

Knowledge Workshop Architects' Meeting, 18-21 February, 1975: A
Transcription of Notes

I hope that reading these long-awaited KWAC Meeting notes will be fruitful, and not just an exercise in nostalgia. Statements preceded by initials in parentheses are rough paraphrases, not direct quotes; this is not meant to be a transcript, but the most complete version we have of the notes taken at the meeting. If you feel that interpretations were at all fuzzy or hazy, be sure to let me know.

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List of Attendees	1
Architects	1a
(FGB) Frank Brignoli, Naval Ship Research and Development Center (NSRDC)	1a1
(EJF) Jake Feinler, Network Information Center (NIC)	1a2
(IMM) Inez Mattiuz, Bell Canada	1a3
(CKM) Connie McLindon, Advanced Research Projects Agency (ARPA)	1a4
(MAP2) Mike Placko, Stanford Research Institute (SRI)	1a5
(DAP) Dave Potter, Educational Testing Services (ETS)	1a6
(RLR) Rudy Ruggles, Hudson Institute	1a7
(RMS2) Bob Sheppard, MIT Lincoln Labs	1a8
(GAS2) Glenn Sherwood, SRI (will replace Mike Placko)	1a9
(DLS) Duane Stone, Rome Air Development Center (RADC)	1a10
(SMT) Stan Taylor, Ballistic Research Lab (BRL)	1a11
(RPU) Ron Uhlig, Army Materiel Command (AMC)	1a12
Other Guests	1b
(MIKE) Mike Bedford, Bell Canada	1b1
(WKE) Bill English, Xerox PARC	1b2
Beverly McHugh, Xerox PARC	1b3
(BOBM) Bob Martinez, Tymshare	1b4
ARC Staff	1c
(JCN) Jim Norton	1c1
(DCE) Doug Engelbert	1c2
(RWW) Dick Watson	1c3
(POOH) Ann Weinberg	1c4

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(MEH) Martin Hardy	1c5
(JCP) Jeff Peters	1c6
(NDM) Dean Meyer	1c7
(ACM) Adrian McGinnis	1c8
(SGR) Susan Roetter	1c9
(RAY) Ra3y Panko	1c10
(RH) Rita Hysmith	1c11
(RL) Robert Lieberman	1c12
(JDH) Dave Hopper	1c13
(JML) Jeanne Leavitt	1c14
(SLJ) Sandy Johnson	1c15
(JHB) Jim Bair	1c16
(JMB) Jeanne Beck	1c17
Not Present	1d
Maj, Jim Lloyd, AF-NSW, Pentagon	1d1
Mel Draper, Air Force Audit Agency (AFAA)	1d2
Terry Proch, National Security Agency (NSA)	1d3
Tuesday Morning Session	2
Agenda Discussion	2a
Possible agenda changes were suggested by DCE; no one had too definite opinions; SMT suggested moving gripe session to end,	2a1
DCE talked about Xerox PARC a bit == their excellent hardware setup = great displays, minicomputers; less experience in User Development, Applications, User Online Systems	2a2
(RLR) Should get problems out on blackboard soon as framework = at least in generic terms	2a3

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Introductions	2b
DCE's brief overview	2c
Utility is ARC's venture, SRI gave the OK, but ARC has to manage, make it work, we have to build a large enough scale environment to successfully experiment with a user population,	2c1
Utility as a link between lab and outside world: the users. We have no capital resources, the money comes from the clients. No previously set up guidelines = how much people service it takes, what the needs are, what we can offer,	2c2
Expressed need to stay in touch with architects, the core of the experiment, Research funding in the past has been imbalanced to heavily fund the technology without putting R & D money into the user side,	2c3
Our services are by contract f.o.b. Cupertino. We're caught by the network now, but learning all the time,	2c4
FGB took over and outlined on blackboard major problem areas	2d
Reliability (should be considered as a factor affecting all areas)	2d1
Hardware	2d2
Workstations	2d2a
DEX	2d2b
Hardcopy units	2d2c
Software	2d3
User programs	2d3a
Help	2d3b
Bugs	2d3c
COM	2d3d
Output Processor	2d3e
Journal	2d3f

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KWAC	2d4
Organization	2d4a
Network	2d5
TIP login, ELF, ANTS	2d5a
Buffers	2d5b
Response	2d5c
OFFICE=1	2d6
Idents	2d6a
User statistics	2d6b
Training	2d6c
Documentation	2d6d
Access (full, off quota)	2d6e
Load averages	2d6f
Feedback	2d6g
Network was chosen as subject to discuss first.	2e
(CKM) The long TIP Login process was instituted by BBN at direction of ARPA on a rush basis. Instituted so that when ARPA turned the NET over to another agency there would be some access and control features. The data base is not complete; the TIP buffers were reduced 40% to make room for the software (accounting data, rsexec). BBN may go back to earlier version of software if your site beefs.	2e1
(JCN) Are you saying pressure from Duane would make his problems go away?	2e2
(CKM) BEN says there haven't been that many complaints.	2e3
(JCN) The buffer reduction has made it bad.	2e4
(RPV) The ANTS at Belvoir and BRL are fine; the TIP is AWFUL.	2e5
(JCN) (To Uhlig): As immediate alleviator, use ANTS when it is	

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- up. Net is growing fast, seemingly nodes are being added in a serial fashion. 11-13 TIPS, IMPs between Eastern users and Office=1. Shouldn't be loaded with more than 5 connections. 2e6
- (CKM) Accessing other machines is fine, but not OFFICE=1. 2e7
- (SMT) We use ANTS usually. TIP is bad. High speed typing infuriating. IMP and new software seems to be the problem. 2e8
- (JCN) TIP-IMP software was updated with improvements last Tuesday, full of bugs from BBN. ARPA is pressuring BBN to make it work. Study is being made to reconfigure NET. Should be solved by this Monday. If not, the software should be backed up to two weeks ago. 2e9
- (SMT) I talked to ARPA last fall about buffers; they cursorily said they would expand TIPS, and didn't. 2e10
- (JCN) ARPA must have the message by now. Part of the problem is that ARPA has had a change of people; they had to get acquainted with the problems, etc. Russell is the man to get something done. Maybe they will just push the software back. 2e11
- (CKM) BBN doesn't want to go back. They want to keep 327 in because of the nice features. 2e12
- (BOBM) I've been working with NCC to run diagnostics. The data should be gathered at NCC. If it's a field test, they need to know what people are experiencing. There's a long chain of command to get information to those that can actually do something about it. 2e13
- (JCN) There are many people scratching their heads (like Jeff Peters) to see if it's "us." 2e14
- (CKM) We're having no trouble with ISI,.. 2e15
- (FGB) Associated problem: OFFICE=1 says, "network ports full," 2e16
- (JCN) If it's during the last couple of weeks, it's the TIP software perhaps. 2e17
- (FGB) Because of TELNET, we can't get into OFFICE=1. 2e18
- (MAP2) Have had that problem before. 2e19
- (BOBM) It's hard to remove a dead job. 2e20

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- (SMT) The detached job blocked the slot, I was able to excise the job, because I knew how, 2e21
- (JCP) There's a process that removes dead jobs; it's slow (20 min.), A job should only remain detached 5 minutes, 2e22
- (RPU) If mistakenly detached, it shouldn't block the slot, 2e23
- It was decided to cut the time a detached job is left running to 10 minutes, An abortedly detached job should be quickly removed so it doesn't block the slot, 2e24
- Several people are getting "FULL" message -- can't get into OFFICE=1 even when no one else is using their slots, IMM and MIKE said they have had some FULL messages going over direct lines, 2e25
- (JCN) You should never just get the message "FULL" at the @, 2e26
- (BOBM) There shouldn't be more than 30 jobs, but at least once a day there are 35, 2e27
- (MAP2) The ARPANET will never be a production net, 2e28
- (JCN) TYMNET and TELENET are possibilities, Some TELENET use is possible this summer, and some TYMNET for display, We should stay in touch with DCA, the future managers of the ARPANET, 2e29
- (RPU) The universities should stay on the ARPANET -- there will be an effort to kick them off, 2e30
- (EJF) The problem of all users and no servers is possible, 2e31
- (JCN) NSF with the EDUCOM efforts has been trying to put together a network for years -- the universities would be able to use it, 2e32
- (RPU) The Computer Sciences Advisory Board of NSF is split on the decision to stay with the ARPANET or leave, 2e33
- (RL) TYMNET can't go over 300 baud, and TELENET won't be cheap when it's operational,.. 2e34
- The advantage of the ARPANET is it's free,.. NSA is going to make it's own net, 2e35
- (BOBM) The technology is changing, 2e36

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(JCN) We're working closely with the BBN guys, trying to get them to back up the software. TIP users should tell BBN to increase the buffers. 2e37

(RMS2) There's no trouble getting to ISI or CCA, just OFFICE=1. 2e38

(CKM) Just logging in takes 10 minutes, about 1 character a minute. 2e39

(RMS2) Why is it so easy getting to ISI? 2e40

(DLS) The people at Rome say it's OFFICE=1, but they're not really interested who it is. 2e41

(CKM) Call NCC a lot. SNDMSG them, tell them the problem. Even though NCC has been saying, you're the only one who's been complaining. Tell Butterfield@BBN (the operator); Walden@BBN (senior guy); Malman@BBN (the programmer). 2e42

(SMT) SNDMSG them AND phone them. 2e43

(CKM) But it's hard to know what the problem is,..it's hard to decide whose problem is whose. 2e44

(RPU) ANIS is good, it's the TIPS. 2e45

(CKM) Why is ISI good? 2e46

(CKM) (RPU) The users feel it's sometimes the load at OFFICE=1. 2e47

JCN moves the discussion forward to Load Averages. Operating principle is load average should be 4.5 or under during busy hours. Memory has been added. In January the loads increased dramatically. There is a second drum being added; one is there now; one should be installed this Friday. Tymshare has been very cooperative and installed them on faith, non-contracted yet. 2f

(BOBM) The drum installation should be invisible to the user. 2f1

(JCN) We can deliver about 70% of the CPU power to user jobs at SRI-ARC. Except when doing dumps, then you get 80%. At OFFICE=1, 50% of the CPU goes to users, when the load average is 4.5 or higher. We're pushing for that 70% as we see what the drums will do. Two additional (3) drums should bring us up to 70%, and most "freed" CPU cycles will go to users. The second drum should be in Friday, and a third in late March or April. "70% may make Office=1 CPU bound." 2f2

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- (RLI) It may be a step function, not linear, with the addition of drums. 2f3
- (JCN) It's not clear what that step function is....This afternoon RWW will bring in the NSW plans and questions of dynamic loadings, etc. ARC NLS service is now starting on the BBN machine, RWW is buying 40% of the user-job CPU, ARC overhead 8%, NIC is buying 4%. 2f4
- (DLS) Many CPU cycles are being lost since few people are on after 5:00 p.m. 2f5
- (FGB) When will we be affected by the Frontend-Backend split? 2f6
- (JCN) It will be at least a year before you're affected. 2f7
- (EJF) Just stepped out and called Walden to ask when and how feedback should be returned, SNDMSG to NCC@BBN, or send gripes to RSEXEC, or call (617) 661-0100. In messages, send all information possible; they greatly appreciate real-time phone calls. 2f8
- Discussion moves on to Hardware, in particular DNLS. 29
- (RMS2) An early problem was that we received the machine, with no explanation, no documentation. Couldn't run it on the ANTS at first, so it sat. We finally got it up, it's fine now. Had problems with the third party repair agreement. The Delta Data repair service took 3 weeks on the East Coast (GTE handles it in Boston.) 2g1
- (RH) In Washington, the Delta Data service is OK. 2g2
- (JCN) We should make sure all local maintenance has been worked out in advance. 2g3
- (RMS2) Field service in general, third party especially, is bad. 2g4
- (MEH) I think third party as a way of life is here to stay. 2g5
- (RMS2) No documentation for setting up the Techtran or maintenance arrangement was evident when we set up the machine. There should be a file somewhere with that information. 2g6
- (MEH) Sounds like a good idea. 2g7

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- (JCN) you were the test case. 298
- (FGB) We had the documentation when we got our Lineprocessor, so it was OK. 299
- (MIKE) Why is SRI in the terminal business? 2910
- (JCN) Because we created the Lineprocessors. We go out and do the hardware arranging because many clients are government users, and we want to avoid their red tape hassle. Although we experience serious delays anyway. 2911
- (MEH) Our displays are modified for NLS use, and repair people go crazy. We'll just have to keep trying until they get used to the situation. We need to have those modifications. 2912
- (JCN) There are problems, but all in all it's probably for the better. It looks pretty good now, especially with the new Datamedias. Our objective is to have a DNLS station at every site. 2913
- (MEH) We're developing a Workstation Diagnostic Program for users to pinpoint problems. It needs user documentation, and then we can release it...The Hazeltines were bad, we dropped them. They couldn't deliver the options on the date they quoted. The Datamedias are good. 2914
- (JCN) We're losing our displays, and our machine. We'll have here Datamedias, lineprocessors, ELF, PDP-11. We'll have more problems like yours and learn how to take care of them better. 2915
- (RPU) Are there terminals that won't work with the lineprocessor? 2916
- (MEH) Yes, some don't have text editing capabilities. Some are very slow, others would take too much work on our part. The Workstation Equipment Reference Manual (23809,) tells what class of terminals works. So does the Line Processor Users Guide. These two will be passed out. 2917
- (DLS) Is this all being done so we don't have to use the IMLACs, which are too expensive? 2918
- (MEH) The IMLAC is actually more smart than is necessary to run NLS. 2919
- (DLS) They are reliable, and have good service. 2920

(JCN) It's the difference between 16K and 5K, 2g21

(RLR) We had very bad telephone line problems. Wasted a lot of time getting 2400 and 4800 baud lines. Also if a card is bad, it takes time getting it replaced. 2g22

(MEH) It's frustrating to the user when he can't tell what the problem is. We need that diagnostic program. We're working hard on getting it out. 2g23

(JCN) We won't have to take care of all our own computer hardware any more, so we'll have more time freed to take care of you and work with the system. 2g24

(MEH) Being in contact with a user's problem, then sending a card when necessary, is much better than a user replacing a card when its a TIP problem. 2g25

(CKM) We have 4 displays: in our operational environment that's bad, we need spares or we're always running around with only 2 lineprocessors up. Local time involved multiplies exponentially with more displays. 2g26

(MEH) We do LIVE field testing, no oven testing. 2g27

(RLR) We got the line problems ironed out, but the display is down. It's the card, and it's been reordered. Line problems were severe --going through NYC -- noise -- phone company admitted it was "the ragged edge of acceptable." It would rain, the street would be dug up, they would say, "yup, it's real bad",.. we got the lines rerouted via Ossining and over the river. A 4800 baud leased line now goes through to Rutgers. 2g28

(MIKE) WE have problems with the phone company, too. 2g29

(JCN) Well, Stan, you're next in line for DNLS.... 2g30

(SMT) We run off a PDP-11 with 200 ft. cables. We want to sell the top management, so we want to set up in 6 rooms, including the director's office. Our hardware people can handle problems with MEH on the phone. Modem maintainance is bad, no matter who you deal with, either private base phone or the phone company. 2g31

RLR and FGB are using Bell 208A modems. RLR can't tell yet if they're going to be OK. 2g32

(MEH) Calling the phone company in a coordinated way pays off, especially if they see you are an outfit with lots of

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communication links. Mary Edwards of SRI handles the interface to the phone company for us, and does an excellent job of it. 2g33

(RLR) What did you decide about Lineprocessors? (had stepped out of room) 2g34

Hands raised, a number of Lineprocessors are down. MAP2's is fine. 2g35

(MEH) There are far less problems when you have a direct link to the host. 2g36

(FGB) Yes, the lines are bad. 2g37

Discussion of DEX is started. 2h

(RMS2) We're running the cassette machine through a TI. 2h1

(MEH) There were two stages of line processor development, and only now do we have the capability of running DEX through the Lineprocessor. The Lineprocessor input buffers should be adequate for DEX. The input buffers when dialing up will make DEX (which is line-at-a-time) very problematic. The new Lineprocessor will have an option to allow DEX to be entered via the Copy Printer port on the Lineprocessor. 2h2

(IMM) We find that DEX is fine, although conversion to NLS still means having a person come in very early or stay very late. We get suspended during the day. 2h3

(JCN) The drums may solve this. 2h4

(RPU) Our software pieslicing works fine. It load shares. It uses capacity economically, although you may get your share all in the morning... 2h5

(JCN) BEN's pieslicer works all day long. 2h6

(DCE) (returns, has been out of meeting) It has to work on a short term basis with the pieslicer. The cost would be pro rata. 2h7

(JCN) The next 6 months will tell. When the pieslicer comes in, and works, we'll get it out to you. There are rumors of 85% CPU with the pieslicer. It still probably will be only 75%. 2h8

(JCP) It will get 3% more as dynamically as you set it. 2h9

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(DCE) The client can have percent capacity, rather than a slot, This way you should have your 15% guaranteed if that's what you bought. 2h10

(RLR) You'll need a job analysis to see what the user's doing? 2h11

(JCN) There will be a feedback mechanism. 2h12

(DCE) It moves that budgeting and control out to you. 2h13

(JCN) We've had good feedback checking what CPU% users have been getting. A very intelligent Groupstat. 2h14

(RPV) I'm struggling with the concept of DEX. 2h15

JCN explains DEX, and the DEX2 possibilities. 2h16

(CKM) I thought I couldn't use DEX all this time, didn't realize it was just the input buffer problem. 2h17

(RPV) I want to see DEX, and to use DEX. 2h18

There is a break for lunch; it's decided to talk after lunch and discuss special things that people want to see. 2i

Tuesday Afternoon Session 3

DCE first outlined ARC's scope and organization as of today. He drew a diagram on the board which showed the flow of information between the ARC Development and Analysis Group and the NSW supporters, and between the same group and the Utility users. The lines of flow are still hazy between the Utility users and the ARC development group. Part of ARC applications should act as the interface between the users and the development group. RLL will be taking on this role. We are the broker for Tymshare and ARPANET service. 3a

He explains that Tymshare has helped carry a lot of the risk, been unusually helpful... the NET has been also, also KWAC has been experiencing a lot of difficulty (maybe things are falling out through the KWACs in the rocks...) 3a1

(JCN) The above diagram represents the goal. 3a2

(DCE) It's a theory, evolving beautifully but slowly, but some things have fallen through the cracks. 3a3

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JCN then gives an overview of ARC applications, and passes out (25408,).

