for the connected directory in 1 1b1

Generates illegal instruction psi (CNDIX5) if not logged in 1c

KEV 17-SEP-72 9:31 11814

new jsys

(J11814) 17-SEP-72 9:31; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Distribution: Gus Matzorkis, Guest O. ARC, Elizabeth J. Feinler, Augmentation Research Handbook, Kirk E. Kelley, N. Dean Meyer, Kay F. Byrd, Ralph Prather, James E. (Jim) White, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Don Limuti, Ferg F. Ferguson, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor, Smokey C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: KEV;
Origin: <VICTOR>GCDSA.NLS;1, 5-SEP-72 17:08 KEV ;

KEV 17-SEP-72 9:32 11815

new jsys gcoor

this jsys will be impemented in tenex version 129.01

KEV 17-SEP-72 9:32 11815

new jsys gcoor

GCOOR - JSYS 407 - GET TIME AND COORDINATES OF LAST BIG CHAR 1

Accepts: nothing 1a

Returns: +1: always, with coordinates of last big character in R1 (0 if not specified) and time of last big character in R2 (0 if not specified) 1b

KEV 17-SEP-72 9:32 11815

new jsys gcoor

(J11815) 17-SEP-72 9:32; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Distribution: Gus Matzorkis, Guest O. ARC, Elizabeth J. Feinler, Augmentation Research Handbook, Kirk E. Kelley, N. Dean Meyer, Kay F. Byrd, Ralph Prather, James E. (Jim) White, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Don Limuti, Ferg R. Ferguson, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor, Smokey C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: KEV;
Origin: <VICTOR>GCOOR.NLS;2, 16-SEP-72 21:23 KEV ;

KEV 17-SEP-72 9:34 11816

new jsys sbcim

this jsys will be implemented in tenex version 129.01

KEV 17-SEP-72 9:34 11816

new jsys sbcim

SBCIM - Jsys 406 - SET BIG CHARACTER INPUT MODE 1

Accepts: 1a

in 1: 1a1

0 - pass small characters to job when it does a PBIN 1a1a

1 - pass big characters to job when it does a PBIN 1a1b

Returns: +1: always 1b

KEV 17-SEP-72 9:34 11816

new jsys sbcim

(J11816) 17-SEP-72 9:34; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Sub-Collections: SRI-ARC; Clerk: KEV;
Origin: <VICTOR>SBCIM.NLS;2, 11-SEP-72 14:59 KEV ;

KEV 17-SEP-72 9:35 11817

new jsys uasqd

this jsys will be implemented in tenex version 129.01

KEV 17-SEP-72 9:35 11817

new jsys uasqd

UASQD - JSYS 404 - SET ALTERNATE SEQUENTIL DISPLAY AREA FOR ECHOING 1

Accepts: 1a

in 1: 1a1

B0 - 0 => ignore B1 1a1a

1 => use B1 1a1b

B1 - 1 => disable echoing to default daid if there are any alternates 1a1c

0 => echo to default daid in addition to any alternate daids 1a1d

B2 - 0 => ignore B3 1a1e

1 => use B3 1a1f

B3 - 0 => turn on default TTY simulation area 1a1g

1 => suppress default TTY simulation area 1a1h

B8 - 0 => ignore B9-B17 1a1i

1 => set alternate number one to daid in B9-B17 1a1j

B9-B17 - daid for alternate number one 1a1k

B26 - 0 => ignore B27-B35 1a1l

1 => set alternate number two to daid in B27-B35 1a1m

B27-B35 - daid for alternate number two 1a1n

Note: if B8 and/or B26 is 0, and the corresponding daid in B9-B17 and/or B27-B35 is 0, then alternate one and/or two, appropriately, will no longer exist as an alternate 1a2

Returns: 1b

+1: error, UASQX1 in one, attempting to establish an illegal daid as either aternate number one and/or two. no alternates will be establish if either one is illegal 1b1

+2: success, with appropriate action taken 1b2

KEV 17-SEP-72 9:35 11817

new jsys uasqd

(J11817) 17-SEP-72 9:35; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Distribution: Gus Matzorkis, Guest O. ARC, Elizabeth J. Feinler, Augmentation Research Handbook, Kirk E. Kelley, N. Dean Meyer, Kay F. Byrd, Ralph Prather, James E. (Jim) White, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Don Limuti, Ferg R. Ferguson, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor, Smokey C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: KEV;
Origin: <VICTOR>UASQD.NLS;4, 11-SEP-72 14:21 KEV ;

Additional Notes on Use of the New ARC TENEX Account Numbers

HJOURNAL="JCN 23 SEP 72 2:19AM 11833";

JCN 20-SEP-72 15:30 11833

Additional Notes on Use of the New ARC TENEX Account Numbers

The new ARC-TENEX login account procedures will be in effect sometime in the next few days. A recent login message has referred users to <system>sysdoc.txt (a Journal copy is: -- 11812,1b:wn) for details on the handling of account numbers at login and in the TENEX change account command. 1

A brief summary of default accounts follows:
(see also -- 11825,1:xhn) 1a

Network users (except RADC) have the single account: 3
RADC users have the single account: 30
CIRAD users have the single account: 40
XEROX users have the single account: 702
ARC users have individually assigned default and other account numbers. 1b

Further comments on the use of account numbers at login time: 2

When it is time for you to type in your account number the system will type out (as if you had typed it) a valid default account number for you. 2a

AT THIS POINT IN TIME, YOU CAN EITHER TYPE A CR, which means that you wish to use this account, or you can edit this account number with ↑W, ↑R, ↑A, or by adding text, and then type a CR. 2b

NOTE: if you wish to specify a different account number, it is best to type a ↑W (backspace word) and then the account number you wish to use. 2b1

IF YOU DO NOT TYPE THE ↑W FIRST, the text of the new number you type will be added to the default number already offerred, (in the absence of any other editing) probably resulting in an ILLEGAL ACCOUNT. 2b1a

We are searching for ways to get around this problem and will change this procedure when we can. 2b1b

If you modify the account number to an illegal account, you will not be logged in, and will be given the message ILLEGAL ACCOUNT. You should then try logging in again, either accepting the default account or supplying another valid one properly. 2c

ARC Journal References 3

(Ref11812) Kenneth E. (Ken) Victor, "system loginmessage", 7-SEP-72. [Cited in 1:-- 11812,1b:wn)] 3a

(Ref11825) James C. Norton, "Initial Default and Other Accounts for ARC System Use", 19-SEP-72. [Cited in 1A:-- 11825,1:xhn)] 3b

JCN 20-SEP-72 15:30 11833

Additional Notes on Use of the New ARC TENEX Account Numbers

(J11833) 20-SEP-72 15:30; Title: Author(s): James C. Norton/JCN;
Distribution: Kenneth E. (Ken) Victor/KEV; Sub-Collections: SRI-ARC;
Clerk: JCN;
Origin: <NORTON>J11833.NLS;1, 20-SEP-72 15:21 JCN ;

HJOURNAL=" JCN 4 NOV 72 1:39AM 11834";

The following input data were submitted to Jim Hillhouse for 1973 ARC Budget estimating purposes after a meeting with Bart Cox, Dave Brown, Doug Engelbart and Jim Norton on 11/2: 1

