BAH 14-MAR-73 21:57 15104

MAR 4-10, 1973, A Week In Review

MAR 4-10, 1973, A Week In Review

WEEKLY ANALYSIS REPORT: 1

2

(ARC) 2a

2a1

WEEK: MAR 4-10, 1973 (24 HOURS/DAY) 2a2

2a3

IDENT	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	2a4
						2a5
(DIA)	.311	7.981	.039	.8	26:1	2a6
(MFA)	.695	10.787	.064	1.8	16:1	2a7
(WLB)	.427	19.530	.022	1.1	45:1	2a8
(KFB)	.130	17.078	.008	.3	125:1	2a9
(CFD)	.611	14.938	.041	1.6	24:1	2a10
(DCE)	.276	11.593	.024	.7	42:1	2a11
(JAKE)	.558	14.858	.038	1.4	26:1	2a12
(WRF)	.760	18.557	.041	2.0	24:1	2a13
(BAH)	.474	20.035	.024	1.2	42:1	2a14
(MEH)	.823	30.049	.027	2.1	37:1	2a15
(JDH)	.252	14.166	.018	.6	56:1	2a16
(CHI)	1.526	29.772	.051	3.9	20:1	2a17
(MEJ)	.889	39.972	.022	2.3	45:1	2a18
(DSK)	.941	26.126	.036	2.4	28:1	2a19
(KIRK)	1.564	49.868	.031	4.0	32:1	2a20
(MDK)	.838	29.086	.029	2.2	34:1	2a21

(LLL)	.357	28.190	.013	.9	77:1	2a22
(SRL)	.217	13.713	.016	.6	62:1	2a23
(HGL)	.670	13.174	.051	1.7	20:1	2a24
(NDM)	1.042	30.581	.034	2.7	29:1	2a25
(EKM)	.605	21.953	.028	1.6	36:1	2a26
(JBN)	.929	40.166	.023	2.4	43:1	2a27
(JCN)	1.566	37.378	.042	4.0	24:1	2a28
(JCP)	3.203	39.718	.081	8.2	12:1	2a29
(JR)	.007	.558	.013	0.0	77:1	2a30
(PR)	.539	16.789	.032	1.4	31:1	2a31
(JFV)	.166	6.365	.026	.4	38:1	2a32
(EKV)	.003	.233	.013	0.0	77:1	2a33
(DVN)	.359	8.943	.040	.9	25:1	2a34
(KEV)	2.291	24.906	.092	5.9	11:1	2a35
(DCW)	.893	51.327	.017	2.3	59:1	2a36
(RWW)	.246	8.809	.028	.6	36:1	2a37
(JEW)	.659	21.223	.031	1.7	32:1	2a38
			-----	-----		2a39
(TOTAL)				63.7%		2a40
(AVERAGE)			.033			2a41

2a42

HIGHEST CPU: JCP 3.203 hrs LOWEST CPU: EKV .003 hrs 2a43

HIGHEST CON: DCE 51.327 hrs LOWEST CON: EKV .233 hrs 2a44

MAR 4-10, 1973, A Week In Review

HIGHEST CPU/CON: KEV .092 HIGHEST CON/CPU: KFB
125:1 2a45

2a46

(RADC) 2b

2b1

WEEK: MAR 4-10, 1973 (24 HOURS/DAY) 2b2

2b3

NAME DIR	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU
					2b4
					2b5
(JHB)BAIR 226	.446	23.952	.019	1.1	53:1 2b6
(WPB)BETHKE 22	.031	1.615	.019	.1	53:1 2b7
(JPC)CAVANO 56	.080	7.947	.010	.2	100:1 2b8
(RFI)IUORNO 22	.048	4.079	.012	.1	83:1 2b9
(FSL)LAMONICA 18	-	-	-	-	- 2b10
(TFL)LAWRENCE 89	.218	13.462	.016	.6	62:1 2b11
(JLM)MCNAMARA 127	.181	9.711	.019	.5	53:1 2b12
(RBP)PANARA 73	-	-	-	-	- 2b13
(RADC)RADC 85	.006	.143	.042	0.0	24:1 2b14
(WER)RZEPKA 85	.086	8.477	.010	.2	100:1 2b15

(FPS)SLIWA	-	-	-	-	-	2b16
29						
(JRS)STELLATO	.005	.311	.016	0.0	63:1	2b17
0						
(DLS)STONE	.553	19.693	.028	1.4	36:1	2b18
198						
	-----	-----		-----		2b19

(TOTAL)	1.654	83.390		4.2		2b20
1030						

(PER CENT TOTAL DISK CAPACITY) 2b21
2.1%

2b22
(XEROX) 2c

2c1
WEEK: MAR 4-10, 1973 (24 HOURS/DAY) 2c2

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	
						2c3
(DDC)COWAN	.002	.034	.059	0.0	17:1	2c4 2c5 2c6
(LPD)DEUTSCH	.038	.816	.047	.1	21:1	2c7
(CMG)GESCHKE	.008	.194	.041	0.0	24:1	2c8
(EMM)MC-CRGHT	-	-	-	-	-	2c9
(RMM)METCALFE	.017	.439	.039	0.0	26:1	2c10
(JGM)MITCHELL	.035	7.083	.005	.1	200:1	2c11
(WHP)	-	-	-	-	-	2c12
(EHS)SAT-WTE	.341	11.885	.029	.)	34:1	2c13

(RES)SWEET	.818	16.742	.049	2.1	20:1	2c14
	-----	-----		-----		2c15
(TOTAL)	1.259	37.193		3.2		2c16

2c17

(NETUSERS) TOP FIVE 2d

2d1

WEEK: MAR 4-10, 1973 (24 HOURS/DAY) 2d2

2d3

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	2d4
						2d5
MITRE-TIP	1.581	39.753	.040	4.1	25:1	2d6
BBN-NET	.549	16.772	.033	1.4	30:1	2d7
UCSB	.464	14.803	.031	1.2	32:1	2d8
GUEST	.430	19.600	.022	1.1	45:1	2d9
NBS-TIP	.277	12.151	.023	.7	43:1	2d10
	-----	-----		-----		2d11
(TOTAL)	3.301	103.079		8.5		2d12

15104 Distribution

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. , Lawrence, Thomas F. , Bair, James H. , Deutsch, L. Peter , Mitchell, James G. , 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. , Ratliff, Jake

BPC 15-MAR-73 5:21 15106

Lock on <meta>libe

I haven't had a chance to mull over all the stuff I've got now, but I'll be shuffling through it. I've made a listing of <meta>meta, but <meta>libe is locked. What I visualize as the end product of all this is probably a MOL-like language which the more reactionary of us can use solely as an assembler, and the rest of us can use as a MOL. The point is, though, that to keep peace in our group the portion of it that looks like as assembler must be good enough. One of the troubles that I visualize is that we can't have a fancy linking loader. I have to end up with a paper tape (absolute) that can be handled by the SUE autoload module (although at the moment, I don't know what this constraint really means - the module is not well specified at the moment). I guess that I'll have to have my compiler put out "assembly" code in some intermediate language and then run it through the assembler to get the binary file. Hmm - I bet that I can put out my intermediate and then write another Tree Meta program to suck it up and do "pass 2" and have the output of this second guy be the real binary. Anyhow, I suspect that I'll be off your back for a while while I try to absorb all the info I already have. Thanks much for your help. I'll be in touch. Bernie 1

15106 Distribution
Andrews, Don I. ,

Test of the Journal

this is another test

CHI 14-MAR-73 21:45 15107

Test of the Journal

(J15107) 14-MAR-73 21:45; Title: Author(s): Irby, Charles H. /CHI;
Sub-Collections: SRI-ARC; Clerk: CHI;

Just got your note. I am somewhat confused. I thought your RFC was a suggestion, rather than a requirement. How come the meeting has to wait on that? And wouldn't it be better (easier) to select those people at the meeting?
d/ 1

15108 Distribution
Kudlick, Michael D. ,

<LJOURNAL>15110.NLS;1, 16-MAR-73 0:14 XXX ; .HJOURNAL="JFV 15-MAR-73 14:37 15110"; Title: .HED="DATA-BASE FACILITIES. Report#1."; Author(s): Vallee, Jacques F. /JFV; Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: JFV; .IGD=0; .SNF=72; .MCH=65;
.TABSTOPS=8,16,24,32,40,48,56,64; .PGN=-1; .SCR=2; .PES;
Origin: <VALLEE>DBF1.NLS;1, 15-MAR-73 11:00 JFV ;

.PEL; .PGN=PGN-1; .GCR;First progress report from "Data Base Facilities" group.Contains plans for survey of existing files and user interface analysis.

JFV 15-MAR-73. DATA-BASE FACILITIES. Report #1.

This is the first progress report on "Data Base Facilities". My initial interpretation of the task, given the fact that this was originally a one-man group, (see (JOURNAL,14165,) NLS in MPS Conversion Planning Framework) was that I could not hope to do much more than i) monitoring the documents and plans generated by the MPS group and ii) offering technical recommendations at the design level. Along those lines I had several discussions with Charles Dornbush and began to read the documents produced by Xerox.

A later discussion with RWW and CHI indicated that this task could conceivably involve more people and that an active study of existing files would not conflict with on-going design work of other groups (such as Catalog Phase II, RINS etc). In response to that, I have taken active steps in the following two directions:

1. Study of existing data bases supported under NLS.
   I intend to make a survey of the mechanisms supporting existing data-bases. This will include an examination of the following files:
   - Resource Notebook (as supported under NIC/QUERY - also off-line requirements)
   - Catalog (data elements, structure needed, limitations under NLS)
   - Identfile (its group and affiliation mechanism)
   - Journal (its interface with other systems)

   the approach will be one of summarizing the main characteristics and needs of these files and projecting data structures that could enhance the capabilities of the systems supporting them.
2. User interface analysis.
   I see the problem of data base facilities at ARC as one of initiating a design process that would start from external user needs and focus gradually upon the implementation parameters. To this end a first user meeting with JBN, JAKE and MDK was held, with the following agenda:
   1. Purpose and practical objectives of study.
   2. Process for the ongoing review of NIC/QUERY
   3. Catalog and the adequacy of NLS structure in retrieval.
   4. The Resource Notebook and the problem of user-created data-bases under NLS.
   5. Sharing of on-line and off-line files and the output processor problem.

   Our discussion - which is in the process of being transcribed and edited - has uncovered several areas that could be profitably explored at the level of the basic file system and also at the level of NLS design.

   I regard the evolution of NIC/QUERY as being within the scope of this study. In this respect one main decision was made at the first meeting, namely to create an ident group (called NIC-QUERY) to gather user feedback concerning the language and the data-bases under it. As

coordinator of this group I will be responsible for centralizing the suggestions and reporting to members of the interest group.
Other points that we discussed (to be documented in the edited transcription) covered the problems of data compression, data privacy, structure handling in the file system, possibilities for generalizing it, and the separation of output processor directives from text. The need for network interface was also raised at the occasion of the Phase II Catalog system.

It is difficult to specify a schedule for completion of this task, given other assignments currently taking higher priority. I expect to push this series of consultations in the next three weeks with a view of producing a first summary of findings within a month.