3b

He explains that we've basically been understaffed, and that it takes a 6-9 month lead time to train new people. He describes how we went to SRI and proposed a 2 year budget, with 16 new people, 8 or 10 of them on the application side. This means a high overhead rate for a year. It took months of negotiations. He describes the NSW commitment to deliver by July, but now we can hire more people. So when the architects want things developed, we will have the staff ready to do it.

3b1

He outlines the Applications Activity elements, and explains the late reorganization. (25408,) describes broad areas of responsibility. He goes over the major categories.

3b2

Applications Development = JHB

3b2a

One area of concern there will be to document some of the distinct applications going on out on the Utility.

3b2a1

Computer Services (Software) = JDH,

3b2b

JDH to coordinate transitions of technology, like NLS-7 to NLS-8, or bringing up new versions of NLS

3b2b1

RA3Y has just recently straightened out accounts and directories at OFFICE-1 and is starting on our own cost accounting.

3b2c

The funding for developments wanted by Utility users will be coordinated through RLL.

3b2d

Other applications people will come up with needs for developments (JCN, JDH, MEH) as they see them, through contact with outside world, etc.

3b2e

Marketing (RLL, the coordinator, explains it himself)

3b2f

Screening organizations as possible users: level of expertise, interest, money, potential applications.

3b2f1

(CKM) Marketing for what?

3b2f1a

(RLL) OFFICE=2 in particular, but in general who to add to the total user community.

3b2f1b

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(He continues) Coordinate new clients with old
 (potentially adding to services of present users) 3b2f2

Developing new ways to demonstrate the system without an
 actual online demo; slides, audio tape, etc. 3b2f3

Finding suitable applications to demonstrate to new users
 with similar problems. 3b2f4

Coordinating applications and development: RLL as
 liaison, 3b2f5

(DLS) If the NSW comes on board and is successful, you'll have
 too many customers to handle, i.e., what if you are beset with
 customers who demand to be part of the community? 3b3

(RLL) We will act as an effective screen. Development must
 follow their contract as outlined; we have to iron out the
 differences. (He then shows the group his marketing file using
 the projector, describing current clients and some possible new
 ones. 3b4

RLL repeats DLS's question about the impact of NSW business on
 the direction of ARC's developments. DCE had been out of the
 room when the original question was asked, so came back with a
 description of NSW with a slightly different thrust. 3b5

(MIKE) Why are all the people in your marketing file
 government? 3b6

Question is lost in hubbub of other questions and comments. 3b7

DCE explains how as scale of operations goes up, we can have
 more skill, practice, expertise to turn back with to Utility. 3b8

Coffee Break 3c

DCE introduces the NSW world in the form of RWW 3d

RWW describes the NSW developments 3e

He outlines the major components of the NSW 3e1

Tools 3e1a

reside on tool bearing hosts on ARPANET 3e1a1

NLS is one tool 3e1a2

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Each of NLS's subsystems will be thought of as a tool	3e1a3
NLS-8 into NLS-9	3e1b
Front End - SRI	3e1c
Initially PDP-11, will handle interface languages; parsing; manage screen for user	3e1c1
Works Manager -	3e1d
MCA to design; a file system for accounting and resource allocation, something like TENEX functionally	3e1d1
Protocols -	3e1e
developed by SRI to glue whole thing together, enable several processes to run together	3e1e1
Some changes that will have an effect on NLS:	3e2
Filenaming conventions will be set by Works Manager	3e2a
Links will be slightly changed	3e2b
Graphics (simple line diagrams)	3e2c
Will smooth out interface between text files and NLS files	3e2d
Getting things in and out of SNDMSG form made easier	3e2e
Subsystem for secretaries (letter, etc.)	3e2f
COBOL programming capabilities	3e2g
Some NSW Developments:	3e3
new NLS "heading" to make creating and formatting documents easier	3e3a
Use Tektronix to get whole pages of text on screen to proof and format page by page for Output Processing or COM	3e3b
Underlining	3e3c
Air Force wants tabs to work so its easier to make tables, etc.	3e3d

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- Backend Frontend split should be in effect by March 1st. Try to avoid infinite regress situation caused by having to have all components up to be able to test them, 3e4
- Should have a works Manager by April 1st, 3e5
- ADR will be in charge of quality control in the 11's 3e6
- By end of summer should have ability to debug an 11 across the net from another machine, 3e7
- Problem Area: NLS-9 will be built to work in the NSW environment. How to transfer NLS-9 to the Utility? You'd need a kind of Works Manager in the Utility. You could put the Works Manager into a Tenexy world, 3e8
- Solution 1: Bring whole NSW into OFFICE-1, providing NLS and many other tools like the Datacomputer, 3e8a
- Solution 2: Simulate a subset of Works manager functions 3e8b
- Solution 3: Remove the need for a Works Manager in NLS-9 (this last not an interesting possibility to RWW) 3e8c
- Further Problem Area: 3e9
- Problem of maintaining NSW in OFFICE-1 -- Frontends out there, Works Manager; RWW says that NSW people don't understand as well as KWAC what it takes to provide an environment to real users, 3e10
- (JCN) Cost? 3e11
- (RWW) We might reduce the cost of running NLS by a factor of 2, 3e12
- (CKM) Who pays for the interface? (Doesn't that bring the cost right back up? 3e13
- (RWW) Even accounting for that, a factor of 2 is possible. (he explains new pie-slicing scheduler on BBN's TENEX), 3e14
- (DCE) Utility customers could share an 11 and avoid TIP buffer problems. An 11 can support DEX much more cleanly, 3e15
- (GAS2) Will the Works Manager eventually be a dedicated machine? 3e16
- (RWW) Yes, 3e17

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- (JCN) Are the 11's the right way to go for 200 users? Is the Works Manager the equivalent of TIP login procedure? 3e18
- (RWW) Yes. 3e19
- (JCN) Yes, cost reduction, yes, distributed processes, yes, graphics, but what about the fallout, which is what we're mostly interested in? 3e20
- (DCE) NSW facilitates the broker concept. 3e21
- (RWW) I have very definite personal commitments to creating the network marketplace. 3e22
- (JCN) Is this ARPANET dependent? 3e23
- (RWW) I think not. TELENET could fly, and contain the NSW environment. 3e24
- (RLL) who is funding NSW? 3e25
- (RWW) The Air Force through RADC, initially, so we must meet their needs first. 3e26
- (EJF) What day to day effect will this have on Network use? 3e27
- (RWW) You'll be told what tools are available first. 3e28
- (RPU) At the December NSW meeting, we set up a tri-service advisory group to influence the direction of the NSW, and advise the four 4-star generals that run the logistics and materiel commands of the three services. The Air Force must ask the Army and Navy to support it also, or it won't make it. 3e29
- (JCN) What about differences between NLS-9 and NLS-8? Will they upset the user? How traumatically? The Utility doesn't look forward to going through that process again. 3e30
- (RWW) It's a problem felt in other areas too. For instance, ISI is building a new message system on top of the NLS Backend. How are they going to catch up to NLS-9...Also, the user program world is a sore question. We have set up a class of user programs we will maintain across system changes; another class which you can use if you use them our way; and others we can't guarantee anything on. 3e31
- (DCE) By the time people learn what they want to do, we'll have a good user program world up. 3e32

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(EJF) How can I change my programs over? 3e33

(DCE) Buy the knowledge from RLL,,,There's a new front of technology which is transferring the new hand calculator technology to minicomputer design, and the costs are going way down,,,There's lots of mounting interest and possibilities in various areas == speech strings, microform record access with pointing devices to jump to link on microfilm == "quite an array of extended facilities soon to be candidates for the Utility world," 3e34

(RPU) The documentation for NSW area is very exciting... (DVN will describe on Thurs.) 3e35

(DCE) NSW is oriented to the software guy. Although there's a colonel who says, "we can't even document the stuff we're writing now, please don't help us to produce it faster," 3e36

DCE describes the 4,000 page document flap in the NSW world. 3e37

(JCN) If we get one half of a development guy, what do you guys want? 3e38

DCE closes the day by mentioning that on Friday he wants to demonstrate some of the things that he's been working on ==his text input program (which he briefly describes); the concept of having packets of directives outside of your file space; and says that "we all ache when thinking of all the possibilities." 3f

Wednesday Morning Session 4

Architect Show and Tell: Ron Uhlig, AMC 4a

RPU explains the organization of AMC; draws a telephone pole diagram with lines leading to the Commodity Commands, Depots, and Individual Labs (like BRL). AMC has 110,000 people; there are 200 locations, 83 of which have computers. They handle purchase and evaluation of Army materiel. The top management has been using NLS, with some flak from Staff (and wives) who are calling it Management's "toy." Other staff have seen the potential, and in all about 20 people have been using the BRL directory. RPU's boss very quickly used NLS; he expects to receive all his internal mail through his NLS mailbox. 4a1

He definitely feels that NLS has aided communication. They've set up a comments file, a kind of running journal. They've run into a bit of trouble with people going through each others'

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mailboxes, but did some password changes and that's
 straightened out. 4a2

Sendmessage has improved people's ability to communicate; they're realizing the power of the written word, and the power of the carbon copy feature. The flow of communication is also increasing. It's helping to close the connections between busy people. One person thought about 6 weeks ago that NLS was more trouble than it's worth; then he got into it with a terminal after hours, and now is very enthusiastic. Level of enthusiasm seems to be affected by how well people can type. 4a3

(FGB) How did you manage to get 5 or 6 busy people together for the training? 4a4

(RPU) It was hard, but we were forceful. 4a5

(FGB) How did you get the top management people together; I find it impossible. 4a6

(RPU) They do it on their own at home. One guy who's been in business systems and away from programming is beginning to enjoy the hands on experience with actual computer tools. 4a7

(RA3Y) Do your MIS's have communication facilities? 4a8

(RPU) Yes, 6 data banks, 2 with very heavy usage. 4a9

RPU goes on to describe the goals at AMC; where next. He feels that computer people are more tolerant of the idiosyncracies. He's asked the Commodity Command heads if they would buy a slot, and would like to have a slot for top AMC headquarters, and slots for the Depots. At AMC there is a constant flow of vertical communication, and they NEED to be able to do it effectively. Right now they're using it for their many drafts of policy statements, regulations, etc. 4a10

He feels that teleconferencing capabilities would help people work as committees. 4a11

The key people have been using NLS, and the response has been good. People call RPU and ask him questions. They've begun the struggle of how to train the secretaries. The TIP login problems make the secretaries become physically ill. Wives resent terminals at home. 4a12

They're shooting for an ELF connection. The ANTS at Belvoir is up and down. Network cutoffs make it very difficult... They

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intend to have 4 ELF's, the Air Force 3 ELF's, and the Navy 9-10 ELF's. They have thoughts of putting the system through on AUTOVON, the DoD telephone system, since they've found they can keep links open for as much as two hours -- the regulations against data lines aren't enforced. There are 7 direct users in top management, 5 secretaries, and 5 staff officers, 4a13

(MIKE) How did the top managers know how to type? 4a14

(RPU) They had just picked it up somewhere along the way. 4a15

(MIKE) Did they have experience with timesharing? 4a16

(RPU) Experience varied from person to person. 4a17

(MIKE) What kind of terminals? 4a18

(RPU) We started with Execuports, and wish eventually to have 4 hardcopy units for the secretaries, and 8 CRT's for the managers, with eventually a CRT for the 20 staff officers. We also want one Lineprocessor. 4a19

Eventually RPU wants to get back to dictating to his secretary and letting her type, so he's very interested in DEX -- their buffers are large enough, it would mean adapting their cassette machines. 4a20

FGB and DLS talk about reconfiguring local buffers so DEX can be run. FGB asks DLS if online secretary use has been successful. 4a21

(DLS) We haven't used DEX, but we've been successful with secretaries working online; after a few hours they have enough skill to insert text, etc. We set them up so they start at BASE C, so they don't go through the confusing login steps. 4a22

(FGB) My secretary got very frustrated at all that. 4a23

(MIKE) Do you see DEX as an easier routine to learn? 4a24

(FGB) No, we need to have offline text preparation to save the online slot for other things. 4a25

(MIKE) We've had no trouble training secretaries and clerical people in both DEX and online, although there is a problem with no immediate feedback with DEX. 4a26

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- (IMM) We've found it's better for them to learn NLS first, then DEX -- then they understand much better. 4a27
- (FGB) What are you using DEX for? 4a28
- (IMM) For dictating, with a person typing right onto the tape; for audic tape input onto digital tape; for putting bulk hardcopy online; and for transferring longhand copy to online files. 4a29
- (RPU) I want to mention that it was Larry Day of Bell who acted as a catalyst in first capturing my boss's imagination and eventually getting AMC into NLS. 4a30
- (RPU) We want a calendar coordinating program. We'll try the one at ISI, and my boss has also written specs for one. 4a31
- (DLS) We're also interested in that-- there's a spec around that Paul Rech of ARC wrote. 4a32
- (RPU) We have problems making tables...and we also need subdivided mailboxes for multiple directory use. 4a33
- (DCE) BBN could possibly make a change so that message name files would exist as subdivisions for individual people. Messages would have to have the correct name and "attention of". 4a34
- (JCN) Our policy has been to give individual directories, one to a person. The "Post" system might help if we can find it. 4a35
- (DCE) There should be an option to have a multiple directory for simple-mode communication. 4a36
- (JCN) We'd like to get more away from that...let's discuss it later... 4a37
- RPU continues, discusses the longer range dream at AMC. They would like to get even the non-computer-type users all online, even the field-to-headquarter communications. They now have a process of people serially passing over documents which they call "staffing," which sometimes takes YEARS. They will need the support of a large computer; a management system to see that all the intermediate steps are correctly passed; document control; and would like to interconnect OFFICE-1 to other computers so he can access their data banks while working at OFFICE-1. 4a38

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(DLS) There is the same enormous hassle of a routing process in the Pentagon, but the technology wasn't stable enough, the climate not right when we considered introducing it three years ago. The Air Force may be able to pick up the ball again. 4a39

(RPU) Our managers are all Data Processing managers, and are more sympathetic towards problems. They will see better communication going on. 4a40

(FGB) The tri-service committee will be a positive force. 4a41

(DLS) Who's on it? 4a42

(RPU) It's embryonic. We hope to present a united front to DCA when the time comes. 4a43

(DCE) As far as the takeover of the ARPANET goes, if you get any intelligence, we need it too. ARPA's been handling it longer than it was rational. But what they did was great and their technology a must for anyone taking over a net. 4a44

Morning Coffee Break 4b

Upon return, the discussion switched away from architects' talks as FGB made a call for people to discuss what expanded services they would like to see made available for OFFICE-1 users. Some of the areas where extension of services was desired were: teleconferencing; training and in particular training in L-10; costs of training; and documentation. 4c

(JCN) We should order our list in terms of not built things; things already built and ready to move over, like BANANARD; and far ranged stuff like teleconferencing, which needs a lot more discussion. 4c1

(FGB) We have to consider the system impact, the need for restrictions --we need a framework for making our decisions. 4c2

(DCE) You need to discuss what it is that you really need with teleconferencing, and consider the problems in moving whole systems from the non-NLS world -- and the problem of living in two worlds. 4c3

(FGB) More than 2 people want to work simultaneously on files, ADVISE works for 2, but we need the capability for more. 4c4

(DCE) Features could be added to NLS, but sometimes the logic

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- for it is too complex. Adding and appending to files would be easy, 4c5
- (FGB) We want realtime teleconferencing. 4c6
- (DCE) Offering the commenting capability takes a special kind of delicately crafted support. You could have comments B connected to a file A, but actual changes would be in the form of partial copies. Managing it is procedurally problematic -- we'd have to approach it with care. The next-level tool development specs should come from the architects. If you can figure out how to make FORUM NLS-compatible, do it. 4c7
- (MAP2) There are people at SRI working on teleconferencing development. It's very complex. We need to come up with good concrete definitions. 4c8
- (RWV) The technology is in NLS. Maybe you want an internal interest group on teleconferencing. 4c9
- (SMT) We could start an RFC for contributions on teleconferencing for KWAC. 4c10
- (DCE) Fine, great. 4c11
- (JCN) To keep track of ideas, you could set up a group ident to send teleconferencing mail and messages to, with distribution to KWAC. 4c12
- (CKM) Weren't you thinking of getting FORUM on? 4c13
- (DCE) sure. Jacques (Vallee) tried to figure out how much space it took. I assume he found out it was too much. 4c14
- (JCN) It was running at OFFICE-1 6 months ago, but it took too much time from the system. 4c15
- (DCE) We need a teleconferencing pusher. It's easy to make a subsystem. CML is easy, all the hooks are there. The difficulty is the evolution of a user methodology. Or lead time so we could fire it up at ARC. 4c16
- (MIKE) We've been trying to fire up an L-10 program to write our own retrieval system. We ran into CML hassles, a virtual standstill for 3 months -- no cooperation from ARC. 4c17
- (DCE) Who did you approach? 4c18