			Org 750			
Periods	1	2	3	4-7	8-13	1b
Staff Head Count	38	38	38	38	38	1c
Equivalent Staff	36	36	36	36	36	1d
% Org Payroll Sold	78	78	78	78	78	1e
% Project Labor on:						1f
Government Proj	100	100	100	100	100	1g
Public Serv Proj	0	0	0	0	0	1h
Commercial Proj	0	0	0	0	0	1i
Grant Proj	0	0	0	0	0	1j
Project Non-Labor	36000	36000	36000	144000	216000	1k

The above input data result in these summary estimates: 2

Org 750 2a

Periods	1	2	3	4-7	8-13	
Project Revenue	117400	115683	118730	457447	690177	2c
Gross Income	44264	43346	44974	170563	257984	2d
Overhead Expense	11881	11655	12056	45926	69416	2e
Operating Income	32383	31691	32918	124637	188569	2f
Org Total Payroll	38844	38988	39132	158112	241488	2g
TAv Payroll + PB	47543	46517	48337	182910	276758	2h
Income/TAP	68.1	68.1	68.1	68.1	68.1	2i

Org 750 2j

Periods	Total 1973	(Total 1972 - 10 periods * 1.3)	
Project Revenue	1499437	(1580000)	2l
Gross Income	561131	(510000)	2m
Overhead Expense	150934	(133000)	2n
Operating Income	410198	(378000)	2o
Org Total Payroll	516564	(468000)	2p
TAv Payroll + PB	602065	(695000) ??	2q
Income/TAP	68.1	(68.5)	2r

JCN estimate of funds available and expected: 3

Present contracts: 3a

ONR 3a1

Present balance =	12680		3a1a
Months left =	5.5		3a1b
Rate/month =	2300	to 4/15/73	3a1c
Est extension			3a1d
Rate/month =	3300	assumes 40000 level continued	3a1e

RADC 3a2

Present balance =	31419		3a2a
Months left =	2		3a2b
Rate/month =	15700	to 12/24/72	3a2c
Est extension			3a2d
Rate/month =	10000	to 12/31/73 assumes 120000 added	3a2e

ARPA/IPT 3a3

Present balance =	1585000		3a3a
Balance to 7/73 =	752347		3a3b
Months left =	8		3a3c
Rate/month =	94000	to 7/1/73	3a3d
Balance to 2/7/74 =	832478		3a3e
Months left =	7.25		3a3f
Rate/month =	114500	to 12/31/73	3a3g

Present contracts + expected extensions: by month (000) 3b

	1	2	3	4	5	6	7	8	9	10	11	12	
ONR	2.3	2.3	2.3	2.3	3.3	3.3	3.3	---------->					3d
RADC	10.0	10.0	10.0	10.0	10.0	10.0	10.0	---------->					3e
ARPA	94.0	94.0	94.0	94.0	94.0	94.0	114.5	---------->					3f
Tot	106.3	---------->		107.3	---->		127.8	---------->					3g

Total = 1406.0k for 1973. Note that about 25 k of 1972 funds will carry over to 1973 and that the non-labor estimate is somewhat high. These factors plus the uncertainty of how many people we hire (and at what salary level) and losing Bill Paxton seem to make this estimate close enough for budget estimating purposes. 3h

Other possible funding is excluded from the budget and will be separately mentioned by Bart Cox with the submittal of the ARC estimate with his other Laboratories and Centers. 3h1

JCN 3-NOV-72 16:13 11834

ARC 1973 Budget Estimate

(J11834) 3-NOV-72 16:13; Title: Author(s): Norton, James C./JCN ;
Distribution: Engelbart, Douglas C., Irby, Charles H., Watson, Richard
W., Norton, James C., Brown, David R./EMC DRB ; Sub-Collections:
SRI-ARC EMC; Clerk: JCN ;
Origin: <NORTON>ARCBUDGET.NLS;1, 3-NOV-72 16:09 JCN ;

JCN 6-NOV-72 17:17 11836
ANOTHER POSSIBLE CALCULATOR FEATURE: ADD COLUMN

HJOURNAL="*** DRAFT *** JCN 7 NOV 72 5:01AM 11836";

ANOTHER POSSIBLE CALCULATOR FEATURE: ADD COLUMN

It has occurred to several of us over the last few years, particularly when we had the NLS calculator, that we would like to be able to add a column of numbers simply by bugging any number in the displayed column that is to be added. 1

Here are some examples of such columns: 1a

All in one statement: 1a1

```
Labor              123,450
Payroll Burden       5,000
Overhead            16,000
Non-labor           14,500                                  1a1a
```

All in a plex: 1a2

```
Labor              123,450                                  1a2a

Payroll Burden       5,000                                  1a2b

Overhead            16,000                                  1a2c

Non-labor           14,500                                  1a2d
```

Inconsistent "place" and comma treatment in a statement: 1a3

```
Labor              123,450.00
Payroll Burden        5000
Overhead            16,000.0
Non-labor           14,500                                  1a3a
```

Inconsistent "place" and comma treatment in a plex: 1a4

```
Labor              123,450.00                               1a4a

Payroll Burden        5000                                  1a4b

Overhead            16,000.0                                1a4c

Non-labor           14,500                                  1a4d
```

Intermixed lines without numbers in a statement: 1a5

```
Labor              123,450.00
 (this is a comment)
Payroll Burden        5000
Overhead            16,000.0
Non-labor           14,500                                  1a5a
```

ANOTHER POSSIBLE CALCULATOR FEATURE: ADD COLUMN

Intermixed statements without numbers in a plex: 1a6

Labor 123,450.00 1a6a

Payroll Burden 5000 1a6b

(This is a comment) 1a6c

Overhead 16,000.0 1a6d

Non-labor 14,500 1a6e

1a7

A user in the calculator mode should be able to give a command such as: Add Column and bug any number in a column and have the system find and add all numbers in that column (as defined by the selected number). 1b

Lines or statements without valid numbers should be skipped, but the whole plex whould be examined for valid numbers in that column. 1b1

We might want to limit the search to numbers in statements at the same level in the plex, so that lower level entries in the same character position do not return true. 1b2

If the number 5000 were selected in (1a4b) above, the number 123,450.00 in (1a4a) and others like it would qualify as being in the column even though they are carried to more places past the decimal. 1b3

Numbers not properly justified in the statement or plex might be skipped - or, if we figure out how to handle them, they might qualify if they fall into some pattern that indicates they are really supposed to be in the column, but perhaps were improperly lined up by the user. This could be dangerous, though. 1b4

A command such as: Insert Column Total might be helpful also. 1c

This would insert a new line or statement (depending on the nature of the last column added and its input data) at the end of the column, with the appropriate text like:
Total xxxxx.xx carried to the largest number of places included in the input set of numbers and justified as appropriate for the column. 1c1

JCN 6-NOV-72 17:17 11836
ANOTHER POSSIBLE CALCULATOR FEATURE: ADD COLUMN

The add column feature may well be better considered more seriously during later stages of the calculator implementation, but it's worth noting as a possible feature now to see how it might fit later. 2