MAKEREF - Journal Reference-Making User Program

I have adapted the L10 program MAKEREF [now existing as <user-progs,makeref.rel,> and <user-progs,makeref.nls,>], which scans for journal links and creates a reference branch, so that it looks at both catalog files. At Dirk's request, I have adapted it so that it will produce the references in any of three formats, as is exemplified below. 1

If this program is going to be used to make formal references, three questions come to mind: 2

1) Do you always want it to work on the whole file. It would be relatively easy to adapt it so that it requests a structure to work on. 2a

2) Should this program, or a version of it, know about the NIC collection. If so, this already slow program will be very costly to run. 2b

3) Some standard formats should be developed. The three I have incorporated are intended only as a starting point. Format 0 is the original format. You may want a format like #2 to replace the links with footnote references. 2c

I will be waiting to hear from you (DCE, RWW, JCN, DvN, and JBN) for further directions. 3

Samples of the three formats: 4

If the file looked like this: 4a

(Journal) Journal documents (most recent first) 4a1

A statement without links blah blah blah.... 4a1a

MFA 12-MAR-73 14:18 15019
FODDER FOR USERPROGRAMS
Location: (LJOURNAL, 15019, 1:w)
4a1b

DCE 11-AUG-72 19:50 11410
Extending the Possibility for Dean Meyer to work with ARC
Location: (LJOURNAL, 11410, 1:w)
4a1c

WLB 11-AUG-72 14:11 11382
Specifications for the Interconnection of an ARC and a DDSI

Location: (LJOURNAL, 11382, 1:w)
JCN 1-AUG-72 18:39 11188
New ARC Journal Indices are available online and in
Hardcopy
Location: (KJOURNAL, 11188, 1:w)

4a1d

MFA 12-MAR-73 14:18 15019
FODDER FOR USERPROGRAMS
Location: (LJOURNAL, 15019, 1:w)

4a1e

Format 0 would produce a branch looking like this: 4b

ARC Journal References 4b1

(Ref15019)****Document not in catalog****
[Cited in 1B:(LJOURNAL, 15019, 1:w)]
[Cited in 1E] 4b1a

(Ref11410) Douglas C. Engelbart, "Extending the Possibility for Dean Meyer to work with ARC", 11-AUG-72. [Cited in 1C:(LJOURNAL, 11410, 1:w)] 4b1b

(Ref11188) James C. Norton, "New ARC Journal Indices are available online and in Hardcopy", 1-AUG-72. [Cited in 1D:(KJOURNAL, 11188, 1:w)] 4b1c

(Ref11382) Walt Bass, "Specifications for the Interconnection of an ARC and a DDSI", 11-AUG-72. [Cited in 1D:(LJOURNAL, 11382, 1:w)] 4b1d

Format 1 would produce a branch looking like this: 4c

ARC Journal References 4c1

(11188,) James C. Norton. New ARC Journal Indices are available online and in Hardcopy. Augmentation Research Center, Stanford Research Institute, Menlo Park, California 94025. 1-AUG-72. 4c1a

(11382,) Walt Bass. Specifications for the Interconnection of an ARC and a DDSI. Augmentation Research Center, Stanford Research Institute, Menlo Park, California 94025. 11-AUG-72. 4c1b

(11410,) Douglas C. Engelbart. Extending the Possibility for Dean Meyer to work with ARC. Augmentation Research Center, Stanford Research Institute, Menlo Park, California 94025. 11-AUG-72. 4c1c

(15019,) ****Document not in catalog****
[Cited in 1B:(LJOURNAL, 15019, 1:w)]
[Cited in 1E] 4c1d

Format 2 would produce a branch looking like this: 4d

MAKEREF - Journal Reference-Making User Program

ARC Journal References 4d1

(1B) ****(LJOURNAL, 15019, 1:w) not in catalog**** 4d1a

(1C) Douglas C. Engelbart. Extending the Possibility for Dean Meyer to work with ARC. Augmentation Research Center, Stanford Research Institute, Menlo Park, California 94025. 11-AUG-72. (LJOURNAL, 11410, 1:w) 4d1b

(1D) James C. Norton. New ARC Journal Indices are available online and in Hardcopy. Augmentation Research Center, Stanford Research Institute, Menlo Park, California 94025. 1-AUG-72. (KJOURNAL, 11188, 1:w) 4d1c

(1D) Walt Bass. Specifications for the Interconnection of an ARC and a DDSI. Augmentation Research Center, Stanford Research Institute, Menlo Park, California 94025. 11-AUG-72. (LJOURNAL, 11382, 1:w) 4d1d

(1E) ****(LJOURNAL, 15019, 1:w) not in catalog**** 4d1e

15114 Distribution

Engelbart, Douglas C. , Watson, Richard W. , Norton, James C. , Van Nouhuys, Dirk H. , North, Jeanne B. ,

I expect be in Menlo Park for five full working days beginning Thursday, March 22. See you then. 1

15115 Distribution

Van De Riet, Edwin K. , Van Nouhuys, Dirk H. , Victor, Kenneth E. (Ken) , Wallace, Donald C. (Smokey) , Watson, Richard W. , Andrews, Don I. ,
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. , Ratliff, Jake

RST 15-MAR-73 8:21 15116

Problems with ident submode

Why can I not, using Execute IDentification submode, and as coordinator of TUG (I am JDB not RST), make modifications to the ident record for TUG. I get the complaint "Must be cordinator" (sic). 1

15116 Distribution
Lee, Susan R. ,

Oh well, here I go again

As a member of the Phase II Catalog System Review Team, as well as the architect of the Phase I Catalog System (what there is of it), I have a few comments to make on Mike and Jacques' "Catalog System Plans" (15078,). Their plans indicate that they still have a somewhat inadequate understanding of the capabilities of NLS and the existing Catalog System, and, although I heartily agree that they should investigate alternatives to doing the processing in NLS, I would like to point out a few facts which might affect the cost/benefits analysis of this proposed undertaking. 1

First I will comment on several specific assertions from 15078. The two branches below are copied from (15078,3b2a) and (15078,3b3) with my comments inserted within [brackets]: 2

The time spent in running is high, because of several factors: 2a

a) NLS files are time-consuming to process; 2a1

[Admittedly true and these inefficiencies will apply when converting NLS files to and from another form for processing remotely.] 2a1a

b) NLS does not process more than one file at a time, so that merging ("assimilating") the contents of two or more files can only be done manually in the present system; 2a2

[This statement is false, both with respect to NLS and with respect to the current Catalog System.] 2a2a

[NLS permits a rather large number of files to be open and accessible simultaneously. The CPP always has several files open; at one point TENEX had a restriction on the number of JFNs a job could have, but this number has been increased and no longer crimps the CPP's style.] 2a2b

[The CPP uses the full set of NLS assimilation and merging tools (including some not directly available at the command-language level), and manual merging should not be necessary if the CPP is used properly -- more on this below.] 2a2c

c) The present system has two major aspects --- sorting and output processing --- which are particularly time-consuming on the PDP-10 Tenex/NLS system. 2a3

[I don't know what the basis for this analysis of sorting time is. I have always had the impression that the sort programs were reasonably fast, and since only the new stuff since the last CPP run needs to be sorted anyway (if the full capabilities of the CPP are used properly), I don't see that this should be a major problem.] 2a3a

[There is no question that the Output Processor is too slow. However, before the Catalog System could be made operational on another system, I expect the Output Processor to be about twice as fast as it is now -- and we know that more of the total hardcopy-production time is now spent in the printer-driver than in the Output Processor anyway. The major problem is that the Output Processor can handle only a single file at a time -- but there is a relatively straightforward way of overcoming this limitation using a user sequence generator program that requires no changes to either NLS or the Output Processor.] 2a3b

d) There are no fail-safe or restart provisions in the present system, so that a system crash after a couple of hours of running require almost complete re-running of the system. Such crashes are not uncommon. 2a4

[Such provisions could be added at a fraction of the cost of developing an entirely new Catalog System -- which would have to have the same features designed in anyway. I think that if the CPP were used more effectively, the total run times would be MUCH less, and the incidence and consequences of crashes far less damaging.] 2a4a

The size of files is unsuited to the PDP-10 Tenex/NLS system because of two main factors: 2b

a) Some files are too big for the system, and must be split into two files. This requires double processing in certain cases. 2b1

[This problem is a real bitch. The CPP machinery is almost up to handling multiple files, but some additional development is required to make it fully automatic. I still think that future Catalog System development hinges on the still-awaited management decision as to whether NLS should be expected to evolve into a system capable of handling large files and data bases or should remain a system for use with small files only. A push to get Doug to make and promulgate this policy decision would clarify the directions to be taken in a number of our development tasks.] 2b1a

b) The present scheme of directory space allocation is not flexible enough to handle temporary needs during production runs or re-runs. Not enough space is normally allocated to handle these temporary "overflow" needs. 2b2

[This is an inconvenience which would yield to technical or operational pressure of many kinds -- certainly not a cripling problem.] 2b2a

Second, I will make an assertion which can be validated or refuted by a little bit of operational analysis. 3

The CPP was designed quite deliberately to make it possible to produce successive editions of the catalog as efficiently as I could see how within the NLS environment. The tools have been built which make the cost of the most expensive formatting and sorting tasks (except Output Processing) a function more of the amount of new catalog data (since the last previous catalog) than of the size of the entire Catalog. 3a

These tools, so far as I know, are NOT used, and this is one of the principal reasons that Catalog making is such an exasperating and time-consuming process. I'm sure I must share responsibility for some lack of communication on this subject, but I know I tried hard enough to tell Beau and Dick and Jeanne about the existence and mechanisms for using these tools -- they were designed-in and advertised from the very start. In any case, they are documented in (14537,), should a use be found for them in the future. 3b

Third, I can't help commenting that I see a little of the "not developed by me syndrome" at work in this case. 4

Although the current Catalog System has its fair share of idiocies, I submit that it wasn't designed and built by an idiot and would further caution that it will not be a cheap and easy matter to reimplement it from scratch. 4a

Even if we ignore the investment that we have in the Catalog Production Processor, there is at least 6 man-months of development -- over a period of about 2 years -- in the myriad of associated analyser/formatter programs. These programs have been subjected to and evolved through use on thousands of Catalog citations; unless Mike and Jacques manage to find a really super string formatting system out in the network, these programs will likely prove very costly to duplicate -- and is that really a good use of any of our programmers' time at this junction? 4b

In short, I agree that Mike and Jacques should investigate alternatives to the present system, but I would encourage them to do so with a solid ground of understanding of the properties and capabilities of the existing system. I recognize the glamour to be achieved by demonstrating an incidence of resource sharing on the Network, but I also have a sense of how costly such a development program will be and -- given our existing shortage of resources and the delays which would result in other areas of Catalog System development -- I feel strongly that we are entitled to a critical and unprejudiced analysis of the costs and benefits of the alternative courses of action. 4c

15117 Distribution

Engelbart, Douglas C. , Norton, James C. , Watson, Richard W. , North, Jeanne B. , Kudlick, Michael D. , Vallee, Jacques F. , White, James E. (Jim) ,

RS2 16-MAR-73 5:54 15118

new station agent for mitre

jeanne:

ernest forman requested that i take over for him as station agent. please send future mail to mitre as follows:

robert silberski
national systems design dept., w185
the mitre corporation
westgate research park
mclean, virginia 22101

thanks, bob 1

RS2 16-MAR-73 5:54 15118

new station agent for mitre

(J15118) 16-MAR-73 5:54; Title: Author(s): Silberski, Robert /RS2;
Distribution: /JBN EHF JI SSP; Sub-Collections: NIC; Clerk: RS2;

DCE 16-MAR-73 16:38 15119

Visit Log: 23 Feb 73, Dick Garrett from Purdue, reviewing their developments.

DCE 16-MAR-73 16:38 15119

Visit Log: 23 Feb 73, Dick Garrett from Purdue, reviewing their developments.