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(MIKE) Hopper, Meyer, Norton,,,Jim: DO WE need CML? 4c19

(JCN) I'm not sure what you are trying to do,,,there was something about sensitivity and Penny getting too deep into the system,,,Hopper was skeptical. I think Journal privacy was involved. 4c20

(MIKE) Hopper said you were worried, so they held off, 4c21

(JCN) Hopper and Bedford should sit down and clear away the roadblocks. We need to know what it is for sure, 4c22

(MAP2) I've been trying to get L-10 training, have been running into resistance,,, 4c23

(JCN) We just haven't been staffed up to do it...or to figure out how to do the training,,, 4c24

(DLS) The problem is that all the L-10 programmers in the world are here at ARC. We have a similar project we'd like to get off the ground at Rome. 4c25

(DCE) We need to contract to train trainers in L-10, 4c26

(JCN) How many want L-10 training? 4c27

Hands are raised, it seemed that IMM, DLS, EJF, MAP2, do, and RMS2, RLF, and CKM don't, 4c28

(DCE) We don't know how to train in L-10 to keep people out of trouble. I do a lot of work just in NLS that I call "therapeutic hacking." NSW will help get the framework going,,,better documentation will be coming out, but it's not ready,,,A group of ISI guys got trained -- we charged them 10K,,, there are many levels of writing user programs; you don't need to go so deep. You can write many user programs on your own directory-level. 4c29

(JCN) We're not prepared,,,L-10 hasn't been revised, 4c30

(DCE) It takes \$/energy, 4c31

(MIKE) The L-10 background is what makes it dynamic for us -- it looks best. We're running faster than you are, 4c32

(JCN) You seem blocked,,,Friday lets get together with Hopper, 4c33

(EJF) We can't keep track of each other's little routines,,,It

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would help to have a central collection of stuff so we could work with each other's stuff,.. 4c34

(DCE) That would be valuable once people got going. There has to be a support interface for training and consultation. We need a person to be the explicit interface. And on-site training is sometimes necessary. We need to open the doors to application people exploring their own developments. With the Utility supporting, ingesting, upgrading. We should give people a chance to explore without imposing standards. Then retrofitting is necessary. It takes funds which come from a whole-system focus. We apologize we're not more ready. 4c35

(DLS) Would you have to live out here to learn L-10? 4c36

(DCE) No, for an experienced programmer, who knows NLS commands and file structure as a user, learning key procedures in half a day is very possible, or one half hour a week linked,.. 4c37

(DLS) How did EKM get trained? 4c38

(DCE) People interaction -- 4c39

(JCN) She was very experienced -- 4c40

(DCE) You can do a lot with simple approaches. There should be a staged introduction. We need to start sitting down and looking at your applications. A person is required. 4c41

(DLS) Then you need a spec document from us first. 4c42

(DCE) A visit is best. Then simple processes first. 4c43

(JCN) We need to manufacture a person. We offered NDM to Bell in December as an experiment but he was too expensive when Bell saw the cost. When you add the overhead and fee it comes out to three times a person's salary. 4c44

(IMM) Is the client supposed to pay for the whole thing, including travel and meals? 4c45

(JCN) We tried working it out, but when you really quote the whole cost it looks very big. 4c46

(RLR) Why doesn't the slot cost cover it? Why not the 40K? 4c47

(DCE) We charge our costs. 4c48

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- (JCN) OK, we've specifically offered TNLS and DNLS training, not L-10. We'd have to go through RWW's group. They've swallowed all the people resources, 4c49
- (DCE) RWW had to retract support of one person because of NSW pressures. We will have to provide that one trained person, 4c50
- (MIKE) Will you provide that person? 4c51
- (DCE) Yes. We can't say when == we need feedback on what mix of services to provide for the Utility. It's hard to shift the profile once the people are trained, 4c52
- (MIKE) Should you go on the profile we have seen here (L-10, teleconferencing), or cater to beginning users? 4c53
- (DCE) The revenue from new people should go to early users -- the old revenue should go to more advanced developments. THERE HAS TO BE AN OPERATION OF SCALE. No one on the outside could do it without an operation of scale, 4c54
- (JCN) If a person were trained and available, we'd do it now, 40K seemed high anyway, to people. It leaves three people for direct assistance, training, feedback. The best we could do was HOLD at 40K. The training comes out to 4 hours a week per slot. What schedule can we build? How do you want to use your training? Each architect will have to decide if they want to devote their training time to L-10, 4c55
- (DCE) It takes time to get OFFICE-2 online. And there's always a need for more resources, 4c56
- (RLR) Say we have 26 days a year, we should be able to say what we want. Within scheduling considerations, 4c57
- (RLU) We won't need much training -- we'd rather have our money spent on good documentation. It's not adequate now. Spend OUR time and money on that, 4c58
- (CKM) The training mode is immediate. On the spot. Our people needed immediate training, 4c59
- (SMT) Remember that the 26 days includes travel, 4c60
- (JCN) Telephone sessions help too. We're open for suggestions on documentation, 4c61
- (DCE) Documentation is a problem, 4c62

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- (SMT) One weakness is that HELP is designed for display. "Help" should be provided to TNLS users. Some subset of HELP for beginners, 4c63
- (JMB) HELP is to be used at a later level -- at a certain point in the user's development. Maybe JHB could explain, 4c64
- (POOH) We almost have the glossary ready. It alphabetizes and restructures help terms, commands, 4c65
- (JMB) The glossary can also be considered as a later-stage thing. As a beginner the course outlines, scenarios are better, 4c66
- (RLR) There are clerks who you'd slowly lead in, but others who want the whole thing now. Handholding is not necessary, 4c67
- (JHB) We're putting together a documentation notebook. Rita will be passing it out after lunch, 4c68
- (DCE) you are at the front line. It's your show, you have to help, 4c69
- (IMM) We need to know how to do whole processes, NOT just single commands. That's what's missing, 4c70
- JCN explains how documentation has been handled by development, but now it's reorganized so documentation will be with Applications, 4c71
- (RPU) Where did teleconferencing get lost? We need a pusher, 4c72
- MAP2 offers his services as a pusher. EJF says she'd like to be the pusher for the information retrieval group, 4c73
- (FGB) Duane, why do you need L-10? 4c74
- (DLS) We need an accounting system. Efforts so far with content patterns and NLS commands have been klugey, messy. We find it hard to know how much money we have. To build an integrated system we need to go deeper. Why did the NLS source code suddenly appear at OFFICE-1? (Later JCN explained that Dave Hopper needed them at Office-1.) 4c75
- DCE offers to draw a diagram which outlines the relationships between NLS, L-10, and CML source code, and what role SYSGUIDE plays -- SYSGUIDE is a first level plex of every procedure and a link to procedures, 4c76

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(DLS) Is there a document that describes naming conventions? 4c77

(DCE) There is an effort to classify the procedures and a link to the full code. We can't support it yet. But with personal attention it has worked for us...we said we'd train the architects. Then the architects, when seasoned, can train others. I have watched the computer field evolve. People keep saying "now we're here." Then they would realize the applications domain was untouched. It will take tons, ergs, man/years. Learning, adjustment, how to apply in organizations. We need to figure out the energy needed, etc. We can only learn from you. 4c78

(RPU) There are two training agencies in AMC that can accept people from other places. Their faculty teaches a lot of computer courses. We set up a training module like that for defense department people. They have lots of experience. 4c79

(DCE) You'll have to create something like that to expand your network. We'll try to support it from somewhere in the middle. 4c80

(DCE) When NLS gets installed, then you may want to take it over. As long as central support from us is of value, we want to give it. 4c81

Wednesday Afternoon Session 5

Architect Show and Tell: Duane Stone, RADC 5a

He begins with a brief outline of the history of NLS use at RADC. From about '69 to '71, they were looking at the NLS technology to see if it was applicable. In '72, they got a node on the Network, and in '73, in-house training began. The application area is specifically in their branch: the Computer Research Area under the Air Force Systems Command, which was a good place to start. Now there are 20 to 25 reasonably well-trained users, with 8 to 10 really using it extensively. Sometimes they form 2 to 3 man teams for report production, but there's not much team usage -- it's not required in their organization. They use it mainly for office-procedural and particularly their contractual stuff: memos, thinkpieces, contractual statements, reports, etc. 5a1

One big project has been the JOVIAL spec document. It's been more or less ready to go for 6 months, but they've had to make a continuing set of small changes. They need to produce a level-1 subset of it in 3 to 4 weeks. 5a2

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They have great need of the capability to review text before sending it to the COM vendor. They need to get a better picture than the X-COM output can give. There's lots of interest in COM in the Air Force from outside directions. They're looking forward to the NSW developments to the Output COM process.

5a3

One project they did in which they learned a lot was preparing an internal address list of 1,000 addresses, used to distribute documents. There was the problem of continuing changes to the database. They started out with some lists of course attendees, government offices, distribution lists from higher-ups; then finding the duplications by settling on a format; then some L-10 programming for sorting sublists. They learned the importance of thinking for a day before leaping into something.

5a4

Future plans at RADC -- the management is committed to the NSW. They're drifting away a little from the initial thrust of office management, management aids, etc. One manager works on the system at night from home -- he should be a positive force. DLS sees himself as pushing from the bottom up. They would like to see MULTICS tied into the NSW. File moving around (NLS, sequential) is sometimes difficult.

5a5

Things They Would Like to See in NLS:

5a6

In the Output Processor, the intermediate viewing capability before COM: a really useful document production tool

5a6a

The Form Project -- They now have a form as an NLS file. Management knows of other form systems and wants a system that fills out a form. It would help them to be able to move data from forms to MIS systems.

5a6b

A calender with a personal orientation is needed and useful.

5a6c

An Accounting system -- it's now a vast system of inconsistent offline ledgers. They have to try to coordinate simultaneous procurement procedures. It's impossible to keep track of, and the goal is to come out even. It's going to require some deep L-10 programming.

5a6d

Another problem area is keeping track of many versions of files, some with different labels. They need better naming conventions. Right now the system is to "leave it up to Bobbie" (Roberta Carrier).

5a7

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- Next on the agenda is the Documentation Production and Control Area as represented by Dirk van Nouhuys. 5a8
- DVN takes up the Document Control problem, and says that DLS is trying to do things you wouldn't even try to do without NLS (like have varying-levelled versions of a document). The more you can do, the more problems you can create for yourself, particularly in the area of controlling versions, and even more so with large documents. YOU SHOULD SIT DOWN AND PLAN FIRST. 5a9
- (DLS) One way is to have an external links file in the Journal. 5a10
- (DCE) We used to have a user program to keep track of versions but it atrophied. 5a11
- EJF tells DLS about the NIC program which runs labels which have the full text or a subset of information. 5a12
- (DLS) We made our own. We had to have special formatting for numbers, directives for margins and spacing and page breaks; then interface the whole thing to Air Force gummed labels. 5a13
- (DCE) NLS structure is not especially adaptable to page referencing. Links should be able to add those page references.....the DPCS community has really specialized concerns. 5a14
- (DLS) We have 6 levels of management using the system. The paperwork has to pass up through them sequentially. A mechanism for initialling is needed. 5a15
- (DCE) Yes, it takes a lot of work. 5a16
- (DLS) It took us 3 years to almost print out address labels. 5a17
- Architect Show and Tell: Connie McLindon, ARPA 5b
- CKM gives a brief history of NLS use at ARPA. In 1972, ARPA got a TIF, and they decided to do all their data processing through the net. At first they used ISI, with BASIC, FORTRAN, and TECO. A year ago they started using NLS at ARC experimentally. In October, they bought their slots. Susan Roetter from ARC presented an in-house training program, mostly for TNLS. They were teaching very few computer people. No browsing, strictly functional. They rewrote the curriculum for clerical and professional people with the emphasis on the clerical. In August, they got their first Lineprocessor. Now they have 4, and the energy is toward DNLS; everyone wants it.

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CKM warns people not to show tools around if you don't want everybody to want them.

5b1

In the IPT (Information Processing Techniques Office), the secretaries do their paperwork online, although all the classified data can't go online. They do some routing of official documents online. In the NMRO (Nuclear Monitoring Research Office), there's the seismic data input. In the Tactical Technology Office, 3 people are putting all non-secure work online. They are hoping to get the whole process -- drafts, approval by program management --online.

5b1a

ARPA does all its data processing on the NET. They use a PDP-15 for information retrieval: they take it to a TENEX site for editing and back to the PDP-15. Dr. Lukasik used to demand that all the directors talk to him via the net. Tachmindji is in his place now, but top management still has the bug. The architect's role is to be enthusiastic and forceful: "use it." They did a study on the effects of message sending techniques, with positive results. In general, ARPA needs to be online to function as well as it does.

5b1b

A special area of interest is the XGP. It prints out NLS files in 52 different fonts. It takes 14 different commands, but it has high quality output with fast turnaround. The software is primitive. A PDP-11 drives the XGP. They use DOD specifications for margins, and they're working on something that will allow them to use letterhead.

5b2

(DVN) The XGP is hard to use. It should be that you can have software that can be used on any 200 dot electrostatic printer. Someone should write it.

5b2a

CKM continues --the cost of the XGP is hazy, somewhere around 20 to 30K. It's about 12K for most hardcopy printers, and with a minicomputer to drive them the total is 20 to 30K. Computer time on the XGP is expensive; it's very wasteful with paper, which is also expensive. It feeds an enormous lead for each document -- she's afraid if it was any easier to use, they would have to beat people away. They keep trying and using it even though it's difficult.

5b2b

(SGR) There are XGP commands to change type fonts.

5b2c

(DCE) You should be able to change type fonts from the Output Processor. (he explains how)

5b2d

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(CKM) Dirk is helping us think about writing an NLS/XGP interface. Everyone wants to use the XGP on a rush basis. It's hard to control, see who's using it, establish priorities.

5b2e

Future Plans at ARPA

5b3

There are plans to use NLS for preparing the memoranda known as Request for ARPA Order, and to use it in office environments, Program management. They have few sophisticated programmers or users, and want to broaden their training base. They need analysis help.

5b3a

(DAP) Why did you develop your own training packages?

5b4

(CKM) I had experiences in training; we tried the NLS documentation first, and it didn't work. We went on to the scenario approach.

5b5

JCN mentions the DCA Internetting Report, explains how it developed. It's now through the COM process. It brought out a number of things: a test of fast training; how to control a multi-inputted document; a test of the whole document production process. The experience encouraged us to do more study team augmentation efforts.

5b6

SGR explains that there were 10 committees for the study, and each committee was responsible for a chapter. There were about 30 people in all. The secretaries started inputting 2 days after they saw the system. At first, there were weekly review meetings. Finally we had to put in the Output directives here.

5b6a

Architect Show and Tell: Rudy Ruggles, Hudson Institute

5c

RLR starts by mentioning that Hudson also has headquarters in Paris, Tokyo, and Montreal. When they first started using NLS, he had a million dollar contract to do information processing research (40 to 60 people?). Now he's an Executive Vice President. One project they're working on is the TRENDS Project. They're looking at geopolitical trends for ARPA for defense purposes. They write country profiles, and cross-country profiles on particular subjects like economy, fuel, etc. Now they have their "chartbooks" on the computer, with a precis and annotated outlines for rich information content. This greatly aids their ability to change the data. Besides the chartbooks there are summary reports. They're beginning to use the data for instant briefings and for

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browsing. Two women put the information into online chartbook form; there are 4 or 5 people using NLS in all. At this point outputting the data is not in their funding or objectives, 5c1

They are confronted by stacks of information and have the large task of selecting what to put online. He could well use an optical scanner. The material is not used and useful when offline. There was some initial interest with Lukasik to use it as a precursor for use at other defense agencies. Now that it's developed to this extent, they'll go around to other agencies with a terminal to expose people to access to the files. It's a showcase thing. They'll be starting a tour in a month or two. He finds that people actually interested in getting into that kind of information are few and far between, 5c2

Major hardware problems were the phones, and the great need for an optical scanner, 5c3

The discussion then turned to optical scanners. DVN briefly described the Editorial Processing Center proposal, and that one item was to attach an Optical Character Reader to the system. He called for prayer for acceptance of the proposal. DCE then mentioned that there is a group of guys interested in the OCR at SRI who will probably get something going, at least for SRI use. He continued by adding that someone has to start the ball rolling by funding an OCR; if the money were there, ARC could handle it, or other SRI people. We need to make an assessment and see what level of OCR to recommend. DCE and DVN agreed that NLS technology could handle the input data created by an OCR, 5c4

RLR continued his talk about Hudson's activities; there was no training problem there, as system users were RLR and the two women. They will have DEX and a line processor, and size won't get to be a problem for a long time. They have learned the "Archive -- Don't Delete" command the hard way, and use it now. He said there had been expressed interest in the system from the war colleges [sic], 5c5

(JCN) Do you intend to produce hardcopy? 5c6

(RLR) We'd love to, but no one will sell us a printer. There's a print shop at Hudson, but it'd poor quality, 5c7

(RPU) We use an IBM Seletetric with a Tycon base plate. It's slow, but reliable, 5c8

(DAP) We use one also, 5c9

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(DLS) It's good for 2 to 3 page things... (to RPU): DIA had a good printer... there should be a machine for your use,

5c10

Architect Show and Tell: Bob Sheppard, MIT

5d

RMS2 outlines the background of the Seismic Data Management System at MIT-Lincoln Lab. After the test ban treaties were signed, there was a need for seismic discriminators to detect underground nuclear detonations, and differentiate them from natural tremors. In the 60's, ARPA made an analysis of the system of seismometers, and in 68 another seismic array was installed in Norway, with 300 to 500 instruments generating data,

5d1

This data is real-time processed, some over the ARPANET link from Norway. One seismometer generates 20 integer-words/second: there are masses of data, and masses of tape libraries. It's been decided that massive arrays are not as effective as distributed small installations. The first one was installed at Albuquerque -- now they'll store this "less information" in the Datacomputer (1,000 million bit memory). There's another set of 12 installations, 4 of them with other observatories; the hardware, software, is all starting to gell. A system is needed to help the scientists get in and access the information. This is why the SDMS is at OFFICE=1.

