

Response to RFC #503

Please note that socket 5 at UCSB IS Arpanet standard RJS

1

Response to RFC #503

(J15991) 18-APR-73 17:03; Title: Author(s): Stoughton, Ronald M.  
/RMS; Distribution: /NJN JBP; Sub-Collections: NIC; Clerk: RMS;

ARH Online

Alan: I changed your Ident file entry so that you will get  
Journal messages online. Buz

1

ARH Online

(J15992) 17-APR-73 21:35; Title: Author(s): Owen, A. D. (Buz) /ADO;  
Distribution: /ARH; Sub-Collections: NIC; Clerk: ADO;



A Response to "Yet Another ...".

Read your "Yet Another...". I think the idea of allowing "File Access" within FTP is commendable. The current FTP scheme allows the addition of the proposed commands or functions. Jim White at SRI-ARC is currently writing specs for a good network wide mail system. Perhaps you can write specs for a network-wide "file-access" system. I suggest the use of the existing FTP mode, type, byte (PBYT), stru, etc. The additional commands would be OPEN (your PATH), READ (your RETR which confuses with the other RETR), WRIT (for STOR). The motivation for the DIRECTION was not clear as the two connections can be opened if need be. Also the CONN command was not clear to me. Perhaps you can explain this to me via private communication.

I tried to call you today but no answer. Perhaps the NIC journal system has its advantages. I think I will send a copy of this to all the FTPIG members. That is a good group to address your comments to. I suggest that we start a dialog among FTPIG members on this subject, that is people commenting on this include FTPIG in the distribution list. Bye

#### 15993 Distribution

Day, John D. , Kudlick, Michael D. , Day, John D. , Bressler, Robert D. (Bob) , Deutsch, L. Peter , Ryan, Neal D. , Winter, Richard A. , Watson, Richard W. , Hicks, Gregory P. , White, James E. (Jim) , Wolfe, Stephen M. , Neigus, Nancy J. , Pogran, Kenneth T. , Hathaway, A. Wayne , Clements, Robert C. , Seriff, Marc S. , Knight, Thomas F. (Tom) , Bhushan, Abhay K. , Braden, Robert T. , Chan, Arvolo , Crocker, Steve D. , Harslem, Eric F. , Heafner, John F. , Fitzsimmons, Jerry , McKenzie, Alex A. , Melvin, John T. , Metcalfe, Robert M. (Bob) , Postel, Jonathan B. , Tomlinson, Ray S. ,

A Response to "Yet Another ...".

(J15993) 18-APR-73 17:45; Title: Author(s): Bhushan, Abhay K. /AKB;  
Distribution: /DAY FTPIG; Sub-Collections: NIC FTPIG; Clerk: AKB;

What in the world does "Webster" know about THE BLUES??? Q.E.D.

1

BAH 17-APR-73 23:00 15994

(J15994) 17-APR-73 23:00; Title: Author(s): Hardeman, Beauregard A.  
/BAH; Distribution: /KIRK ; Sub-Collections: SRI-ARC; Clerk: BAH;

APR 1-7 1973, A Week In Review

## WEEKLY ANALYSIS REPORT:

WEEK: APRIL 1-7, 1973 (24 HOURS/DAY)

TOTAL SYSTEM CPU: 55.723

## (ARC)

IDENT	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU
(MFA)	2.440	33.598	.073	4.379	14:1
(DCE)	.835	29.696	.028	1.498	36:1
(BAH)	1.416	33.089	.043	2.541	23:1
(SRL)	.373	10.734	.035	.669	29:1
(JCN)	.665	14.026	.047	1.193	21:1
(DVN)	.686	16.798	.041	1.231	24:1
(PR)	.024	.937	.026	.043	38:1
(RWW)	.100	3.444	.029	.179	34:1
	-----	-----		-----	
(TOTAL)	6.539	142.322		11.733	

## (STAFF)

(MFA)	2.440	33.598	.073	4.379	14:1
(DCE)	.835	29.696	.028	1.498	36:1
(BAH)	1.416	33.089	.043	2.541	23:1
(SRL)	.373	10.734	.035	.669	29:1
(JCN)	.665	14.026	.047	1.193	21:1
(DVN)	.686	16.798	.041	1.231	24:1
(PR)	.024	.937	.026	.043	38:1
(RWW)	.100	3.444	.029	.179	34:1

(TOTAL)	6.539	142.322		11.733	
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## (PSO)

(KFB)	.167	10.232	.016	.300	62:1
(MEJ)	.722	30.552	.024	1.296	42:1

APR 1-7 1973, A Week In Review

BAH 18-APR-73 00:03 15995

(KIRK)	2.379	49.083	.048	4.269	21:1	6a4c
(LLL)	.530	19.512	.027	.951	37:1	6a4d
(NDM)	1.214	20.379	.060	2.179	17:1	6a4e
	-----	-----		-----		6a4f
(TOTAL)	5.012	129.758		8.995		6a4g
						6a4h
(NIC)						6a5
(EJF)	.347	7.085	.049	.623	20:1	6a5a
(MLK)	.054	4.947	.011	.097	91:1	6a5b
(MDK)	.626	12.012	.052	1.123	19:1	6a5c
(JBN)	.651	17.419	.037	1.168	27:1	6a5d
	-----	-----		-----		6a5e
(TOTAL)	1.678	41.463		3.011		6a5f
						6a5g
(HARDWARE)						6a6
(MEH)	.425	12.088	.035	.763	29:1	6a6a
(JR)	.002	.217	.009	.004	111:1	6a6b
(EKV)	.058	.458	.127	.104	8:1	6a6c
	-----	-----		-----		6a6d
(TOTAL)	.485	12.763		.871		6a6e
						6a6f
(TENEX)						6a7
(DIA)	.395	8.933	.044	.709	23:1	6a7a
(KEV)	1.303	22.298	.058	2.338	17:1	6a7b

APR 1-7 1973, A Week In Review

BAH 18-APR-73 00:03 15995

(DCW)	1.919	28.900	.066	3.444	15:1	6a7c
	-----	-----		-----		6a7d
(TOTAL)	3.617	60.131		6.491		6a7e
						6a7f
(NLS)						6a8
(WLB)	.216	3.483	.062	.388	16:1	6a8a
(CFD)	.582	16.800	.038	1.044	26:1	6a8b
(JDH)	.441	9.150	.048	.791	21:1	6a8c
(CHI)	.866	19.471	.044	1.554	23:1	6a8d
(DSK)	1.136	23.551	.048	2.039	21:1	6a8e
(HGL)	1.235	14.711	.084	2.216	12:1	6a8f
(EKM)	.550	28.438	.019	.987	53:1	6a8g
(JFV)	.224	4.946	.045	.402	22:1	6a8h
(JEW)	.846	14.464	.058	1.518	17:1	6a8i
	-----	-----		-----		6a8j
(TOTAL)	6.096	135.014		10.939		6a8k
						6a8l
						6a9
HIGHEST CPU:	MFA	2.440 hrs	LOWEST CPU:	JR		6a10
.002 hrs						
HIGHEST CON:	KIRK	49.083 hrs	LOWEST CON:	JR		6a11
.217 hrs						
HIGHEST CPU/CON:	EKV	.127	HIGHEST CON/CPU:	JR		6a12
111:1						
(RADC)						6a13
						6b



APR 1-7 1973, A Week In Review

BAH 18-APR-73 00:03 15995

NAME DIR	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	
						6b2
(JHB)BAIR 255	.146	2.778	.053	.262	19:1	6b3 6b4
(DFB)BERGSTRM 71	.766	22.614	.034	.610	29:1	6b5
(WPB)BETHKE 12	.018	.388	.046	.032	22:1	6b6
(JPC)CAVANO 81	.180	4.902	.037	.323	27:1	6b7
(RFI)IUORNO 41	.108	2.425	.045	.194	22:1	6b8
(EJK)KENNEDY 43	.204	11.361	.018	.366	56:1	6b9
(FSL)LAMONICA 57	.486	20.601	.024	.872	42:1	6b10
(TFL)LAWRENCE 142	.746	14.250	.052	1.339	19:1	6b11
(JLM)MCNAMARA 127	.449	10.235	.044	.806	23:1	6b12
(RBP)PANARA 84	.386	7.704	.050	.693	20:1	6b13
(MDP)PETELL 0	.006	.075	.080	.011	12:1	6b14
(RADCR)RADCR 82	.181	12.280	.015	.325	67:1	6b15
(WER)RZEPKA 67	.056	1.200	.047	.100	21:1	6b16
(FPS)SLIWA 34	.308	5.346	.058	.553	17:1	6b17

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(DLS)STONE	.514	9.580	.054	.922	19:1	6b18
195						

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(TOTAL)	4.554	125.739		7.408		6b20
1291						

(PER CENT TOTAL DISK CAPACITY)						6b21
2.7%						

(XEROX)

6b22  
6c

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	6c1 6c2
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(DDC)COWAN	.064	6.836	.009	.115	111:1	6c3 6c4
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(LPD)DEUTSCH	.130	2.484	.052	.233	19:1	6c5
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(CMG)GESCHKE	.038	.719	.053	.068	19:1	6c6
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(RMM)METCALFE	.009	.091	.099	.016	10:1	6c7
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(JGM)MITCHELL	.034	2.609	.013	.061	77:1	6c8
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(WHP)	.030	.678	.044	.054	23:1	6c9
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(EHS)SAT-WTE	.298	13.830	.022	.535	45:1	6c10
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(RES)SWEET	2.197	35.342	.062	3.943	16:1	6c11
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(TOTAL)	2.800	62.589		5.025		6c13
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(NETUSERS) TOP FIVE

6c14  
6d

6d1

APR 1-7 1973, A Week In Review

BAH 18-APR-73 00:03 15995

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	6d2
NSRDC	1.135	33.236	.034	2.037	29:1	6d3 6d4
MITRE-TIP	.968	34.030	.028	1.737	36:1	6d5
GUEST	.757	30.321	.025	1.359	40:1	6d6
UCLA-NMC	.683	22.599	.030	1.226	33:1	6d7
UCSB	.506	13.001	.039	.908	26:1	6d8
REST OF NET	1.774	49.288	.036	3.184	28:1	6d9
	-----	-----		-----		6d10
(TOTAL)	5.823	182.475		10.451		6d11

(OVERHEAD)

(JCP)	2.484	34.032	.073	4.458	14:1	6e1
CAT	12.417	26.057	.477	22.283	2:1	6e2
DOCUMENTATION	1.332	3.343	.398	2.390	3:1	6e3
OPERATOR	1.039	12.551	.083	1.865	12:1	6e4
SYSTEM	.033	.649	.051	.059	20:1	6e5
DOCB	.011	.236	.047	.020	21:1	6e6
220100	.030	.591	.051	.054	20:1	6e7
	-----	-----		-----		6e8
(TOTAL)	17.346	77.459		31.129		6e9

## 15995 Distribution

Engelbart, Douglas C. , Andrews, Don I. , Auerbach, Marilyn F. , Bass, Walt , Byrd, Kay F. , Dornbush, Charles F. , Feinler, Elizabeth J. (Jake) , Hardeman, Beauregard A. , Hardy, Martin E. , Hopper, J. D. , Irby, Charles H. , Jernigan, Mil E. , Kaye, Diane S. , Kelley, Kirk E. , Kudlick, Michael D. , Lee, Susan R. , Michael, Elizabeth K. , North, Jeanne B. , Norton, James C. , Peters, Jeffrey C. , Rech, Paul , Vallee, Jacques F. , Van Nouhuys, Dirk H. , Victor, Kenneth E. (Ken) , Wallace, Donald C. (Smokey) , Watson, Richard W. , White, James E. (Jim) , Stone, Duane L. , Lawrence, Thomas F. , Bair, James H. , Deutsch, L. Peter , Mitchell, James G.