We have had numerous contacts in the past. My initial contact was through Prof. Dave Malone. I visited Purdue in 1971 (see my letter afterwards to Dick's Dept. head, Prof. Joe Modrey -- 7269,); Dick visited us several times in the following year. Modrey and Garrett visited us together sometime in the last year. Last Fall a group of his students visited us (12131,). Phone call from him 12 Oct 72 (12218,), etc. 1

He described miscellaenous developments at their lab, mostly commenting upon additions since the student visit: (He has twelve PhD grad students now.) 2

GE giving them a "process control" computer, which they can use to make a very general interface -- i.e. modularly plug all kinds of devices into it (sort of the hardware equivalent of our MPS). 2a

Belleville has his "steerable eye" doing tricks with color -- can discriminate colors to high degree of precision. 2b

Very cheap device, using fiber optics. $200 scanner; using eight seconds of IMLAC time, can cast the scanned image on the IMLAC. Basically, folows lines, traces outlines, now can tell about colors (building up its own "dictionary" of forms, colors, etc.), and is even doing tricks like identifying people by what it scans/interprets from a view of their hands. 2b1

(When scan faces, get a portrayal that comes through beautifully.. seemingly more so than any other type of object being scanned and portrayed.) 2b2

"3-D pencil", Phil White; allows tracing a 3-d surface, to input it to he IMLAC. 2c

John Palmer: To the design package they showed us, about designing "rotational-geometry devices," they have added cost package, sketch and edit package, dimensional analysis package, tolerance and clearance "band" (a statistical package), special-design packages for bearings, flywheels, clutch.... and for all of the more basic elements. 2d

Added a clock to his system, to record how many times a student enters one of the subroutines, and how much time is spent in it (to tenths of seconds). Allows them to begin getting crude operational analysis of the design

Visit Log: 23 Feb 73, Dick Garrett from Purdue, reviewing their developments.

process, comparing different working styles between their designers, different proficiencies, etc. 2d1

He is starting a design class; with students who know nothing about computer graphics (or computers). 2d2

Moira Gunn -- her "house" program; now can use graph-pencil; and, added a subsystem for doing interior design. (She graduates May 74). Dick showed me some graphic output that represents looking in through the windows and doors from outside the house. 2e

Gladys Garrett (Dick's wife), in her PE classes, has non-programming (sophomore PE students, girls) using the graphics packages to design playgrounds. Dick says the "holograhy" lab can then make them up a hologram of the actual 3-d construct. Use Moira's "Developed View" program to "unroll" any 3-D object, plot out on the flat-bed plotter the templates that can be folded into the shape of the 3-D object. So the PE kids can actually then make the paper models of their designs. 2f

Dick mentions that he saturates with the load of twelve graduate students -- and other qualifid Purdue staff doesn't seem to pick up to take on the further candidaes who would like to work in that area. 3

Notes to myself: Thei applications are developing at high rate; what's the potential there for a "core workshop" to; help keep track of these, manage their application, help analyze and re-do further cycles of the "system"... 4

Dick has a sabbattical coming: June 73 for three months at Princeton; Fall quarter at Stanford. 5

About Communities: Dick says that his group of twelve will soon be scattering; they would dearly like to stay in close collaborative touch; they represent (after scattering) an unusually good trial "prototype" distributed community to try to help with Network and Special Info Services. We should be starting to think/plan about this. 6

Tom Boardman: the kid who did much of their operating system foundation. Gotten an offer from Michigan: senior research scientist (he will have a PhD in August)). They would like similar hi-performance interactive support operating system -- i.e. .... high-speed graphic support to remote placws. A year at

Visit Log: 23 Feb 73, Dick Garrett from Purdue, reviewing their developments.

Micigan would round out his experiene; Dick feels that a year hence and we should be checking on his availability for working with us. 7

We talked about prospects for working up proposals together, some of his kids for instance, to seek support that could let them pursue things that would be of mutual interest to both them and the ARC/BC stuff. He and I are both interested. (Since I went to visit the Purdue gang, almost two years ago, I have been hoping that something like this could come about. I want to watch for the chance, in the near future, for an opportunity to promote such.) 8

DCE 16-MAR-73 16:38 15119

Visit Log: 23 Feb 73, Dick Garrett from Purdue, reviewing their developments.

(J15119) 16-MAR-73 16:38; Title: Author(s): Engelbart, Douglas C. /DCE ; Distribution: /jcn rww chi hgl kev bc ; Sub-Collections: SRI-ARC; Clerk: DCE ;

DCE 16-MAR-73 16:58 15120

Visit Log: 7 Mar 73, Bob Belleville and Dave Anderson, students at Purdue under Dick Garrett,

Visit Log: 7 Mar 73, Bob Belleville and Dave Anderson, students at Purdue under Dick Garrett,

They are graduate students under Dick Garrett at Purdue; this trip was on a project they have with NASA's Ames Research Center. Both of them had visited us with a group of their fellows on 11 Oct 72 (12131,). Dick had told me of their coming during his 23 Feb 73 visit (15119,), They spent most of the day with our software crew; they had wanted to learn as much as possibile about our software techniques. Harvey gave them quite a bit of description and literature on Tree MEta, L10, and our NLS architecture. Charles described the way we have tied in graphics (and plans for the future). 1

They and I talked for an hour or so at the end of the day. Ialked a bit of some of the possibilities for things that a) might sell to sponsors, and b) might be good "bootstrapping" projects -- that we could consider guys at Purdue doing if they could get connected to the Network: 2

NLS graphic-package additions and development 2a

Several application possibilities: 2a1

Help in handling the graphic output from other special application programs, to edit them, annotate, caption, etc., and embed in documentation. 2a1a

To help programmers document their code, where graphic illustrations might be more effective than text (still assuming text compiler language) 2a1b

Generally exploring the development of better portrayals for working concepts in various fields of work. 2a1c

Using NLS Workshop as a place from which to install, maintain, and debug special programs in remote (network-coupled) minicomputers. 2b

These two are in the position now of choosing their theses projects. They are fairly well aligned already; but I think that the discussion helped both sides toward considering more seriousy some sort of mutually advantageious collaboration. From the nature of their comprehension and interest in the above possibilities, it would seem likely that if we could ever promote the support, there would be students there interested in in working on the projects. 3

DCE 16-MAR-73 16:58 15120

Visit Log: 7 Mar 73, Bob Belleville and Dave Anderson, students at Purdue under Dick Garrett,

I asked them to have Garrett give me a call soon, to discuss the feasibility of starting now to cook up such proposals. 4

DCE 16-MAR-73 16:58 15120

Visit Log: 7 Mar 73, Bob Belleville and Dave Anderson, students at Purdue under Dick Garrett,

(J15120) 16-MAR-73 16:58; Title: Author(s): Engelbart, Douglas C. /DCE ; Distribution: /chi hgl rww jcn ; Sub-Collections: SRI-ARC; Clerk: DCE ;

JCN 16-MAR-73 18:00 15121
Notes on: JCN Visit to ARPA 3/14

To: DCE RWW
cc: LGR

OUTLINE 1

ARPA NUCLEAR MONITORING RESEARCH OFFICE 1a
ROBERTS TNLS TRAINING SESSION 1b
TERMINAL AND OTHER EQUIPMENT CONFIGURATIONS 1c
PRIVACY 1d
CALENDAR 1e
PERSONAL SUBCOLLECTIONS 1f
ARPA ARCHITECT 1g
TRAINING 1h
THE USC-ISI MACHINE 1i
CONCLUSION 1j

AN HOUR WITH ERIC WILLIS, ARPA NUCLEAR MONITORING RESEARCH OFFICE 2

Dr. Eric H. Willis is Larry Roberts' counterpart in the ARPA Nuclear Monitoring Research Office. Dr. Willis and Col. David C. Russell plan to visit ARC Monday, 3/19, 8:30 a.m. to see the system first hand and to have further discussions about the possibility of their being early users of the Workshop Utility. 2a

Larry had arranged for the meeting between me and Dr. Willis' group. I had the impression that those I met were from the following list, but with so many at once, I now find it difficult to associate names with faces. 2b

Dr. C. F. Romney, Deputy Director (NMR)
Mr. Rudy A. Black
Mr. D. H. Clements
Col. J. T. Jones
Lt. Col. N. A. Orsini
Col. J. V. Pearce 2b1

(Note: Dr. Willis' telephone: (202) 694-3037) 2b1a

I listened to Dave Russell tell of their TECO use of planning document textfile-building and their realization that hierarchy and linking were really necessary to do their job. 2c

Larry had told them of the (Workshop) Utility and of his intention to fund a substantial portion. He is encouraging them to look, think ahead, and help support if they decide to get into it. 2d

To: DCE RWW
cc: LGR

Dr. Willis made it clear he views their possible first use as experimental -- NOT securing a "service" to be bought "off-the-shelf". He wants to see the potential, its state of development (by visiting ARC 3/19) and then decide -- before starting at all. He seems very willing to participate if he thinks it will be useful in the longer run. He seemed to me to be in the planning stage for setting up his operations at other levels than just looking at our stuff. 2d1

I told them about our overall research/workshop-building program, NLS basic features, PSO, workshop concept, long-term bootstrap strategy, Utility plans, spectrum of terminal/system, training as a key item. I pointed out the workshop vs community interests of our expected users and that how they planned to use the system would affect the magnitude of their training job, terminal investment, etc. 2e

Larry will make his copy of the ASIS movie available to them. 2f

ROBERTS TNLS TRAINING SESSION 3

I told Larry that we prefer to start users with a TNLS Course - charts - careful steps - personal touch - at ARC or sometimes at remote sites. We spent about two hours in a concentrated TNLS learning session for him since I was there. He is way ahead of other TNLS learners by his experience and approach. 3a

Using the DRAFT TNLS cue card, with Larry running the terminal, we covered (in about this order): 3b

NLS entry and the initial file upon entry, Journal mail message. 3b1

Partial copies, updating old or new versions. 3b2

Load file, Journal file names. 3b3

Journal mail branch and links to read Journal documents. 3b4

Hierarchical file structure: statements, branches, groups, plexes. 3b5

Addresses: statement numbers, names, links, returns, file returns. 3b6

To: DCE RWW
cc: LGR

Internal addresses: moving control marker - character, word, etc. 3b6a

Operations: Insert, move, copy - on structural entities. 3b7

Insert and output sequential - to/from SNDMSG. 3b8

Journal indices - with name search, and link use. 3b9

Substitute. 3b10

Serial operations: Insert statement, Control B. 3b11

Journal message sending. 3b12

Initial file use for notes, Journal mail categorizing, link pointer collections. 3b13

Cross file editing - copy with link. 3b14

MENTIONED assimilate, user programming, content analysis (no examples shown). 3b15

If he remembers most of this (which he well may) I think he has a good base to build on. If he doesn't, we can refresh and rebuild. He will still need more discussion, trial, and exposure to additional features as he uses the system. 3c

DNLS is a natural next step - just as a Net user who's interested in "getting into it." 3d

He seems ready to experiment with many methodological steps - such as incoming/outgoing mail categorizing, etc. See (7) below. 3e

TERMINAL AND OTHER EQUIPMENT CONFIGURATIONS FOR THE ARPA OFFICE 4

I said we really needed to look closely at what they had -- with the ARPA workshop architect and are planning to do so early in the effort. These were offhand impressions from me: 4a

I said we and they will use the DNLS shared screens feature for conferencing and training with audio. I said he should have good Telephone Company-provided speaker phones at his offices. I should have added that headsets and jacks would also help and permit more flexibility for some uses. 4b

To: DCE RWW
cc: LGR

He has a TTY display that he uses mainly. I lost a page of notes with the model recorded there and will have to follow up to get it back. We discussed the need for "page at a time" TNLS features, possible DNLS with simple cursor control on such less expensive devices. I said we were looking at this now. 4c

A comment about the "augmented office" concept. It is not at all surprising that Larry thinks in these terms with his interest and efforts in making computer resource sharing a reality. Each time we came to the idea of people needing specialized services -- graphics, number operations, larger data bases, he made it clear he expected users to "reach out" (through the NET) for such capabilities, returning summarized results to the office for integration with other work with the aid of the office's more general tools. We didn't discuss the other end: preparation of input material in the office, but I think it was implied. 4d

He wants a recommendation from us about what terminals (present or acquired) he should have in his offices to meet their needs when using our system. We discussed the need for an ARPA office "architect" and he seemed amenable to this, but still wanted our opinion about terminals - even my first offhand ideas. 4e

I said we preferred T-I's ourselves for the PSO (clerical support) even though the paper is "funny", and that with a fast (speed?) printer and higher quality - letterhead paper - typewriter (such as a 2741) the funny paper was no problem. 4f

He has T-I's (portable) but they seem to migrate to home use. He has Western Union (?) TERMINETS, with wide platen, in use. I said we had bad service experiences, but that was two years ago. They didn't seem bothered by theirs. The paper is better but the font may not be. 4g

Their TIP memory is not "big enough" to support the EBCDC required by the 2741 - I assumed RADC's is, since they use the 2741 for SENDPRINT page at a time for good quality printing. This needs more looking into. His office uses ARPA letterhead on most outgoing mail and must have some such arrangement. 4h

Line printers were discussed, but not more than mentioned in context of "good" quality, fast draft producing needs. 4i

Display NLS 4j

To: DCE RWW
cc: LGR

Their IMLAC has an MIT-supplied mouse and keyset and is just waiting our providing software from the range of IMLAC's options. I asked Ken Victor to work directly with Bruce Dolan to get them up. Obviously, they will need training in DNLS - regardless of the timing of the ARPA Office getting on. The architect is the next logical candidate. I suspect Larry will be early in line. 4j1

I mentioned Termicette digital tape recorders and DEX to Bob Kahn but missed this with Larry for some reason. 4k