5d2

The Object is to collect internal memos and reports on the management system and store them online. Now they are developing a scenario for non-NLS users so that they can read/print a description of how to access data in the Datacomputer. RMS2 considers himself to be a researcher, not a computer person. His job is to get the information together from various sources. The interface to the Datacomputer will be the Datalanguage manual. RMS2 will load the material into the Datacomputer as a test to see if it's all feasible. Now you have to access the CCA program from ISI, and have to know filenames.

5d3

(DVN) We ran some tests on the Datacomputer that might be of interest to you,

5d4

(RMS2) Our TENEX dependency is the problem... people are still not accessing seismic data.

5d5

(DCE) Who would be the users of the data?

5d6

(RMS2) Researchers.

5d7

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(DCE) This is an interesting twist of the same problem with NIC: people who need access to information have a stumbling interface. You guys will have Jake's problem to the Nth degree. User access is really a problem, especially training. 5d8

(RPU) WE dig out the information for the users,.. 5d9

(DCE) How many users will there be? 5d10

(RMS2) It's hard to say,..The user comes in and uses his directory to view the management system. It asks him if he's familiar with it, then he gets a read/print sequence. He has access to a table of contents, then has the ability to get to specific branches...the seismic array data tape format was designed by IBM, and is extraordinarily complex. Some graduate students spend a year, writing their thesis, deciphering the format of a tape. 5d11

Architect Show and tell: Dave Potter, ETS 5e

DAP is his own user group and his own community at this stage. He was a full time researcher, then started using NLS to find out what it was all about and got hooked. He uses it for all his professional writing. Now he's building 3 separate data bases with NLS: one is a bibliographic data base of about 70 to 75 pages; another is a file on teacher behavior, with tags on the information. 5e1

His future plans involve getting terminals in the professional offices for data analysis and document production. He feels that the NLS calculator is a dummy, and that it should be as good as a programmable hand calculator. At this point he has to take his programming work to a group upstairs -- he could use a programmable calculator to do it himself. 5e2

Computer Based Instruction has been really hung by the personnel changes at ARPA; the interest of the new people at ARPA will have to be captured. 5e3

JCN adds the DAP isn't getting into the ARC cataloging procedures as yet -- at this point it's serving their needs well getting the database online. ETS is using NLS on an exploratory, hang-thread basis by virtue of the scene at HRR0 (Human Resources Research Office of ARPA). 5e4

(CKM) That's true, the people there didn't even know their funding had been cut,..and Sullivan left,..but things should go really well in the next 6 months. 5e5

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Architect Show and Tell: Mike Placko, SRI

5f

DCE explains how we just got down and had SRI buy a slot and assign an architect in order to actualize use of NLS at SRI,

5f1

MAP2 outlines developments -- they have a direct computer line to Cupertino. Some early users are the intelligence community associated people -- Barbara Ripple, and a research assistant and clerical person. They are evaluating NLS to see how it could help as a core component in a Crisis Information Management System. They've captured and put online information about 60 or 70 Soviet technical publications, published it for the intelligence community. They also use NLS for intergroup distributed communications.

5f2

Another group is setting up specifications for a teleconferencing environment. A telecommunication department guy is now in London, establishing links from the LONDON-TIP along with NLS tools. They've also experimented with FORUM,

5f3

In the Information Systems Group, one person got trained in NLS and wrote the Editorial Processing Proposal (although didn't use NLS in the actual writing.) She is acting as a source of information about text editing and processing for SRI people,

5f4

MAP2 also trained a clerically oriented person to input data on the packet radio project. She's become a mini-expert on TNLS, and will serve as a source of information on it. She types 120 wds/min., and uses TNLS widely,

5f5

He sees NLS as a tool for project management, interproject communication, the dissemination of reports, etc. Future plans and possibilities involve the SIME=DIME project, which has been using MAE (Machine Aided Editor) to create a document to describe their massive database. They would like to bring it over into the NLS world so they can share the database with many government contractors. Another possible application is at the SRI Washington office. They have a marketing group which has to be in the know to help direct SRI in getting contracts. There are two people trained at SRI who will eventually use the system to facilitate the whole Contact Report process (the mechanism by which they keep others at SRI informed).

5f6

MAP2 announced that he would no longer be SRI's Architect, and that Glenn Sherwood would be taking over his role.

5f7

Thursday Morning Session

6

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DCE opens the session by explaining and outlining the "next-stage" possibilities for specific applications of NLS tools. He sets up on the blackboard a list of topics for discussion for special interest subgroups, with input for the list being provided by the architects:

Cooperative documentation development	6a
Information retrieval	6a2
Teleconferencing	6a3
Text files into NLS files	6a4
User Documentation	6a5
A general discussion followed,	6b

RMS2 decided he wanted at this point to mention further one of the applications at his site. He uses a process commands branch in the initial file for non-NLS users. It gives you a blank screen, then goes to a 1 page introduction to a data management system, and a set of instructions, then to a table of contents and links and how to use them (jump to link, etc.)

6b1

DVN offers some advice about the process commands functions, which elicits questions from others:

6b2

(FGB) How do we find out these things?

6b3

(DAP) Where do we find out all sorts of things? Give us documentation,

6b4

DCE responds with an explanation of how that all just can't HAPPEN. KWAC has to learn how to develop its own set of folklore, just the way we did. Essential is the development of a Handbook. That's the way a body of information gets built up: using the tools of dialogue, Journal, Handbook. There seems to be a feeling among KWAC that we are withholding information... RMS2 continues... His data includes a lot of graphs. He has made up a set of graphs as empty statements. Then he fills in the holes with data. A lot of their data involves geography, spatial relationships -- they need to see maps plotted with points. He's going to put a Mercator Map of the world on line,

6b5

(DAP) I'm used to doing a set of things one way by habit, but I don't even SEE the things I could do because I'm not even AWARE of the tools yet,

6b6

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(DCE) Would you please sign an affidavit stating that we didn't hire you to come in here and say that?

6b7

(CKM) But we don't want to duplicate answers to problems that you've already solved,

6b8

(DCE) I create any number of complex thinkpieces but I don't know what the market is for them unless we know what it is that you want,

6b9

(DAP) It's circular,

6b10

(DCE) We're waiting and watching for the circle to grow, The technologists keep dreaming up things and don't understand the problem of applications,,, the seasoned application community is our hope,,,

6b11

More general discussion ensues; a lot of excitement is being generated -- whether to continue with the Architect Talks or go into specific problem areas, It was decided to continue with the Show and Tell talks,

6c

Architect Show and Tell: Inez Mattiuz, Bell Canada

6d

She explains how Bell Canada wanted to get involved in any experimentation in communication, and they came to NLS. They have 10 300 baud stations and 1 line processor. Their researchers are all working on their own projects; some do their own work online, others resist the system. They've put together a bibliographic data base of 400 abstracts, eventually to be retrievable by key word. One executive is totally online through his secretary. They have one programmer. They're trying to get all the clerical staff online; they now use DEX quite extensively,

6d1

(DVN) How do you use DEX?

6d2

(IMM) We take longhand drafts, a woman DEXes them, gets them online, gives the author the filename. We have 2 and a half DEXers. Many of the clerks work online when the professionals are out. We put in hardcopy we want to see online through DEX. We used to have more Dictaphone input to DEX, but 8 out of 10 of the guys now type! we regard the dictators as hangers-on. We tried audio recording of sessions but found interpreting the data on the tape was just too time consuming...too many gaps...
 6d3

(JCN) Does the management use NLS?

6d4

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(IMM) Everyone is online, right up to the vice-president. No one can use a typewriter. 6d5

(RPU) How many users? 6d6

(IMM) One executive, the 9 managers who do their own input, and 3 secretaries. The Assistant Vice President is sold on it, his secretary is all online. 6d7

(JCN) Do you have to archive? 6d8

(IMM) We journalize and make private, then delete. Archiving is done FOR people. Mike journalizes a lot of his stuff. 6d9

(DAP) How do you manage with one slot? 6d10

(IMM) Irregular hours, people travel with portables, some work at home at night. 6d11

MIKE explains the organization of their group at Bell. Under the Asst. Vice President of Planning are 2 groups, one of which does not use NLS, and the other of which is their group, Business Planning. They are running on the "It's a research project, don't bother us" cost accounting plan. Bell would feel more comfortable if they could direct the group more. The group has all these Viewcoms around in comparison to other groups which do not; they are "THE" augmented group. 6d12

(DAP) You do a lot of planning? 6d13

(MIKE) Yes, with whatever time we have left over after dealing with the system. 6d14

(IMM) We keep a running account of people's opinions about the system. 6d15

(DAP) I want to SEE evidence of cost effective applications. 6d16

(IMM) We're working on a presentation package. 6d17

(DAP) Could we see it? 6d18

(MIKE) We'd like you to see it a lot more than we'd like our management to see it. 6d19

(DAP) Please keep me informed about effective camouflage. 6d20

(DCE) You have to brainwash your boss. 6d21

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(RLL) Do you have an end in sight or a next stage in your experiment at Bell? 6d22

(MIKE) We're behind in our promise for evaluation, we hope to be ready in July. We're thinking of opening our doors, giving a presentation, offering it as an application for other groups. 6d23

(RPU) Do you attract attention? 6d24

(MIKE) Not at the management level. They think it's a hornet's nest. Our guy is at the 5th level of management. We do after lunch informal demos for the 4th level, but nothing official. 6d25

Architect Show and Tell: Stan Taylor, BRL 6e

He explains the organization of BRL, with its 7 different labs focusing on different areas of technology. The labs have been traditionally the fiefdoms of the lab heads. Now they have a strong-willed director, who's going to make some drastic changes in the next six months. 6e1

Each lab has an exploratory mission in an area of ballistics. They fought for an EINIAC and got it. There have been 4 succeeding generations of machines, most of which have been inadequate for 4 or 5 years. They're in the agony of a procurement process for an outside-built machine; they have very complicated specs. The lab method is to try out ideas, and then hand them out to the rest of the Army: weapons systems, war games, concepts analysis, systems analysis...von Braun started at BRL; another spinoff is the Army Materials Systems Analysis Agency. 6e2

They have a central compound, with 25 to 100 buildings. Sometimes a guy has to walk a quarter of a mile 2 or 3 times a day to run things and get his output. A new direction is growing toward having guys work at other sites -- so the network looked good. They purchased the Belvoir IMP and the BRL IMP. 6e3

They've been forced to be obtuse to avoid regulation problems. Their ANTS version has been good, although they're moving toward ELF. They also support the Human Engineering Lab. Their basic problem involves managing scientific data bases and program management. They have a 40 million a year budget, spend 2 million on in-house computing, 1 million on outside house. Since September JHB has done two training sessions. SMT wanted to have a mix of people trained: an older woman running an educational program for a distributed group of students; SMT's

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secretary (who eventually pooped out); the systems programmer for ANTS; the hardware guy for ANTS; a budget guy who now can't get to the system -- too many crises, analyses, reorganizing and budget crashes. The two women proved to be the better learners.

6e4

For the second training they mustered a very competent secretary with experience with mag tape systems, Telex; a laboratory Assistant Program Manager; and 3 people from AMC.

6e5

SMT uses the system to prepare documents, write reports. He's on the "griddle" to get the new procurement in, so the system takes second place. He's trying to get the engineers to use the system for their lab notebooks for the Inspector General's visits, but they don't. One prolific Branch Chief uses it.

6e6

Their communication problem is in doing the research and then not getting the results to the decision makers on time. They now have devised a thing called Interim Memo Reports to get the information out in quick form. Then the formal report comes out 12 months later. IMR is always in Crash mode; if the guys could use the system, they could meet their deadlines much better.

6e7

The Director's Office will be doing much more directing, coordinating. He wants to be trained. They use Wang and IBM Selectrics with black boxes to turn the input into ASCII code. This helps ease the dearth of clerical help. He's sure the line processors will be able to come in OK.

6e8

They produce 400 to 500 reports a year, with a 3 to 9 month backlog. DEX would help. The Output Processor and COM would help if you could have the intermediate preview function. The system might help on production of the annual report, which is always very difficult.

6e9

SNMSG would have to evolve surreptitiously because their focus is on scientific computing. Building to building communication would be effectualized -- better exchanging of memos. There are database problems with the lead labs. He believes the ENVIR/EDMPAS data management system will be used to take on the mountains of data. The guy working on it says he'll need NLS as an entryway to other tools. They've found keywords have not been useful, and have been trying key phrases.

6e10

(RPU) We don't want to duplicate your efforts here.

6e11

SMT expressed confidence in the idea of getting DDC and NTIS

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online. EJF asked for a time frame, SMT thought it would be 2 or 3 years before they would feel comfortable with the changeover idea. 6e12

SMT's position is assistant to the director (the strong-willed, dreamer type,) 6e13

(DLS) Mel Draper at Norton AFB in California is considering possible use of the AUTOVON lines for a direct connection to Tymshare, to avoid the TIP, the way the people at St. Louis are doing with the ANIS. 6e14

(SMT) The main problem is that we have a 3 minute limit on AUTOVON calls leaving Aberdeen, maybe involving the critical switching bands, which doesn't happen in Washington. 6e15

(FGB) I've been calling the RML TIP on the AUTOVON lines successfully. 6e16

(RPU) More AUTOVON access is needed. 6e17

Architect Show and Tell: Jake Feinler, NIC 6f

Vestigial NIC 6f1

Started with Network 6f2

Hardcopy distribution: very little online communication in the beginning, so a branch library resulted 6f3

Things get out of hand as the net grew. There are 120 hosts now. Their funding was cut in June; they moved away from hardcopy distribution. Since June, the NIC keeps official lists online and hardcopy is maintained. There are many similar problems between NIC and KWAC; NIC is separate from ARC, and is dedicated to serve all Network users. NIC is a customer of the Utility, and Jake is the Architect. 6f4

Lists kept: 6f5

Official Hostnames for ARPANET 6f5a

Official liaison list: sndmsg distribution list; names, addresses, mailboxes 6f5a1

An official PI (Principal Investigator) list is planned 6f5a2

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Online Resource Handbook ==writeup for each host,
 accessed by NIC query language 6f5a3

A Table of all the computers on the net 6f5a4

An index of programs available on the ARPANET is planned 6f5a5

(DCE) There's the very difficult problem of keeping a database
 updated when the information is distributed. 6f6

The information is gathered by personal visits or through the
 Liaisons, who supply information to NIC and in turn supply
 technical information about the net to the site. There are
 instructions for using the query language in the ARPANET
 directory. The files are in <netinfo>, one file per host, with
 separate files for tables. They tried using big files, but
 they went bad a lot, so now they have to handle many small
 files. EJF handles about 10 or 15 inquiry messages a day.
 Access to the database is through Directory NICGUEST and
 password ARPA, 6f7

There are problems with new software developed to collect the
 data: duplicate requests are fielded and then no one wants to
 answer them. EJF will make any data available. 6f8

The Resource Handbook is produced from 1 file: the online
 version is a standard database file; a program takes out
 directives and parses for statement names for the hardcopy
 version. 6f9

The NIC has historically handled the RFC's, the technical
 papers of the net. Two thirds of them have not been online in
 the past because of special symbols, etc. Since June 30 of 74,
 all of them have been online, with Jon Postel serving as
 coordinator. The filename format is RFC-###. ARC stores them
 as text files generally. They are looking into ways to make
 the old RFC's available for purchase. 6f10

Hardcopy documents produced: 6f11

ARPANET DIRECTORY 6f11a

Resource Handbook 6f11b

Protocol Document (at NTIS or DDC) 6f11c

ARPANET News == no time as yet 6f11d

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NICnotes -- sent to the Liaisons 6f11e

There is a NIC reference collection of several thousand documents, including all the RFC's and group notes. The group note distribution is now handled by each group coordinator. The INWG notes sell as a subscription. 6f12