BAH 18-APR-73 00:03 15995

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(J15995) 18-APR-73 00:03; Title: Author(s): Hardeman, Beauregard A.  
/BAH ; Distribution: /DCE DIA MFA WLB KFB CFD JAKE BAH MEH JDH  
CHI MEJ DSK KIRK MDK SRL EKM JBN JCN JCP PR JFV DVN KEV  
DCW RWW JEW DLS TFL JHE LPD JGM ; Sub-Collections: SRI-ARC RADC  
; Clerk: BAH ;

## Library Indexing

Marcia tells me the two of you are best to ask about indexing tools, etc:

We are considering building a regular library-type index, which will need an author index and a title index. I know you already have the tools built and so would like to use 1. What is the input data format?

2. How do I use the tools?

Links to any existing documentation should be sufficient.

tnx.

1

Library Indexing

(J15996) 18-APR-73 16:10; Title: Author(s): Crocker, David H. /DHC;  
Distribution: /jbn bah ; Sub-Collections: NIC; Clerk: DHC;

Identification submode

I have just discovered that IMNLS (DNLS) cannot access the  
Identification mode, except thru a horrible hack.

Terrible Terrible

1



DHC 18-APR-73 16:13 15997

Identification submode

(J15997) 18-APR-73 16:13; Title: Author(s): Crocker, David H. /DHC;  
Distribution: /bugs ; Sub-Collections: NIC BUGS; Clerk: DHC;

smfs filenames control

Jim -- Now that I finally understand about SMFS's file naming orientation, how do you keep the extension and version fields from containing anything. E.G., filename DHCBOOK would be DHCBOOK, rather than DHCBOOK.NLS;9876? -- DHCBOOK.; doesn't seem right).

tnx.

1

smfs filenames control

(J15998) 18-APR-73 16:18; Title: Author(s): Crocker, David H. /DHC;  
Distribution: /jew ; Sub-Collections: NIC; Clerk: DHC;

## Information and request about IMNLS

Greetings. Today is the third day I have attempted to use IMNLS over the Network. Since I am at UCLA (using the USC-TIP) and the NIC's response time is poor, it has been interesting. I sent you a copy of yesterday's note and am sending you this note because I have been told that you have been heavily involved with IMNLS from Rome. Briefly (?) I am interested in seeing the efficiency of imlac use increased and would like to benefit from your experience. I searched thru the NIC and ARC Journal indexes but didn't see anything very recent from you (or Deutch).

My official status is Documentation Editor for the Network Measurement Center, and my interest is both for use and study.

1

DHC 18-APR-73 16:45 15999

Information and request about IMNLS

(J15999) 18-APR-73 16:45; Title: Author(s): Crocker, David H. /DHC;  
Distribution: /tfl ; Sub-Collections: NIC; Clerk: DHC;

## ARC Writing, Comments Added to the Dialogue

Re: PR (15761,) MDK (15984,) and WLB (15990,).

1

I, too, feel the need for improvement in ARC written communications and an interest in working with others to effect improvement. As an addendum to the suggestions in PR's, MDK's and WLB's memos, here are some reactions.

2

1. I would like very much to join a group to discuss and if possible set some standard policies and practices.

3

2. We really need to clear up the relation of our tools to our writing.

4

It's not obvious to me that the facility with which we can compose online has a causal relationship to bad writing. I have an intuitive feeling that if anything the opposite is true, that cutting and pasting paragraphs led to less careful rewriting than the ease of correction possible in DNLS.

4a

It is probably true that a person composing a message on a keyboard will make more misspellings than the same person would in handwriting. The spellings will also be less ambiguous. The assertion that the secretary will be outmoded is pertinent here, too; the secretarial function is also an editing function, and also often serves to let the writer get a fresh look at his composition after it is cold in his mind. Experience with DEX may be instructive in differentiating the source of problems, and in finding solutions, new or old.

4b

3. COM aside, there are some improvements possible in the appearance of our output.

5

A prerequisite for visual improvement is agreement that appearance makes a contribution to the grade of writing.

5a

Some improvements could result from standard policies and practices.

5b

Some from more control of relations with printing and repro services.

5c

4. I feel that it is not an answer to our critics to say that our new facilities have such great advantages that we must learn to live with any disadvantages now evident. If we can't demonstrate that we are not taking a step backward for each step forward, we will continue to meet opposition to acceptance of our systems, fine as they may be.

6

## ARC Writing, Comments Added to the Dialogue

Being ahead of our times is a great game; being ahead of our times and meeting opposition and overcoming it and saying I told you so is an uncomfortable game; being ahead of our times and making it easy for the times to catch up with us is the best game of all. If we get a strong enough team and work on the rules maybe we can succeed in this best game.

6a

ARC Writing, Comments Added to the Dialogue

(J16000) 18-APR-73 19:04; Title: Author(s): North, Jeanne B. /JBN;  
Distribution: /sri ; Sub-Collections: SRI-ARC; Clerk: JBN;  
Origin: <NORTH>WRITE.NLS;4, 18-APR-73 12:14 JBN ;



NSRDC -- Who, Why?

Who is the Naval Ship Research and Development Center? Why does ARC need or want them as users of NLS?

1

Especially since they have chosen to make the default for all their files "no access by anyone else"? This attitude implies they have something to hide.

1a

I can understand, although I do not really agree with, the reasons for ARC's special relationship with RADC.

2

I feel, however, that the kind of development and service pressures generated by government (and especially military) agencies tend to be at best misplaced, and at worst pernicious, when applied to research sites, especially those with long-term goals such as ARC.

3

If there are reasons why NSRDC needs NLS service, let them wait till the Utility is available: there is no need for them to soak up research machine resources.

4

NSRDC -- Who, Why?

(J16001) 18-APR-73 00:24; Title: Author(s): Deutsch, L. Peter /LPD;  
Distribution: /EMC CHI; Sub-Collections: NIC EMC; Clerk: LPD;  
Origin: <DEUTSCH>Q.NLS;2, 18-APR-73 00:21 LPD ;

## Site Idents

Peter Deutsch had a need for up-to-date site idents, but when he called the NIC he found no such list kept here. (The list in the TENEX code was not up to date, either.)

1

Jeanne North was keeping a file for some time, with Alex McKenzie's help. But she wasn't always kept up to date on new sites, new names, and the like. The function now resides with Nancy Neigus at BBN.

2

Currently there is info about a mConth@B`Anld@B`Ahn

<@CtNtE tG

\*\*>SITE@. @STAT@B`at@B`B@BN-tC>tCtTtEtNtEtX, and Ahnfo A`bout four @tB-tC/.4( Ahn@B`|ABNOE

tCtN

.#2A`

I agree Avit

FILES, as a natural extension of the concept of idents, and as a natural adjunct to the Network Mail Address record keeping we'll be getting into.

2b

What is needed, as Peter suggested, is a branch in the NIC'S IDENT File that has valid HOST NAMES, and additional information such as

imp # & host #  
 machine in use (brief i.d. like 360/75)  
 user vs server distinction (user only / server only / limited  
 server)  
 active or inactive, or scheduled to be up on date x  
 mailing address

3a

Placing this in the IDENT File would be consistent with the  
 following needs:

4

a) The NIC is going to need a way to check the host portion of  
 "user@host" addresses before accepting it as a valid network mail  
 address for a user's record in the IDENT File.

5

Having a complete list of valid host idents in the file would  
 make this relatively easy to do.

5a

b) There must be a place where other network users can obtain  
 host idents.

6

When the FTP/Journal connections make it possible to access  
 the NIC Ident file from a host system without logging in to  
 the NIC, providing host idents would be a natural extension of  
 the services offered at the NIC.

6a

What we should do as soon as possible is:

7

## Site Idents

1) Modify the Ident System to allow host idents to be collected in a separate branch, with information such as that outlined above.

7a

A problem, pointed out by CHI, is that of potential name conflicts in the IDENT file between "affiliations" and "hosts". There is no trivial solution; SRI-ARC for example is both a host and an affiliation.

7a1

In a similar situation, the solution adopted for distinguishing user idents from user names was to enclose user names in single quotes. Perhaps a similar solution would be satisfactory in the present situation.

7a2

2) Provide a formatted hardcopy of the contents of that branch, for frequent dissemination around the Network (through the catalog programs or something similar).

7b

What I will do concurrently is contact Bruce Dolan, inform him that the problem of providing the NIC with up-to-date information has not been resolved, and ask for help through Schelonka and Young at Patrick-TIP.

8

Peter Deutsch has also sent a message to Dolan on this.

9

Site Idents

(J16002) 18-APR-73 16:45; Title: Author(s): Kudlick, Michael D. /MDK  
; Distribution: /lpd jew rww jbn chi jake dcw ; Sub-Collections:  
SRI-ARC; Clerk: MDK;  
Origin: <KUDLICK>SITES.NLS;3, 18-APR-73 16:39 MDK ;

Re: Sort Plex, original order

Goto Sort Plex, when unable to resolve a difference, does NOT  
seem to leave the statements in their original order.

1



NDM 18-APR-73 18:51 16003

Re: Sort Plex, original order

(J16003) 18-APR-73 18:51; Title: Author(s): Meyer, N. Dean /NDM;  
Distribution: /JDH; Sub-Collections: SRI-ARC; Clerk: NDM;

SNDMSG interchange: Frank Kuo re. PROFESSOR GRIMSDALE'S VISIT

DCE received, 19 Apr 73, 0645:

1

WE SENT YOU A LETTER LAST WEEK CONCERNING PROFESSOR GRIMSDALE'S VISIT. HIS ITINERARY IS NOW MORE DEFINITE SINCE HE PLANS TO VISIT VINT CERF AT STANFORD ON THE AFTERNOON OF APRIL 25, IT WOULD BE MOST CONVENIENT IF HE COULD VISIT SRI THAT MORNING. HE WOULD LIKE TO VISIT WITH YOU, DICK WATSON, AND PETER NEUMANN. IF THIS IS CONVENIENT, PLEASE LEAVE A MSG FOR ME UNDER USER NAME <KUO> AT ISI. REGARDS, FRANK KUO

1a

DCE sent, 19 Apr 73, 0653:

2

Frank; Morning of April 25 fine with us for Prof. Grimsdale's visit. I'll arrange for me and Dick Watson to visit with him; and I will check with Peter Neumann, too. Sorry that I didn't respond directly to your letter. Best regards, Doug Engelbart.