PRIVACY 5

He seems to recognize the value potential in OPEN DIALOG (though I think he needs more contact) and he points out the need for PROTECTION (access control for much sensitive (unclassified) information with which his office works. This is an important consideration for most future user organizations, of course. 5a

We discussed the possibility of a separate Journal, the possibility of a MULTICS-like "hierarchy of access conventions" in NLS. (I had a feeling I knew about the Multics access stuff, but got a little uneasy as we talked. I need to review it again). I suspect that these could be built in NLS but admitted to not really knowing enough about the system and cost implications. I said I'd rather WE looked closer at it than "give up" and have him turn to some other file accessing/protection system. 5b

We talked about the complications arising out of "dialog groups" that change, passwords or other locks that might be hard to use effectively. Since the TENEX protection doesn't seem to do the whole job, the question remains -- what will and who? 5c

CALENDAR 6

He would like a subsystem that keeps track of people's calendars with query capabilities that permit secretaries to search for open dates - compare sets of calendars and find open dates in common for several people in setting up meetings (optimizing travel?). Individuals would update their own calendars at times. The secretaries and they would all use to query. 6a

PERSONAL SUBCOLLECTIONS 7

As a user of SNDMSG and starting into the ARC Journal system,

To: DCE RWW
cc: LGR

Larry is coming up with the kind of reactions, needs, etc. that one expects from those getting into it -- and more. 7a

Larry wants (for himself and for others) more than just user sorting of Journal mail from the Journal branch "in box" and "to read", "have read", and "authored" branches as we viewed in my JCN initial file. He would like commands or processes to categorize his mail in sets. (Perhaps: to read, action, info copy, keywords, to/from individuals?) This might be specialized for each user. 7b

I said we are doing this at each users' option in his initial file and for the whole dialog set, we have the ability to build individually-tailored subsets from the master citation collection file. I asked what he thought about the problem of file size if all users kept their own subsets as copies. He doesn't think file space is problem (JCN: maybe not). 7c

I said that these kinds of ideas were just what we wanted from him and groups like his that will use the Utility and that we consider our DSS development as a major research/development area needing lots of people participating in the development -- as he is now beginning to do himself. 7d

COMMENT: Most of the Journal items of concern to a person are those sent to/from him, even though his interests also take him into dialog between others. The combination of personal indexing and access to the whole data base for selected subsets is the best combination. 7e

My impression here is that Larry has been hard-hit by the possibilities in this area. I don't think he got these by reading our stuff (necessarily) but the point is, he is "zeroing in". 7f

ARPA ARCHITECT 8

I outlined our approach several times (perhaps too many): He says an ARPA office support group is being formed. *** to head. They will consult on terminals, help acquire, supply paper, other activities - I think help in training. I should have made a written note of the activities here, but missed the chance for some reason. I need to follow up later and get a better picture. 8a

When I talked about the sharing of the ARPA workshop architect by the several ARPA offices, he pointed to this group (4 people?). I said ***'s job of running the group sounded full-time -- how would

To: DCE RWW
cc: LGR

*** be able to help with the "System Analysis" and heavier training work? He said a person might be added. I asked if he had a professional-type in mind (as I did). He seemed to say yes. We discussed a candidate I had in mind and left it at that. 8b

TRAINING 9

He is still mentioning July 1 as a target date, but more in the area of office organization, system development, initial training, terminal and other equipment selection and acquisition. 9a

He is well aware of our capacity limitations and of the Utility's Sept 1 start date. Since we also went over the ARC cost and system use analysis data (15066,), he knows the 5-8 AM slot now has capacity that might be used for initial training (competing with compilations, perhaps?). I pointed out that ARPA cannot expect to rely on an operational system for their office for just those hours of the day and therefore should not get to rely too early on the ARC machine through the "training door". I think he WON'T PUSH such that they get ahead of themselves and come to depend on using the ARC machine too much before the Utility is here. 9b

THE USC-ISI MACHINE PRESENTS A PROBLEM 10

When we (ARC) started seriously talking about using the ISI PDP-10 (in Dec?) its use was down. Since then it has increased greatly. Its load average is about the same as ARC's and in the same time slots. 10a

It is rumored that they can stand considerably higher load factor levels than ARC's can (memory and user characteristics) but Larry's and Bob Kahn's impression is that they are somewhat "unresponsive" under current loads. They note this as users themselves. If true, we've got a problem. 10a1

When I expressed a "loser" feeling, they said I shouldn't give up -- but we didn't really go to the next logical step: What to do about it. I reiterated (earlier) how we wanted to use ISI and why -- but this doesn't solve the problem. 10b

We should talk with Melvin and Uncapher again. They may well agree with ARPA that it is perhaps too heavily loaded to fit us in. 10b1

To: DCE RWW
cc: LGR

Incidentally, LGR watches summaries of PDP-10 load averages closely and showed me reports for February and March. They reflected the results we analyzed closely at first glance, but I didn't really get into a careful comparison. 10c

CONCLUSION 11

My reaction to what we discussed, 11a

Their attitudes show that they are serious, eager to go ahead as quickly as possible, but not in the "crash mode" (that I was hoping not to find). If we keep working on getting our Utility features ready, get the ARPA architect selected and start training, devote thought to initial equipment configuration study (with the architect), encourage Larry to keep building a solid personal TNLS/DNLS skill base, and other such things, we will arrive at September 1 in good position. 11a1

The USC-ISI question is still critical and unresolved. 11a2

RE TOM O'SULLIVAN 11b

I saw him but didn't get away from the other groups to talk in depth. Maybe next time. 11b1

JCN 16-MAR-73 18:00 15121
Notes on: JCN Visit to ARPA 3/14

To: DCE RWW
cc: LGR

(J15121) 16-MAR-73 18:00; Title: Author(s): Norton, James C. /JCN;
Distribution: /dce rww lgr (for information) ; Sub-Collections:
SRI-ARC; Clerk: JCN;
Origin: <NORTON>VNOTES.NLS;1, 16-MAR-73 17:55 JCN ;

DCE 16-MAR-73 15:33 15122

Visit Log: 14 Mar 73, Alan Cobham, Bill Burge, Moshe Zloof, and Dave Grossman, IBM Research Laboratories

DCE 16-MAR-73 15:33 15122

Visit Log: 14 Mar 73, Alan Cobham, Bill Burge, Moshe Zloof, and Dave Grossman, IBM Research Laboratories

They are all in the Computer Science Dept, IBM Research Laboratories, Yorktown Heights, N.Y. Apparently their main interests center in the AI domain. They reached us (ARC) through Peter Hart and Carl Levitt; apparently they are on sort of a general information-gathering tour. 1

Don Andrews gave them about half an hour at a DNLS console, then I talked with them in the conference room for another 40 minutes -- in the process, showed them the use of the video projector. 2

I concentrated my part on the concepts associated with the "Workshop system" -- that we would like to find others who are interested actively in developing and applying the sort of core workshop system such as ours. Explained about our NLS Utility, and the subscribers that we'd like to enlist; emphasized our interest in "architects" (the abovemenioned interested parties); mentioned the special "Community of Architects" plan. They seemed a bit interested -- Cobham took notes, anyway. Enough so that I'd like to call him later to see what impact we had, and if they have any leads to interested parties within IBM. They know Lance Miller there. 2a

Literature given them: The FJCC68 reprint (3954,), Info. services for D- or M-oriented communities (12445,), and our 72 summary report to the IPT contractors meeting (13537,). 3

DCE 16-MAR-73 15:33 15122

Visit Log: 14 Mar 73, Alan Cobham, Bill Burge, Moshe Zloof, and Dave Grossman, IBM Research Laboratories

(J15122) 16-MAR-73 15:33; Title: Author(s): Engelbart, Douglas C. /DCE ; Distribution: /jcn rww dia drb bc hgl kev chi ; Sub-Collections: SRI-ARC; Clerk: DCE ;

DCE 16-MAR-73 15:34 15123

Visit Log: 14 Mar 73, Adrian Ruyle

DCE 16-MAR-73 15:34 15123

Visit Log: 14 Mar 73, Adrian Ruyle

Adrian lunched with DCE, RWW, an PR. General discussion. Aftewrwards, showed him our physical plant, gave him the references below. DCE visited a bit, then RWW. Expect to contact him again in the near future. 1

Gave Adrian copies of: OSR1, NASA70, FJCC68 (3954,), Dinsaur paper (5255,), Architect Community (12427,), Coordinated info services for communities (12445,), and ARC/IPT '72 summary (13537,). 2

DCE 16-MAR-73 15:34 15123

Visit Log: 14 Mar 73, Adrian Ruyle

(J15123) 16-MAR-73 15:34; Title: Author(s): Engelbart, Douglas C. /DCE ; Distribution: /rww jcn pr drb ; Sub-Collections: SRI-ARC; Clerk: DCE ;

Comarco, BDSI, and ISI: a trip report

Comarco 1

At Comarco in Oxnard I talked to John Cogger (13131,). Comarco is a small conglomerate that includes various engineering services, e.g., drafting, and also owns realestate. It is a recent spinoff from a larger company. This division has various contracts mainly with the Navy to reprint and edit manuals and smaller materials. 1a

Typically, someone sits at a Beehive non-graphic CRT terminal and types in copy provided by the customer. She has available a QED-like editor in which the cursor moves along the line and can insert, delete, or replace text. The most interesting thing about this editor is that it occupies less than 12,000 words of the HP 2,000's sotrage. 1b

Input goes into what Cogger describes as semi-random files. Like NLS they have a hierarchical structure although there are a limited number of levels. They are called Chapter, Section, Paragraph, and Sentence (sentence does not mean a grammatical unit). Sentences correspond to records. A directory and pointer enable the user to call the records in any order. If the text of the sentence is longer than the record the pointer carries it to another record. The person putting in the text also has access to a set of formatting commands roughly analogous to our output processor. The important difference is that a general format may be set up which might include dozens of output processor commands. That format can be called with a single meta command. 1c

This technique for one thing reflects the absence of cross-file copying in the editor. 1c1

The editing system, the file system, and the output processor command system were developed by Cogger and others at Comarco. All are written in BASIC. 1d

Cogger has given a paper on the editing system recently in Chicago, I will try to get the reference. 1d1

Processing now takes place on an HP 2000 which supports about 20 terminals comfortably when only input and editing are going on. 1e

They have ordered a HP 3000 for May. 1e1

They have used various photo type setting output devices. They are currently shifting to a Compstar. 1f

A Compstar is a new machine. I remember a cost of $160,000 including a mini, but I intend to write to Star Parts, its manufacturer, and get more information. Hard-wired to the HP 2000 the Compstar can produce highly formatted material (double column, many changes of type face) with good quality litho-graphic appearance at a page a minute. 1f1

In the future they plan to get more Compstars without minis and do all the computing in the HP machine. 1f1a

They sell this service to their customers for well under $10/page and are "coining money". I believe this is cheaper than it can be done with typewriters-to-offset master. 1f2

Their photo typesetting systems produce only characters. Figures, equations, half-tones, etc. are added later by conventional offset methods. 1f3

They have assembled a small version of their system which consists of an HP2100, their software, a small Vermont disc (they speak very highly of Vermont Discs), a Beehive terminal, and a small photo type setter (I've lost track of which one). They sell the small system for $100,000. 1g

They expect the price to fall to $60,000 within a year. 1g1

They work closely with the Beehive people. They have been involved in the design of the new Super Beehive which they are getting with a keyboard suited specially to them and what they buy with 4K of core (?) for $2500. 1h

We touched on the idea of their trying to print from our tapes but they are not really interested. 1i

Cogger was most interested in 2 things about our system. One is the mouse which he would like to hook to the Super Beehive and the other is our specifiction in COM output of the location of things (e.G. the beginning of lines) by X-Y coordinates.. 1j

I came away from Comarco with a feeling that printing from computers is an area of rapidly changing technology in which I am woefully ignorant and ARC does not know as much as it should. 1k

Perhaps there is a project for RINS. 1k1

Cogger gave me a couple of names of individuals in companies that might be worth contacting. 1k2

In chatting about our efforts with DDSI, one of Cogger's colleagues remarked in passing that he believed graphics art fonts were essentially impossible with the Comp 80 and that a Video comp was necessary. 1k3