JCN 6-NOV-72 17:17 11836

ANOTHER POSSIBLE CALCULATOR FEATURE: ADD COLUMN

(J11836) 6-NOV-72 17:17; Title: Author(s): Norton, James C./JCN ;
Distribution: Irby, Charles H., Kaye, Diane S., Michael, Elizabeth K.,
Rech, Paul, Van Nouhuys, Dirk H./chi dsk ekm pr dvn ;
Sub-Collections: SRI-ARC; Clerk: JCN ;
Origin: <NORTON>COLUMNS.NLS;1, 6-NOV-72 17:14 JCN ;

JCN 8-NOV-72 17:45 11837
Four Tasks for Beau Hardeman

HJOURNAL=" JCN 10 NOV 72 6:10AM 11837";

JCN 8-NOV-72 17:45 11837
Four Tasks for Beau Hardeman

The following tasks need your attention. They are pointed at some real needs we have while at the same time appear to provide good experience in L10 user program writing. How about getting together when you want to start and going from there? 1

1. Develop an easy-to-use program that users can compile, institute and use on (norton,jouls,), or other catalog files - a program that does the following: 1a

- Searches any user-designated citation fields -- in (norton,jouls,) -- for any user-designated text and SENDS only those statements that pass the test. 1a1

- This could then be used to create special subcollections based on decision criteria not more easily made by simple content analyzer patterns run directly on the number, author, or titleword indices. 1a2

Examples: 1a3

- Finding only those documents addressed to a particular user IDENT 1a4

An early example: (norton, jcn,getaddressee:gw) 1a4a

- Finding documents with common sourcefiles 1a5

- Finding documents that obsolete older documents.. or update them. 1a6

- and so on... 1a7

Note that a key problem exists in the effective treatment of finding documents addressed to users who are members of various group idents.. and that such memberships may change with time. Perhaps an OPTIONAL quick program-controlled reference to the identfile, parsing for group memberships of the named IDENT, and returning a list of the group IDENTS that might be in the *b5 field of relevance would be worth considering 1a8

Also consider including an OPTIONAL, brief formatting procedure that gives: author, date, title, and list of addressees IDENTS -- all in one pass. 1a9

2. Study our treatment of trivial words in the NIC and Journal titleword index-making programs. 1b

Find a way to improve the efficiency of stating the words. better than 'T/'t "rim"/"RIM" and that sort of thing. 1b1

There might be a way in L10 to ignore case when examining text strings. That way, we would have a much cleaner entry for each trivial word. 1b1a

Try to extend the list. See JCN index-making program (12119,4a7:xyebgr) for more. 1b2

Perhaps there are other ways to extend the list.. like noting what words we throw out in making the Journal and NIC titleword indices. 1b2a

Does anyone have a list? 1b2b

We need Walter Bass to see the result and he can integrate into the NIC index programs. You should work with a copy of the program.. OK? 1b3

3. Make an accounting run of the ARC system use for October, showing the kind of views we had when we last used it. 1c

Now that we are using account numbers, be sure to include a listing - of use by account number. 1c1

4. This task is the one we have been looking forward to: making a COMPLETE Journal Catalog set of indices with the CPP and the NIC formatter - going back to document 6200. 1d

This should wait until after the trivial word stuff is done, or if it looks like a long job, we can change our course and run this earlier. Let's look at it in a couple of weeks. 1d1

In the meantime, let's update the New Entries Index set WEEKLY (Mondays?) and post as we have been doing. OK? 1d2

JCN 8-NOV-72 17:45 11837

Four Tasks for Beau Hardeman

(J11837) 8-NOV-72 17:45; Title: Author(s): Norton, James C./JCN ;
Distribution: Hardeman, Beauregard A., Watson, Richard W./BAH RWW ;
Sub-Collections: SRI-ARC; Clerk: JCN ;
Origin: <NORTON>BEAUTASKS.NLS;1, 8-NOV-72 17:42 JCN ;

Letter to Margaret M. Iwamoto

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

NIC 11868
6-OCT-72

1

TO: Margaret M. Iwamoto
Publication & Documentation
THE ALOHA SYSTEM
University of Hawaii

2

FROM: Jeanne North
Information and Station Agent Coordinator

3

Dear Margaret:

To set up accounts at the sites, contact the Liaisons as given in the Directory, or the Accounts Administrators. 4

5

SITE	ADMINISTRATOR	PHONE	6
			7
AMES-67	Ben Briggs	(415) 965-5261	8
CASE-10	Gail Moore	(216) 368-2984	9
CMU-10	Ronald M. Rutledge	(412) 621-2600 x178	10
DOCB	Maurice Kistner	(303) 499-1000 x3780	11
LL-TX2	William Kantrowitz	(617) 862-5500 x7349	12
MIT-DMCG	Abhay Bhushan	(617) 253-1428	13

Letter to Margaret M. Iwamoto

MIT-MULTICS	Mike Padlipsky	(617) 253-6006	14
NBS-CSST	Shirley Watkins	(301) 921-2601	15
SRI-AI	Michael Wilbur	(415) 326-6200 x4593	16
UCLA-CCN	Fred Abrahimi	(213) 825-7548	17
UCSB-MOD75	Sue Kadner	(805) 961-2261	18
USC-44	Bruce Mayer	(213) 746-2240	19
USC-ISI	John T. Melvin	(213) 822-1511	20
UTAH-10	Tom Stockham	(801) 581-8224	21

North, Jeanne B.
Augmentation Research Center
Stanford Research Institute
Menlo Park, California 94025

To:
Access Copy

JBN 16-OCT-72 8:41 11869

Letter to Marianne Pepper from Jeanne B. North

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

NIC 11869
6-OCT-72

1

TO: Marianne Pepper
Thayer School of Engineering
an Associat D School of
Dartmouth College
Hanover, N.H. 03755

2

FROM: Jeanne North
Information and Station Agent Coordinator

3

We are receiving, by a devious route, many good Dartmouth reports. There is a possibility they are really intended for the University, but the University doesn't think so. 4

5

If they are really intended for us, as we hope, can you get the address changed to: 6

7

8

ARPA Network Information Center
ATTN: Jeanne B. North
Stanford Research Institute
Menlo Park, California 94025 9

North, Jeanne B.
Augmentation Research Center
Stanford Research Institute
Menlo Park, California 94025

To:
Master Copy

EHF 20-SEP-72 9:58 11885

Jeanne,

here is a couple of sentences on Net. Facilitators.

Ernie.

Network Facilitators respond to inquiries about the ARPA Network, its hosts and resources. They assist in obtaining needed documentation and direct potential users to appropriate host or TIP personnel for further technical assistance in accessing the network in general or a specific resource in particular. 1

EHF 20-SEP-72 9:58 11885

(J11885) 20-SEP-72 9:58; Author(s): Ernest H. Forman/EHF;
Distribution: Jeanne B. North/JBN; Sub-Collections: NIC; Clerk: EHF;

KIRK 20-SEP-72 10:49 11886

DO IT YOURSELF FRAMAC EDITING

Copies of the latest transcribed FRAMAC meetings have been posted on the bulletin board in the console area. Please make any corrections, additions, etc on these hardcopies, or tell me about them before Friday 29 September 1972 when they will be journalized. Thanks. 1

KIRK 20-SEP-72 10:49 11886

DO IT YOURSELF FRAMAC EDITING

(J11886) 20-SEP-72 10:49; Title: Author(s): Kirk E. Kelley/KIRK; Distribution: Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart, J. D. Hopper, Charles H. Irby, Diane S. Kaye, Michael D. Kudlick, Harvey G. Lehtman, Jeanne B. North, James C. Norton, William H. Paxton, Paul Rech, Jacques F. Vallee, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor, Smokey C. Wallace, Richard W. Watson, Don I. Andrews, James E. (Jim) White/FRAMAC; Sub-Collections: SRI-ARC FRAMAC; Clerk: KIRK;

NCC blurb for ICCC pocket-sized handout

The Network Control Center (NCC) at Bolt Beranek and Newman Inc. (in Cambridge, Mass) has overall responsibility for the operation of the ARPA Network. Using automatic reporting routines in each IMP, the NCC monitors Network hardware, software, and circuit performance and initiates the appropriate repair procedures when failures occur. In addition, the NCC collects reports from each IMP on Host and circuit traffic. The Center is manned on a 24 hour basis and NCC personel are also available to help deal with site difficulties other than the IMP and circuit problems mentioned above.