2a

DCE 19-APR-73 07:07 16004

SNDMSG interchange: Frank Kuo re. PROFESSOR GRIMSDALE'S VISIT

(J16004) 19-APR-73 07:07; Title: Author(s): Engelbart, Douglas C.  
/DCE ; Distribution: /rww jcn drb bc ; Sub-Collections: SRI-ARC;  
Clerk: DCE ;

DCE 19-APR-73 07:19 16005

ARC-visit arrangements for Professor Grimsdale, University of  
Sussex

Request RWW to handle possible seminar set up

ARC-visit arrangements for Professor Grimsdale, University of  
Sussex

Dick: Frank Kuo sent me a letter 11 Apr about this visit,  
saying about Professor G., "...a well respected pioneer in  
British computers (being one of the original Manchester  
University design team)....during his visit, Professor Grimsdale  
has offered to give a seminar on the computer systems research  
effort at the University of Sussex."

1

Note that Kuo has asked for him to have a visit with me, you,  
and Peter Neumann, on the morning of Wednesday, April 25. (I'll  
notify Peter of the visit plans.)

2

Would you please consider setting up a seminar in ARC's  
conference room, and inviting Peter and other guys from ISL and  
AIC? Your choice.

3

(cc. Peter Neumann)

4

DCE 19-APR-73 07:19 16005

ARC-visit arrangements for Professor Grimsdale, University of  
Sussex

(J16005) 19-APR-73 07:19; Title: Author(s): Engelbart, Douglas C.  
/DCE ; Distribution: /rww jcn drb ; Sub-Collections: SRI-ARC; Clerk:  
DCE ;

smfs directory

Jim -- How hard would it be to have smfs create and use a  
'directory', containing the names (exact) of the files it has  
sent to ucsb?

1

smfs directory

(J16006) 19-APR-73 10:13; Title: Author(s): Crocker, David H. /DHC;  
Distribution: /jew ; Sub-Collections: NIC; Clerk: DHC;



Yet another viewspec (for imnls)

In view of data rate problems with imnls, I strongly suggest a 'show one statement only' viewspec. This is in contrast to to levels and lines/stmnt which can both still fill the screen. Judicious use of spec 'g' can keep it to one stmnt, but only awkwardly.

1

16007 Distribution

Np, Nps , Kelley, Kirk E. , Watson, Richard W. , Irby, Charles H. ,

Yet another viewspec (for imnls)

In view of data rate problems with imnls, I strongly suggest a 'show one statement only' viewspec. This is in contrast to levels and lines/stmnt which can both still fill the screen. Judicious use of spec 'g' can keep it to one stmnt, but only awkwardly.

1

DHC 19-APR-73 10:20 16007

Yet another viewspec (for imnls)

(J16007) 19-APR-73 10:20; Title: Author(s): Crocker, David H. /DHC;  
Distribution: /np ; Sub-Collections: NIC NP; Clerk: DHC;

Dirk -- I have a copy of <MSR>BUSRGD Baseline User's Guide, dated 23-Nov-71. Could I get any recent documents on it (including your report on why it doesn't work)? We are considering using it for management of our project.

tnx.tBaseline request

1

(J16008) 19-APR-73 16:37; Author(s): Crocker, David H. /DHC;  
Distribution: /dvn ; Sub-Collections: NIC; Clerk: DHC;

Mike -- what is the status of our User Interest Meeting??

1

(J16009) 19-APR-73 16:46; Author(s): Crocker, David H. /DHC;  
Distribution: /mdk ; Sub-Collections: NIC; Clerk: DHC;



Some potential replacements for the MTST

Regarding our conversation on 18 APR concerning a replacement for the MTST.

I'm not sure if you need the MTST for other functions in your office ie, are you still preparing MTST tapes for input to the Command Post Computer? If so, there is probably no replacement for it, since there is no other device quite like the MTST.

Assuming however, that what you are after is a terminal with decent print which can also be used in a local mode with some kind of off-line tape storage--there are several possibilities.

The TYCOM is a IBM Selectric typewriter with a base plate added, which can transmit and receive ASCII code. I think Frank Allen has one of these, but has had bad luck with it from a reliability standpoint. We are getting two of them here (an improved model) and are going to be able to plug our Termicette Digital Recorders into them. For about \$5,000 (\$3000 for the TYCOM and \$2000 for the cassette recorder) we will have the capability of the Mag Card or MTST, which are closer to \$10,00. Our configuration will only have limited local editing capability, but this does not seem to be a limiting factor since we are tied into systems with extensive text editing software.

REDACTRON claims that they will soon have a communicating version of their system. It would be a 2741 essentially, with a cassette tape attached. The one drawback of this is that the tape will have unique dimensions, and can only be obtained from Redactron. They seem to be following IBM's lead in making a tape which can only be obtained from them (and hence is very much over priced).

GE makes a terminal called the TERMINET, which has decent hardcopy output and runs at 300 baud (the same speed as the Execuport). We played around with one about 2 years ago when they were first introduced, but the thing was very unreliable then. GE claims that they have fixed all the problems and are starting to actively promote it again. ARPA is buying one for all the offices in DOD which handle procurements for them. We will be getting one here at RADDC (in Staff), and we may get a feel for its reliability then.

We are in the process of specifying a cheaper terminal to take the place of the IMLAC. It looks like we may be able to get one for under \$5,000 (without graphics but with the mouse and all the power of DNLS). If so then the "idea" setup I would envision for an office is: one of these cheap DNLS terminals for use by the manager/boss, a TYCOM for decent output and a Termicette recorder (or equivalent) connected to the TYCOM for the secretary to prepare more lengthy drafts of documents.

## Some potential replacements for the MTST

There are several criteria to keep in mind when specifying terminals:

Portability--Will you have occasion in the foreseeable future to move the terminal to another site--either temporarily or permanently? If so then this implies two things, light weight, and acoustically coupled.

The first avoids back problems and the second avoids having a terminal but no comm jack to attach it to (wherever there is a phone, you have an active terminal).

Print Quality--Is the terminal also to be used as a printer for the finished product? If so then you need one with decent print.

Flexibility--Is the terminal to be used with more than one computer system? If so then you should get one with switch selectable options for baud rate, half/full duplex transmission, parity (odd or even), etc.

Keyboard--Is the terminal to be used by individuals who will be using other keyboards? If so, some attempt should be made to specify a keyboard that is similar to existing ones. This is hard, because there seems to be as many keyboards as there are manufacturers. The TYCOM is exactly like a typewriter keyboard, for example, and would be preferred for a secretary who is doing conventional typing.

Noise--If the terminal is to be used in an office environment where people are trying to think, then the noise level should be as low as possible. There is nothing more annoying (as I'm sure you know) than to have an MTST pounding out a paper while you're trying to hold a meeting. With the exception of the GE Terminus, all the impact printers tend to be noisy--this includes the MTST, CMC, TYCOM, REDACTRON, 2741, and similar terminals.

Cost--If cost is a real factor, there is a range from \$2,000 to \$10,000 in the terminals I have mentioned. Terminals in general are coming down in price, but printing terminals probably won't go below \$2,000 for some years to come. CRT terminals have already outstripped printing terminals in cost--I saw one the other day for \$1100 with a nine inch screen.

## Some potential replacements for the MTST

If I were to rate the various terminals on the above criteria on a scale from one to five (with 5 most desirable) I would come up the following matrix:

TERMINAL	port	prnt	flex	keyb	nois	cost
TYCOM	4	5	3	4	3	4
REDACTRON	3	5	2	4	3	3
2741	3	5	2	4	2	3
CMC	2	5	2	4	3	2
TERMINET	3	4	4	3	4	3
EXECUPORT	5	3	5	3	5	4
TI-725	5	3	5	3	5	4
TTY-37	1	4	3	3	1	5

16010 Distribution  
Logan, Robert ,

Some potential replacements for the MTST

(J16010) 19-APR-73 12:50; Title: Author(s): Stone, Duane L. /DLS;  
Distribution: /rl ; Sub-Collections: RADC; Clerk: DLS;  
Origin: <STONE>MTST.NLS;1, 19-APR-73 12:48 DLS ;

## Use of the Communicating Mag Card over the ARPANET

Following is a list of the differences, oddities, inconveniences, etc. that you will encounter in trying to use the CMC over the ARPANET.

Setting up the machine--first you need an ASCII type ball, which can be obtained from IBM, or you will not be able to print a lot of the character set (even with it there are still a couple of characters that won't come out the same as on the Execuport).

Turn the CMC on and depress the CPU button on the right side of the keyboard--sometimes I think you also have to depress the PLAY button on the left hand side of the keyboard (although I'm not completely sure).

Press the talk button on the data phone and dial your local TIP number. When it answers, press the data button and set the phone back on the cradle.

The CMC is essentially a 2741 when operating as a terminal. This means that there could be any one of 8 different codes coming out of the machine. If yours is a fairly recent model try hitting a J (upper case--lower case will not do) to wake up the TIP. As with the Execuport you may have to hit it more than once to get a response from the TIP. If this doesn't work try any of the following: F W 6 L O or 4.

Being a 2741 it is also a half duplex device--this means that you will have to be careful and not type in characters when the machine is printing. It does no harm to the machine or the network or SRI/NLS, however the characters will not be transmitted.

If you get the hello message from the TIP then just type @ l 2 "cr"---there is no "lf" on the CMC--- you do not have to type @ d c e or @ i l.

Log into TENEX as usual, being careful of the half duplex problem mentioned above.

Whenever you need to use a control character, you must first type a " (since there is no control key on the keyboard). This goes for all control characters from A--Z. That is, "A, "B, "C, "D,... "Z. Be sure to use the upper case, ie, hold down the shift key. A special case is the control O which stops printing. To activate this first depress the attention key on the right side of the keyboard, then type "O then hit the carriage return. The attention key stops printing and allows you to send one command out. The carriage return starts printing again, but it will stop after a line or two (depending upon how much was already in the TIP buffer when you hit the attention key).

## Use of the Communicating Mag Card over the ARPANET

There is only one problem that I have encountered while inputting text into NLS. That is, you must hit the " twice if you want to have it transmitted to SRI (otherwise NLS will interpret the character following the " as a control character). When in the print mode, the " will be doubled up, ie, a " in the NLS file will be printed as ". This is SRI's problem I think, and they have indicated they will fix it soon.

Other little problems--you may have to reset the margins on the typewriter to reasonably center the printout. You will have to get a roll of paper and something to unwind it from (if the unit is not already so equipped). You may have to manually unwind the paper a little, or it may not feed through the typewriter smoothly. After printing several pages, the paper is bound to start skewing off to one side or the other. If you find that the pages printed out using ODT are twice as long as usual or that there is always a blank line skipped between printed lines, the typewriter is probably set for double spacing. Have any typist show you how to reset it.

We have tried a couple of simple minded approaches to reading text from a magnetic card through the CMC into SRI. So far we have failed. If we find a way, we'll let you know.

I would be very interested in hearing about your experiences with the CMC. Also, would like to know what Frank Allen thinks of the system if he happens to be watching you.

One thing you could do for me if you would in your "spare time"...load file <stone>admin and print branch .2...This is some comments that I had on the ROC that ESD prepared for Frank Allen on project ADMIN. If you could send a copy to Frank or take it up to him if you happen to be going that way, I'd appreciate it.

THANKS and GOOD LUCK

16011 Distribution  
Logan, Robert ,



Use of the Communicating Mag Card over the ARPANET

(J16011) 19-APR-73 14:08; Title: Author(s): Stone, Duane L. /DLS;  
Distribution: /RL; Sub-Collections: RADC; Clerk: DLS;  
Origin: <STONE>CMC.NLS;1, 19-APR-73 12:51 DLS ;

## Novice/Expert Planning Status

## NOVICE/EXPERT TEAM

The purpose of this document is to indicate the current planning and development under way in several specific areas.