DDSI (Data Dissemination Systems Inc.) 2

At DDSI I first met with John Kroemer, Paul Johnson, and Mark Brown together. They had gotten the hint (Ijournal,14841,3a8) that if they did not solve the problems of image density in the graphic art fonts, the underlines that mysteriousy appear in graphic arts output, and successful combination of proportional space and justification by the end of April we would begin to seriously consider dropping them. 2a

They had the following assurances on those subjects. 2b

To get around the muddy characters problem (which first appeared in November (journal,13047,)), Paul proposed switching from News Gothic to Spectra as the graphics art sans serif font. Spectra is leaner than News Gothic and we could then use News Gothic as Spectra bold. 2b1

They asked me whether we wanted to call Spectra, "News Gothic", and News Gothic, "News Gothic bold". I assured him that we wanted to call Spectra, "Spectra", and News Gothic, "News Gothic". 2b2

Kroemer assured me that "Paul has been given the budget" to buy 4 new fonts from III (at about $1000 each). At this and other points they were anxious to assure me that Signal was willing to solve our problems by investing money. 2b3

Note that in his phrasing here and at other times Kroemer and Mark Brown showed they identify this project with Paul Johnson. 2b3a

I said that Spectra was a fine type face and we didn't mind using it, but what were they going to do aaout times Roman? They mumbled something about finding some other, leaner serif face. 2b4

Paul assured us that he was working on the problem of overrun of justified lines and accepted the assurances I

had brought with me from Dean Meyer that it was their fault. 2b5

Paul also assured me that he would solve the mysterious disappearance of underlines uncalled for in such text. 2b6

I suggested to John Kroemer that if they offered underlining as a feature, it might go away. 2b6a

Mark Brown told me that a new programmer had been hired from III to help Paul Johnson and that the completion of other projects would allow Paul Johnson to devote more time to us. The other programmer had apparently not started. 2c

Mark Brown wept over the quality of the credits page of our report and assured me that we should expect the quality of the very attractive III instruction manual for the Comp 80. But he expressed the suspicion that the manual had been set not on Comp 80 but on the video Comp. 2d

They hope to discover which machine it was set on from the new programmer they have hired. 2d1

This little question reminded me of the remark at Comarco. It gave me a nervous feeling that the DDSI troups do not know what their equipment can or can't do. 2d1a

Mark Brown took me on a tour of the facility where I saw their microfilm developer, a very fancy microfiche reader, the Comp 80 itself, and the Misur half-tone digitizer. None of the four were operating at the time I saw them. 2e

They originally said they would do half tones for us with the digital MISUR system. Later (journal,12612,,)they proprosed flashing the halftone images on the microfilm as it was made. When the flasher proved unequal to the task they proposed (mjournal,13422,) printing halfones on the plates made from the microfilm in the conventional offset method. 2e1

The MISUR is present and normally operates. It's clear they don't want to use it for our contract, probably because of the low volume. That's o.k. 2e2

Mark Brown also showed me the space where they plan to install a vendor who will print hard copy from their microfilm. At the moment it is occupied by cubicle offices, it did appear that they were moving out. 2e3

ISI (Information Sciences Institute) 3

Then I went over to visit John Melvin at ISI which is about 1/2 mile from DDSI. John showed me around their Olympian Tower, but I will restrict my report here to matters involving DPCS. 3a

John and I agreed that he would alert an operator so that we could ship processed COM files to ISI by the network. An operator will put them on the tape, thus saving the time of mailing. I will have to arrange: 3b

1) to have DDSI pick up the tapes and 3b1

2) new accounting procedures with Kay for recording its events. 3b2

Because of the load on both systems it seems best to transfer the files at night. 3c

It turns out that ISI has also be talking to DDSI. I chatted briefly with a programmer named Feigenbaum(?), and at more length to a guy who seems to be their graphics arts department named Nelson Lucas. 3d

Feigenbaum(?) and Lucas sent a Teco or Runoff tape to DDSI and got back garbage. Lucas had somehow heard that we were working with DDSI and he proposed sending their files to us for whatever processing was necessary to make a tape readable to DDSI. 3d1

John Melvin had discouraged getting involved in the output processor for obvious reasons. When I returned yesterday, I discussed this matter with Walter who said that he could provide a set of specs (14093,) to ISI that would define what DDSI expects and from which ISI could, in a couple of days programming time, make a program that would create from their files a tape readable to DDSI. Enabling them to make tapes for DDSI seems the best course. 3d2

DVN 16-MAR-73 17:13 15124

Comarco, BDSI, and ISI: a trip report

(J15124) 16-MAR-73 17:13; Title: Author(s): Van Nouhuys, Dirk H. /DVN; Distribution: /MFA JAKE JCN JBN DCE RWW KFB(just so you'd know it went) DIA (see lh) NDM WLB; Sub-Collections: DPCS SRI-ARC; Clerk: DVN; Origin: <VANNOUHUYS>S.NLS;4, 16-MAR-73 17:08 DVN ;

Reply to Request for Graphics Information

In reply to your recent request for information related to graphics standards, please note the following: 1

1. I trust that you have scanned the list of RFC's for all documents relating to the efforts of the Network Graphics Working Group. There are a large number of them, but they are easy to identify and obtain so I will not list them all. 1a

2. A draft copy of higher level graphics protocols was distributed by Jim Michener at the last meeting, but never published as an RFC. You should contact him for a copy. (If he is unresponsive, I can xerox a copy for you). 1b

3. An expanded version of RFC 178 which provides the rationale for the graphics input protocol was published (by me) under the same name ("Network Graphics Attention-Handling") at the Online 72 Symposium, Brunel University (proceedings now available in book form). I can send you a copy if you cannot obtain it otherwise. 1c

4. It appears that we may soon be having another meeting of the Graphics Working Group. Are you on the distribution list? 1d

5. What are the plans of your group? 1e

Ira W. Cotton
National Bureau of Standards
Washington, D. C. 20234
(301) 921-2601 1f

IWC 16-MAR-73 7:14 15125

Reply to Request for Graphics Information

(J15125) 16-MAR-73 7:14; Title: Author(s): Cotton, Ira W. /IWC;
Distribution: /CSM JCM TNP; Sub-Collections: NIC; Clerk: IWC;

IWC 16-MAR-73 7:23 15126

Network Graphics Working Group Meeting

I would be delighted to see you host the next graphics working group meeting. Unfortunately, the response to my call for information has been underwhelming Michener seems to have gone underground. Why don't you contact him directly (if he still considers himself chairman) and schedule the meeting (I would prefer to see it early in May). If he is not interested, just go ahead and schedule it anyway. I would suggest, however, that you try to get him to put out his draft of higher level protocols as an RFC you everyone interested will have a chance to read it before the meeting. Do not hesitate to contact me if I can be of any assistance. Phone: 301-921-2601.

- Ira W. Cotton 1

Network Graphics Working Group Meeting

(J15126) 16-MAR-73 7:23; Title: Author(s): Cotton, Ira W. /IWC;
Distribution: /WJB JCM TNP; Sub-Collections: NIC; Clerk: IWC;

JCN 16-MAR-73 7:40 15127

About Workshop Utility Costs - Comments for Jim Bair, RADC

About your recent SNDMSG (and my SNDMSG reply - reformatted below), we should talk (telephone) more about the costs of NLS service and the Utility. the NY State Education people should not be "over-encouraged" even with the Utility seeming a sure thing -- for several reasons, some being: 1

its still experimental nature, 1a

the limit of our first clients to mostly "system-developers".. until the next PDP-10's and users, and 1b

our desire to concentrate our limited resources (of qualified people to get new groups on), etc. 1c

On the other hand, their exposure to the possibilities can't hurt. I wouldn't turn them off.. but let's you and I talk more. You call me. 1d

The Journal document I sent you online last night (15066,) shows costs (and use) of SRI-ARC service these days. The Utility service will be in the same ballpark.. with more TNLS users at first, the cost may be like $10 per hour. 1e

We're just starting to make a more detatiled estimate based on the Utility itself (not just on ARC costs). On the other hand, we do not plan to charge by the hour for at least a year.. maybe longer. we are "selling" large blocks of service, the smallest being about $50,000 per year, we think. 1f

A rough cut for you to think about is: the Utility will cost about $ 800k/yr. 1f1

If some organization put in, say, $ 80k (10%), they would get ACCESS to about 10% of the service (whether they use it or not). We aren't sure how many people we can simultaneously support, but it may be about 24. 1f1a

Thus, the 10% contributor would get 2.4 people on all the time during the main part of the day. 1f1b

If each of their users was fairly serious (but had other work to do), he might spend 1 hour a day online, resulting in support for about 20 users at the organization. 1f1b1

This implies a fairly concentrated user group. If one envisions a larger body of students just trying

out the system in smaller time slots, then the dynamics and the figures all change. 1f1b2

If these "off-the-top-of-my-head" ideas don't seem to add up, let me know. Anyway that's the flavor. What's your reaction? And how do the NY people think they would ue such a system at first when they finally did get access? Also, thanks for the note. Jim Norton 1g

JCN 16-MAR-73 7:40 15127

About Workshop Utility Costs - Comments for Jim Bair, RADC

(J15127) 16-MAR-73 7:40; Title: Author(s): Norton, James C. /JCN;
Distribution: /jhb dls ; Sub-Collections: SRI-ARC; Clerk: JCN;

what should be listed in the NIC/QUERY data-base?

The full name of the Resource Notebook files and the ARPANET NEWS is listed under database.

JFV 16-MAR-73 14:54 15128

what should be listed in the NIC/QUERY data-base?

The NIC/QUERY data-base now contains not only user files but the directory and file name for the ARPANET NEWS and the Resource Notebook. 1

JFV 16-MAR-73 14:54 15128

what should be listed in the NIC/QUERY data-base?

(J15128) 16-MAR-73 14:54; Title: Author(s): Vallee, Jacques F. /JFV;
Distribution: /NIC-QUERY; Sub-Collections: SRI-ARC NIC-QUERY; Clerk:
JFV;
Origin: <VALLEE>TEST.NLS;1, 16-MAR-73 14:50 JFV ;

JI 16-MAR-73 6:50 15129

Jim,

The following is a suggestion I would like to explore with you. Since many of us who use the NIC are restricted in our access of tenex capabilities, there is a real need for some file protection mechanism comparable to that found in tenex. My suggestion is: could you consider incorporating a file protection mechanism within NLS such that each branch in one's initial file could, at the user discretion, be given a protection code for three levels as in tenex. At the second level, the user should be able to specify his own group employing valid NIC/NLS Idents. The third level would be the same as in tenex.

I recognize that this is probably a non-trivial thing to accomplish. I am submitting the suggestion because I feel that such a feature would serve a real need.

Your comments would be greatly appreciated.

Best regards, Jean 1

(J15129) 16-MAR-73 6:50; Author(s): Iseli, Jean /JI; Distribution: /JEW; Sub-Collections: NIC; Clerk: JI;

JI 16-MAR-73 7:22 15130

JEANNIE,

Mike Chernick showed us a copy of RADC-TR-72-232 ,"online team environment" 8 June 1972, SRI Project 8457. Could you please send a copy for our files and use.