AAM 20-SEP-72 11:27 11887

NCC blurb for ICCC pocket-sized handout

(J11887) 20-SEP-72 11:27; Title: Author(s): Alex A. McKenzie/AAM; Distribution: Jeanne B. North/JBN; Sub-Collections: NIC; Clerk: AAM;

DVN 20-SEP-72 13:46 11888

Back checking checking

Message (journal,11839,) reached me 9/20. I was on vacation from late August till 9/18 1

DVN 20-SEP-72 13:46 11888

Back checking checking

(J11888) 20-SEP-72 13:46; Title: Author(s): Dirk H. van Nouhuys/DVN; Distribution: David H. Crocker/DHC; Sub-Collections: SRI-ARC; Clerk: DVN;

JCN 20-SEP-72 15:32 11889
ICCC DEMONSTRATION FILM PLAN -Version 1

HJOURNAL=" *** DRAFT *** JCN HGL DVN 23 SEP 72 2:21AM xxxx";

INTRODUCTORY FILM OF 30 MINUTES:
see (11637,2a:gwy) for background 1

Outline: 1a
(6 min) Introduction 1a1
(3 min) Basics 1a2
(4 min) Editing, jumping (including linking), viewspecs, sorting, file handling, cataloging, software aids 1a3
(1 min) Typewriter and DEX terminals 1a4
(12 min) Examples with discussion 1a5
(2 min) Summary and conclusion 1a6
(28 min total) 1a7

(JCN/RWW) (6 min) Introduction to ARC and the NIC 1b

ARC sponsorship: ARPA, ONR, RADC and Xerox collaboration 1b1

Elements of Aug-sys: 1b2

People, together with: 1b2a

Tools, artifacts 1b2a1

Languages 1b2a2

Methodology 1b2a3

Training 1b2a4

(DVN) (3 min) Display, keyset, and mouse basics 1c

(DVN) (4 min) Editing, jumping (including linking), viewspecs, sorting, file handling, cataloging, software aids 1d

(DVN) (1 min) Mention of Typewriter and DEX terminals - spectrum 1e

(RWW/JCN/DVN) (12 min) Examples of the following with discussion and some special features shown. sorts, links, indices? 1f

Teams - the Journal (4 min) 1f1

ARC NIC role (3 min) 1f2

Software Augmentation (3 min) 1f3

Intelligence System (1 min) 1f4

Documentation Production and Control System (1 min)	1f5
(RWW/JCN/DVN) (2 min) Summary and conclusion	1g

SCHEDULE: 2

DVN starts Thursday 9/21 on editing 2:30pm ? 2a

Wednesday, 9/20 pm : HGL JCN ++? to set up TV recording equipment and leave it set up for use during practice sessions. 2b

RWW JCN meet to discuss parts, outline: Friday 9/22 at 9:00? 2c

SPECIAL FEATURE FILMS ? - 15 to 30 MINUTES AS APPROPRIATE 3

As we practice the special presentation sessions, (see -- 11637,4c:gw) we plan to TV record the sessions in the hopes of having enough good stuff left over to edit a tape that could be used if the system goes down during the ICCC presentations. This certainly will need more attention, but for now, we are just planning to save tapes that appear to be useful. 3a

These sessions should each include: 3b

5 minute intro to ARC, mouse, keyset, display basics, 3b1

Reference to the next Introduction to ARC session for those who haven't seen it, 3b2

Then into the special session topic. 3b3

Possible topics are: 3c

1. ONLINE NIC AND ARC WORK USING DNLS AND TNLS: 3d

use of (nic,locator,:xn) 3d1

browsing 3d2

Journal entry 3d3

2. ARC JOURNAL AND DSS: 3e

document submission 3e1

use of indices (norton,jcn,juse:xbgy) -- browsing 3e2

use of dialog in document preparation 3e3

3. SOFTWARE COLLABORATION: 3f

debugging 3f1

code writing 3f2

linked screens with audio 3f3

4. EDITING: 3g

basic NLS editing 3g1

JCN 20-SEP-72 15:32 11889

ICCC DEMONSTRATION FILM PLAN -Version 1

(J11889) 20-SEP-72 15:32; Title: Author(s): James C. Norton/JCN; Distribution: James C. Norton, Douglas C. Engelbart, James E. (Jim) White, Paul Rech, Michael D. Kudlick, Marilyn F. Auerbach, Charles H. Irby, Walt Bass, Dirk H. van Nouhuys, Jacques F. Vallee, Jeanne B. North, Richard W. Watson, Harvey G. Lehtman/ICCCT HGL; Sub-Collections: SRI-ARC ICCCT; Clerk: JCN;
Origin: <NORTON>ICCCFILM.NLS;1, 20-SEP-72 12:31 JCN ;

JEW 20-SEP-72 16:13 11891

TELNET Documentation

A copy of <system>telnet.help as of 20-SEP-72

User Telnet -- DRAFT 3 jan 72 1

2

Telnet Command Summary 2a

3

THE TELNET ESCAPE CHARACTER MAY ALWAYS BE USED TO RETURN TO COMMAND 4

LEVEL. THE INITIAL ESCAPE CHARACTER IS CONTROL-Z (SUB). 5

6

Connection.to or Host name: performs ICP to 7

connect to the indicated host. Options available 8

for specifying initial connection socket name or 9

number, time constant, and initializing modes from 10

the mode file. 11

12

Disconnect: Disconnects the current connection. 13

This will not necessarily log you out from the 14

remote host. Perform the necessary operations 15

before disconnecting. 16

17

Disconnect <name>: Disconnects the saved 18

connection with the specified name. 19

20

Survey: Conducts a survey to determine the status 21

of the loggers of all hosts by attempting to 22

perform the logger ICP. 23

Status.of <host>: Performs ICP with the indicated host and prints its status.

Echo.mode.is: Sets echo mode according to the following subcommand.

Remote: Turns off echoes generated by Telnet and signals the remote computer to generate echoes. Some hosts are not yet equipped to handle this signal and may require additional action to cause the remote computer to generate echoes. If Telnet believes it is connected to a local half-duplex terminal, it will complain about remote echoes but do it anyway.

Local: Turns on Telnet generated echoes and signal the remote computer to not generate echoes. Note that Telnet never generates echoes for terminals it believes have local echo of their own.