## Identification of a Novice User

1. We propose having a named branch in the user's initial file to indicate novice status. Initially when we generate a new user's first initial file, we could elect to set his status to novice. Eventually it might contain more than one value (between novice and expert) or other help-related data about the user.

2. TNLS could test the novice status when (?) help is requested and only feed back information relating to novice category commands. It could then ask "Do you want more?" to allow optional continuation of the list. This would be ridiculous in some situations and useful in others, it seems. In our present system, the novice can stumble into commands he hasn't heard of, and omitting them entirely from HELP might mislead him even more.

3. Obviously, we will need to look at the next logical layer of commands and concepts to get a user out of Novice and into a confident state where he has the tools to explore, understands system documentation, and can exercise a little self-expression in the learning direction he takes next.

## TNLS Novice Documentation

## Novice/Expert Planning Status

1. Mike Kudlick has obtained the short TECO system description prepared by Steve Crocker for Larry Roberts, and it really is interesting to get this particular point of view of text-editing.

7b

2. Mike has put together a good very short list of TNLS commands with appropriate short explanations. It is mandatory that we be able to do a good job of this in terms of making a friendly first impression on a potential user who doesn't come to our TNLS class.

7c

7d

As a result of this review, several TNLS syntax changes would be desirable:

7d1

1. get rid of Execute Status Viewspecs syntax

7d1a

2. Change View Spec Command

7d1b

V[iewspecs] C[hange] viewspecstring CA

7d1b1

S[tatus] CA (old Execute status)

7d1b2

R[eset] CA [really?] CA (reset to default values)

7d1b3

V[iewspecs] CA viewspecstring CA will also be accepted for Change.

7d1b3a

## Journal Development

7e

8

1. Upward compatibility with SNDMSG (developed by Tomlinson at BBN)

8a

8b

8c

Since SNDMSG performs novice level functions which are a subset of our Journal system, and since its simplicity, ease of use, convenience, etc. have certainly attracted much attention, it seems like the effort should be expended now to modify our system to accept reasonable SNDMSG parameter formats. Also, it would be very desirable to interface with BBN over future development and parameter specification.

8d

## Novice/Expert Planning Status

We want the Journal committee to look at the whole implication of making the Journal look like SNDMSG externally, and to see what sort of interface might already exist or might be established (Jim White?) to collaborate with BBN in this specific area.

8d1

In the meantime, we propose implementing the USER@SITE identification parameter for use in our current Journal/ident system interface,

8d2

We might also look over our own TNLS Journal Help to see how it may need improvement before it can be easily picked up and understood by a casual "outsider".

8d3

## 2. Automatic Interrogation

8e

8f

Let's consider having the Journal accept the Submit command, do its work, and then check if the user is a novice (see definition). If so, it could automatically drop into interrogate-type prompting, saving, it seems, some of the mental anguish suffered by the new user. Journal submission is an opportunity for the novice to screw up and essentially embarrass himself publicly by sending unintended information to the wrong people or whatever. In addition, a system which waits for him instead of prompting automatically promotes worry about what state he is in, and whether it may have taken off already, what defaults he gets, etc.

8g

8h

## Liason with ARPA Office

8i

9

We want to get an accurate picture of the various needs and levels of knowledge there. Apparently, Jim Norton and Paul Rech will be doing some initial liason work on behalf of ARC, and we want to be part of the input/feedback loop. Greater involvement may be necessary eventually.

9a

9b

Novice/Expert Planning Status

(J16012) 19-APR-73 14:57; Title: Author(s): Kaye, Diane S. /DSK;  
Distribution: /jcn rww mdk mfa jew ; Sub-Collections: SRI-ARC;  
Clerk: DSK;  
Origin: <KAYE>NOVSTATUS.NLS;4, 19-APR-73 14:47 DSK ;

When in Doubt, Leave It Out: Bad Writing at ARC

I am getting sick of reading all the execrable prose concerning bad writing. Thus I feel compelled to add my contribution to the sewer.

1

A bad writer will produce bad prose with any tool, be it quill pen or augmentation system. It's just easier to create verbiage with a computer.

1a

Perhaps the worst fault of the bad writers at ARC is the unfortunate habit of saying things in many more times the space required for understanding in terms that are certain to obscure the substance of the communication.

1b

When in Doubt, Leave It Out: Bad Writing at ARC

(J16013) 19-APR-73 10:10; Title: Author(s): Lehtman, Harvey G. /HGL;  
Distribution: /sri-arc ; Sub-Collections: SRI-ARC; Clerk: HGL;

Reply to DCH 15996 re Library Indexing

Dave -- As as start on the matter of creating library-type catalogs, you might look at the input procedures we have developed. Print out files <nic>codesnew, <nic>code-manual, and <nic-work>catsample. The programs to run on the files in the catsample format are in <catprograms>cppprogs. There is no manual yet for use of CPPPROGS. I'll be gone next week, but I would like to talk to you about the possibility of your making catalogs with our procedures when I get back the first of May. OK? -- Jeanne

1



JBN 19-APR-73 14:11 16014

Reply to DCH 15996 re Library Indexing

(J16014) 19-APR-73 14:11; Title: Author(s): North, Jeanne B. /JBN;  
Distribution: /dhe bah mdk nic ; Sub-Collections: SRI-ARC NIC;  
Clerk: JBN;

JBN 19-APR-73 14:35 16015

Question on Use of Viewspec mG and Output Sequential

Sorry, Jerry is at BBN-TENEX

## Question on Use of Viewspec mG and Output Sequential

CHI -- Jerry Burchfiel, MITRE, reports that when he uses viewspec mG on a file which he then outputs with Output Device Sequential, that he gets statement numbers on both left and right. Dirk suggests that he should make a text file rather than Output Sequential. Is that the complete answer, or should Jerry be able to get statement numbers the way he gets them in a normal NLS file? -- Jeanne

1

Question on Use of Viewspec mG and Output Sequential

(J16015) 19-APR-73 14:35; Title: Author(s): North, Jeanne B. /JBN;  
Distribution: /chi jdb nic ; Sub-Collections: SRI-ARC NIC; Clerk:  
JBN;

re: error in rfc503

Sorry about that. I will get the error corrected in the next edition. just out of curoosity could you tell me if and who the users of your rjs are ?

1

16016 Distribution  
Stoughton, Ronald M. ,

JBP 19-APR-73 10:04 16016

re: error in rfc503

(J16016) 19-APR-73 10:04; Title: Author(s): Postel, Jonathan B.  
/JBP; Distribution: /RMS; Sub-Collections: NIC; Clerk: JBP;

THE ECONOMICS OF TEXT-EDITING FUNCTIONS:  
COST-EFFECTIVENESS ANALYSIS OF NLS AND OTHER SYSTEMS.

1

Jacques Vallee in collaboration with Elizabeth Michael, Linda Lane and Kirk Kelley.

1a

A method for estimating the cost-effectiveness of a text editor under normal office operating conditions is described. Use of the tool is fully documented so that the analysis can be extended to any text-editor for which a measure of cost-effectiveness is desired.

2

This document presents the results obtained when this "test-kit" was applied to an analysis of text-editing functions in terms of comparative costs to the user. The scope was not restricted to NLS but included an examination of two commercially-available systems. An extension of the analysis to other systems is proposed.

3

1. THE APPROACH.

4

The approach taken was the following:

4a

1. We started from externally-specified "tasks", each task being a typical activity that could present itself in everyday office or workshop situations. A "Task" consisted in the entry, proofing, text-editing and structure-editing of a certain document.

4b

2. We decided to test the method on two readily-available systems, namely TNLS and WYLBUR, and to gradually extend it to others, such as the MTST, DNLS and later TECO (TECO is not included in the present study). It is assumed that an analysis of these five systems will give us a good indication of the overall picture.

4c

3. At each facility we explained the conditions of the experiment to trained operators who were very familiar with the tool that was analyzed.

4d

4. All costs reported here include machine-measurable charges only, to the exclusion of personnel salary and overhead; system crashes were not tabulated, as they would have to be in a true business-oriented survey of the field.

4e

2. SELECTION OF TASKS.

5

Text-editors are not universal tools. They are typically



matched to certain office functions, and while some may be excellent for text-entry they fail as table-manipulators or as structure-handlers. Therefore there exists a SPECTRUM of tasks that need to be explored.

5a

In the typical environment we are studying we expect to handle information in three main categories: there will continue to be medium or large bodies of English text such as memos, reports, user guides. These typically have little structure and contain few tables. In a second category we may find the "accounting" report, where text alternates with columns of figures. In a third category, which exhibits deep structure, we have program procedures such as we handle everyday in NLS development.

5b

Accordingly the following three documents were selected:

5c

T1: The source code for the QUERY program. It contains 282 lines of L10 code with deep structure. (5 typewritten pages, 5250 characters).

5c1

T2: Paul's measurement report of Jan.30th, containing 304 lines of text detailing the CPU time required for TNLS and DNLS commands. This is presented in the form of several tables. (8 typewritten pages, 5620 characters).

5c2

T3: An article containing 404 lines of English text. The title of this article is "JUPITER IN AQUARIUS: YOUR LUCKY BREAK?" and it appeared in "Astrology" for February 1973. (7 printed pages, 23530 characters).

5c3

### 3. DEFINITION OF THE "FUNCTIONS".

6

The various functions to be analyzed are the following:

6a

F1: TEXT ENTRY. In this phase the operator is given the text of the document and is told to enter it into his computer using any command, tool or "trick" that he is familiar with, without going back to edit typing errors. He is also to provide a listing for proofreading.

6b

F2: PROOFING. It is a fact of common experience that a given text-editor encourages a specific type of error. The DNLS keyboard, for instance, forces typing errors that are impossible using the IBM 2741. The syntax is also an important factor since a mis-placed "d" in TNLS can throw the entire text down one level, a possibility that would not exist under TECO or on the MTST, and so on. Therefore it is important to

measure not only the cost of initial entry but the cost of bringing all the documents to the same level of perfection.

6c

F3: TEXT-EDITING. A specific study is needed of the text-editing function, i.e. the replacement of certain words by others, the replacement of strings of text by others, and the systematic substitution of one word or string for another in the entire body of text. Our instructions to the operators in this respect were standardized and are given in the Appendix. In this phase we also measure the cost of moving groups of statements up or down, of transposing branches, of deeply altering the entire structure of the given text.

6d

F4: TEXT VIEWING. Displaying the text to a remotely-located user is a basic function whose cost depends greatly on the type of device supported by the program.

6e

#### 4. FACILITIES INCLUDED IN THE SURVEY.

7

At ARC we have analyzed TNLS and DNLS. At the Stanford Computing Center, Campus Facility, we have used the WYLBUR system, and at the Stanford Graduate School of Business we have tested the MTST machine. A short description of these four systems is given below:

7a

TNLS is the teletype version of the NLS system. It is a statement-oriented, rather than line-oriented editor, where operators must remain aware of the pointer positions.

7b

DNLS, the display version of the same system, makes the pointer position graphically visible through use of a movable arrow on the screen. It automatically refreshes the text to reflect view changes.

7c

WYLBUR is an interactive editor and remote-job-entry system for IBM/360 that was developed at the Stanford Computing Center between 1967-68 and has been made available on many configurations around the country.