Thanks.....Jean 1

(J15130) 16-MAR-73 7:22; Author(s): Iseli, Jean /JI; Distribution: /JBN; Sub-Collections: NIC; Clerk: JI;

Comments on MPS Justification Draft 14928

Comments on MPS Conversion Justification Draft 1

The document under review (14928,) is a good draft, but I would still like to see some more work on it. This document is important as a record of our motivation for the conversion and will be read by people here in ARC and Xerox, at ARPA, and probably by people we would like to interest in a SEAS community. Therefore we need a self contained convincing document. 1a

The paper contains a good discussion of general problems in developing systems and requirements for tools to aid the process, but I do not come away from the present draft understanding as clearly as I would like that MPS meets these requirements and that we need to convert NLS. The changes I would recommend which would meet the needs I see are the following. 1b

At the end of your introduction to the general problems of system development and tool needs give a 1,2,3..... type summary of the requirements a programming system is to have to meet the problems addressed earlier. 1b1

In the discussion of MPS characteristics tie them back to the earlier general requirements so that the reader can see clearly that MPS is a major step forward toward aiding the system development process. The present discussion of MPS is hard to follow or relate to the general needs. 1b2

There is a section missing which describes the present state of L-10 and its associated systems with respect to the general requirements outlined earlier. There is a need for a discussion of the problems we are expeiencing with the present L-10 version of NLS. 1b3

It would be useful to then discuss some of the alternatives of how these problems might be eased by changes in the L-10 sytem or redesign of NLS in L-10 and discussing the cost of doing this relative to the cost of a complete redesign in MPS with a discussion of the additional things conversion to MPS buys directly or as side effects. 1b4

The result of the above train of discussion and argument should leave the reader feeling that all areas have been discussed and tied together and that the conclusion of converting to MPS is clearly required ad worth it. You have gotten a good start and I know that writing this document seems a diversion given your own strong

convictions of the need to go to MPS, but I believe the effort to produce the justification document will be amply repaid the project as a whole. 1b5

RWW 16-MAR-73 9:17 15131

Comments on MPS Justification Draft 14928

(J15131) 16-MAR-73 9:17; Title: Author(s): Watson, Richard W. /RWW;
Distribution: /nmdt emc nmrt npg mdk ; Sub-Collections: SRI-ARC
NMDT EMC NMRT NPG; Clerk: RWW;

RWW 16-MAR-73 9:27 15132

Formation of Review Team for User Program Library

Dean is setting up a user program library (14951,) and I would like to give him some help and review of his plans. Therefore I would appreciate it if the following people could meet with Dean as a review team when he comes down next Thurs the 22, HGL, MFA, WLB. Thanks 1

RWW 16-MAR-73 9:27 15132

Formation of Review Team for User Program Library

(J15132) 16-MAR-73 9:27; Title: Author(s): Watson, Richard W. /RWW;
Distribution: /sri-arc ; Sub-Collections: SRI-ARC SRI-ARC; Clerk: RWW;

where are you cbimemlist 1

(J15133) 16-MAR-73 11:46; Author(s): O'Sullivan, Thomas /TO;
Distribution: /JBN; Sub-Collections: NIC; Clerk: TO;

DIA 18-MAR-73 9:18 15135

Thanks for the note about Beehive terminals:

I would be VERY interested in getting detailed specs for the new super Behive terminal. Also, I would like to chat with the guy that is interested in hooking a mouse to one. I can give him some ideas and some names of people at Xerox that are developing digital mice - THE mouse to hook to that kind of terminal. Got any names and numbers? 1

DIA 18-MAR-73 9:18 15135

Thanks for the note about Beehive terminals:

(J15135) 18-MAR-73 9:18; Title: Author(s): Andrews, Don I. /DIA;
Distribution: /DVN; Sub-Collections: SRI-ARC; Clerk: DIA;

DIA 18-MAR-73 9:48 15136

a strangeness in user program loading

Fellas,
When a user program is compiled directly into core, the first word of the page it gets put into contains a JRST to the program. When a user program gets loaded from a rel file, the first TWO words of the page contain JRST's to the program. Can this be changed so that programs always get loaded on page boundaries? - i.e. the first cell of the program is the first cell of a page? Also, if a user program name is the same as an NLS procedure name (e.g. arm) the NLS procedure gets called instead of the user program - but only if the program was loaded with the GET command (at least in the example of arm) Could this be remidied? Thanks. 1

DIA 18-MAR-73 9:48 15136

a strangeness in user program loading

(J15136) 18-MAR-73 9:48; Title: Author(s): Andrews, Don I. /DIA;
Distribution: /NPG; Sub-Collections: SRI-ARC NPG; Clerk: DIA;

15137

JCN 19 MAR 73 2:03PM

ARC HARDWARE CAPITAL EQUIPMENT FORECAST - Partial

To: Bob Wing From: Jim Norton for ARC

1

This is all I could come up with under the pressures that exist today. I'm leaving for Washington tomorrow 3/13 and won't be back until Friday (or late Thursday pm).

1a

MOTOR GENERATOR: for ARC and/or AI and other use 2

Approximate cost: $25,000. 2a

Need: 2b

We in ARC want to proceed with obtaining a Motor-Generator as outlined in the attached study by Martin Hardy (14154,). What remains to be done is for us to: 2b1

Submit a purchase order for approval. A 50KW unit would be adequate for ARC. The installed cost would be in the neighborhood of $18,000. If it is desirable to support ARC, AI and the PDP-11 we will need G.E's 150KW unit. Installed cost is in the neiborhood of $25,000. This seems like better future planning to us 2b1a

TEMPERATURE, HUMIDITY, AND LINE MONITOR with automatic alarm. 3

Approximate cost: $2,000. 3a

Need: To continually monitor our facilities temperature, humidity, and voltage conditions and automatically turn off power when an over-temperature is sensed. In the past we have had many week-end air conditioner troubles that have pushed temperature beyond hardware specifications. We must turn off power if we are to expect a reliable hardware system. 3b

TV PROJECTOR SPARE PARTS: 4

Approximate cost: $1,000. 4a

Need: To provide back-up spare parts for the hard to get items that will require replacement from time to time. 4b

SWEEP GENERATOR: 5

Approximate cost: $2,500. 5a

Need: To align, calibrate and test our television associated equipment. 5b

VIEW FINDER CAMERA: 6

Approximate cost: $2,000. 6a

Need: As a dedicated camera, (with a built in view finder monitor mounted on top and provisions for external sync), so that we can properly video tape and project live, our seminars and conferences. Our current camera equipment does not provide this. 6b

PROTOTYPE EQUIPMENT FOR WORKSHOP UTILITY TERMINALS 7

Approximate cost: $6,000. (?) 7a

Need: We will need to find and test several terminals with the goal of finding a terminal that can effectively and cheaply provide DNLS service over the ARPANET to users of the planned Workshop Utility. 7b

INPUT DEVICES FOR THE IMLAC TERMINAL 8

Approximate cost: $3,000. (?) 8a

Need: We need to test other input devices for terminals. These would include light pens, joy sticks, and tablets, with the purpose of trying to find other ways to give input capabilities to a wider variety of terminals and uses. 8b

JCN 19 MAR 73 2:03PM

ARC HARDWARE CAPITAL EQUIPMENT FORECAST - Partial

(J15137) 17-MAR-73 10:30; Title: Author(s): Norton, James C. /JCN;
Distribution: /RYW RWW DCE MEH CHI; Sub-Collections: SRI-ARC; Clerk:
JCN;
Origin: <NORTON>CAPITAL.NLS;1, 12-MAR-73 19:16 JCN ;

Scientific Advisory Board Agenda & Arrangements (Mar 73)

ATTENDEES 1

Dr. Ware 1a

Mr. Nehama 1b

Mr. Heart 1c

Mr. Uncapher 1d

Mr. Burrows 1e

Col Emmons 1f

Maj McKemie 1g

ARRANGEMENTS SAB as of 8-MAR-73 2

ACCOMMODATIONS 2a

Holiday Inn--6 persons 2a1

Includes Maj. McKemie (NO ESD). Swites vs rooms= go singles instead= 6 2a1a

MON., 12 MAR 2b

ARRIVE: 2b1

WARE & UNCAPHER: Syracuse* ETA= 1722 Am 106 Bethke will meet 2b1a

NEHAMA Syracuse ETA= 1855 Al 400 Bair & Mckemie will meet 2b1b

HEART Syracuse ETA= 2037 Al 479 Will be met with Heart by Bair & Mckemie 2b1c

BURROWS Utica ETA= 2307 Al 444 Bair will meet 2b1d

MCKEMIE Utica ETA= est 1330 2b1e

TUES., 13 MAR 2c

COMMANDER 2c1

Col. Larson will have a coffee clatch in Conference rm A, Bldg 3,, 13 Mar, 0830. CONFIRMED 2c1a

LUNCH: 13 Mar, Mitzi will bring in lunch to Bldg 3 Conf. Room. 2c2

EVENING: 13 Mar, Pay as you go cocktail party with participants of program (speakers) at O Club 2c3

WED 14 MAR 2d

LUNCH: Drive to Coalyard Charly's (Mitzi will reserve big rm) 2d1

COMMANDER: Will come to Bldg 3 for Summary, 3:30 2d2

TRANSPORT to Hanscom (ETD: 4:30) 2d3

T-39 from Hanscom, ESD Commander's CONFIRMED* ?; RADC backup, 131 from Flight Test 2d3a

Bill Wright at ESD, PL313, tech advisor to CO of ESD working on plane 2d3b

NOTES 3

Mckemie will be on travel, contact Miss Kennedy= secretary (Betsy) 3a

Klayton: will help, X2558, 4728 3b

AGENDA as of 8-MAR-73 4

TUES 13 MAR 4a

INFORMATION SCIENCES DIVISION PROGRAMS 4b

Commanders welcome	30 min.	4b1
Overview Discussion -Information Sciences	45 min.	4b2
Associative Processing Program	30 Min.	4b3
BREAK	15 min.	4b4
Evaluation of AHI (SRI's Augmented Human Intellect System)	60 Min.	4b5
Higher Order Languages (Language standards and compiler generation)	30 Min.	4b6
LUNCH		4b7
Software Reliability/Verification	60 Min.	4b8

Data Management Systems, DM-1 Status	30 Min.	4b9
Computer Graphics & Pattern Recognition (OLPARS) (with demonstration)	75 Min.	4b10
Cocktails at O Club		4b11
WED 14 MAR		4c
INTELLIGENCE & REACONNAISSANCE DIVISION PROGRAMS		4d
Overview Discussion -Intelligence & reaconnaissance	45 min.	4d1
Human Readable Machine Readable Mass Memory	15 Min.	4d2
PACER	25 Min.	4d3
Photo Mensuration Effort	15 Min.	4d4
Russian - English Translation	15 Min.	4d5
BREAK		4d6
Experimental Analyst Station	20 Min.	4d7
Advanced Cartographic System	60 Min.	4d8
LUNCH		4d9
Discussion IS/SAB		4d10
Executive Session	90 min.	4d11
Col. Larson (Bldg 3)		4d12
DEPART GAFB 1630		4d13

JHB 18-MAR-73 16:41 15138

Scientific Advisory Board Agenda & Arrangements (Mar 73)

(J15138) 18-MAR-73 16:41; Title: Author(s): Bair, James H. /JHB;
Keywords: USAF SAB DOD; Sub-Collections: RADC; Clerk: JHB;
Origin: <BAIR>SAB.NLS;6, 10-MAR-73 14:39 JHB ;

KIRK 18-MAR-73 18:17 15139

Here is a specification of what I would like to do.

Concerning the "Browser".
This could eventually be incorporated in the jump mode of NLS as:
Jump to Mouse or Jump from Mouse 1

Pushing the first button on the mouse is equivalent to jump to return, or jump to file return if a new file was accessed with the last command. 1a

Ideally, this would include viewspec changes as a jump to return and would remember all previous locations, not just the five node ring in the jump stack. An interim feature that would be helpful would be if the last node in the jump stack, took the user to the Origen view. 1a1

Pushing the second button on the mouse displays all of the lines in the pointed statement. 1b

This is simply jumping to item with viewspec: s. 1b1

The third button on the mouse works just like the NLS Jump to Link command, 1c

Except that ideally it would require only one push instead of two. If no link is found, it should jump to that statement with viewspecs eb. (I think this should be a general feature of NLS, instead of saying ILLEGAL LINK.) 1c1

(J15139) 18-MAR-73 18:17; Title: .HED="Regarding the "DNLS Query", I was talking about Friday"; Author(s): Kelley, Kirk E. /KIRK ;
Distribution: /cfd ; Sub-Collections: SRI-ARC; Clerk: KIRK ;

CHI 19-MAR-73 19:29 15140

user program loading, response to 15136

Don, we will try to fix your problems with the program get command (as well as starting the program on a page boundry), but I think the scope rules and binding rules are appropriate as they are. Sorry. -- Charles. 1

15140 Distribution

Victor, Kenneth E. (Ken) , White, James E. (Jim) , Dornbush, Charles F. , Michael, Elizabeth K. , Vallee, Jacques F. , Mitchell, James G. , Deutsch, L. Peter , Kaye, Diane S. , Andrews, Don I. , Bass, Walt , Hopper, J. D. , Irby, Charles H. , Lehtman, Harvey G. ,