Linefeed.for.carriage.return: TENEX

translates carriage return to EOL, Telnet sends the EOL as the TELNET EOL (i.e. carriage return-linefeed). For some systems, the TELNET EOL is translated into carriage return. For these systems, the appropriate echo is carriage return. Other systems

---

translate the TELNET EOL into carriage return-linefeed. For these systems the appropriate echo is carriage return-linefeed. This subcommand causes the latter echo to be generated.

Control.character.echo.for <list of characters>: Turns on local echoes for the indicated control characters. Normally only control-G,J, and M (bell, linefeed, and carriage return) are

enabled.

Terminal.type.is: Allows the user to change Telnet's opinion of his terminal according to the following subcommands. Each command may be preceded by the word "no" to negate its meaning.

Half-duplex: Terminal generates its own echoes.

Full-duplex: Terminal does not generate its own echoes.

Local.mode: If connected, this command prevents Telnet from returning to remote mode after each command.

Remote.mode: If connected, this command causes Telnet to return to remote mode after each command. If not connected, it does nothing.

No: May appear before some commands to reverse their action.

Current.modes.are: Prints the state of connection and terminal mode flags.

[no] character.mode: Causes each character typed to be transmited as it is typed.

[no] line.buffer: Causes Telnet to accumulate a line of text before transmitting. A line ends on linefeed or EOL or altmode (esc).

Raise: Causes lower case letters to be transmitted as their upper case equivalents. Lower: Causes upper case letters to be transmitted as their lower case equivalents.

Case.shift.prefix.for: Allows the specification of the six case shift characters according the the following six subcommands.

Lock.lower.case: Same as the "Lower" command. Subsequent upper case input will be converted to lower case.

Word.lower.case: Converts the following uppercase letters to lower case until a non-letter (currently--will be non-alphameric) is seen.

Char.lower.case: Converts the following letter to lower case.

Lock.upper.case: Same as "Raise" command. Subsequent lower case input will be converted to upper case.

Word.upper.case: Converts the following word to upper case.

Char.upper.case: Converts the following character to upper case.

Unshift.prefix: Causes all following characters to be unshifted.

Quote prefix: Causes the following character to be transmitted without regard to any special significance it may have.

Synch.character: The specified character will be converted to the TELNET synch sequence. The TELNET synch sequence is used to cause the remote host examine its input stream to the current point for any special characters (interrupts, attentions etc.). All non-special may be thrown away.

Attention.character: The specified character will be converted to the TELNET break or attention character. Thic character is equivalent to the attention, quit, ob break key on certain terminals and may be necessary for using some systems. The Break command ganerates the same character.

Divert.output.stream.to.file: Causes all subsequent oetput from the remote computer to be written on the specified file. Use "No divert..." to stop this.

Phis is the end of the commands that may be preceded by "jo".

Escape.character=: The specified character becomes
phe Telnet escape character. This character must

---

be a TENEX inderrupt character. "?" will type
what these are.

Pime.constand: Sets the default time constant to
the specified amount.
Help: Prints the file <SYSTEM>TELNET>.HELP on the
user's terminal.

Netstatus: Runs <SUBSYS>NETSTAT.SAV.
Socket.map: Not implemented yet.

Infinite, lethargic, rapid: If used by themselves,
change the default time constant ala the
"time.constant" command. Otherwise, it modifies
the following command.

Run: Runs the specified file. Like the EXEC's run

command.

Quit: Returns from Telnet to the superior fork (usually the Exec). May be continued with no loss.

Logout: Logs out the local job (not the remote one). Requires confirmation with a carriage return.

Reset: Re-initializes Telnet producing an essentially virgin copy.

Ddt: Enters ddt. If ddt is not loaded, this will result in an unexpected interrupt. No harm is done if this happens.

Exec: Starts up an inferior EXEC under Telnet. This EXEC may be used like an ordinary EXEC to run subsystems etc without disturbing any existing connections. The Telnet escape character will return to Telnet however.

Code: Transmits the character specified by the

argument. The argument is a taken as an octal number unless preceded by "d" for decimal or "h" for hexadecimal. The argmument may be preceded by "o" for octal.

The "code" command argument may be used as a command by itself and will cause the indicated code to be transmitted.

Break : Transmits the TELNET break character.

synch : Transmits the TELNET synch sequence. Occasionally the " synch " command will work where the synch character will not since the command bypasses the buffering which may interfere with the use of the synch character.

Clear.output.buffer: The network provides a sizable buffer for the output stream from the

remote computer. This command provides a way of flushing accumulated output or subsequent output. Following this command, all output will be discarded until a three second pause occurs in the output stream. The last character before the pause is not discarded however since this may be a prompt character.

Summary.of.surveys: Produces a summary of the upness and response times of all hosts on the basis of information recorded by the survey command. An optional argument specifies the time period over which the summary is to be taken.

Save.connection.under.name: Saves the state of the current connection under the name specified.

Retrieve.connection.under.name: Retrieves the connection previously saved under the specified name. These two commands allow the terminal to be multiplexed to several jobs.

List.connections: Lists the name, local socket, foreign host, and foreign socket of all saved

connections.

Write.modes.for.host: Writes the current mode flags onto the mode file under the specified host. Requires write access to the file <SYSTEM>TELNET.MODES. Whenever a connection is made to a host the mode flags are preset from the mode file.

Flush.host: Marks all connections to the specified host as dead and sends a reset to that host. Requures wheel or operator special capability.

An initial semi-colon causes the remainder of the line to be ignored. Useful for comments or typing to links.

User Telnet

User Telnet (hereafter called Telnet) provides

facilities for communicating with host computers via the ARPA network utilizing the TELNET protocol. The purpose of the Telnet program is twofold. It converts various terminals connected to TENEX into a standard type of terminal called a network virtual terminal (NVT) by interposing programs in the character streams between the terminal keyboard and printer and the terminal port on the host computer. Secondly, it provides information about the network to assist a user in establishing connections.

Telnet Command Interpreter

Instructions to the Telnet program are given via the Telnet Command Interpreter. When in command mode (see below), characters typed on the user's terminal are read by the Telnet command interpreter and decoded as commands to perform various actions by Telnet.

The Telnet command interpreter has two unique features. The command interpreter will refuse to hear anything it does not understand. With full-duplex terminals, this means that no echo will appear for characters which are not valid successors of the previous input. In any case, the character is ignored and a bell is typed out. The input

stream that has already been typed is not forgotten however. Therefore, it is only necessary to type the correct character and not the complete command.

the other unique feature of the Telnet command interpreter is the use of question mark to discover what the command interpreter expects next. Typing a "?" at any time in command mode will elicit a list of words the command interpreter is expecting. Thus, typing a "?" when nothing has been typed will yield a list of all possible top-level commands. Typing "co?" will yield a list of all commands starting with "co". Typing "connection.to ?" will yield a list of possible arguments to the "connection.to" command.

The command interpreter provides command completion whenever a terminator is typed (full-duplex terminals only) and an exact match is achieved with some command or a unique initial substring is typed. Terminators are space, comma, alt-mode, and carriage return. Terminators are often not distinguished and are thus equivalent. Where necessary, comma is used to separate list items, space terminates a command or option and signals the desire to specify more options, carriage return ends a command unless more information is necessary. Altmode is the same as space.