7d

The MTST (Magnetic tape selectric typewriter) is an office machine supplied by IBM that is NOT connected to a computer. The machine generates a magnetic tape and has an editing capability. It is widely used in office environments where installing a general-purpose computer is too expensive or unnecessary.

7e

The rates for the MTST utilization were taken as charged by the Stanford Graduate School of Business.

7e1

All operators were familiar with the process being analyzed and were good typists at the professional level.

7e2

Standard instructions were given to the operators at each facility. It was explained to them that this was not a test of their service itself but a test of the FUNCTIONS performed by the text-editor they offered. Need to keep an accurate record of all time intervals was stressed. All console sheets were to be saved and given to us. A clean listing was to be generated in each phase, and the cost of producing it included in the survey.

7e3

The salary of operators (as stated above) was not included in the results. With this in mind, the figures given below can be placed in the perspective of secretarial services, that typically charge \$2.50 per page for letter-type documents. Assuming 50 lines per page the cost would be 5 cents per line.

7e4

## 5. TNLS RESULTS.

8

For all PDP-10 costs we have assumed current BBN rates, namely \$4/hour of connect time and \$8/minute of CPU time.

8a

This gives NLS costs of 13.33 cents/cpu second, 6.66 cents/terminal minute. ('cost.1' column). However analysis of our own internal costs leads to a figure of either \$6.25 per cpu minute (10.42 cents per cpu sec, cost.2 column) or \$10 per terminal hour (16.66 cents per terminal min, cost.3 column). These figures have been tabulated for comparison.

8b

cost.3	Function	cpu-time (sec)	connect (min)	cost.1 (\$)	cost.2 (\$)
( \$ )					
T1 9.66	F1.Text Entry	56.5	58	11.39	5.89
	F2.Proofing				
	F3.Editing	114.0	87	20.99	11.88
14.49					
	F4.Viewing	34.0	15	5.53	3.54
2.50					
	TOTAL	204.5	160	37.91	21.31
26.65					

8c

T2 18.49	F1.Text Entry	54.1	111	14.60	5.63
	F2.Proofing	46.0	31	8.20	4.79
5.16					
	F3.Editing	75.0*	101*	16.67*	7.81*
16.83*					
	F4.Viewing	21.0	10	3.37	2.19
1.67					
	TOTAL	196.1	253	42.84	20.42
42.15					

8d

T3 20.83	F1.Text Entry	89.4	125	20.24	9.32
	F2.Proofing	30.0	25	5.66	3.13
4.17					
	F3.Editing	38.2	9	5.69	3.98

1.50					
	F4.Viewing	48.0	23	7.93	5.00
3.83					
	TOTAL	205.6	182	39.52	21.43
30.33					
<hr/>					
	INLS TOTAL	606.2	595	120.27	63.16
99.13					

8e

It must be noted that the results for T2 are only given as a lower bound of the cost of editing this type of document under TNLS: We had to stop the experiment because both the cpu time and the terminal time involved were obviously unreasonable. Approximately one fourth of the changes requested in the test had been entered when the experiment was stopped. The person doing the task had given up trying to perform the work with TNLS editing functions and was simply re-typing those portions of the text affected by the changes. When this was observed it was decided to interrupt the process.

8f

## 6. WYLBUR RESULTS.

9

WYLBUR is commercially available in the Peninsula at rates lower than those charged by Stanford. However we have used the Stanford environment as an upper limit of WYLBUR costs because it was more typical of the anticipated "workshop". These rates are \$3.50/hour of connect time and \$9/minute of CPU time. It will be noted that although the 360/67 at Stanford is considerably more powerful than our PDP-10 the typical WYLBUR user has to share it with about 50 to 60 other users. All WYLBUR experiments were done during normal work hours.

9a

WYLBUR charges were 15.00 cents/cpu second, 5.73 cents/terminal minute.

9b

	Function	cpu-time (sec)	connect (min)	cost (\$)			
<hr/>							
T1	F1.Text Entry	1.1	78	4.63			
	F2.Proofing						
	F3.Editing	4.6	84	5.50			
	F4.Viewing	0.6	19	1.18			
	TOTAL	6.3	181	11.31	TOTAL	11.31	9c
<hr/>							
T2	F1.Text Entry	1.7	71	4.32			
	F2.Proofing	0.5	3	0.25			
	F3.Editing	4.0	95	6.04			
	F4.Viewing	0.7	29	1.77			
	TOTAL	6.9	198	12.38	TOTAL	12.38	9d
<hr/>							
T3	F1.Text Entry	2.2	116	6.98			
	F2.Proofing	2.0	24	1.68			
	F3.Editing	5.8	10	1.44			
	F4.Viewing	1.0	46	2.79			
	TOTAL	11.0	196	12.89	TOTAL	12.89	

WYLBUR	TOTAL	24.2	575	36.58	----- TOTAL 36.58	9e
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## 7. MTST RESULTS.

10

The MTST used at the Stanford Graduate School of Business was charged at the rate of \$7.50 per hour for recording mode (text entry and edits) and \$10 per hour for playback (viewing).

10a

In these tests it had been decided not to include operator time in any of the statistics. From the above figures we therefore subtracted the standard rate charged for MTST operators, namely \$4.50 per hour. The figures below were obtained using a rate of \$3/hr for recording and \$5.50/hr in playback mode.

10b

After the text entry phase it was found that i) the text produced was perfect and no need existed for a "proofing" phase, and ii) The edits required would be so complex on this machine that the operator would more efficiently re-type the entire document. Therefore we took the cost of text entry as the cost of editing.

10c

	Function	cpu-time (sec)	connect (min)	cost (\$)		
T1	F1.Text Entry	N/A	120	6.00		
	F2.Proofing					
	F3.Editing	N/A	120	6.00		
	F4.Viewing	N/A	25	2.30		
	TOTAL	N/A	265	14.30	TOTAL	14.30
T2	F1.Text Entry	N/A	150	7.50		
	F2.Proofing					
	F3.Editing	N/A	150	7.50		
	F4.Viewing	N/A	25	2.30		
	TOTAL	N/A	325	16.30	TOTAL	16.30
T3	F1.Text Entry	N/A	300	15.00		
	F2.Proofing					
	F3.Editing	N/A	300	15.00		
	F4.Viewing	N/A	70	6.40		
	TOTAL	N/A	670	36.40	TOTAL	36.40
MTST	TOTAL	N/A	1165	67.00	TOTAL	67.00

10d

10e

10f



## 8. DNLS RESULTS.

11

As in the case of TNLS we have assumed current BBN rates, namely \$4/hour of connect time and \$8/minute of CPU time. This gives DNLS costs of 13.33 cents/cpu second, 6.66 cents/terminal minute. ('cost.1' column). However analysis of our own internal costs leads to a figure of either \$6.25 per cpu minute (10.42 cents per cpu sec, cost.2 column) or \$20 per terminal hour (33.32 cents per terminal min, cost.3 column). These figures have been tabulated for comparison as was done in section 5 above.

11a

cost.3 (\$)	Function	cpu-time (sec)	connect (min)	cost.1 (\$)	cost.2 (\$)
T1 16.66	F1.Text Entry	418	50	59.00	43.56
	F2.Proofing				
9.66	F3.Editing	140	29	20.59	14.59
0.34	F4.Viewing	12	1	1.67	1.25
26.66	TOTAL	570	80	81.26	59.39

11b

T2 17.34	F1.Text Entry	507	52	71.04	52.83
	F2.Proofing				
12.66	F3.Editing	240	38	35.19	25.00
1.34	F4.Viewing	22	4	3.20	2.29
31.34	TOTAL	769	94	109.43	80.12

11c

T3 28.98	F1.Text Entry	492	87	71.37	51.27
2.66	F2.Proofing	30	8	4.53	3.12
2.00	F3.Editing	36	6	5.20	3.75

2.00	F4.Viewing	26	6	3.87	2.71
35.64	TOTAL	584	107	84.97	60.85
<hr/>					
93.64	DNLS TOTAL	1923	281	275.66	200.36

11d

CONCLUSION: A logical next step in the application of this tool would be to obtain similar cost-effectiveness measures for such systems as TECO and ATS. A definite statement ranking the systems we have studied in terms of their cost-effectiveness would be premature for two main reasons: i) The TNLS figures do not reflect true costs because the tests had to be truncated and ii) we do not know enough about the cost coefficients that apply to NLS in general.

12

DISCUSSION: A seminar given at ARC on 18-APR-73 brought up the following considerations: In interpreting such a comparison of text editors, system reliability and availability would also be an important factor that the study has not covered. Also, the applicability of a given system to given typing jobs should be clearly identified. Hardcopy quality is, in many instances, a determining consideration: in our study the document produced with the MTST, for instance, was far superior in quality to the other systems.

13

There was some question as to the feasibility of identifying proofing as a separate measurable entity. It would be interesting to combine the proofing figure with the editing cost. It would also be interesting to investigate "mixed systems", for instance, what would be the cost of entering text in TNLS and doing the editing in DNLS? It was pointed out that the study did not address the question of time spent by the operator off-line (proofing, set-up costs, etc.) Finally, the actual proficiency of the operators at the tasks measured is a difficult factor to handle.

14

15

(J16017) 19-APR-73 10:45; Title: Author(s): Vallee, Jacques F. ,  
Michael, Elizabeth K. , Kelley, Kirk E. , Lane, Linda L. /JFV EKM KIRK  
LLL; Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: JFV;  
Origin: <VALLEE>PIAF.NLS;2, 19-APR-73 10:13 JFV ;

.PEL; .PGN=PGN-1; .GCR;This is an updated version of 15983.  
Includes summary of seminar discussion and revised cost figures  
for DNLS.

RWW 19-APR-73 16:16 16018

Some Thoughts on NLS for High Pressure Document Creation

This note may contain some useful comments relative to the discussion on ARC writing.

## Some Thoughts on NLS for High Pressure Document Creation

## Some Thoughts on NLS for High Pressure Document Creation

1

## Introduction

2

Having just gone through the interesting experience of writing (14724,) under high time pressure with DCE and JCN, I thought it would be worth while to record some thoughts on the experience.

2a

This description is strictly from my point of view, DCE and JCN undoubtedly saw things somewhat differently. The process pointed up advantages in the use of the system and disadvantages. Many of the disadvantages will require breakthroughs in display technology, some can be fixed in the present system, others reflect problems that skill training for me could fix.

2b

A general overview of the process by which the paper was written is useful background. DCE asked for some help in creating the paper. He had prepared a set of notes (my views of the problems which resulted for DCE here are given below). There were many good ideas in the notes, but they were essentially unfocused. JCN and I read the notes through once and from that point they were not used again to the best of my knowledge.

2c

DCE JCN and I got together and decided on what the main ideas were which we wanted to get across and made an abbreviated outline. We were not completely sure how to get the ideas to be in the main body across so we adopted the strategy of each going away and writing (the first evening) as much of a main body as we could get done that night.

2d

The next day we each printed out what we had written and each read the others stuff. None of us were very happy with what we had written but between the three drafts it was clear that a coherent set of logic which told what we wanted to tell existed. The main body was to have a framework half and an example half. For the next pass I pulled together the material for the framework half and wrote another draft including an introduction. JCN pulled together material from the three first drafts and elsewhere for the example half, utility and conclusion.