EJF wants something to handle bibliographic data; there are many references in the Resource Handbook. She has a big problem in switching between NLS and TXT files, and loses significant time. She needs programming support, which seems to be a general problem experienced by many people. 6f13

Has problem going across files with content analyzer, etc. 6f14

NIC users don't have access to NLS 6f15

Would like an interface between references on different systems so that format would be uniform and could also be sorted on various fields 6f16

She has problems with files getting archived. She would like to tie in to DIALOG or other systems. 6f17

(DAP) I see errors of inclusion rather than exclusion. Interactive search with the NIC database would be imperative if searching is to be attempted. 6f18

Science citation index -- forward indexed; lists of people who are quoted 6f19

Backlinks too 6f20

Phone directory of all TIPs -- maybe if TIP login is successful 6f21

ARPA directory isn't online -- the identfile is used to produce the directory. We want the TIP database to be able to talk to the Identfile, to avoid duplication and aid in updating. 6f22

Wants to redo the Resource Notebook in the format now seen in Hostaddr=master. <NICPROG> -- anyone can copy programs out of there -- a description file which documents most of them. 6f23

Would like to share content patterns and programs. 6f24

(CKM) If the directory is out of date, don't rely on the liaisons to update it. I use it as a mailbox directory, not a telephone directory. 6f25

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(SMT) I'd like to see the AUTOVON numbers added, 6f26

KWAC wants a form to help keep the directory up to date, 6f27

Architect Show and Tell: Frank Brignoli, NSRDC 6g

He explains that there are 10 NSRDC centers around the country, and clusters in San Diego, Washington, Connecticut, and Florida, all of which wish to communicate, send around working papers, etc. 6g1

The PDP-11 and ELF are coming in as VDH. There are 9 guys in his group who cooperate on preparing documents, etc. He doesn't feel that he has additional problems which don't duplicate all the ones mentioned so far. They have a training problem because their people are distributed. They've tried phone calls and links, but it hasn't been effective yet. 6g2

(DLS) In order for a good training session to take place you have to have at least 2 to 3 people per site. 6g3

They do document production in-house; 3 or 4 of the people are using DNLS. He expressed concern about quality control for large data bases. Specific application areas at NSRDC: 6g4

Getting design notes around using group idents 6g5

A "planning document" file 6g6

They've had problems with several different versions being commented on in group dialogue. Another problem involved journal mail not being delivered to new directories because there weren't any initial files. 6g7

They want to give people practice using content analyzers, filtered copy, etc. 6g8

They could use BASIC, and lots more. They have a mathematical subroutine library out as a database; they put it on tape. They're also developing their own Resource Handbook. 6g9

Thursday Afternoon Session 7

To open the afternoon session, DCE outlined the framework of the DPCS (Documentation Production and Control system) community, and introduced it in the form of Dirk van Nouhuys. 7a

DVN announces that SRI has just won the Editorial Processing

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Center Proposal, that is if certain cost sharing clauses can be negotiated successfully. He explains his role as "DPCS Community Nucleator."

7a1

The group that will be working on the EPC project in SRI's Information Science Lab has experience in analysing publication systems; they did an extensive written analysis of SRI's system, complete with flow charts of the entire process. They've also had experience in analysing hardware and software for computerized production.

7a2

The Editorial Processing Center will work with two journals, the Review Journal of the ACM, and the Journal of the Teaching of Psychology. They chose the former since they have been having trouble keeping track of reviewers and reviews; and the latter since it is a very new journal without a long set of habitual ways of running their outfit. An earlier version of the proposal is online, and the revision with the new cost sheets will be online later. The group will do as proposed:

7a3

Acquire hardware for the project

7a3a

Send an ISL person to the journals and analyse their document production process and see how (ideally) they could use computer aids.

7a3b

Decide how to implement NLS and other tools in the real working situation at each site

7a3c

Set up the equipment (the journals will provide labor and some materials), and produce an issue of the journal in parallel with the real issue or go ahead and produce the issue right off.

7a3d

The proposal provides for one half a man year of NLS programming for adding necessary features to NLS. At this point it is planned to:

7a4

Convert the Output Processor to a two-pass machine to do page numbers and produce tables of content

7a4a

Get an OCR for project use

7a4b

(DCE) It was promised in the proposal that you would use the Utility, and that any improvements should be made available to Utility users. And that outside people would be able to use our skilled people as a resource.

7a5

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(DVN) It will use a Utility slot, The software will be available to anybody, 7a6

(DCE) The software should be non-machine-dependent, 7a7

(DVN) The production people should be available, 7a8

(DCE) Then the staff and facility should be available later for other outside users, 7a9

(JMB) Who is the "we" you are referring to in this proposal? 7a10

(DVN) Pat Whiting=O'Keefe, Tom Humphrey, me, 7a11

(DCE) This is a very important new applications step, 7a12

(DVN) It's a neat base from which to work on new developments to the Output Processor and NLS, The customer also wants a database on the computer-based printing of technical symbols, 7a13

(MAP2) What is the time frame for the proposal? 7a14

(DVN) One year, NSF expressed a clear 2 year intention, The project may evolve and scatter, 7a15

(RLL) Have you considered other journals? 7a16

(DVN) Yes, the Journal of Astronautics in Berkeley, 7a17

(RLL) How about other ACM publications? 7a18

(DVN) The ACM picked this journal, but they are interested in a broader sense, We're working with ACM headquarters, 7a19

(DAP) When do you think it will be operational? 7a20

(DVN) By the end of the summer, 7a21

DVN then explains the function of a DPCS. It is really a collection of soft and hard procedures sometimes shared by other NLS activities, DCE believes strongly that there is a community of users interested in these functions as a whole, The Output Processor is unique; other components are shared, 7a22

Components of the process: 7a23

Input 7a23a

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DEX: possibility of DEX2; an extended version of DEX
 which allows for further editing functions 7a23a1

TNLS, DNLS, OCR, Kludges (like turning data from an MIST
 in to tape data into another tape form into an NLS file) 7a23a2

Handling 7a23b

Userprograms like the Publish Subsystem 7a23b1

Templates (like the SRI biography form) 7a23b2

Output 7a23c

Monospacing 7a23c1

COM -- takes 40% less pages. Makes microfilm as a stage
 along the way to the printed version. COM for COM is
 cheap and ugly. Our COM vendor has been DDSI in Los
 Angeles -- we will be starting to work with a local firm,
 which has unusual type faces (useful in the creation of
 userguides) 7a23c2

The "C" in DPCS stands for control -- of the documents you have
 created and during their creation. One system is Duane's "I
 let Bobbie take care of it". If you want to handle large
 volume, it's another problem. The ISL people will be working
 on it. We tried with the TNLS manual, and were partially
 successful. The Journal can be used as a tool to index
 revisions and updates; we haven't used it well, and are looking
 for inspiration from the ISL group. 7a24

(DCE) Everything has eventual elasticity, no matter what the
 viscosity (re getting DPCS on the move)...we shouldn't be
 provincial in considering the role of the architect; you people
 should use what you need and want. Use NLS and the Utility for
 experience, then you may want to go on to the other tools you
 learn about through NLS. Our role is to find interfaces to
 integrate systems into a total environment. 7a25

DCE then introduces guest speaker Bill English, head of the Office
 Communications Group at Xerox's Palo Alto Research Center (PARC).
 They have been developing the POLDS (PARC Online Office System) in
 their research, exploring systems, deciding what to build and what
 is needed, etc. 7b

They have 40 terminals, and a system like NLS with a set of
 additions. They are particularly concerned with the naive and

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casual average office user. Their system has to be easy to learn and easy to use. Beverly McHugh is introducing POLOS to non-technical Xerox people. They'll try to make the documentation simple and intuitive.

7b1

English explains the system from the user point of view. He says it's friendly and acceptable. They start with a good terminal and display design, for which they hired an industrial designer. It is, however, an expensive experimental system, and says they've learned it's not the way you build products.

7b2

They experiment with dumb terminals and NOVA 800 terminal controllers. You connect to a specific resource to run the Editor. Each NOVA is associated with a function. The hardcopy print processes could be dynamically assigned also. They use TENEX and a homemade microprogram machine for inactive files, using the MAX filing system for archiving, dumps, etc.

7b3

He showed a few slides which pictured their typical workstation, with mouse, keyset, and microswitch Holofax keyboard. The display has dot matrix characters on 1000 lines. Other slides showed different fonts which could be used on the screen, with magnificent resolution. He wants to get the refresh from 35 up to 30, which he says will make a noticeable change. The Xerox people at El Segundo have been working on it.

7b4

Some playful interchanges took place between English and the architects. In commenting on the miserable little stubs of chalk in our conference room, English said:

7b5

I should have brought my own Chalk.

7b5a

(RLR) You mean the resolution on this chalk isn't good enough...

7b5b

Using diagrams on the blackboard, he showed how a person could use the system. Xerox has not developed any security measures beyond password yet. The user alerts the system, identifies himself, and sees a workspace on the screen which is organized like a desktop, with changeable areas for such things as inbasket, scratchpad, subject file, hold, telephone directory, messages, junk, and wastebasket. All of these are links which flash when there's something in them. The user selects a workspace with the mouse; he might go to a space called documents, which will list memos by subject, date, number of pages, etc.

7b6

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They may decide to have two modes, browse mode and edit mode, In browse mode you would just move around, then press a keyboard key to move into edit mode. With 2 modes, they can use the same set of commands twice. He feels that a split screen makes filing awkward.

7b7

Commands will take the form of command key == character string == command accept. There is little protection to the user who wants to screw himself up. There is a pushdown stack in one window of things the user has accessed and edited.

7b8

When the keyset is in browse mode, the keys stand for: file list, scroll down, scroll up, clipped view, and desk top. The user hits the DT key to get back to the desk top. The programmers use the system to edit code, and the system is office-oriented, so there are some conflicts. There are two ways to have clipped views: level clipping and first lines of paragraphs. They haven't decided yet whether to offer one or both.

7b9

To create a document, the user calls up a form so he has something to "write" on. He could call up the "memo" form and fill it in. There's no write-file command, the user starts editing, and works til he's done. There's an option of changing or specifying file identifiers if they're not included in the information on the form. The user sets up defaults for what will remain if he somehow loses the stuff he's created.

7b10

(RH) What about the user who wants to TOUCH something in your no-paper environment?

7b11

(WKE) You can take hold of the terminal and shake it,.....we will have hardcopy also,...

7b12

(EJF) Perhaps a small velvet square attached to the side of the terminal...

7b13

(WKE) You can bug a phone number on the screen and the number will be dialed on your speakerphone. Some tone feedback will be part of the system,,,people like to hear bells...

7b14

Bill English continues by describing the edit mode. In edit mode, the keyset keys stand for: paste, cut, clipped view, scroll down, and scroll up. In edit mode, the user is always like a typewriter typing. The user selects a mode for various entities; holds a mouse button down, moves it, and lets the button up to select the text string. When he starts typing, the system overstrikes until it has replaced the characters

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there, then continues. Entities can be selected and cut out by hitting the "cut" key. The character strings are put in the "wastebasket" window, and the user can rummage through the wastebasket and retrieve text if needed. The wastebasket is dumped when the user is logged out.

7b15

He went into the cut and paste processes in greater detail, and explained the mouse bar codes and how they are used in selecting character strings for editing. In general, they are deciding to stick to their paper analogy world.

7b16

(RWW) How do you identify structures?

7b17

(WKE) The paragraph is the structure element, but you cannot edit across paragraphs. You scan to find paragraphs, which will be fine in the office environment, where most memos are one or two pages. You can form tables with spaces and tabs, and then freeze them.

7b18

He explains that for hardcopy they use Diablo printers, which are part of the 800ETS Xerox system. The impact printer has a spider printhead, and can be plugged into any terminal. They're starting with two fixed fonts. The user could have the option of choose a typeface wheel to match the font he has been using on the screen. On the XGP, the user can pick the typefaces from which to print. Printers will be area-located. He's astounded at what happens when you give people hardcopy printing capability. Many aesthetic memos are being created, at the rate of 3 to 4 thousand pages a day.

7b19

Someone asked about cost, and English responded that it was an experimental system...

7b20

(MIKE) Where is the hardcopy distributed?

7b21

(WKE) In the real world, it will be with a test group of ten executives.

7b22

Friday Morning Session

8

DCE outlines the events of the day, and makes a tentative schedule on the blackboard: topics to be covered are to be ARC Applications; DCE Rhapsody; a business session; and work sessions on specific topics with demos by ARC staff.

8a

JCN introduces the continuation of talks by ARC Applications staff which ended with RLL's talk on Marketing on Tuesday afternoon.

8b

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Jim Bair starts with an overview of Applications Development activity, 8c

He has been developing graduated courses for NLS, rather than one single course, all of which can be extracted from one database using content filters. After the primer, the second course is an introduction to structure and viewing; the third course has yet to be finished. He would like to develop special function courses for such things as mail handling, database handling, L-10, the Output Processor, and COM. Another activity would be public courses, so that we could charge the many SRI visitors to whom we give demonstrations of the system on a more formalized basis, 8c1

The area of user-system documentation (userguides) should include: 8c2

A comprehensive collection of user documentation. It's hard to keep current. Eventually it should evolve into a textbook, organized by function, not according to the organization of the system, 8c2a

Procedural tutorials; documents that go with the special courses 8c2b

Expanded primers 8c2c

Other media use when there's enough funding 8c2d

(DCE) There should be a way for a user to jump in and find out what he does know, then see what he needs to know, 8c3

JHB explains a bit about the work of Laura Gould and others at BEN with the SCHOLAR system, 8c4

(RLR) We need to know what are the promises and what are the hopes in your outline. We need to know what's in the pipe, and what are the pipe dreams. ARC always says it doesn't have the people/time/money, 8c5

JHB acknowledges, continues by describing the applications assessment area. There are intense applications going on at each architect's site, and it all should be documented so we could learn and share experiences, 8c6

(DLS) The "how we did it" very often gets lost, 8c7

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(IMM) I once asked how to convert an IBM tape to an NLS file. There were 2 to 3 months of interaction, and it was all lost.

8c8

There follows a general discussion of how the architects' experiences could be captured in some form (newsletter?) It is suggested that experiences submitted to KWAC could be used as the bases for tutorial scenarios.

8c9

Last is the area of Test and Evaluation, which is JHB's particular area of interest. There has been some RADC work in communication studies, and he would like to further investigate what kind of transactions are going on in the system, what kind of quality and quantity of communications. He needs to know the usefulness of the services: do you like the features -- when is Help useful, and when are you beyond Help? Also important are the effects of typing skills; experience with computers and technology; how do users learn, and on what learning curves, etc. JHB draws the learning curve as it exists now on the board, and explains the function of <userguides>locator.

8c10

JCN then introduces Susan Roetter, who will be the coordinator for User Services, including training.

8d

SGR explains that there will be additions to the training staff, bringing them up from 3 to 6 people. She will also coordinate the feedback mechanism. With 25 slots, each slot will get approximately 4 hours a week of training. She is going to develop a matrix which will review what training has taken place on each site, and schedule future training sessions. She expressed the need to know what kind of classes the architects now want.

8d1

The feedback file is an enormous collection of dialogue which collects all complaints, suggestions, questions. The architects could and should tell users to send messages to feedback when they run into problems. The feedback is read every day: it handles user ident, account, diskspace, and other operational problems as well as NLS problems.

8d2

(RLR) We should set up a group ident called maybe "First Aid", made up of architects who have known skills. If problems were also sent to that ident, architects would have a mechanism for sharing their knowledge with other users when appropriate. It is decided that that group ident will definitely be set up.

8d3

(SGR) explains how the feedback file is structured with messages and responses. There is sometimes a problem with

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feedback in that one sees an answer and can't tell what the question was.

8d4

DCE reemphasizes the tools of the Journal and links as an answer to this problem. JCN feels that there must also be other ways.

8d5

(DCE) It gets into the maybe area, I don't know what it takes.

8d6

(SGR) Copies of any problems can be sent to anyone you want. You should educate the users to do that. The feedback procedure will be under evaluation in the next month, and you should let us know of any suggestions for it. Again, be sure to express your needs for the kind of training that you want.

8d7

Coffee Break

8e

The morning session continued with DCE rhapsodizing on system development. He says that as a system develops, people become specialized in different areas of it. Then there are the highly developed functional components of a system. The computer world used to be all engineers and mathematicians. What mattered in the applications world was not clear until much later in the development of systems. The architects are the first pioneers; there will be new professional disciplines and definite organizational impact. DPCS is a good example, and there are many others. We are not thinking in terms of the Sunday supplement trash of managers pushing buttons and seeing budget outlines magically created on their display screens.

8f

We need methods to analyse applications, and coordinate R & D development into a complex system. We need to understand roles, communications, and perceptions in large systems: what are the processes of growth? There must be dialogue and visibility in these processes. The journal was created to have an impact on how all this evolves, using the tool of links to chains of dialogue.