Making a Connection 334

335

----- 336

Page 7 336a

337

338

339

There are two ways to make a connection. Typing 340

"connection.to <host> [<qualifiers>]" or simply typing 341

"<host> [<qualifiers>]" will cause a connection attempt to 342

be made. If successful, the connection will be said to be 343

complete and the terminal will be placed in remote mode. If 344

unsuccessful, the connection will be said to be "incomplete 345

because ---" with a reason given. In the latter case, the 346

terminal will remain in command mode. The possible 347

qualifiers specify socket name (e.g. logger), socket 348

number, time constant for waiting for a response and whether 349

the mode flags should be loaded from the mode file. 350

351

Disconnecting 352

353

The "disconnect" command is used to close the current 354

connection. This will not necessarily log you out from the 355

remote host so you should perform the logout procedure for 356

that host before disconnecting.

Telnet Modes

Telnet has several operating modes. Most modes are binary. That is, a particular mode may be either on or off independently of other modes.

Command/Remote Mode

In command mode, characters typed on the terminal keyboard are read by the Telnet command interpreter and decoded as commands to perform various actions. The command interpreter is described more fully below. The opposite of command mode is remote mode. In remote mode, characters typed on the keyboard (with certain exceptions) are not examined by Telnet at all, but are merely passed on to the remote host computer. Remote mode is normally entered after any command is executed when a connection exists. The terminal is initially in command mode and remains in command mode as long as no connection exists. Command mode is entered whenever the Telnet escape character is typed. The Telnet escape character is initially SUB (control-Z). The

terminal will also remain in command mode if the 381
"local.mode" command is given until the inverse command, 382
"remote.mode", is done. 383

384
Echo Control 385

386
Telnet allows several options concerned with echoing. 387
Echos may be generated by the terminal, by telnet, or by the 388
remote host. Telnet determines if the terminal is 389
generating echoes when started by examining the mode word 390
for the terminal. If the terminal is echoing, then Telnet 391
will do everything possible to cause the remote host to not 392

393
----- 394

 394a

395

396

397
generate echoes, and Telnet will not generate echoes itself. 398
If the terminal is not generating echoes, then Telnet 399
determines whether it should echo or not by information in 400
the mode file (if any) or by the "echo remote"/"echo local" 401
commands. Telnet keeps the remote host informed about how 402
echoing is being done and if the remote host is suitably 403

equipped, it will follow along. If not, then the user will have to give commands to the remote host to achieve the proper echoing.

Status Commands

Several status commands are available for discovering facts about the network. None of these commands will affect the state of the current connection. The commands are summarized below.

survey, produces a brief comment about the state of each host.

Status.of, produces a comment on the state of a particular host.

Netstatus, calls the netstat subsystem.

Current.modes.are, lists the current mode settings.

Time Constant Control

Due to the tenuous nature of operating systems, it is impossible to depend on a system to be well-behaved with respect to the network. Therefore, whenever trying to establish a connection, Telnet will abandon an attempt which is unsuccessful after a certain period of time. The length of this period of time may be specified by the time.constant command. The argument is either the number of seconds to wait, or one of the words "rapid", "lethargic", or "infinite" meaning 3, 10, and forever respectively.

Special Characters

To facilitate operation with systems requiring frequent use of special characters or lower/upper case graphics which a particular terminal may lack (e.g. 33 Teletypes have no lower case), six case shift characters may be defined for upper/lower character/word/lock shifts and characters may defined which will translate into attention (NVT 201) and the synch sequence. A command is available to independently set each of these characters. In addition, a character may be defined to be a single character quote. The character **448 following this character is always sent regardless of any special action it may otherwise have.

Page 9

Leaving Telnet

Telnet may be left in several ways. While running, Telnet disables Control-C (ETX) as an interrupt character so it is not possible to return to the EXEC in the usual way. The "quit" command is available to return to the EXEC. Continuing from the EXEC will resume with no loss. "Logout" will disconnect from any remote job and logout your local job. "Exec" will start up an inferior EXEC under Telnet. From this inferior EXEC, it is possible to perform assemblies or any other task involving the running of subsystems. The "run" command allows an arbitrary program to be run in an inferior fork of Telnet. Both "run" and "exec" may be interrupted by the Telnet escape character.

Miscellaneous Commands

Reset, closes all connections, resets all mode flags, and produces an essentially virgin Telnet.

Control, converts the next character to its control equivalent and sends it.

Code, sends the code specified by its argument. The argument is taken as an octal number unless prefixed by "d" for decimal or "h" for hexadecimal. Note that the command "code" is a noise word since the argument all by itself has the same effect.

synch , transmits the TELNET synch sequence.

break , transmits a break or attention charcter (NVT code 201).

semi-colon at the beginning of a line causes the remainder of the line to be ignored.

TELNET Documentation

(J11891) 20-SEP-72 16:13; Title: Author(s): James E. (Jim) White/JEW; Distribution: Gus Matzorkis, Guest O. ARC, Elizabeth J. Feinler, Augmentation Research Handbook, Kirk E. Kelley, N. Dean Meyer, Kay F. Byrd, Ralph Prather, James E. (Jim) White, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Don Limuti, Ferg R. Ferguson, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor, Smokey C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: JEW;
Origin: <WHITE>TELHELP.NLS;2, 20-SEP-72 15:57 JEW ;

JCN 20-SEP-72 18:05 11892

Revised Notes on Use of the New ARC TENEX Account Numbers

HJOURNAL="JCN 23 SEP 72 2:33AM xxxxx";

JCN 20-SEP-72 18:05 11892

Revised Notes on Use of the New ARC TENEX Account Numbers

The new ARC-TENEX login account procedures will be in effect sometime in the next few days. A recent login message has referred users to <system>sysdoc.txt (a Journal copy is: -- 11812,1b:wn) for details on the handling of account numbers at login and in the TENEX change account command. 1

A brief summary of default accounts follows:
(see also -- 11825,1:xhn) 1a

Network users (except RADC) have the single account: 3
RADC users have the single account: 30
CIRAD users have the single account: 40
XEROX users have the single account: 702
ARC users have individually assigned default and other account numbers. 1b

Further comments on the use of account numbers at login time: 2

When it is time for you to type in your account number, you can either type a CR, which means that you wish to use the default account, or you can type in a different account number, and then type a CR. 2a

If you set the account number to an illegal account, you will not be logged in, and will be given the message ILLEGAL ACCOUNT. You should then try logging in again, either accepting the default account or supplying another valid one properly. 2b

JCN 20-SEP-72 18:05 11892

Revised Notes on Use of the New ARC TENEX Account Numbers

(J11892) 20-SEP-72 18:05; Title: Author(s): James C. Norton/JCN;
Distribution: Gus Matzorkis, Guest O. ARC, Elizabeth J. Feinler,
Augmentation Research Handbook, Kirk E. Kelley, N. Dean Meyer, Kay F.
Byrd, Ralph Prather, James E. (Jim) White, Jacques F. Vallee, Diane S.
Kaye, Paul Rech, Michael D. Kudlick, Don Limuti, Ferg R. Ferguson, Linda
L. Lane, Marilyn F. Auerbach, Walt Bass, Douglas C. Engelbart,
Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby,
Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton,
Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara
E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. (Ken) Victor,
Smokey C. Wallace, Richard W. Watson, Don I. Andrews, Rome Air
Development Center (ISIM), Duane L. Stone/SRI-ARC RADC DLS;
Sub-Collections: SRI-ARC RADC; Clerk: JCN;
Origin: <NORTON>LOGIN.NLS;1, 20-SEP-72 18:01 JCN ;

GRAPHIC INPUT VIA A TIP

I have discovered that using graphic input from thourgh a tip is not straight foward, because "@" the commercial at sign is almost guaranteed to be one of the characters sent by the graphic input device especially if center screen is (0,0). Dave Walden informed me of the following command that makes the tip transparent:

@i n

"i" for intercpt "n" for none. Unfortionately escaping from this mode is ackward but liveable. One must either use the new to be installed reset, i.e., turn the terminal off then on again or use another terminal to re-establish command accept mode. this is done as follows:

@xxx i a

where "xxx" is the device number of thee terminal in transparent mode and "a" stands for all. Don't forget the give back:

@xxx g b

I have tried this and it worked. I suspect that all demos that use graphic input will need to operate with the tip in transparent mode.