2e

In the third pass I integrated my stuff and JCN's into a complete paper. At this point we had a reasonably coherent draft of about 12,000 words. Our goal was to get down toward 5 or 6K (we never made it, the final paper being around 8K).

## Some Thoughts on NLS for High Pressure Document Creation

I then made a fourth pass continuing integration and cutting, getting down to around 9K and having a paper that was not too bad. JBN and PR then read the first part and made good suggestions which were integrated into a fifth draft, finished on Friday (we started on Tues afternoon). JCN and DCE had gone through the fourth draft also and their changes were incorporated into the fifth draft.

2f

We now had a fairly good draft which still needed some restructuring, editing etc but all the ideas wanted were there. Over the weekend DCE and I each made detailed passes in hardcopy and on Monday these were in. Several more drafts were made in the next two days as DCE JCN I made further passes through the paper. On one of these passes JBN and PR each made another quick pass with some good suggestions. Finally a person in SRI's editing department went through it as did Bart Cox. The result was shipped to the Session chairman Thurs afternoon. During the process JBN and MEJ had been helping pull the references together.

2g

The final result I feel generally quite good about although since completion some editing needs have shown up, its a little long and we left out some references in the SEAS area and to relevant Journal things which probably should have been included.

2h

## Advantages to Having the System.

3

For me the system began to pay off heavily after the second or third draft. There is no way that we could have made as many passes though the document, done the many changes in each and had nice fresh printouts to read and pass between each other without having it online.

3a

The viewspecs helped show the need for some of the final restructurings which took place, although what is needed is a viewspec that only shows headings (titles subtitles etc) to help one see the profile of document balance.

3b

We only worked on the online version one at a time and kept it in JCN's directory. Use of the dates and version numbers helped us to keep from getting confused about what hardcopy versions lying around were what and what had happened when. A couple of times the changes in the online version were made by copying a version to one of our directories or another. By indicating in the header where each version went and came from helped keep us from getting mixed up.

3c

## Some Thoughts on NLS for High Pressure Document Creation

We sent a draft to the session chairman through the net the first Friday which was important for his confidence that something was happening.

3d

We were also able to assimilate some useful material from other documents in the early stages to get us going.

3e

Split screens were very useful during restructuring steps.

3f

The Output Processor was important for producing the final draft, early drafts generally used output quickprint.

3g

The main advantage to the use of the system was the rapid turnaround on cleanly printed drafts.

3h

## Disadvantages or holes in the System

4

Much of the work on the paper took place, for me, offline. There are a number of reasons for this. The value of paper, pen, scotch tape, and scissors when assisted by a skilled typist such as Linda is not to be underestimated.

4a

My typing skill is not at the point where I can type as fast as I can think, hitting the right keys is a distraction for me; this when coupled with the bad keyboards on the displays and other distractions of the ARC console area when high concentration was needed made working directly online an impossibility for me except when inserting edits. Given a terminal with a decent keyboard in my office and several months exclusive use of it rather than paper and pencil could solve this problem, but there are others as described below.

4b

At the point where we had each written a draft or part of a draft, the obvious thing was to produce the second draft by editing together the first three we had created. I resisted this because while the ideas for a fairly coherent next draft existed among the three, there was no way to edit them together smoothly and coherently. Editing together disparate stuff is often done at ARC and the results generally don't flow right. So I rewrote the second draft essentially from scratch, although some passages from the first drafts were used. Scissors and tape and the ability to have very many "display windows" (each sheet of paper) made for quick scanning and easy cross file editing. This would have been difficult at best online even with our split screens and viewspec capability.

4c

This brings us to a problem with our present system which



## Some Thoughts on NLS for High Pressure Document Creation

we can't solve without major breakthroughs in display technology-- we just can not get enough information on the screen. I can easily spread papers all over my desk and table, and quickly and easily use scissors and tape to cross edit into a new draft, adding hand written material when needed.

4c1

Besides the cross file editing needs, I can scan back and forth through paper much faster and easier than I can online. The slowness of response (even when on practically by my self), the inadequate jump command set relative to the needs of some one wanting to rapidly move back and forth were also serious problems here.

4c2

Finally I can edit much faster with pencil and paper by quickly drawing what I want done. It is true that someone me or say as was the case Linda had to later put in the changes, but during writing, the continuity of thought is what is most important and the fewer distractions to this process the better. The system introduces irrelevant micro operations to the main problem being solved. When not under time pressure these don't get in the way so much, but in this case they did.

4c3

When collaborating with others and each is making sequential passes through the document each has a right to see what was happening and argue to have it left as entered. Working With the system this is very hard because all you can do is print out statements that have changed SINCE, or changed by person with ident X. The result is a collection of statements out of context, one can not quickly tell if the person changed the whole statement or a comma. This is easily done by handing the person a maked up hardcopy draft. We used this mode almost exclusively for the above reasons.

4d

There is another problem with use of the system which got in the way in the middle of the process and that is its seductive quality to try and use it for things still under developmet. For example DCE had written a little program for finding references noted in a particular convention and then at the end numbering them and making the proper numbers appear in the text. As one knows there is a need for help in this area because as new references are added to a structured list the numbers all change and then one has to go back through and change them all by hand. There are ways to minimize this problem but it is a problem just the same. DCE's program solved this problem nicely, however it wasn't debugged, and the methodology on its use wasn't fully worked out. The



## Some Thoughts on NLS for High Pressure Document Creation

writing of the paper was used to work these problems out which frankly got in my way when manual methods would have taken less of everyones time.

4e

The initial notes DCE had prepared showed, me at least, that the system can be seductive in another way. It was so easy for DCE to drop ideas, considerations, quotes from references etc into a file that he got so many that he could not focus on which he wanted to use at what level of importance and which to discard (my interpretation).

4f

In summary I feel that the main problems with the system are that it is often used too early before adequate thinking has taken place, you can't get enough field of view on the information inside the machine and move around easy enough, you tend not to rewrite material once it is in the machine or not see the need for smooth transitions (I believe my own writing has gone down in quality since coming to ARC and using NLS, although the amount of stuff I write has probably gone up), its easy to keep dropping material into a document and thus have it get out of balance. Many of these problems can be solved with more self discipline on the part of the writer, namely me.

4g

RWW 19-APR-73 16:16 16018

Some Thoughts on NLS for High Pressure Document Creation

(J16018) 19-APR-73 16:16; Title: Author(s): Watson, Richard W. /RWW  
; Distribution: /sri-arc ; Sub-Collections: SRI-ARC; Clerk: RWW ;  
Origin: <WATSON>PAPEXP.NLS;3, 19-APR-73 16:04 RWW ;

## Split Screen Bug

I just had a split screen split vertically and did an execute device change TI. On returning by doing a Execute Device Change Disply I returned with one window and both files on top of oneanother and I cannot seem to cleanup the mess crreated.

1

RWW 19-APR-73 16:30 16019

Split Screen Bug

(J16019) 19-APR-73 16:30; Title: Author(s): Watson, Richard W.  
/RWW; Distribution: /bugs ; Sub-Collections: SRI-ARC BUGS; Clerk: RWW;

## Proposed ARPA Energy Project Work Statement

This work statement describes the type of areas the energy project headed by Dave Berg is going to be looking at. Preliminary discussions with ARPA NMR Office indicate that of the two main goals specified their interest is primarily in the data managemnt system rather than setting up a community at this time, although they feel some effort can be expended in this direction as I understand it (RWW)

## Proposed ARPA Energy Project Work Statement

## PROPOSED ARPA ENERGY WORK STATEMENT

1

## I INTRODUCTION

1a

The goal of this project is to aid the decentralized DoD energy community in coordinating and meeting its information needs. Use of ARPANET technology and resources available on the ARPANET will be explored as a part of this study.

1a1

There will be two major objectives:

1a2

1) Determination of the information needs of the DoD energy community, and preliminary design of a set of information services to meet these needs using an ARPANET-based data management system.

1a2a

2) Establishment of a prototype experimental group of DOD energy community users (R&D planners and researchers--with emphasis on the former) and provide them with some initial prototype data and dialogue support services.

1a2b

## WORK PLAN

1b

## 1. Determine User Requirements for Energy Data

1b1

a. Establish ARPA's requirements for energy data use--i.e., who are ARPA's users and what types of data do they need.

1b1a

b. With the assistance of ARPA project participants, determine the major elements of the energy community and obtain an initial list of DoD programs, laboratories and personnel that this project will use as an information source for the data management system design.

1b1b

c. Determine a set of representative contacts for SRI within the energy community and conduct a survey among those contacts to help establish needs: type and quantity of data; frequency of data usage; and available resources to provide data and to receive it.

1b1c

## 2. Establish an Initial Structure of System Users

1b2

a. Set up a directory of energy R&D planners and researchers that can be used as an NLS file to locate on-going energy research and associated personnel.

1b2a

## Proposed ARPA Energy Project Work Statement

- b. Select a subset of users from the directory that will be candidates for participation in experiments with dialogue online via NLS and the ARPANET, or offline, and that will be potential participants in later system demonstrations. 1b2b
- c. Review with ARPA project monitors the users selected in part b. above and modify the constituents accordingly. 1b2c
- d. Initiate a trial dialogue between the energy data users from c. above to obtain further information on user's needs and to obtain their direct involvement in this project's efforts. 1b2d
- 3. Develop an Initial Energy Data Categorization Structure 1b3
  - a. Prepare an online NLS-based data directory of presently existing DoD energy data bases that will include information on the type and form of the data bases and related information on their procedures for access. 1b3a
  - b. Identify the major energy data categories to be used in the project and specify the elements in each category. 1b3b
  - c. Obtain relationships between data categories characterized by R&D Planning use and by Research use. 1b3c
  - d. Develop preliminary file definitions for use in the system. 1b3d
- 4. Develop Design Characteristics of Data Management System 1b4
  - a. Determine the functions to be performed in the DMS. 1b4a
  - b. Investigate the resources on the ARPANET for possible data storage and for possible use of software available in the NET. 1b4b
  - c. Determine how much of the NLS capabilities will be used with the DMS and whether functions should be added to NLS or to the DMS. 1b4c
  - d. Determine the structure of the DMS using the results of a, b, and c above. 1b4d

## Proposed ARPA Energy Project Work Statement

- e. Develop preliminary software linking concepts between the energy data bases identified during the projects, based upon the user requirements and data categorization determinations. 1b4e
- 5. Investigate and Select Procedures to Operate the Energy DMS 1b5
  - a. Examine the alternatives for maintaining and operating the DMS, determine their feasibility of job performance and compare their cost-effectiveness. 1b5a
  - b. Expand the experiment of use dialogue cited in 2d above to determine if the user involvement will form the basis for maintaining the energy data base. 1b5b
  - c. Select a set of procedures for operation and maintenance of the DMS. 1b5c
- 6. Further Demonstrations of the DMS Concepts 1b6
  - a. Expand the Energy Directory cited above in part 2 to allow an experiment to be performed by selected members of the User Group to access information on energy programs and the personnel responsible for them. 1b6a
  - b. Create a small energy data base that can be used online with NLS by selected users with the ARPANET to demonstrate file access, editing and minor modification capabilities. 1b6b
- 7. Prepare a Prospectus for System Implementation 1b7
  - a. Prepare a report of the study work and results. 1b7a
  - b. Specify the steps needed to implement the DMS and to achieve its operational capability. 1b7b



DNB 19-APR-73 16:37 16020

Proposed ARPA Energy Project Work Statement

(J16020) 19-APR-73 16:37; Title: Author(s): Berg, David N. /DNB ;  
Distribution: /sri-arc ; Sub-Collections: NIC SRI-ARC; Clerk: RWW ;  
Origin: <WATSON>ENERGY2.NLS;2, 19-APR-73 10:21 KFB ;

## Some Initial Thoughts on Privacy

The issue of privacy is an important one. Although we want to encourage open dialog wherever appropriate, we must recognize that it is often not completely appropriate and we need to provide various levels of privacy to handle the most common needs. This note contains some initial thoughts on categories of privacy we may want to provide in the Journal system.