8f1

A special area of KWAC development should be getting KWAC into the loop of applications and development. DCE proposes finding some funds and getting the architects working on an area of development together. He suggests DEX as a possible area, since there is an appreciation of its need. However, since DEX has a low chance of attracting funding, the area could be the DPCS community, with DEX as a subpointed example of an area of high value and economic impact. He suggests DYN as a likely person to help set up a proposal to hunt for the funding, with the architects setting the specifications and staging the

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development. Then RLL could interface the applications world and the funding. He calls for a meeting in the afternoon with DVN, RLL, and DCE and all those interested in the prospect of such a proposal. 8f2

(DVN) I've made a list of what could make DEX and DEX-like things more useful. People could add to that list. 8f3

(DCE) Assuming interest, we can organize a committee, with Dirk as pusher. 8f4

(CKM) We'd just like to be able to have DEX in its present form.. 8f5

(RPU) I see much more pressing need in the teleconferencing area. 8f6

(MAP2) There is funding available in the teleconferencing area. 8f7

(DCE) Teleconferencing is a very hot word, and everyone wants it without knowing what it means. I am only interested in it if it's an integrated part of people's lives, not a toy. Where is the money for a nucleator. We're gambling. 8f8

(IMM) I'm very much interested in DEX2. 8f9

(DLS) The economies to be gained must be spelled out clearly in any proposal these days. 8f10

(DCE) You have to perceive where the high payoff areas are, Teleconferencing would be hard. 8f11

(MAP2) Another candidate would be information retrieval. 8f12

(DCE) yes, the VLDB proposal will cover that (Very Large Data Bases) 8f13

A vote is taken. IMM, SMT, RPU, MAP2, are interested in forming a teleconferencing group, with MAP2 as coordinator. IMM and RNS2 expressed interest in DEX. 8f14

DCE reminds the group of the need to formulate what kind of a mix of next-stage developments they would like to see. 8f15

He goes into an explanation of NLS functions as sets, collections, or groups of operations that help manipulate collections of things, with diagrams on the board to explain special instances of these functions and collections. Content

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analyzers can be used to specify a collection describing parts of other collections. A bibliography can have sets and subsets to create specially-oriented collections. There are format protocols for copying instructions and a set of things and then manipulating them. You can have these features in any database system. However, NLS is not built to handle very large data bases.

8f16

For example, you could have a collection which would be the intersection of DLS and FGB's interesting new projects, with all kinds of intermediate, temporary collections. You could create a shelf list, and should be able to call on other database management systems with NLS. It's easy to add links to other database management systems.

8f17

For instance, you could set up links as pointers to a cost-sheet type file; run a user program, and process the file to pull a specific array of numbers and format them in a new place. All this could be part of the working basis for the Very Large Data Base Program of ARPA. It should be offered as a specific application to database-oriented people, especially any architects interested in it.

8f18

(RPU) I assume the NIC will be part of this, and perhaps Mead Data Central (which he explains), which would be an extraordinarily useful tool in the VLDB environment. append to above: The AFPA uses it at Wright, and SRI uses it in large database projects.

8f19

DCE continues by describing some of the tools offered by BASIC, and how they can be really useful in database manipulation. JCN used some very similar tools in preparing ARC's complicated budget requirements for the next two years. There are links between the NIC environment, the VLDB environment, the world of bibliographic collections: we have to actualize these links.

8f20

(EJF) This looks really neat because it treats database management as a case, not each database as a case. Many times databases are developed by individuals and get so wierd and convoluted that they can only be understood by the creator.

8f21

DCE explains his commitment to the RINS/HANDBOOK ideas (Research Intelligence System) and their relationship to the Special Studies Center proposal written at ARC, which he briefly outlines: the use of a RINSlike system to aid the work of one of the distributed, special-focus commissions constantly set up to deal with particular problem areas. He promises that

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- his time is going to be freed to write a proposal to develop a RINS to support KWAC, 8f22
- The Handbook idea is very crucial; it might be of use in a situation like JHB's, for example, where he is starting with a collection of things you can do and how to work with them. Distribution of XDOC items is a problem unless you go to microfiche. There is Tymshare's microtym system which would be useful for distributed communities. These concepts have been a long time on the planning boards, 8f23
- DLS explains how a group at Mitre is using an information viewing system set up for the use of Air Force people -- i.e., the Air Force is in the business now, 8f24
- SMT mentions the NSF RFP for evaluating the Center for Chemistry Calculations; DCE adds that there is an NSF proposal to figure out what computer science is, 8f25
- (RLR) How much internal money/time do we have to work with in giving suggestions for new developments? 8f26
- (DCE) NSW's subterranean changes will have immense implications for the user world, 8f27
- (EJF) I think the NIC is trying to do that too...there's a circular evolution, where things get going, and then you can point to sponsors and say, "look what we're doing, we want to do more," 8f28
- (DCE) It's the only way I can see getting things done, 8f29
- (DAP) We can't be bought but we can be rented, 8f30
- Lunch Break 8g
- Friday Afternoon Session 8h
- First on the agenda is setting up the next architects' meeting: where, when, what about OFFICE=2 new architects, etc. 8i
- (CKM) I don't think the group will be effective if it gets too large, 8i1
- (RPV) We should have some sessions together, some separate (OFFICE=1 and OFFICE=2 architects), 8i2
- (JCN) Perhaps the meetings should be at the same time and

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place, but breaking up some of the sessions. A nucleus of leadership should evolve, 813

There followed a mixed discussion including next-meeting plans, and topics people had further interest in, 81

(RMS2) We should reconsider the newsletter and group ident for First Aid ideas. 811

(IMM) I'd like to see site statistics. 812

There is a consensus that people are not interested in other sites' specific user statistics, but are interested in the group's statistics as a whole. September in Boston is tentatively decided upon for the next KWAC meeting. RMS2 can have an ELF devoted to KWAC. 813

The minutes of this meeting will be made available soon, hopefully within 2 weeks. 814

Frank Brignoli again offers to coordinate the newsletter. People express the desire to see other people's user programs. EJF wants to hear about reference files and databases others are keeping. 815

(JCN) How would you conduct a meeting differently? 816

(SMT) It should be a 5-day meeting, with the middle day afternoon completely free with activities in a different environment. In the next meeting there might be room to bring in other project people, like someone from MCA. 817

(CKM) By then NSW will be floating or sinking... 818

(DAP) Maybe a special talk by Joel Malman... 819

(MAP2) We could visit the NCC. 8110

It is decided that 5 days is a good time frame. 8111

(JCN) We should go on to the list of developments you would like to see...it will be three months before we have L10 labor. We should pull a list from our notes of things to build. After July we should have 3 man/months of development effort. 8112

(RBU) When will we see NLS-9? 8113

(JCN) 12 to 18 months. We may have to invest some time in the

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conversion process, perhaps some changes made for the
 NSW-to-UTILITY/NLS environment. We have to track RWW's group,
 and keep them in touch with KWAC. 8j14

(DCE) Lots of NSW documentation is coming out. 8j15

(DAP) We'd like Journal references. 8j16

(DCE) There will be some access to Journal dialogue. 8j17

(DAP) We'd like to get that. 8j18

(DCE) A lot of the time the stuff is put out for feedback; we
 could support that process. 8j19

(JCN) We'll get you the references. 8j20

(DCE) The feedback should be distributed to KWAC, and one of
 our guys will bring it to the attention of the development
 people. we need a mediator so those people churning out their
 drafts won't feel naked. 8j21

The group stayed together for the first of the special-interest
 show-and-tell sessions, in which Kirk Kelley, using the projector,
 ran through the userprograms, with special emphasis on the format,
 message, modify, and publish subsystems. Then the rest of the
 individual show-and-tell sessions were deferred to individual
 dialogue for lack of time. 8k

A great deal of discussion followed on how people can implement
 DEX. First Aid was brought up again. JCN explained the Retrieve
 subsystem, and moved through some of the things in his initial
 file using the projector; showed its similarity to English's
 stuff, especially the "reformat" which formats his messages and
 Journal into one plex. 8l

People then drifted off into individual discussions and jam
 sessions. The Great Spring 1975 KWAC meeting came to a close! 8m

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(J32280) 10-APR-75 17:04;;; Title: Author(s): Jeanne M.
Leavitt/JML; Distribution: /SRI-ARC([INFO-ONLY]) KWAC([INFO-ONLY]
); Sub-Collections: SRI-ARC KWAC; Clerk: JML; Origin: <
LEAVITT, KWACMEET,NLS;20, >, 10-APR-75 14:51 JML ;;;;####;

5550 Obligation Forecast

Bill,

Here is the information you requested regarding 5550 obligations. Presently, it appears that we will obligate and expend all released funds.

		1
	OBLIGATION FORECAST AS OF 11 APRIL	2
11 April	\$2,012,000	2a
30 April	\$ 88,000	2b
15 May	\$ 130,000	2c
30 May	\$ 30,000	2d
15 June	\$ 40,000	2e
TOTAL	\$2,300,000	2f

THIS IS THE STATUS OF FY75 5550 PR's AS OF 11 APRIL 75.

3

OBLIGATED

-----				4
TRAVEL	12,205	(B53238)	Panara	4a
TDR's	1,897	(B53239B)	Panara	4b
Large Scale Info Sys (S,U.)	100,000	(B53237)	Previte	4c
AP Display Interface	48,858	(B53123)	Reimann	4d
AP Application Study	3,750	(B53124)	Klayton	4e
Secure DMS	50,000	(B53236A)	Rzepka	4f
PD to ESD (ADP System Security)	487,428	(B53243)	Panara	4g
PD to ESD - Travel	1,000	(B53257)	Panara	4h
IPADS for AFGWC	31,357	(B53125)	Metzger	4i
Fusion Usage Study	52,688	(I54507)	Ruberti	4j
Structured Programming Systems	252,713	(B53241)	Mark	4k
SEMANOL	66,770	(B53240)	DiNitto	4l
PD to ESD (S/W CR&T)	150,000	(B53242)	Robinson	4m
P.O. to Patrick - TIP 4K Core	3,363	(B53207A)	Lawrence	4n
P.O. to Patrick - Comm & Maint	360	(B53206B)	Lawrence	4o
O.A. to Patrick - Comm & Maint	69,140	(B53307)	Lawrence	4p
PDP TENEX Purchase & Operation	130,318	(B53248)	Stone	4q
AP Applications Study	100,000	(B53105A)	Klayton	4r
S/W Rel Meas Study (Aerospace)	50,000	(B53272)	Robinson	4s
PD to ESD (ADP Security-Comm)	4,000	(B53292)	Panara	4t
STARAN System S/W Maintenance	13,124	(B53133)	Vito	4u
ARPA/NSW	317,635	(B53273)	Wingfield	4v
Software Reliability Study	25,000	(B53281)	Cellini	4w
GCOS/Multics File Transfer TOOL	25,158	(B53244A)	LaMonica	4x
Syracuse U (add)	15,000	(B53132)	Previte	4y

SUB-TOTAL	2,011,764			5

COMMITTED

-----				6
TRAVEL	6,795	(B53238)	Panara	6a
TDR's	1,103	(B53239B)	Panara	6b
Good Structures (Carnegie Mellon)	14,431	(B53258)	White	6c
Obligation 22 April,				6ci
Assoc Proc Signal Proc Sty	25,000	(B53106)	Summers	6d
Obligation 22 April,				6di
Distributed Computation Study	20,000	(B53108)	Lawrence	6e
Obligation 22 April,				6ei

SUB-TOTAL	67,329			7

5550 Obligation Forecast

INITIATED			

PD to ESD (ADP System Security)	8,572 (B53243)	Panara	8
Obligation 13 June,			8a
S/W Data Repository (Facility Design)	25,000 (B53262)	Palaimo	8a1
Obligation 15 April,			8b
S/W Data Collection (Facility Design)	45,000 (B53245)	palaimo	8b1
Obligation 2 May,			8c
Data Manipulator	27,268 (B53104)	Johnson	8c1
Obligation 30 May,			8d
NLS Sppt of Mod Prog Practices	3,067 (B53254)	Cavano	8d1
Obligation 13 June,			8e
Workshop Utility Service	80,000 (B53294)	Stone	8e1
Obligation 2 May,			8f
Mass Memory Organization Study	15,000 (B53107)	Bauer	8f1
Obligation 15 May,			8g
Lang Cont, Facility Design Study	15,000 (B53288)	DiNitto	8g1
Obligation 13 June,			8h
Synthesized Structured Programming	2,000 (B53289)	Ives	8h1
Obligation 13 June,			8i
			8i1

	SUB-TOTAL	220,907	9

	PROGRAM-TOTAL	2,300,000	10

5550 Obligation Forecast

(J32281) 11-APR-75 07:52;;; Title: Author(s): Roger B. Panara/RBP;
Distribution: /WWP2([ACTION]) RBP([INFO-ONLY]) ;
Sub-Collections: RADC; Clerk: RBP; Origin: < PANARA,
OBLFORE,NLS;1, >, 11-APR-75 07:45 RBP ;;;;####;

User Productivity Group Status Report for April 3 through 8.

Need stuff to be DEXed; TI terminals needed, and a few other things

User Productivity Group Status Report for April 3 through 8

User Productivity Group Status Report for April 3 through 8

Current Status

TI stations have been set up in the general work area, and the Terminette is available for use in the DEX room, J2028. The terminette was moved due to the noise problem cited by several ARCers. It now has a data set and is ready to use in relative isolation. The second Terminette did not have the lease renewed by MEH.

More TI terminals are needed for general use, particularly with the new hires. If anyone knows where a spare can be found, please let us know.

The Office landscape survey should detect the usefulness of the present terminal additions and indicate any changes. It is a periodic notation of each workstation's usage and current system conditions during the day.

Offline Support:

DEX is up and running, although it is dependant upon the direct dial line to G-1 for input. JML has worked through the numerous pitfalls and glitches while training a typist. One recommendation will surely be that DEX is smoothed out.

We plan to time the Cassette read program to determine the effective baud rate -- it appears to be much lower than capacity (partly due to the Net constraints the program now takes into account).

We checked on the TIP interface to card reader ("RJE") that was referred to once in Net lore, and found that there once was a plan to interface to a card-at-a-time device (using control characters for on and off control by the Net) but that it never got off the ground. We will also consider the Line Processor as a possible interface for the Terminette and the Net.

A DEX User Guide was found to be in need (currently, the Primers are up to date, however).

Equipment that can help in the short run is being costed: typewriters, phones for TNLS in offices, and tables. The old keyboard tables are being considered for conversion (\$200 for 6 tables).

Planned Activities

User Productivity Group Status Report for April 3 through 8

DNLS appears to be attractive to ARCers even though the reliability through ELF and AI is low and the reponse is consistently slow. 1b1

A controlled comparison of task completion time on DNLS vs. TNLS is in order to get a better picture of the real differences. 1b1a

The use of scope TNLS has some possibilities, and a CRT without an LP is being considered. 1b1b

The ways in which NLS resources can be used more effectively is growing. 1b1c

A TNLS Clinic is to be set up by SGR for those that are interested. Anyone who wishes to use DEX themselves should contact SGR, JML or JHB for training assistance. 1b2

Superwatch is being considered to take a look at the relative use of CPU/connect time under various conditions. Perhaps with a large enough sample size, the ratio would be an indicator of productiveness == the more CPU per unit connect time, the more effective use of resources. 1b3

A fundamental question has been raised concerning the optimum ratio between computer power and people. The status quo appears to be more people and less computer. 1b4

User Productivity Group Status Report for April 3 through 8

(J32282) 11-APR-75 09:08;;; Title: Author(s): James H. Bair/JHB;
Distribution: /SRI-ARC([INFO-ONLY]); Sub-Collections: SRI-ARC;
Clerk: JHB; Origin: < BAIR, APR6UPG-REPORT,NLS;3, >, 9-APR-75
20:53 JHB ;;;;###;

DIRECTORY REQUEST

Please add the following directory on Office-1:

Directory name: KRUZIC	1
IDENT: PGK	2
Account: 700	2a
Password: PGK	2b
Disk pages: 300	2c
Allocation group: SRI	2d
Default protection: 775252	2e
Person's name: KRUZIC, Pamela G.	2f
Address: SRI K3086	2g
Phone: 326-6200 X 4014 or 3402	2g1
Organization: SRI	2g2
Title: Operations Analyst	2h
Function: Develop fast effective means of producing government required 251-forms, Assisted by reddy Dively.	2i
-- Kathey	2j
	3

DIRECTORY REQUEST

(J32283) 11-APR-75 10:17;;; Title: Author(s): Kathey L. Mabrey/KLM;
Distribution: /FEED([ACTION]) BOBM([ACTION]) GAS2([INFO-ONLY]
) KLM([INFO-ONLY]) ; Sub-Collections: NIC; Clerk: KLM;
Origin: < MABREY, DIRECTORYREQUEST,NLS;3, >, 11-APR-75 09:47 KLM
;;;####;

test

boo

1

test

(J32284) 11-APR-75 11:20;;; Title: Author(s): Special Jhb
Feedback/FEED; Distribution: /FEED([ACTION]) FEEDBACK([ACTION])
; Sub-Collections: SRI-ARC FEEDBACK; Clerk: FEED;

toys

The difference between men and boys is their toys ;have fun today.

1

toys

(J32285) 11-APR-75 11:50;;; Title: Author(s): Garrett A.
Norris/GAN; Distribution: /RBM([ACTION]); Sub-Collections: NIC;
Clerk: GAN;

statement six

hope is hearing the melody of the future, faith is to dance it

1

statement six

(J32286) 11-APR-75 12:16;;; Title: Author(s): Garrett A.
Norris/GAN; Distribution: /RLH([ACTION]) ; Sub=Collections: NIC;
Clerk: GAN;

Today

People overestimate the probability of an event when it's easy to think of relevant examples or imagine plausible scenarios. Tversky and Kahneman call this the problem of availability.