1

AV 20-SEP-72 18:35 11893

GRAPHIC INPUT VIA A TIP

(J11893) 20-SEP-72 18:35; Title: Author(s): Albert Vezza/AV; Distribution: Joel B. Levin, Robert D. Bressler, Michael A. Padlipsky, William W. Plummer, Robert E. Kahn, Richard W. Watson, Peggy M. Karp, Robert H. Thomas, James E. (Jim) White, Dr. Vinton G. Cerf, Robert M. (Bob) Metcalfe, Albert Vezza, Diane C. Roberts, Alex A. McKenzie/XIC3; Sub-Collections: NIC XIC3; Clerk: AV;

JBN 21-SEP-72 13:39 11894

Alex - Thanks for the paragraph on NCC for ICCC; just right -
Jeanne 1

(J11894) 21-SEP-72 13:39; Author(s): Jeanne B. North/JBN;
Sub-Collections: SRI-ARC; Clerk: JBN;

JBN 21-SEP-72 13:43 11895

Thanks for paragraph

Alex - Thanks for the paragraph on NCC for ICCC - just right --
Jeanne

1

JBN 21-SEP-72 13:43 11895

Thanks for paragraph

(J11895) 21-SEP-72 13:43; Title: Author(s): Jeanne B. North/JBN;
Distribution: Alex A. McKenzie, Richard W. Watson/AAM RWW;
Sub-Collections: SRI-ARC; Clerk: JBN;

RWW 21-SEP-72 15:26 11896

meeting of ICCC demo team

There will be a meeting of tthose going to the ICCC on Mon at 4:00. We will meet once a week until the ICCC just to keep in touch and review some things together. 1

RWW 21-SEP-72 15:26 11896

meeting of ICCC demo team

(J11896) 21-SEP-72 15:26; Title: Author(s): Richard W. Watson/RWW; Distribution: James C. Norton, Douglas C. Engelbart, James E. (Jim) White, Paul Rech, Michael D. Kudlick, Marilyn F. Auerbach, Charles H. Irby, Walt Bass, Dirk H. van Nouhuys, Jacques F. Vallee, Jeanne B. North, Richard W. Watson/ICCCT; Sub-Collections: SRI-ARC ICCCT; Clerk: RWW;

AV 21-SEP-72 15:45 11898

SCARRED BY NLS

I am scarred by the aesthetics of the first journal message I sent.

1

AV 21-SEP-72 15:45 11898

SCARRED BY NLS

(J11898) 21-SEP-72 15:45; Title: Author(s): Albert Vezza/AV; Distribution: Joel B. Levin, Robert D. Bressler, Michael A. Padlipsky, William W. Plummer, Robert E. Kahn, Richard W. Watson, Peggy M. Karp, Robert H. Thomas, James E. (Jim) White, Dr. Vinton G. Cerf, Robert M. (Bob) Metcalfe, Albert Vezza, Diane C. Roberts, Alex A. McKenzie/XIC3; Sub-Collections: NIC XIC3; Clerk: AV;

VGC 21-SEP-72 16:58 11899

SAIL CHESS Scenario

Dick, SAIL Chess doc in <UCLA-NMC>SAILCHESS.NLS;7, it may still need a little editing. 1

VGC 21-SEP-72 16:58 11899

SAIL CHESS Scenario

(J11899) 21-SEP-72 16:58; Title: Author(s): Dr. Vinton G. Cerf/VGC;
Distribution: Robert M. (Bob) Metcalfe, Richard W. Watson/RMM RWW;
Sub-Collections: NIC; Clerk: VGC;

DVN 21-SEP-72 17:24 11900

I peeked

I took the liberty of looking at (bbn-net,user's-guide,). It seems to me you're doing fine. Keep up the good work. 1

DVN 21-SEP-72 17:24 11900

I peeked

(J11900) 21-SEP-72 17:24; Title: Author(s): Dirk H. van Nouhuys/DVN; Distribution: Julie B. Moore/JBM; Sub-Collections: SRI-ARC; Clerk: DVN;

AAM 22-SEP-72 6:01 11901

Dave, This is a message I received from Al Vezza. Alex

AV 20-SEP-72 18:35 11893
GRAPHIC INPUT VIA A TIP
Message: I have discovered that using graphic input from thourgh a tip is not straight foward, because "@" the commercial at sign is almost guaranteed to be one of the characters sent by the graphic input device especially if center screen is (0,0). Dave Walden informed me of the following command that makes the tip transparent: @i n "i" for intercpt "n" for none. Unfortionately escaping from this mode is ackward but liveable. One must either use the new to be installed reset, i.e., turn the terminal off then on again or use another terminal to re-establish command accept mode. this is done as follows: @xxx i a where "xxx" is the device number of thee terminal in transparent mode and "a" stands for all. Don't forget the give back: @xxx g b I have tried this and it worked. I suspect that all demos that use graphic input will need to operate with the tip in transparent mode.

AAM 22-SEP-72 6:01 11901

Dave, This is a message I received from Al Vezza. Alex

(J11901) 22-SEP-72 6:01; Title: Author(s): Alex A. McKenzie/AAM; Distribution: David C. Walden/DCW3; Sub-Collections: NIC; Clerk: AAM;

JCRL 22-SEP-72 7:25 11902

First Message Via NIC

no reply needed except to let me know you received it

JCRL 22-SEP-72 7:25 11902

First Message Via NIC

Here begins a renewed effort to master the NIC.

It was good to talk with you yesterday. If I can master this the distance from MIT to BBN will decrease markedly.

Lick

1

JCRL 22-SEP-72 7:25 11902

First Message Via NIC.

(J11902) 22-SEP-72 7:25; Title: Author(s): J. C. R. Licklider/JCRL; Distribution: Ted R. Strollo/TRS; Keywords: sample test miscellaneous message first NIC; Sub-Collections: NIC; Clerk: JCRL;

JCRL 22-SEP-72 7:33 11903

Test Message

no reply expected

JCRL 22-SEP-72 7:33 11903

Test Message

This is mainly to get me started using the NIC, but there is a substantive question: Was the information about the Navy Switching
Systems Workshop of any interest? Are you going to go or send someone?

It was good to see you in Arlington last week. See you in Menlo Park next.