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

Note: These excerpts were transcribed during the early phase of work on the paper, "The Augmented Knowledge Workshop." At that time I was lone author, and also just getting my head back after the flu; I find that it does good things for my head sometimes to transcribe material from relevant writings, so while I still was low on energy I actually enjoyed sitting at home with my TI and typing this material. (Note: OSR62 was partially transcribed last Spring, during our FRAMAC sessions, and broken into specially restructured form (10374,); there is probably overlap with what is transcribed below.) 1

I later called for help from Jim and Dick, and the resulting three-author paper is (14724,) -- in which none of the excerpts was quoted. These notes might nonetheless be of some future reference value -- I found a lot of stimulating relevance in them. 1a

Extracts from Drucker's "Effective Executive" (XDOC -- 3074,) 2

Preface: "... effectiveness can be learned" 2a

"..I have not been able to find, in an extensive search of the literature, any other discussion of the effective executive." 2a1

"I very much hope, however, that this will not be the 'last word.' We need all the knowledge of executive effectiveness we can get. On it depend the institutions of our society -- the government agency as well as the gusiness corporation, the research laboratory, the large univrsity, the modern hospital, as well as a modern army or air force. On effective executives depends, therefore, our individual well-being if not, in the last analysis, our survival." 2a2

Chapter 1: "... the executive is, first of all, expected to get the right things done." 2b

"Intelligence, imagination, and knowledge are essential resources, but ony effectiveness converts them into results. By themselves they only set limits to wat can be attained." 2b1

"High intelliigence is common enough among executives. Imagination is far from arar. The level of knowledge tends to be high. But there seems to be little

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

correlation between a man's effectienss and his intelligence, his imagination or his knowledge. 2b1a

Brilliant men are often strikingly ineffectual; they fail to realize that the brilliant insight is not by itself achievement. They never have learned that insights become effectiveness only through hard systematic work. 2b1b

Convrsely, in every organizatioon there are some highly effective lplodders. While others rush around in the brenzy and busyiness which very bright people so often confuse with 'creativity,' the plodder puts one foot in front of the other and gets there first, like the toroise in the old fable." 2b1c

"All this should be obvious. But why then has so little attention been paid to effectiveness, in an age in which there are mountains of boks and articles on every other aspect of the executive's tasks? 2b2

"One reason for this neglect is that effectiveness is the specific tehnology of the knowledge worker within an organization. Until recently, there was no more than a handful of these around. 2b2a

"For manuual wor, we need only efficiency; that is, the ability to do things right rather than the abbility to get the right things done. TThe manual worker can always be judged in terms of the quantity and quality of a definable and discrete output, such as a pair of shoes. We have learned how to measure efficiency and how to define quality in manyal work during the last hundred years -- to the point where we have been able t multiply the output of the individual worker tremendously. 2b2b

"Formerly, the manual worker -- whether machine operator or front-line soldier -- predominated in all organizatios. Few people of effectivenes were needed: those at the top who gave the orderst that others carried out. They were so small a fraction of the total work population that we could, rightly or wrongly, take their effectiveness for granted. We could depend on the supply of 'naturals,' the few people in any area of

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

human endeavvor who somehow know what the rest of us have to lern the hard way. 2b2c

> This was true not only of the business and the army. IT is hard to realize today that 'government' during the American Civil War a hundred years ao meant the merest handful of people. Lincoln's Sectetary of War had fewer than fifty civilian subordinates, most of them not "executives" and policy-makers but telegraph clerks. The entire Washington estblishment of the U.S. government in Theodore Roosevelt''s time, around 1900, could be comfortably housed in any one of the government buildings along the Mall today. 2b2c1
>
> The hospital of yesterday did not know any of the 'health-service professionals,' the X=ray and lab technicians, the dieticians and therapists, the social workers, and so on, of whom it now employs as many as two hundred and fifty for every one hundred patients. Apart from a few nurses, there were only cleaning women, cooks and maids. The physician was the knowledge worker, with the nurse as his aide. 2b2c2
>
> In other words, up to recent times, the major problem of organization was efficiency in the performance of the manuual worker who did what he had been told to do. Knowledge workers were nnot predominant in organization." 2b2c3

In fact, only a small fraction of the knowledge workers of earlier days were part of an organization. Most of them worked by themselves as professionals, at best with a clerk. Their effectiveness or lack of effectiveness concerned only themselves and affected only themselves. 2b2d

TOday, however, the large knowledge organization is the central reality. Modern society is a society of large organized institutions. In every one of them, including the armed services, the center of gravity has shifted to the knowledge worker, the man who puts to work what he has between his ears rather than the brawn of his muscles or the skill of his hands. Increasingly, the majority of people who have been schooled to use knowledge, theory, and concept rather than physical force or manuual skill work in an organization and are

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

effective insofar as they can make a contribution to the organization. 2b2e

Now effectiveness can no longer be taken for granted. Now it can no longer be neglected. 2b2f

"The knowledge worker does not produce something that is effective by itself. He does not produce a physical product -- a ditch, a pair of shoes, a machine part. He produces knowledge, ideas, information. By themselves, thse 'products' are useless. Somebody else, another man of knowledge, has to take them as his input and convert them into his output before they have any reality. The greatest wisdom not applied to action and behavior is meaningless data. TThe knowledg woeker, therefore, must do something which a manual worker need not do. He must provide effectivementss. He cannot depend on the itility his otput carries with it as does a well-made paier of shoes. 2b3

The knowledge worker is the one 'factor of production' through which the highhly developed societies and economies of today -- the Unitied States, Western Europe, Japan, and also increasingly, the Soviet Untion -- become and remain competetive. 2b4

"American educatiin may leave a good deal to be desired, but it is massive beyond anything poorer societies can afford. 2b5

For EDUCATION IS THE MOST EXPENSIVE CAPITAL INVESTMENT WE HAVE EVER KNOWN. 2b5a

A Ph.D. in the natural sciences represents $100,000 to $200,000 of social capital investment. Even the boy who graduates from college without any specific professinal competence represnts an investment of $50,000 or more. This only a very rich society can afford. 2b5b

Education is the one area, therefore, in which the richest of all societies, the United States, has a genuine advantabbe -- provided it can make the knowledge worker productive. And productivity for the knowledge worker means the ability to get the right things done. It means effectiveness. 2b6

(p.5) .. "Every knowledge worker in modern organizatio is

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

an "executive" if, by virtue of his position or knowledge, he is responsile for a contribution that materially affects the capacity of the organizatioo to perform and to obtain results. 2b7

This may be the capacity of a business to bring out a new product or to obtaina larger share of a given market. It may be the capacity of a hospital to provide bedside care to its patiesnts, and so on. Such a man must make decisioons; he cannot just carry out orders. He must take responsibility for his cottributio. And he is suppossed, by virtue of his knowledge, to be bettr equipped t make the right decision than anyone else. He may be overridden; he may be demoted or fired. But so long as he has the job the goals, the standards, and the connributio are in his keeping. 2b7a

"Most managers are executives -- though no all. But many nonmanagers are also be oming executives in modern society. For the knowledge organization, as we have been learning these last few years, needs both "managers" and "individual professional contributors" in positions of reonsibility, decision-making, and authority. 2b7b

"There are ma y managers who are not executives. Many people, in other words, are superiors of other people -- and often of airly large numbers of other people -- and still do not seriously affect the ability of the organization to perform. Most formen in a manufacturing plant belong here. TThey are "overseers" in the literal sense of the word. TThey are "managers" in that they manage the work of others. But they have heither the responsibility for, nnor authority over, the direction, the content, and the quality of the work or the mthods of its peformannce. They can still be measured and appraised very largely in terms of efficiency and quality, and by the yardsticks we have developed to measure and appraise the work and performance of the manual worker. 2b7c

Knowledge work is defined by its results. (Not by quantity, nor costs). 2b8

Conclusions, p. 166 on: 2c

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

"Effectiveness reveals itself as cruial to a man's self development, to an organizational development, and to the fulfillment and viability of modern society. 2c1

(Note: POD, Social Development, InstiutionalDevelopment...) 2c1a

D's five steps toward effctiveness: 2c2

Recording and analysis of time (hu-resorce expenditures) 2c2a

(Note: AKW offers very direct, large oppotunity here.) 2c2a1

Focus on contribution -- advances: procedural into conceptual; mechanics into analysis; efficiency into concentration for results. 2c2b

(Note: Goals, values, directions, purposes -- much improved visibility, dialogue, responsive adaptation, in AKW) 2c2b1

Making strengths prductive -- "value system in action" 2c2c

First things first 2c2d

Effective decisions 2c2e

"The needs of large-scale orgaizations have to be satisfied bycommon people achieving uncommon performance. (170) 2c3

From preoccupation with problms to a vision of opportunity 2c4

From concern with weaknes to exploitation of strengths 2c5

(Note: Knowledge, skills, work habits, etc. (and good tools) are all necessary, but Personal Development in effectivemenss has to put it together in the indiviual -- and OD inthe organization..) 2c6

Extracts from Drucker's "Age of Discontiuity" (XDOC -- 4247,) 3

(264) "The knowledge worker: "..the man or woman who

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

applies t productive work ideas, concepts, and information rather than manual skill or brawn." 3a

In 1900 the largest single group, still the majority, of the American people, were rural, making their living on the farm. By 1940, the largest single group byfar were industrial workers, especially semiskilled machin operators. By 1960, the largest single group were what the censuscalled "professional,managerial, and technical," that is, knowledge workers. By 1975, or at the latest 1980, this group will embrace the majority of Americans at work in the civiian labor force. 3a1

(Achieving a majority, and beng for themost part higher paid, knowledge workers represent th largest labor cost. 3a2

"The productivity of knowledge has aleady become thekey to productivity,, cmpetitive strength, and economic achievemnt. 3a3

"But...the important thing...is that knowledge hs become the central 'factor ofproduction' in an advanced, developed economy. 3a4

(265) " 'Knowledge' rather than 'science' has become the foundation of the modern economy. 3b

(266) "... This demand, in turn, reflects the basic fact that knowledge has becme productive. The systematic and purposeful acquisition ofinformatioonand its systematic application, rather than 'sciene' or 'technology' are emerging as the new foundation for work, productivity, and effort throughout the world. 3c

The demand ahead for knowledge workers seems isatiable.... 3c1

(267) "Knowledge work does not lead to a 'disappearance of work.' ...the knowledge worker eerywhere works increasingly longer hours. ... Knowldge work,like all productive work, creates its own demand. And the emand is apparently unlimited. 3d

"Knowledge does not eliminate skill. On the contrary, knowledge is fast becoming the foundation forskill.... Knowledge without sill is unproductive. Only when knowledge

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

is used as the foundation or skill does it become productive. 3d1

(268) ".. knowledge, that is, the systematic organization of information and concepts, is therefore making apprenticeship obsolete. Knowledge substitutes systematic learning forexposre to exprience. (I might well take issue with Peter here... DCE) 3e

(269) "Knowledge and work, until very recent times, were separate and rarely touched each other. Knowledge was prized for its intrinsic beauty, and praised as conducive to wisdom (althoughth evidence for this old belief is not overwhelming). Work was based on experience.. 3f

" 'Knowledge' as normally considered by the 'intellectual' is something very different from 'knowldedge' in the context o 'knowldge economy' or 'knowledge work.' For the intellectual, knoledge is what is ina bok. But as long as it is in the book, it is only 'information' if not mere 'data.' 3f1

(***) "Only when a man applies the information to doing something does it become knowledge. 3f2

"The emergenceof the knowledge economy is not, in oher words, partof 'intllectual history' as it isnomally conceived. It is part of the 'history of technology,' which recounts how man puts tools towork. 3f3

"what matters in the intellectual domain is 'is it new', butin the knowledge-economy domain what matters is 'is it applicable?' 3f4

Special Theme, (269): "The idea that knowledge, systematically acquired, could be applied systematically to work is no more than 200to 250 years old. 3g

(269) "It first ocurred to the long line of English toolmakers and toold designers of th eighteenth an early nineteenth centures, whih culminated in the towering figure of Joseph Whitworth (1803-87). These men were not only gret inventors wihoutwhose work moden industryand modern technology would never have come into being. 3g1

(Footnote: Unformrtunately, the historian of ideas

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

trats them with contempt because they were not 'scientists'; and the hostorian of technology is prone to bedazzld by the prme movers, such as the team engin, and to overlook the toolmakers who made possible te new engines an processes. Watt's steam engine would never have worked buut for John Wilinson'snew boring mill, wich supplied cylinders and postons that fitted tightly and thus;cured the leakage f stam which had been the fatal defect of earlier steam engines suh as Newcomen's. 3g1a