1

Suppose you toss a coin four times. Each time it comes up heads. What are the odds that it will come up tails if you throw it again?

2

The Gambler's Fallacy. The human mind is facile at self-delusion.

3

Today is the day we work on NLS. Here are some common and treasured ways to make wrong guesses about the future.

4

Many people think the likelihood of getting tails on the fifth toss is greater than 50 percent.

5

hope is hearing the melody of the future, faith is to dance it

6

Today

(J32287) 11-APR-75 12:21;;; Title: Author(s): Garrett A.
Norris/GAN; Distribution: /JMB([ACTION]) GAN([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: GAN; Origin: < NORRIS,
TODAY,NLS;4, >, 11-APR-75 10:18 GAN ;;;;####;

Little Progress on NSW Documentation, Editing on Glossary and Final Report in Motion; Documentation Weekly Report for Week Ending April 4

POOH A small bit of work on the Caluculator Help Tool, 1

Revised the COM proofs for the Command Summary and sent them off to COM again, 1a

DVN 2

Wrote over some programs to further edit the glossary. Pam Allen is making the edits discussed in the last two reports. Should be finished in next two weeks. Worked on directives of final report. Will come in over the weekend to do more at a time when it is possible to print samples. Plan to take the time off next week, 2a

Poor system response" and that asks above meant little work on NSW documentation. It is behind schedule. That should improve next week, 2b

A new documenter will begin next week, Beverly Boli. She will share Kirk's office, 2c

KIRK 3

Regenerated the sample COM glossary, 3a

Little Progress on NSW Documentation, Editing on Glossary and Final
Report in Motion: Documentation Weekly Report for Week Ending April

4

(J32288) 11-APR-75 14:24;;; Title: Author(s): Ann Weinberg, Dirk H.
Van Nouhuys, Kirk E. Kelley/POOH DVN KIRK; Distribution: /DMB([ACTION
] dirt notebook please) DIRT([INFO-ONLY]) ; Sub-Collections:
SRI-ARC DIRT; Clerk: DVN;

Info from Bob Walker on ACM/IEEE Meeting

ACM & IEEE MEETING

(non-members welcome)

Wednesday, 30 April 75

GAFB OFFICER'S CLUB

CASH BAR 1730

DINNER 1900

SPEAKER 2000

COMPUTER SOFTWARE VALIDATION TECHNIQUES

NOW AND IN THE 80'S

by Bernard Elspas, Staff Scientist

Stanford Research Institute

Menlo Park, California

A most promising technique for insuring software reliability is that of rigorously comparing the written program against the designer's specifications or assertions. This is the action of "validation." From its inception in the late 1960's where the time consuming process was done manually, simple programs are now being validated on

Info from Bob Walker on ACM/IEEE Meeting

the computer automatically. Enough evidence exists to point this out
potentially as a highly viable technique, 23

24

Bernard Elspas is a leader in researching and developing mathematical
theories and computer interaction techniques for software validation.
He will summarize the current state-of-the-art, note current trends,
and predict the direction of the state-of-the-art in the early
1980's. 25

26

MENU: Roast Beef \$4.25 27

28

RESERVATION DEADLINE: Noon Friday, April 25, 1975 29

30

CONTACT: Bob Walker 330-2501 or 31

Lee Kortz 330-7052 32

EJK 11-APR-75 14:26 32289

Info from Bob Walker on ACM/IEEE Meeting

(J32289) 11-APR-75 14:26;;; Title: Author(s): Edmund J.
Kennedy/EJK; Distribution: /RADC([ACTION]); Sub-Collections: RADC;
Clerk: EJK;

this is sections beef

AREA B - GENERAL TRENDS IN RESIDENTIAL CONSTRUCTION

1

The objective of this part of the questionnaire is to obtain your forecast of housing start activity in Canada over 1990.

1a

This section begins by posing a number of supply and demand related variables that will impact in the level and type of housing activity that may occur. You are asked to consider each of these variables to the extent that you feel is appropriate to consider their relative significance as they may effect the number and type of housing units started over the next 15 years. After you have reviewed the variables you are asked to forecast the total number & type of starts that you feel are required based on your assessment of the various supply & demand opportunities and for constraints.

1b

Then finally, you are asked to elaborate on any or all of the supply/demand factors that you feel are particularly significant to your forecast. This will be also an opportunity for you to ask your own questions for consideration in a subsequent questionnaire that you and your fellow panelists will receive.

1c

In summary then, this section is concerned with identifying, based on your assessments, of political future trends in housing and all related PEST factors the level and type of housing that you predict will be required thru 1990. At the same time you are asked to base these predictions on whatever assumptions you feel are relevant concerning the supply and demand factors that you feel will have the most significant impact.

1d

AREA C - INDUSTRIALIZED

2

This section of the questionnaire is concerned with your assessment of the role of industrialized housing and its various components in supplying future housing demand. For the purpose of this assessment you are asked to focus on low rise residential construction comprising single detached, semi & duplex and row or multiple family dwellings. Excluded are apartments 3 stories & above.

2a

For the purpose of this study, industrialized housing has been defined to include all housing producing segments with the exception of the conventional stick builder who does not utilize off site structural prefabrication components.

2b

It has been noted that systems building is sometimes called "industrialized" building, but the connotation of either of these terms varies with the connoter. To some, it means taking a "systems approach" to the business of building houses, to others

this is sections beef

it means "prefabricating" parts of houses in a factory and trucking them to the construction site for erection. To some it has to do with "modular" coordination in house and building construction, to others it is associated with the trend towards the "standardization" of building components on a regional, national or industry-wide basis. To some, systems building is a management technique, and to others it is the basis of what is now known as "project management". In actual practice, systems building has something to do with all of these things.

2c

In this section you are asked to accept the following definitions.

2d

Manufactured housing - generally refers to all dwellings in which at least the shell or basic package is produced in a factory. In general a manufactured house is one in which factory produced components must account for an estimated twenty percent of the cost of the structure. Land, financing, overhead and profit are not included in this structure cost.

2d1

Industrial housing - is often used as a synonym for manufactured housing. In general the term is defined to include more than the process of producing a house in a factory. The phrase industrial housing also implies the use of technologies, management skills and financial resources generally associated with large corporations.

2d2

Conventional houses - are constructed totally at the job site. Most conventional builders use some prefabricated components such as windows, doors and other millwork parts which are fabricated away from the building site.

2d3

Prefabricated house - is a dwelling unit assembled at the building site from factory made parts. Finishing is done at the site. Typically, the prefabricated components include such things as the wall, floor and roof panels; roof trusses; and cabinets, windows and doors.

2d4

Modular house - is sometimes referred to as a sectional house and is basically a single or multi-family structure in which whole rooms or groups of rooms are manufactured in factories and transported intact to the job site where they are set on a permanent foundation and jointed.

2d5

Mobile home - is a complete living unit built on a chassis capable of being towed over the highway by a truck. It is designed without a permanent foundation, but it is sometimes placed on one with the wheels removed. In many cases two or three mobile home sections are joined at the site to make up a single unit.

2d6

this is sections beef

Bearing in mind that mobile homes and second or recreation homes are not currently reflected in CMHC housing starts, it has been reported that factory built housing in 1974 accounted for 40,000 - 50,000 or % of low rise residential housing construction. Of the starts in 1974 recorded in CMHC the following breakdown of industrialized housing has been estimated

- modular 20,000
- prefabricated 30,000,

In addition to official CMHC housing starts mobiles and second or recreation manufactured homes have been estimated it in 1974,

- mobile - domestic 24,000
- imported 4,000
- recreation mfd. 5,000

2e

Questions

2f

Do you agree or disagree with this breakdown, if disagree, would you elaborate.

2f1

E. HOUSING COMPONENTS

3

This section is concerned with trends in the various structural housing components including:

- Roof systems
- Wall systems
- Floor systems
- Foundation systems.

3a

For each component would you please assess the nature and direction of these trends as they relate to a particular set of variables, notably, function of the component, its design, its material selection, its various engineering performance (acoustical, thermal, aesthetics..),

3b

To place your answer in perspective we propose to have you examine first the basic functional requirements of these systems.

3c

Roof systems

3d

The following trend matrix captures your answer and comments to a series of questions modeled after the following one:

3d1

Looking at the changes you anticipate to 1990 in the area of STRENGTH & STABILITY OF ROOF SYSTEMS, do you foresee an increase or a decrease in the usage of wood and wood-based materials?

3d1a

Those are the trends you have identified. Are there additional questions you wish to submit to the rest of the panelists?

3d2

this is sections bcef

Wall systems

3e

Strength & Stability
 Fire Safety
 Weather exclusion
 Resistance to ground moisture
 Thermal comfort
 Prevention of condensation
 Sound insulation
 Day lighting
 Water supply and sanitary services
 Electrical services
 Avoidance of vermin infestation
 Durability and low maintenance
 Aesthetic satisfaction

3e1

Are there additional questions...

3e2

Floor systems

3f

Strength & stability
 Fire safety
 Resistance to ground moisture
 Thermal comfort
 Sound Insulation
 Water Supply and sanitary services
 Electrical services
 Avoidance of vermin infestation
 Durability and low maintenance
 Aesthetic satisfaction

3f1

Foundation Systems

3g

Strength and stability
 Fire safety
 Resistance to ground moisture
 Thermal comfort
 Water supply and sanitary services
 Electrical services
 Avoidance of vermin infestation
 Durability and low maintenance
 Aesthetic satisfaction

3g1

In the final question of this section could you indicate, based on your point of view and your experience, what will be the most significant element of change (technological, social, economical, political,...) that will affect these housing components as they will be used in the various methods of low-rise residential dwelling construction.

3h

this is sections bcef

AREA F - INDIVIDUAL PRODUCTS

4

The design of non structural components and parts such as doors, windows, mouldings, is governed by various functional requirements relevant to the particular end use as well as by available materials and methods of production.

4a

In this section of the questionnaire you are asked to assess from your point of view future trends in the use of wood and wood based products for doors, windows, mouldings and kitchen cabinets and vanities in relation to their future use in residential dwelling units.

4b

You are asked to identify the trend or trends that you foresee to the year 1990 that will affect the use of wood or wood based products for these products in terms of a number of variables.

4c

Windows

4d

Future trends that will impact on the use of wood or wood based products per dwelling unit, in terms of wood or wood based products.

4d1

Doors

4e

Future trends that will impact on the use of wood or wood based products per dwelling unit in terms of wood or wood based products.

4e1

Mouldings

4f

Kitchen Cabinets and vanities

4g

HEM 11-APR-75 14:42 32290

this is sections beef

(J32290) 11-APR-75 14:42;;; Title: Author(s): Huguette E.
Meade/HEM; Distribution: /MIKE([ACTION]) ; Sub-Collections: NIC;
Clerk: HEM;

Voucher Form and Training Trip

Jeanne Beck is doing some interesting work at ARPA with command branches and I think a similar process could be used to produce the voucher forms we've talked about a few times. The process would consist of setting tabs, loading a file, printing directions for inserting the information and then describing how to use insert statement to type in the information in an appropriate manner. It might include other things as needed. If this sounds interesting maybe we can work on getting this set up. I'm planning to be in Wash DC the end of the week of the 20th and the first part of the next week. I'll plan to stop by one of those days. I'll look forward to hearing from you next week as to any specific needs for training during the time I'm there.

1

Voucher Form and Training Trip

(J32292) 11-APR-75 17:11;;; Title: AuthOr(s): Susan Gail
Roetter/SGR; Distribution: /SMT([ACTION]) ; Sub-collections:
SRI-ARC; Clerk: SGR;

Office-1 Slots

Duane, The BRL MIPR, is in the works, however, I now find that I must do a considerable amount (more) paperwork before I can get it 'free' of our program people. I expect that I can finish most of it this coming week. We may find ourselves in the interesting position of having to send our 40K in two pieces...., 20K now, and 20K in the new fiscal year! Would that cause you, or your people any heartburn? Another though... if we sent a MIPR for the 'whole thing', and then rely upon you to bill us for the second portion, in the new fiscal year? I tried to call you last week, but you were in Boston ---working? real estate hunting? If you want to call me use: A/V 283-2131; -2236; and leave a message. We have secretaries out in hospitals, etc. (The commercial number is 301-278-xxxx.

What form of a note on the network would be useful for your procurement types? I presume that you received a copy of Ron Uhlig's note about the AMC interest in a slot....it seems that Jim Norton, has the ball, since they must await the possibility of OFFICE-II. Incidentally, if RADC is 'really' going to go out of existence, maybe we should instigate a contractual channel for OFFICE service from the BRL/APG, at some appropriate time, like when AMC is allowed to purchase their slot?...what do you think?.....

...Stan Taylor

1

SMT 13-APR-75 11:10 32293

Office=1 slots

(J32293) 13-APR-75 11:10;;; Title: Author(s): Stan M. Taylor/SMT;
Distribution: /DLS([ACTION]) SMT([INFO-ONLY]) ; Sub-Collections:
NIC; Clerk: SMT;

BRL Slot Procurement

I think the note (32293,) that you sent is sufficient for procurement. They just want some assurance that you still intend to go through with it. Sending 40K in one lump sum is OK here, if its not the type of money where the unspent portion has to be returned at the end of the fiscal year. We did that with NSA, with no problem. RADC (at least our division) is not slated to go away until next spring, even if we do move...which will be known the middle of May at the earliest. So I don't see any terrible problems for the current contract, which runs through the end of Jan '76.

1

DLS 14-APR-75 06:13 32294

BRL Slot Procurement

(J32294) 14-APR-75 06:13;;; Title: Author(s): Duane L. Stone/DLS;
Distribution: /SMT([ACTION]) ELF([INFO-ONLY]) ; Sub-Collections:
RADC; Clerk: DLS;

BRL Slot Procurement

I think the note (32293,) that You sent is sufficient for procurement. They just want some assurance that you still intend to go through with it. Sending 40K in one lump sum is OK here, if its not the type of money where the unspent portion has to be returned at the end of the fiscal year. We did that with NSA, with no problem. RADC (at least our division) is not slated to go away until next spring, even if we do move...which will be known the middle of May at the earliest. So I don't see any terrible problems for the current contract, which runs through the end of Jan '76.

1

DLS 14-APR-75 07:16 32295

BRL Slot Procurement

(J32295) 14-APR-75 07:16;;; Title: Author(s): Duane L. Stone/DLS;
Distribution: /SMT([ACTION]) ELF([INFO-ONLY]) ; Sub-Collections:
RADC; Clerk: DLS;

Good morning - but who knows which morning!

I just got your morning message! Looks like you've got message sending down. Marcia was telling you that whenever anyone sends a message to the ident arc-dev you'll get a copy too. Also, to send Pam a message send it to pka. Glad to hear Dicksmess isn't too much of a mess!

1

Good morning - but who knows which morning!

(J32296) 14-APR-75 08:20;;; Title: Author(s): Susan Gail
Roetter/SGR; Distribution: /DMB([INFO-ONLY]); Sub=Collections:
SRI-ARC; Clerk: SGR;

NSW Group Meeting 11 APR 75

MEET: NSW Group Meeting 11 APR 75

ATTENDEES:

MAW, DLS, RAL, WER, DVA, RWW2

PURPOSE:

Initial NSW working group meeting. To get people on board and pass out assignments.

DISCUSSION:

Mike gave an overview of the NSW, its initial components and RADC's role in its development and use. Stoney indicated that Dick Watson of SRI would be in next week, to provide a more complete description of the NSW.

Mike then gave a management overview, relating the responsibilities of the 4 principle parties (ARPA, AFSDC, AFDC & RADC) as determined in the last steering group meeting.

He then handed out the following assignments:

DVA--make a comparative study of the COBOL compilers in the B-4700, B-6700, IBM 360-91, and H-6180. List common set of language constructs, differences and machine dependencies. This study will serve as input to the interactive/cross compiler effort being contemplated by ARPA/RADC.

Don indicated that this would take at least 6 months.

DLS--prepare the "operations" section of the NSW development plan (due 21 APR). Prepare the SOW for the Front End and Protocol Development effort with SRI for '76+.

RAL--Look into the interface of GCOS to the NSW. Mike indicated that there was documentation on the interface to the B-4700 via the PDP-11 which would be useful to the study. An estimate of 150K, which would be joint funded by RADC/ARPA was given as a target procurement level. SOW is needed soon, as effort would be 9 months and should begin soon to allow expenditure of resources in '76.

WER--Get linked into the MIT TBH effort. Find out how much they will be doing and what we should contribute to make it happen. 90K is currently being given to MIT by ARPA to do the initial design and implementation work. MIT is interested in a subcontract with Honeywell (or someone

NSW Group Meeting 11 APR 75

else?) where they provide the design brainpower, but are not responsible for the M&M.

1c3d

RWW2--Compile a list of S/W tools which might be useful to the NSW. List should include a short paragraph describing the tool, plus things like what machine it currently runs on, resources required, language dependencies, etc. Start with the tools currently on the ARPANET + those at RADC. Mike has a partial list. Dick Robinson's group has more.

1c3e

UNRESOLVED ITEMS:

1c4

Due dates for most of the above.

1c4a

Action Items:

1c5

Work on above as indicated.