Lick

1

JCRL 22-SEP-72 7:33 11903

Test Message

(J11903) 22-SEP-72 7:33; Title: Author(s): J. C. R. Licklider/JCRL; Distribution: Steve D. Crocker/SDC2; Keywords: test message navy switching workshop miscellaneous trivia; Sub-Collections: NIC; Clerk: JCRL;

JCRL 22-SEP-72 7:37 11904

TEST MESSAGE

GOODBYE

JCRL 22-SEP-72 7:37 11904

TEST MESSAGE

This is to see whether I can send myself a message via the NLS.
It is
now 10:35 Sept. 22.

Lick.

1

JCRL 22-SEP-72 7:37 11904

TEST MESSAGE

(J11904) 22-SEP-72 7:37; Title: Author(s): J. C. R. Licklider/JCRL; Distribution: J. C. R. Licklider/JCRL; Keywords: HELLO; Sub-Collections: NIC; Clerk: JCRL;

JBN 22-SEP-72 8:16 11905

Thanks to EHF for paragraph on NFG for ICCC

Thanks for the sentences; very Jeanne 1

JBN 22-SEP-72 8:16 11905

Thanks to EHF for paragraph on NFG for ICCC

(J11905) 22-SEP-72 8:16; Title: Author(s): Jeanne B. North/JBN;
Distribution: Ernest H. Forman, Richard W. Watson/EHF RWW;
Sub-Collections: SRI-ARC; Clerk: JBN;

```
HOURNAL="JCN 23 SEP 72  2:47AM xxxxx";
```

In response to requests from Jim Bair and Roger Panara of RADC, we have made some TENEX changes that will permit RADC people to set special protection functions for specific files in their directories. 1

First, we have created a new TENEX directory GROUP that includes each RADC user and the RADC directory itself. 2

These are: Bair, Panara, Stone, Lawrence, Bucciero, Petell, Cavano, McNamara, and RADC. 2a

Each TENEX file has as a part of its name a protection code such as: <BAIR>FILENAME.NLS;1;P775252 3

This code is not shown in the Directory command, except in the Directory submodes, such as VERBOSE. 3a

The protection code contains six digits which fill three fields of two digits each. 3b

Thus, the fields: 77 52 52 3b1

denote: user group world 3b2

The first (lefthand) field denotes the USERS' access to the file. 3b3

The second (middle) field denotes the users GROUP's access to the file. 3b4

The third (righthand) field denotes the WORLD's access to the file. 3b5

Within each field, the two digits shown indicate the current setting for access. There are several types. 3c

The most commonly used codes are: 3d

77 meaning write, read, list access 3d1

52 meaning read, list access only 3d2

00 meaning no read, writte, or list access 3d3

The system now sets each new RADC file's protection code to 775252 as a default, meaning that the RADC user can read, write, and list his file, but the RADC group and the world can

only read and list it. The group and the world cannot write on the file. 3e

This gives RADC users the ability to set other access rights for their group or the world (such as: 777752 or 770000) but still keep most of their files protected by keeping others in the RADC group from writing on them by accident. 3e1

TO CHANGE A FILE'S PROTECTION: 3f

In NLS, output or update to a new filename, typing out the full name including the protection field you wish. 3f1

O [utput] F [ile] filename.nls;1;p777700
or 3f1a

U [pdate File (new version)] filename.nls;1;p777700 3f1b

Note that if the new file is later updated to an old version, the special protection stays with the file, BUT if it is output or updated to a new version, the default setting will be made, unless the full filename is typed with the protection desired. 3f2

Be careful not to lose the protection setting through accidental updating. We have more to learn about this whole process, obviously. 3f3

JCN 22-SEP-72 9:11 11906

RADC File Protection - Some Recent Changes

(J11906) 22-SEP-72 9:11; Title: Author(s): James C. Norton/JCN; Distribution: Rome Air Development Center (ISIM), Dirk H. van Nouhuys, Smokey C. Wallace/RADC DVN DCW; Sub-Collections: SRI-ARC RADC; Clerk: JCN;
Origin: <NORTON>RADCACCESS.NLS;20, 22-SEP-72 8:39 JCN ;

AKB 22-SEP-72 10:59 11907

A Note on Echoing by NIC

<MIT-DMCG>NOTE-ON-NIC-ECHO.NLS;1, 22-SEP-72 10:50 AKB ; 1

I had some thoughts about the ancient half- and full-duplex usage problem with the NIC, which is specially suited to full-duplex use. BBN-Tenex defaults to fullduplex and users seem to be quite happy with it. The suggestion then is 1) have NIC default to full -duplex.
2) failing this even if NIC defaults to half-duplex, have the NIC
not send the user system the 'U echo' Telnet control. Now if a user
using full duplex use sends a 'U echo' to NIC, the NIC can go to fulldplex mode. For half-duplex use, the user sends nothing or 'I echo' to the NIC. 1a

The above avoids the problem of the user having to type full to NIC and/or escaping to local telnet and requesting remote echo (full-duplex use). We can live with the current NIC policy but it seems kludgy. We have settings files for all hosts, and want that our users not be bothered by the lowly problem of echoing at the right place. 1b

AKB 22-SEP-72 10:59 11907

A Note on Echoing by NIC

(J11907) 22-SEP-72 10:59; Title: Author(s): Abhay K. Bhushan/AKB; Distribution: Richard W. Watson, James E. (Jim) White, Smokey C. Wallace, Alex A. McKenzie, Robert M. (Bob) Metcalfe/RWW(for your action) JEW(for your immediate action and consideration) DCW(for your information and support) AAM(for your information) RMM(for your info); Sub-Collections: NIC; Clerk: AKB;

VGC 22-SEP-72 11:27 11908

status of sailchess scenario

dick, i think <ucla-nmc>sailchess.nls is in satisfactory shape. i will work on the assoc press extractor and parry scenarios today.
vint. 1

VGC 22-SEP-72 11:27 11908

status of sailchess scenario

(J11908) 22-SEP-72 11:27; Title: Author(s): Dr. Vinton G. Cerf/VGC;
Distribution: Richard W. Watson, Robert M. (Bob) Metcalfe/RWW RMM;
Sub-Collections: NIC; Clerk: VGC;

VGC 22-SEP-72 11:44 11909

unassigned jfn in hls?

Dick, i tried to load <MIT-DMCG>taken-browsing-uclasex.nls and
got 'exceed capacity' message. tried again after 'file' prompt
and go illeg inst 104000000030 at 41504 - jsys error:unassigned
jfn
and got popped back to monitor '@' prompt. whaa hoppen???
vint

1

VGC 22-SEP-72 11:44 11909

unassigned jfn in hls?

(J11909) 22-SEP-72 11:44; Title: Author(s): Dr. Vinton G. Cerf/VGC; Distribution: Richard W. Watson/RWW; Sub-Collections: NIC; Clerk: VGC;

VGC 22-SEP-72 16:06 11910

Sail AP Hotline scenario

Dick: the writeup for the SAIL AP hotline program is in <ucla-nmc>sailaphot.nls;4. Remember, this was typed on a 33, so i may have mised a capital letter or two. Will continue to type stuff in throughthe evening. Cheers. 1

VGC 22-SEP-72 16:06 11910

Sail AP Hotline scenario

(J11910) 22-SEP-72 16:06; Title: Author(s): Dr. Vinton G. Cerf/VGC;
Distribution: Richard W. Watson, Robert M. (Bob) Metcalfe/RWW RMM;
Sub-Collections: NIC; Clerk: VGC;