(DCE Note: Here seems a parallel for CS&E -- the 'toolmakers' for the 'knowledge revolution'...) 3g1a1

(270) "They also set out to systematize what they knew abou mechaical work and to build this knowledge into the tool. This not only led diectly to 'engineering,' that is, to the codification of the right way to doany particular task. It also changed work and work force -- the true beginning of the Industria Revolution. 3g1b

"The deliberate design of tools enabled the merely competent workman to turn out :: predictably and efectibvely, time after time :: work of pre-estabishd precision and uniormity. 3g1c

"The famous 'go no-go gauges,' which Whitworth designed almost at the beginning of his career, enabled eery journeyman to know in a single operation what the work wa like, what it should belike, and what 2 as needed to bring it up to standard -- and then tomeasure the results against the standards. 3g1d

"They were the first 'programs' ever designed, and tothis ay theya re the most successful ones. They foreshadowed the 'knowledge economy' inthatknowledge, in the work of the English toold designers, became th foundaton for skill and the means to acquire easily and fast what had, over the ages, been accessible only to near-genius. What formerly required a 'master' now required the 'skilled worker.' 3g1e

(270) "The next step, and a completely different one, was taken in the United States with the Morrill Act of 1862, which established a land-grant college in every state of the Union. 3g2

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

"What was new was not th idea of research in agriculture and of devloping new methods, new seeds, new breeds, and o on. What was new was the idea of converting farming altogether from a practice into a discipline, and of making every farmer an agronomit and systematic technologist. 3g2a

"This was a pure act of faih at the time. There was no peceden. Indeed, there was litle in human experience to make theidea soun plausible. 3g2b

"For fifty years there were few results; but around Wole War I the land-grat college ad extension service began to have the hoped-for impact on farm work, farm output, and farm prodctivity. 3g2c

Since then the productivity of agriculature has been multiplied, and agriculture has changed character. It used to be the way of life of the great majority of mankind, and a subsistence living. 3g2d

(271) "Now it has become a capital-intesive, mechanized, and 'scientific' industry. A small number of highly trained men, equipped with botyh expensive mechanical and managerial tools, produce something totallynew in theworld, farm surpluses. 3g2e

This is a greater change in culture, society, and economy thanmost of the technological innovations we marvel at. 3g2f

[Note: What sort of federal acts could be equivalent today -- assuming that we tried keeping a close parallel to the knowledge-workshop evolution, as systemetizing etc. the knowedge and skills (and tools) for prouctive knowledge work?] 3g2g

(271) "The most important step toward the "knowledge economy" was, however, scientific management [better:'systematic work study' P.D.] -- that is, the systematic application of analysis and study to manual wok, first pioneered by Frederick W. Taylor (o856-1915) in the last decades of the nineteenth century. 3g3

"Taylor, for the first time in history, looked at work itself as deserving the attention of aneducated man.

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

Before, work ha always been taken forgranted, especially by the educated. If they 3g3a

"... the only way to produce more was t work more and work hrder. 3g3b

"Taylor saw that this as false. The key toproducing more was to 'work smarter.' The key toproductivity was knowledge, not sweat. 3g3c

"For ...'systematic work study' .. has proved to be the most effective idea of this century. It is the only basic American idea that has had worldwide aceptance and impact. Wherever it has been applied, it has raised the productivity and with it the earnings of the manual worker, and especially of the laborer, while greatly reducing his physical effort and his hours of work. It has probably multiplied the laborer's productivity by a factor of one hundred. 3g3d

"But above all, Taylor's scientific mangement [systematic work study] provided th way out of the impasse o the nineteenth century; it opened a 'third way' between nineteenth-century capitalixm andnineteenth-ecntury socialism. 3g3e

"It proved them both false. For both assumed as a law of nature that the economic pie was given and couldnot be increased, except by putting in more capital or wrking more and harder. 3g3e1

(272) "Taylor showed that the economic pie could be enlarged rapidly by applying knowledge to work. This did not create the harmony Taylor had naively hoped for. But it replaced an irreconcilable confolict ofprinciples that could only end by subjugating one to the other -- either by a dictatorship of the 'capitalist' or one of the 'proletariat'. -- with conflict over the disio of the frits of highr productivity. 3g3e2

(272) "It is not true that Taylor took the skill out of manual work, though it has often been asserted. 3g3f

"The laborer suddenly became productive. Taylor ...

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

did this by creating a skill that had never existed before, theskill of the 'industrial engineer.' 3g3g

It was the first skill to be firmly based on knowledge rather than on experience. The industrial engineer of scientific management (systematic work study) is the prototype of allmodern 'knowledge workers' and, to this day, one of th most productive ones. 3g3g1

[Note: our 'knowledge workshop architect' can be paralleled to the idustrial engineer.] 3g3h

(276) "The knowledge worker of today, in other words,is not the successor to the 'free professional' of 1750 or 1900. He is the successor to the employee of yesterday, the manual worker, skilled or unskilled. 3h

[Drucker then goes into some interesting discussioon aoutthe conflict between a carryover view of an educated person being a 'professional' or 'intellectual' as opposed to the reality of being an employee and part of a big machine. Says this conflict represents a key future problem, solveable by good management practices.] 3h1

(277) "..no matter how good ajob we do in the managemntofthe knowledge worker ... his status, functin, and position in modern society are certainto be a central problem, politically as well as socially. 3h2

"It is likely to be TH social question of the developed countries fo the twentieth and probably for the twenty-first century. 3h3

(291-6) On a theme of "working lifespan" for knowledge workers; seems as though many are ready and needful at 45 to 50 for a change; bored and unchallenged, a dangerousstate. Butthey are bred for 'contributing'. An unsolved social problsm -- the second career. 3i

[Note: the right formulation for a snowballing, bootstrapping BC should provide opportunity for such, esp. the exceptiona, among those who are ready for a second. Consider the wealth of knowledge, experience, etc. represented there.] 3i1

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

Definitions extracted from X(13956,),, "Wrapping up the Package: Critical Thoughts on Applications Software for Social Data Analysis," Ronald E. Anderson, and Edwin R. Coover. 4

Definitions and categories: 4a

Canned Program -- a computer program that has been written to accept a variety of inputs. 4a1

Library -- a collection of canned programs maintained as a unit. 4a2

Package -- a library whose canned programs are closely related in content, e.g., all statistical. 4a3

System --a package of programs so tightly integrated that the output from one program is automatically input to another program. 4a4

Software System -- alternate to "system." 4a5

Applications software system -- (as opposed to 'general software system') a software system that is tied to the needs of a particuar field. 4a6

Pre-compiler -- used to convert 'natural'-language (English) statements to (Fortran) statements acceptable to the compiler. [Or, assumedly, from English to any other compiler language.] 4a7

Otherwise, in an applications software system, the individual canned programs would each have to be compiled under user control, each time (the implication from R0(13956) 4a7a

Application-oriented language -- where a pre-compiler in an applications software system never relinquishes control (Sammet, 1969, on 'language categories'). 4a8

"Language" -- shortened term for applications-oriented language. 4a9

User-oriented language -- where the system and its documentation "are simple and conveniently used by programmers and non-programmers alike." 4a10

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

[Conflict in term usage cropping up where, for instance, in newer time-sharing software systems, because much of the communication takes place in a "conversational" question-answering dialogue, the communication mode for any package might be called a "language" -- but not so in this paper's terminology.] 4a10a

The authors isolate several critical factors in the acceptance, spread, and longevity of these systems: their design, their documentation ...., 4b

Extracts from OSR62, X(3906,): 5

p.1 on .. 5a

This report covers the first phase of a program aimed at developing means t augment the human intellect. These 'means' can include many things -- all of which appear to be but extensions of means developed and used in the past to help man apply his native sensory, mental, and motor capabilities -- and we consider the whole system of a human and his augmentation means as a proper field of search for practical possibilities. It is a very important system to our society, and like most systems its pperformance can best be improved by considering the whole as a set of interacting components rather than by considering the components in isolation. 5a1

This kind of system approach to human intellectual effectiveness does not find a ready-made conceptual framework such as exists for established disciplines. Before a research program can be designed to pursue such an approach intelligently, so that practical benefits might be derived within a resonable time while also producing results of long-range significance, a conceptual framework must be searched out -- a framework that provides orientation as to the important factors of the system, the relatioships among these factors, the types of change among the system factors that offer likely improvements in performance, and the sort of research goals and methodology that seem promising." 5a2

In '62 (see R1(OSR1)) I formulated a description as follows: 5b

"By 'augmenting human intellect' we mean increasing the capability of a man to approach a complex problem situation,

115 Relevant statements transcribed from Drucker X(3074,) X(4247,), Anderson and Coover X(13956,), and DCE's OSR62 X(3906,). as relevant to Knowledge Workshops, cf J(14724,).

to gain comprehension to suit his particular needs, and to derive solutions to problems. 5c

"Increased capability in this respect is taken to mean a mixture of the following: more-rapid comprehension, better comprehenesion, the possibility of gaining a useful degree of comprehension in a situatioon that previously was too complex, speedier solutions, better solutions, and the possibility of finding solutions to problems that before seemed insoluble. 5d

"And by 'complex situations' we include the professional problems of diplomats, executives, social scientists, life scientitsts, physical scientists, attorneys, designers -- whether the problem situation exists for twenty minutes or twenty years. 5e

"We do not speak of isolated clever tricks that help in particular situations. We refer to a way of life in an integrated domain where hunches, cut-and-try, intangibles, and the human 'feel for a siuation' usefully co-exist with powerful concepts, streamlined terminology and notation, sophisticated methods, and high-powered electronic aids." 5f

JBN 19-MAR-73 16:41 15142

Anomaly in Updating On a Split Screen

JCN and I have noted that in updating files on a split screen, the practice does not hold that the file which is under the bug is understood to be the file to be acted on. The echo and the update will be to the last file acted upon, and the screen does not refresh to show this. I.e., Update file with the bug on one section will update as expected. Moving the bug to the other section without a delete command updates or attempts to update the file in the first section. Loading the file after version 7 has been updated will not load version 8 in this case, although another update command will echo version 9. (Moving the boundary will load version 8). The contents does not go to the other luckily, altho the echo makes it appear that it has. 1

15142 Distribution

Kaye, Diane S. , Lehtman, Harvey G. , Irby, Charles H. , Norton, James C. ,

JBN 19-MAR-73 8:51 15143

Telling whereabouts of CBI Mem List

Tom--The CBI Group Membership List is online under the name CBIGMEMLIST, not CBIMEMLIST, which is why you couldn't find it. When in doubt, print the directory for <nic>, and you'll usually be able to pick the file you want. We are still having trouble allocating staff time to the updating of these lists, and we are still havig trouble getting people and coordinators to tell us of address changes, but we're working on it.--Jeanne 1

15143 Distribution

O'Sullivan, Thomas , North, Jeanne B. , Lee, Susan R. , Kelley, Kirk E. ,

JCN 19-MAR-73 17:27 15144

Text of JCN 3/19 SNDMSG to Dave Russell ARPA NMRO Re: Dr. Willis' Visit to ARC

Text of JCN 3/19 pm sndmsg via USC-ISI to Dave Russell (ARPA NMRO): 1

Dave: 1a

I suspect you already have Dr. Willis' SNDMSG via USC-ISI that he sent while he was here. 1b

This is just to let you know that from our standpoint, the idea of starting NMRO activities in the use of NLS via the ARPANET using the Energy project at SRI as a start is very interesting. 1c

I am writing notes about the meetings here. I'll send you a copy. 1d

The primary problem is one of finding the ARC system resources (and the right ARC people) during the next few months. As we discussed last week (I think), the ARC Workshop Utility is not expected to offer the computer power you will need until about September 1, 1973. There may be some way we can help the SRI team on the energy problem earlier. That's what we are now about to work out (we hope).. but definitely more difficult than later in the Summer. The use of NLS by the NMRO itself is, of course, another area we hope to get into... the Energy thing is just a start. 1d1

When you find you can come to see us (in action) let me know.. in the meantime.. any thoughts you want to send via SNDMSG, I'll be happy to get. bye 1d2

15144 Distribution
Engelbart, Douglas C. , Watson, Richard W. ,