1

We presently have in the Journal two main types of identifications, individuals and groups. Groups are used to represent a range of group types from small specialized dialog groups to whole organizations and even in some sense the general public (the NIC group for example). The needs for privacy of individuals and various groups is outlined below.

2

Areas in which we probably want privacy control are:

3

## Recording

3a

Presently all items distributed through the Journal are recorded (catalogged, saved as read only files). We need to provide a nonrecorded mode as well. This would allow a minimum level of privacy and allow people to send messages which they did not feel worth cluttering up the system with.

3a1

## Cataloging

3b

One level of privacy has to do with who can find out about the existence of a document. Some documents may be cataloged only for the authors and distributees, only for a dialog group, or for the general public.

3b1

## Access

3c

A second level of privacy has to do with who can access a document, only the authors or distributees, members of a group, or general public.

3c1

## Secondary Distribution

3d

A third level of privacy control has to do with who can specify further distribution, just the author, initial distributees, anybody in a chain of distribution, anybody in a group, the general public. It is true that anybody with access to a document can always print out a copy for further distribution or bring someone over to his terminal, but he does so under his own personal responsibility as with any private information he now handles.

3d1

## Some Initial Thoughts on Privacy

## Some Proposed Privacy Categories

## Individual Private

## Cataloging

Only for authors and distributees

## Access

Only for authors and distributees

## Secondary Distribution

Only the author.

## Individual Private Need to Know

This category is the same as above except that any distributee can specify further distribution. The catalog entry is updated to record these new distributees who can now obtain a catalog listing of the item.

## Group Private

Groups would be specified as now either in the distribution field or in the subcollection field. This would be the default privacy category.

## Catalog

Authors, distributees and members of the specified dialog groups can access indices containing this item.

## Access

Authors distributees and members of the specified dialog groups can access the item.

## Secondary Distribution

Authors, distributees and members of the specified groups can do further distribution, and any of the new distributees can do further distribution.

## Public

4

4a

4a1

4a1a

4a2

4a2a

4a3

4a3a

4b

4b1

4c

4c1

4c2

4c2a

4c3

4c3a

4c4

4c4a

4d

## Some Initial Thoughts on Privacy

The general public can see indices containing the item,  
access the item and do further distribution.

4d1

## Some Implementation Problems

5

Presently IDENTs are public and anybody once logged in can enter NLS as any IDENT. We record in the catalog citation for Journal entries who were the authors and distributees (we need to update this entry for secondary distributees). What we will need to do is to provide some connection between IDENTs and passwords so that we can have some confidence that the person using an Ident is the right person. We also have the problem for groups that if the membership changes then we want new members to be able to obtain access to documents available to the group.

5a

The problem of checking access privilege when Journal items are used in links could slow already slow link jumping down further.

5b

Some Initial Thoughts on Privacy

(J16021) 19-APR-73 17:16; Title: Author(s): Watson, Richard W. /RWW  
; Distribution: /jew jdh dsk chi pr mdk jcn ; Sub-Collections:  
SRI-ARC; Clerk: RWW ;  
Origin: <WATSON>PRIVACY.NLS;2, 19-APR-73 16:51 RWW ;

New Output Processor

There is a new operational Output Processor with fixes for all known bugs and new spacing parameters for COM (proportionally-spaced Courier only). If you have any problems with it, please let me know. Thanks -- Walt

1

New Output Processor

(J16022) 19-APR-73 15:11; Title: Author(s): Bass, Walt /WLB;  
Distribution: /sri-arc ; Sub-Collections: SRI-ARC; Clerk: WLB;

## Request for Feedback on Journal Headers

Once upon a time, it was decided that documents submitted to the Journal would have a special header (XXX 13-APR-73 00:00 12345) attached to them by the HJournal directive, and that this directive would be interpreted in such a way that the Journal Header could not subsequently be changed or turned off by user-inserted directives in the file. I never cared for this restriction, but as long as the Output Processor was used only for the printer it never presented much of a problem. Now that we have the power of Output Device COM at our fingertips, this is no longer quite as satisfactory. In this memo I'll try to indicate what the conflicts are so that we can begin dialog with the idea of finding a set of conventions that are acceptable to everyone.

1

The basic conflict here is between the following two considerations:

2

(1) A document's author/editor should have complete control over the final appearance of the published document.

2a

(2) Every document published through the Journal should be marked in a conspicuous way so as to identify it as a Journal item with the Journal number, author ident(s), and date of submission in a uniform format and location.

2b

Obviously, one or both of these considerations has to be dropped or modified. When I was cleaning up the Output Processor for Output to COM last November, I decided (unilaterally) that it was more important for authors to have aesthetic control over their documents than it was for the Journal Header to be sacrosanct, so I quietly changed the Output Processor to treat the Journal Header exactly like any of the other four possible headers -- if an author wants to explicitly specify a Journal Header, his specification will now override the Journal default. This caused no grief until recently when Dean started making use of what he thought was still the convention -- i.e., that user-specified Journal Headers would be ignored after Journalization -- only to find that the Output Processor didn't work that way any more. Rather than changing things back the way they were, with the possibility of upsetting somebody else, I am starting this dialog to seek agreement on some convention or the other that we will be willing to live with for the next few years.

3

There are several obvious conventions which could be followed:

4

(1) Leave things the way they are now -- the Journal specifies a default header which can be overridden by the user.

4a



## Request for Feedback on Journal Headers

- Advantages: 4a1
- Gives user complete aesthetic control. 4a1a
- Disadvantages: 4a2
- No guarantee that info now in Journal Header will appear anywhere in document. 4a2a
- No way for user to get Journal Number into document without pre-assignment or to get date/time of Journalization by any means. 4a2b
- (2) Change back to the original convention -- Journal Headers cannot be modified or eliminated by user directives. 4b
- Advantages: 4b1
- Guarantees that info in Journal Header will appear. 4b1a
- Disadvantages: 4b2
- Gives user no aesthetic control over Journal Header. 4b2a
- (3) Change back, but allow user some control over the format of the Journal header -- full author name / ident, spell out / abbreviate month, use spaces for hyphens in date, etc. 4c
- Advantages: 4c1
- Guarantees that info in Journal Header will appear and gives user some aesthetic control. 4c1a
- Disadvantages: 4c2
- Aesthetic control is parameterized rather than absolute. 4c2a
- (4) Keep current convention and also provide directives for printing date/time of Journalization, author's name or ident, and Journal Number. 4d
- Advantages: 4d1
- Gives user complete aesthetic control as well as access to all information now in Journal Header. 4d1a
- Disadvantages: 4d2

Request for Feedback on Journal Headers

Difficult to guarantee that standard information is  
printed.

4d2a

I'm not particularly attached to any of these four alternatives,  
although I have a preference for #4, and I would seriously like  
to get some feedback from anyone who has anything to say on this  
subject.

5

Thanks -- Walt

6

Request for Feedback on Journal Headers

(J16023) 19-APR-73 16:15; Title: Author(s): Bass, Walt /WLB;  
Distribution: /sri-arc parc-maxc radc ji lgr ; Sub-Collections:  
SRI-ARC PARC-MAXC RADC; Clerk: WLB;  
Origin: <BASS>HJ.NLS;1, 19-APR-73 16:12 WLB ;

Dear Wayne,

I have been semi-desparately trying to get hold of you since Thursday morning to discuss problems with the description and intent of the "Go Ahead" signal in the new TELNET spec. I will keep on trying by phone, but if you get this message first, please call me at (617) 491-1850 ext. 441; call collect if you like.

Regards,

Alex McKenzie

1

16024 Distribution  
Hathaway, A. Wayne ,

DCE 20-APR-73 18:01 16025

Response to LPD (16001,) re NSRDC

Special content for LPD, RADC, and NSRDC

Response to LPD (16001,) re NSRDC

Peter: Referring to your note in (16001, ), the Naval Ship Research and Development Center came onto NIC usage without our knowing about it; but they are a legally qualified "guest" of ARPA, and have been about the quickest learners we've seen.

1

Both JCN and I have "met" them at odd hours, by noticing them working and linking to them. In my case it was a Saturday Midnight (0300 their time, in Virginia). They apparently learned a bare minimum about NLS and NIC Locator (from JI, John Iseli of MITRE, ??), and from there have printed out what instructional material they needed and have learned on their own.

1a

They actually produced, under a very tight deadline, 'a planning document that they had to submit to an admiral (I think). I am not at all surprised that they would want to keep such a document private.

1b

Jim and Dirk have link helped them from time to time, and have sent them TNLS quick-reference card, and they also have been sent TNLS Beginners Guide and our more general User's Guide.

1c

So far, IPT has given us no limiting-policy guidance on NIC usage; from which we interpret a policy of "any legal user of the ARPANET may have his fair shot at NIC access." If very many users seriously begin to do their documentation with NLS on a steady basis, we obviously couldn't accommodate them with the current, limited NIC portion of our NLS capacity. But that is why we are setting up the NLS Utility, as a place for serious users to buy the regular-service capacity they need, once they have decided to go with NLS, to support some of their work -- where the NIC resource (whether remaining on our machine or moving to the Utility) will be for information querying, general Journal Dialogue, and some experimenting with NLS for other purposes.

2

We are finding that most potential Utility customers are interested in being able to have at least some of their files be quite securely private. We aren't objecting to this, in itself; we won't get benefit from running a Utility unless we get Workshop-evolution help from the subscribers, and we intend to extract such help from each subscriber in one way or another as part of the subscription deal. Some of the help will be by their participating in significant dialogue regarding practices, observations, needs, developments, etc., some by money put toward specific development tasks, some by their people contributing explicit development/analysis, etc.

3

Response to LPD (16001,) re NSRDC

I guess we could accept a subscriber who doesn't communicate at all on any substantive Workshop issues, but he'd have to kick in extra money for supporting someone else who would be contributing directly.

3a

But anyway, NSRDC is welcome, and we aren't bothered by their secrecy (so far) -- in fact, their energy and quick, self learning has made them quite interesting to us.

4

Note for RLL and his NSRDC cronies: Thought you'd be interested.

5

Peter Deutsch is part of the Xerox PARC (Palo ALto Research Center) group with whom we have been collaborating for several years.

5a

ARC's advertised intent, and general working mode to date, has been for as much openness as possible in the online working information among all of us collaborators; thus his question isn't impertinent, since it is different from our user-community's precedent to have secret files.

5b

But it really is o.k. by us, when you have material that literally is none of our business; on the other hand, we are quite impressed with the speed and competence with which you guys got aboard, and we hope that you will come to using various dialogue modes with those of us who are interested in the development and analysis of the Workshop system.

5c

For some references about what we mean by Workshop System, see (12445,) and (114724,).

5d

Also, you might be interested in getting acquainted (and perhaps dialoguing with) the RADC crew (Air Force's Rome Air Development Center), who are very actively integrating NLS usage into the working operations of one of their Branches. Duane Stone (DLS) is the project leader, and there are a number of active, tuned-in users there who quite likely have a usage environment that would be somewhat parallel to yours.

5e



#### 16025 Distribution

Ratliff, Jake , Van De Riet, Edwin K. , Van Nouhuys, Dirk H. ,  
Victor, Kenneth E. (Ken) , Wallace, Donald C. (Smokey) , Watson,  
Richard W. , Andrews, Don I. , Stone, Duane L. , Lieberman, Robert N.  
, Brown, David R. , Cox, Bonnar ,  
Deutsch, L. Peter , Keeney, Marcia Lynn , Hoffman, Carol B. , Lee,  
Susan R. , Michael, Elizabeth K. , Dornbush, Charles F. , ARC, Guest  
O. , Feinler, Elizabeth J. (Jake) , Handbook, Augmentation Research ,  
Kelley, Kirk E. , Meyer, N. Dean , Byrd, Kay F. , Prather, Ralph ,  
White, James E. (Jim) , Vallee, Jacques F. , Kaye, Diane S. , Rech,  
Paul , Kudlick, Michael D. , Ferguson, Ferg R. , Lane, Linda L. ,  
Auerbach, Marilyn F. , Bass, Walt , Engelbart, Douglas C. , Hardeman,  
Beauregard A. , Hardy, Martin E. , Hopper, J. D. , Irby, Charles H. ,  
Jernigan, Mil E. , Lehtman, Harvey G. , North, Jeanne B. , Norton,  
James C. , Paxton, William H. , Peters, Jeffrey C.

A First Hack at Some Multi-Site Journal Requirements

As requested by RWW for next Journal meeting.

## A First Hack at Some Multi-Site Journal Requirements

This paper is in response to a request by Dick Watson that each member of the Journal Development Team document our beginning thoughts on this issue.

1

## Multi-Site Journal

2

3

## Requirements, Functions

4

5

Facilitate local and network community communication via user-generated files

5a

"file" - NLS format, text, possible non-PDP10

5a1

functions - submission, distribution, retrieval, recording, storage, archiving

5a2

## Design and Implementation Considerations

6

7

The system should interface with other community (including NLS) systems,

7a

access up-to-date network ident information, respect standard privacy mechanisms, adhere to cataloguing standards, etc. so that it integrates gracefully into the total network "system"

7a1

7b

Distribute Journal work load in a cost-effective manner - avoid heavy concentrations of non-interactive CPU usage on one machine for any period of time, unless this directly benefits the users of that one machine (as local Journal mail delivery does).

7c

Very simple functions like sending a short message or loading a public recorded file must be cheap. We need a SNDMSG capability - fast, easy, non-recorded messages. When we get backlinks and comments implemented, we shouldn't even have to mess with Journal messages anymore. My observation is that the very short message stuff we keep now is either comments on documents, bug reports (which

## A First Hack at Some Multi-Site Journal Requirements

could be submitted as statements), and information with a life span of about 2 days.

7c1

The system should feel natural and conceptually easy to "understand" to the novice with simple needs.

7d

7e

At the lowest level, prompting and help feedback are necessary (like sndmsg).

7e1

The novice journal user may be the most extreme novice on the whole network, oblivious to the existence of an ident system and ignorant of NLS and TENEX.

7e2

7e3

7f

Synchronization of large amounts of information (ident system, catalogues, etc.) is bound to be hairy. Let's strive to protect even expert users from the need to know the details of how this gigantic miracle called journal delivery actually happens.

7g

Give user good confirmation feedback at submission time. Have journal delivery algorithm handle items in some sort of consistent order, so user gets rough expectation and feeling of fair-play and non-randomness about the whole thing.

7g1

7h

Machine-down situations should be anticipated and provided for in the design of the system.

7i

7j

Flexibility of interpretation of Journal System algorithms at individual sites would put some of the responsibility for what happens, at the site, while preserving central control and standardization where it buys the most for everybody.

7k

Individual sites should be allowed to choose between some resource tradeoffs such as

7k1

expensive (expectedly infrequent) remote retrieval of

## A First Hack at Some Multi-Site Journal Requirements

certain documents versus storage costs of having them local

7k1a

## Possible Design

8

9

During a recent Journal team meeting, I suggested allowing for separate submission and delivery systems to run at each multi-site Journal site.

9a

a) Submission system accesses, where necessary, information at the "central" site (up-to-date ident information, for example). It sends out citations, handles to the documents, (not the files themselves) when local users have sent items to remote sites.

9a1

9a2

b) Delivery system handles locally submitted information as it does now (conceptually, at least). It also handles "distribution" of information from remote sites submitted via (a).

9a3

9a4

Here's where the individual site may choose, on behalf of a single user, a group, or perhaps as site standard policy, to transfer a file or deliver only a handle to the file, taking care of catalogue updating, if applicable, at the same time.

9a4a

I think there would be a lot of flexibility in approaching it this way. We need to think about what functions the central site would perform for everybody, what to do if the central site is down, etc.

9b

9c

The full implications are certainly not apparent now. A lot depends on how we solve privacy and ident and cataloguing questions, and on getting as accurate estimates of alternative costs as possible while we're still in the design stage.

9d

16026 Distribution

White, James E. (Jim) , Irby, Charles H. , Watson, Richard W. ,  
Hopper, J. D. ,

**A First Hack at File Privacy Requirements**

**As requested by Dick Watson.**

## A First Hack at File Privacy Requirements

This paper is in response to a request by Dick Watson that each member of the Journal Development Team document our beginning thoughts on this issue.

1

## File Privacy Issue

2

3

disclaimer: I want you to know that I know that I don't know what I(m talking about here, and, with that out of the way, I'll begin.

3a

3b

purpose of this paper: to explore what else must be done besides simply omitting documents from catalogues. We'll need to go far beyond the notion of "you won't read it if you don't know about it". What can we do for the hard-core privacy nut whose personal (or group) survival depends on secrecy? How much responsibility do we take in this? How do you say "I'm sorry"?

3c

## Assumptions

4

5

1) login/ident combination is sacred in the secrecy game. You've got to start somewhere.

5a

2) You can't hide from a really motivated system hack. Sometimes the most private files will go bad and strangers will handle backup, etc.

5b

## Requirements

6

7

## Concept of file CONTROL

7a

Assume one person or entity is in control of a document. He designated original list of guys with read privileges, and he may extend it. (Do private documents have to be journalized?)

7a1

## Concept of privacy SYSTEM

7b

7c



## A First Hack at File Privacy Requirements

I think there will be various layers of coordinated functions involved in making this work.

7c1

## User interface at a site

7c1a

7c1b

## Controlling user

7c1b1

Attaching privacy status, generating original permission list

7c1b1a

Extending existing permission list

7c1b1b

Changing file access type - making a private file public

7c1b1c

etc.

7c1b1d

## Other users

7c1b2

Loading a private file

7c1b2a

## System interfaces within a site

7c1c

7c1d

journal

7c1d1

catalogue

7c1d2

NLS load file

7c1d3

etc.

7c1d4

## Multi-site interfaces

7c1e

7c1f

Example: file transfer request

7c1f1

Site A requests file from site B to be read by user xxx.

7c1f1a

Site B does its own privacy check and either transfers file or rejects request with appropriate error indication.

7c1f1b

## A First Hack at File Privacy Requirements

## Implementation Ideas

a) Let's really exploit all possibilities of handling some of this at the exec level - costs of the type of checking we'll have to do will be terrible in NLS.

9

9a

b) Assuming there will be sites with mixes of public/private, let's not make retrievers of public files pay any of the price for privacy.

9b

9c

After talking to some likely candidates for privacy, we should get an idea whether whole sites will use privacy almost all the time, while other whole sites will be non-private, or what.

9c1

c) Many questions have to be looked at by the whole community - PROTOCOLS and all that.

9d

9e

d) It feels to me like (b) can be achieved and some simplicity retained in Load File if we flag the file itself public/private. (Or in TENEX.) That means local file retrieval requests proceed as now. Just before user feedback time, (recreate display or whatever), the system traps into the privacy code if necessary.

9f

9g

If the privacy algorithm is costly and we don't get much handled at the exec level, can we code a small, efficient program to start up as a fork locally, to handle just privacy read access questions?

9g1

e) Where do we keep permission list?

9h

9i

CHI idea - encode list into a "key" to keep with file

9i1

Keep ident symbolics (always expanded) in a non-viewable branch at the top of the document (similar to journal header format)

9i2

9i3

## A First Hack at File Privacy Requirements

Use catalogue or other file(s) to keep lists. Use the notion of seeing a journal file (or any other, for that matter) "through" other files used to interpret that file - integrate backlinks and all that crap.

915

Considerations - Jump to Link is a bitch in our system now with what we have come to know as "normal" daytime load averages. Solutions which cause loading of multiple files for the normal cases are a little frightening. My sense of all the timing information I've seen so far indicates that we probably won't be speeding up this command much from the NLS side.

915a

16027 Distribution

White, James E. (Jim) , Irby, Charles H. , Hopper, J. D. , Watson,  
Richard W. ,

## More Information on the Baseline Record System

This note replies to (16008,)

1

(13041,4c,) has a bit more information on the Baseline Record System.

2

More comments and plans are scattered in Journal items around the turn of 71-72. I could have a little bibliography made if you thought it was important.

3

We gave upon on it for a combination of reasons, of course, but in my mind the most important was that it was of no benefit to the people who had to submit information. That is, I had to put in dates of completion and list tasks, etc. but that information did me no good, I knew it already.

4

The expert on the Baseline Record System is Jim Norton (JCN). He is not here this week, but will be next week (when I will be away till Friday). I am sending him a copy of this item. You might get in touch with him about actually using it.

5

16028 Distribution

Crocker, David H. , Lee, Susan R. , Norton, James C. ,

For Freedom of the Press...Reply to 16023

In gneral I agree that the author ought to be able to control what goes out over his name atleast my ammending defaults. In particular I like alternative 4 best.

1

16029 Distribution  
Bass, Walt ,



## Reply to WLB on Journal Headers

I feel that even WLB's possibility 4 doesn't quite answer the needs of knowledge workers. The Journalization of a document should allow the document to appear exactly as the user prepared it if he gave any directives at all. The Journalizer should not have to override the Journal, as Walt too quietly provided for. The Journal formatting should be a default for documents with no directives. A Journalized document should be the same document as it was before Journalizing, with the upper margin adding the information about Journalization, and the right margin, outside the text as prepared, giving the statement numbers. This would be possible by the Journal recognizing a slightly larger page for its own recording purposes.

1

I said essentially the same in (15440,) and for emphasis I quote it here:

2

Allow the journalizing of items exactly as prepared, with the addition only of a notation giving the date of journalization and the initials of the journalizer, as a superheader. Added headers and statement indications should be marginal, with the Journal system assuming the burden of allowing for the widening or lengthening of pages to permit its additions.

3

16030 Distribution  
Stanford Research Institute ,