1c5a

NSW Group Meeting 11 APR 75

(J32297) 14-APR-75 09:42;;; Title: Author(s): Duane L. Stone/DLS;
Distribution: /MAW([ACTION]) DLS([ACTION]) RAL([ACTION])
WER([ACTION]) DVA([ACTION]) RWW2([ACTION]) JLM([INFO-ONLY
]) RFI([INFO-ONLY]) ; Sub-Collections: RADC; Clerk: DLS;

to-fgb receipt of documentation, with problems

frank,

I got my copy of "current network protocols" and managed to read it over the weekend, several problems apparently occurred with the transmittal. I give them to you below.

rfc 533/Nic 17452 "message-id numbers" was not included in the package. it's only one page long and belongs behind the next problem, so I suspect the trouble is in the xeroxing process, back-to-back xeroxing is hard and it's easy to get confused,

page 27 of nic 8246 "host-to-host protocol" is missing. this causes the remainder of the document to be printed on the "wrong" side of the page (page 28 follows page 29, etc.). it makes it hard to read.

page 3 of nic 20197 "telnet output page size option" is missing -- page 2 appears twice. it's also probably due to the back-to-back xeroxing, actually the xeroxing is very inconsistent -- some of it is back-to-back, while some of it is only on one side.

I already have a copy of the bbn report on host-imp connections, so I didn't check to see if anything was wrong with it.

thanks, greg

JGN 14-APR-75 14:10 32300

to-fgb receipt of documentation, with problems

(J32300) 14-APR-75 14:10;;; Title: Author(s): J. Gregory Noel/JGN;
Distribution: /FGB([ACTION]); Sub-Collections: NIC; Clerk: JGN;
Origin: < NAVIMP, TO-FRANK,NLS;1, >, 14-APR-75 13:19 JGN ;;;;####;

User Services Trips

SGR - April 21,22 - Albuquerque Seismological Lab
24-25 - Washington,D.C. - AMC, BRL, NSA(?)
possibly extended through the week of the 28th 1

JMB & RH - April 28-30 - Gunter AFB
May 1,2 - Panama City,Florida - Navy installation 2

SGR 15-APR-75 08:22 32301

User Services Trips

(J32301) 15-APR-75 08:22;;; Title: Author(s): Susan Gail
Roetter/SGR; Distribution: /SRI=ARC([INFO=ONLY]) ; Sub=Collections:
SRI=ARC; Clerk: SGR;

Request for Weekly User Services Report

Rita, I just discovered that you aren't in the distribution for DIRT (Documentation Instigation and Review Team) - Dirk is requesting that you be added. He is also going to forward several back copies of the documentation weekly report. I'd like you to take a look at these and then I'd like for you and Jeanne (you don't have to do it together) to send in one each week to the ident US.

1

This report is designed to be a way for User Services people (especially me) to have a broad overview of what's being accomplished in Washington and elsewhere (I feel a little out of touch now!) I think these reports should cover time that ISN'T covered by a trip report and should probably contain less detail (unless you feel it's a problem needing some explanation).

2

Sick leave and vacations should be noted but should be sent in before timecards are made out on Friday to Joan with copies to me for accounting the appropriate time to clients.

3

If you guys feel similarly out of touch with us back here and think it would be useful, Pam and I will do a weekly report for you too. Let me know what if anything you think of all this..

4

Request for Weekly User Services Report

(J32302) 15-APR-75 10:28;;; Title: Author(s): Susan Gail
Roetter/SGR; Distribution: /JMB([ACTION]) RH([ACTION]) PKA([ACTION]) JCN([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: SGR;

Draft of Proposed Viewgraphs for User Services

The following is a proposed list of viewgraphs to be produced by the SRI art department and made available for all trainers to use. I've grouped them first by the course they would accompany and then by how I view their usefulness.

I'd like feedback as to the usefulness of such viewgraphs as well as the suggested content and any additional ones you might see a need for. If you're not familiar with some of the ones I have xerox copies of let me know and I'll show you.

BASIC COURSE

Useful

1. Schematic of ARPANET

Jeanne has a copy - I have a xerox - drawn by Jon Postel

2. Relationship between TENEX, NLS, SNDMSG, etc.

Rough drawing - Jeanne has a few samples I have xerox's

3. Difference between insert statement and insert text

Suggested Content:

Insert Statement - used to add a new paragraph

Insert Text - used to add to an existing paragraph

4. Differences between sndmsg and sendmail

Suggested Content:

SNDMSG

Sent in TENEX

Sent to usernames (directories)

Used to send impromptu messages,
messages,
prepared

Not catalogued

No author copy

SENDMAIL

Sent in NLS

Sent to idents

Used to send impromptu
and files and statements
in advance

Automatically catalogued

Automatic author copy

1

2

3

3a

3a1

3a1a

3a2

3a2a

3a3

3a3a

3a3b

3a3c

3a4

3a4a

3a4b

3a4c

3a4d

3a4e

3a4f

3a4g

Draft of Proposed Viewgraphs for User Services

Delivered immediately times/day	Delivered several	3a4h
Read in TENEX (readmail) Journal)	Read in NLS (Print	3a4i
Of Questionable Use		3b
1. Steps a User goes through to do a job		3b1
I have a xerox copy - Jeanne has original		3b1a
2. Concepts covered in Basic Course		3b2
3. Example of Login		3b3
Terminette and II paper could be copied to show different kinds of logins with the appropriate one used.		3b3a
SECOND COURSE		4
Useful		4a
1. Example of structured file to show branch and group		4a1
Suggested content:		4a1a
Menu (see back of second course)		4a1b
Something with real paragraphs and headings		4a1c
I have a few samples (xeroxed) Jeanne has originals		4a1c1
Possibly a view with statement numbers and one without		4a1d
2. A matrix showing how editing commands fit together (verbs and nouns in columns)		4a2
3. An example of printing with different viewspecs		4a3
Jeanne has original I have a xerox		4a3a
4. Something for links		4a4
One possibility - example of initial file with citations; could be used later to describe names and how to go about organizing your initial file		4a4a
THIRD COURSE		5

Draft of Proposed Viewgraphs for User Services

The ones listed below are off the top of my head - after looking at the completed third course I probably would have more suggestions.

5a

Useful

5b

1. A couple of views of locator: xbm; for journal catalogs xbb and xbbb

5b1

2. An example of Show File Status with the comment that an Update File Compact is needed

5b2

Draft of Proposed Viewgraphs for User Services

(J32303) 15-APR-75 11:33;;; Title: Author(s): Susan Gail
Roetter/SGR; Distribution: /JMB([ACTION]) RH([ACTION]) PKA([ACTION]) JHB([ACTION]) JCN([ACTION]) ; Sub-Collections:
SRI=ARC; Clerk: SGR; Origin: < ROETTER, VIEWGRAPHS.NLS;3, >
15-APR-75 11:29 SGR ;;;;####;

Trip Report, NSW Steering Group Meeting, 8-10 APR 75

MEET: NSW Steering Group Meeting, 8-10 APR 75 1

ATTENDEES: 1a

ARPA--Bill Carlson 1a1

AFDSC--Jim Lloyd, Abe Lowe 1a2

AFDSDC--Tony Baggiano, Larry Crain 1a3

RADC--Mike Wingfield, Duane Stone 1a4

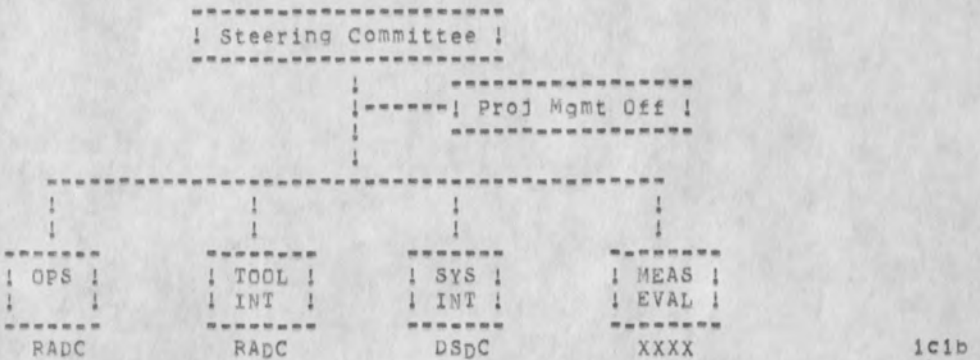
PURPOSE: 1b

Finalize the development plan for the NSW, Discuss the management of the NSW for the next 2 years, Review draft proposals from SRI and COMPASS 1b1

DISCUSSION: 1c

NSW Management Structure 1c1

After much discussion the following mechanism for NSW development and operation for the next 2 years (FY 76-77) was derived. Responsible organizations are indicated below each box. 1c1a



Steering Committee--ARPA/DSDC/DSC/RADC 1c1c

Makes all final decisions regarding the NSW. Meets every couple of months. Collectively controls the resources committed to the NSW project by individual organizations. 1c1c1

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Project Management Office--ARPA-->DSDC	1c1c1a
Acts as a staff to the SC, receives proposals, design changes, recommendations, etc from functional areas and presents to SC, keeps milestone charts, manages finances,	1c1c1a1
Operations--RADC	1c1c2
Responsible for the development of policy and procedures for the maintenance and operation of the "core" part of NSW, Mans NSW Analysis Center, maintains NSW documentation, plans for and acquires computer resources,	1c1c2a
Tool Intergration--RADC	1c1c3
Selects and integrates tools into the NSW environment, Initially for DSDC, DSC and RADC, Maintains list of all tools potentially applicable to NSW,	1c1c3a
System Integration--DSDC	1c1c4
Maintains PERT charts of deliverables, defines and executes acceptance tests, makes sure contractors interface with each other on critical items,	1c1c4a
Measurement and evaluation--TO BE DETERMINED	1c1c5
Defines criteria for measuring the effectiveness of the NSW, prepares evaluation plans, executes tests, analyzes and distributes results,	1c1c5a
To solidify the above agreements, two courses of action are being taken,	1c1d
The NSW development plan will reflect the 4 functional areas, and be written up by the respective organizations...draft by 21 APR. After coordination within the 4 organizations, it will become part of the formal NSW plan	1c1d1
A memorandum of agreement (MOA) will be staffed through AF and ARPA, which reflects RADC's participation in the project. It will contain the above management structure, plus dollar commitments for FY76+. It will probably take the form of amending the agreement that already exists between AFDA and ARPA.	1c1d2

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The functions of the system integrator and the project management office are closely intertwined. ARPA and/or the steering group is currently performing these functions (not too well). DSDC will set up an integration office 1 JULY 75. It will initially take on the systems integration job and move into the overall project management activity as soon as its able.

1c1e

Since RADC will be the contracting office for most of the NSW projects, it will have to accomplish these functions in the interim "on-the-fly", by specifying deliverables, milestones etc. in the contracts.

1c1e1

JULY Demonstrations at AFSDC

1c2

Most of the components of the initial NSW will be up by 1 JULY. There will be problems, however in demonstrating it as a "system". The components are tied together by the Procedure Call Protocol (PCP), which will not be available until July. This means that component integration and system debugging cannot proceed until then.

1c2a

Alternatives for demonstration purposes are being considered. The Works Manager can be demonstrated to differing degrees, depending on what the SC decides should be demonstrated. NLS FE and BE can also be demonstrated on a single machine or can be brought under NLS-8 at Office-1. Details on possible alternatives will be gathered from contractors over the next two weeks. In any event the decisions must be made prior to 1 May, since contractors must know before then to make last minute adjustments in their activity.

1c2b

Proposal Review

1c3

The SRI proposal was reviewed in detail. The general feeling of the committee was to limit SRI to a level of effort roughly equivalent to last year. This was done by cutting efforts not related to hard core NSW development. Further negotiations with SRI will be undertaken during Dr. Watson's visit here the week of the 14th.

1c3a

The Computer Associates' proposal for further work on the WM was given a cursory review. No cuts were made, pending further detail, particularly in the management tool area.

1c3b

ACTION ITEMS:

1d

Write up draft of the operations and tool integration parts of

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the NSW development plan and send to committee members before
21 APR. 1d1

Resolve the SOW's for SRI and CA ASAP, so that Procurement can
get started. 1d2

UNRESOLVED ITEMS: 1e

Responsibility for the measurement and evaluation function 1e1

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(J32304) 15-APR-75 12:04;;; Title: Author(s): Duane L. Stone/DLS;
Distribution: /JLM([ACTION]) FJT([ACTION]) RDK([ACTION])
ARB([ACTION]) MAW([INFO-ONLY]) DLS([INFO-ONLY]) RFI([INFO-ONLY])
RAL([INFO-ONLY]) DVA([INFO-ONLY]) RWW2([INFO-ONLY]) WER([INFO-ONLY]); Sub-Collections: RADC; Clerk: DVA;

TEST

this is a test to see if the PRSETD ident works for journal delivery. 1

TEST

(J32305) 15-APR-75 14:36; Title: Author(s): Marcia Lynn Keeney/MLK;
Distribution: /SGR PRSEID; Sub=Collections: SRI-ARC PRSETD; Clerk: MLK;

NEW HAVEN

DAP 16-APR-75 06:18 32306
TIME ON TASK

This is the one...the breaks across pages involve statements 7D,
9C, and 10D.

Name _____ School _____
 Last First Middle

Subject(s) taught _____

Grade(s) taught _____ Date _____

Although each of the teaching tasks listed below may be important, the actual amount of time you spend on them varies considerably. Please indicate the approximate amount of time you spend on each task (which may be none at all all the way through one or more hours a day) by checking the appropriate box in front of each task. Remember that there are no "right" answers, no best amounts of time per task.

All of your answers will be kept completely confidential. These forms are for research purposes only; they are intended to help us learn more about the job of teaching in New Haven schools.

1. Selecting assessment instruments

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

6a

2. Designing and developing assessment instruments

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

6b

3. Collecting and quantifying data

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

6c

4. Diagnosing student difficulties or abilities

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

6d

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5. Summarizing and interpreting data

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

6e

6. Involving students in self-evaluation

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

6f

7. Diagnosing student affective characteristics

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

6g

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PLANNING INSTRUCTION

7

8. Selecting and specifying goals, aims, and objectives

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

7a

9. Selecting instructional strategies

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

7b

10. Organizing students

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day

7c

11. Selecting or developing materials and activities

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week

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----- | One or more hours per day

7d

12. Collaborating with others in planning

----- | None at all

----- | About one hour per month or less

----- | One to four hours per month

----- | One to four hours per week

----- | One or more hours per day

7e

13. Developing procedures and routines

----- | None at all

----- | About one hour per month or less

----- | One to four hours per month

----- | One to four hours per week

----- | One or more hours per day

7f

14. Evaluating instruction/instructional design

----- | None at all

----- | About one hour per month or less

----- | One to four hours per month

----- | One to four hours per week

----- | One or more hours per day

7g

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CONDUCTING AND IMPLEMENTING INSTRUCTION

8

15. Structuring/establishing rapport/providing atmosphere

----- | None at all

----- | About one hour per month or less

----- | One to four hours per month

----- | One to four hours per week

----- | One or more hours per day

8a

16. Motivating/reinforcing students; providing for feedback

----- | None at all

----- | About one hour per month or less

----- | One to four hours per month

----- | One to four hours per week

----- | One or more hours per day

8b

17. Conducting discussion/small group activities

----- | None at all

----- | About one hour per month or less

----- | One to four hours per month

----- | One to four hours per week

----- | One or more hours per day

8c

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18. Individualizing instruction/conducting individual activities

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 8d

19. Presenting information/giving directions

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 8e

20. Utilizing deductive, inductive thinking or problem solving

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 8f

21. Questioning and responding

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 8g

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22. Utilizing audio-visual equipment and aids

----- | None at all
 ----- | About one hour per month or less
 ----- | One to four hours per month
 ----- | One to four hours per week
 ----- | One or more hours per day 8h

PERFORMING ADMINISTRATIVE DUTIES 9

23. Supervising aides, tutors, etc.

----- | None at all
 ----- | About one hour per month or less
 ----- | One to four hours per month
 ----- | One to four hours per week
 ----- | One or more hours per day 9a

24. Arranging physical environment

----- | None at all
 ----- | About one hour per month or less
 ----- | One to four hours per month
 ----- | One to four hours per week
 ----- | One or more hours per day 9b

25. Establishing/maintaining procedures/routines

----- | None at all
 ----- | About one hour per month or less
 ----- | One to four hours per month
 ----- | One to four hours per week

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----- | One or more hours per day 9c

26. Maintaining records

----- | None at all
 ----- | About one hour per month or less
 ----- | One to four hours per month
 ----- | One to four hours per week
 ----- | One or more hours per day 9d

27. Organizing materials

----- | None at all
 ----- | About one hour per month or less
 ----- | One to four hours per month
 ----- | One to four hours per week
 ----- | One or more hours per day 9e

COMMUNICATING AND INTERACTING 10

28. Conferring with parents

----- | None at all
 ----- | About one hour per month or less
 ----- | One to four hours per month
 ----- | One to four hours per week
 ----- | One or more hours per day 10a

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29. Counseling students

-----	None at all	
-----	About one hour per month or less	
-----	One to four hours per month	
-----	One to four hours per week	
-----	One or more hours per day	10b

30. Representing school/school program

-----	None at all	
-----	About one hour per month or less	
-----	One to four hours per month	
-----	One to four hours per week	
-----	One or more hours per day	10c

31. Involving others in the school program

-----	None at all	
-----	About one hour per month or less	
-----	One to four hours per month	
-----	One to four hours per week	
-----	One or more hours per day	10d

32. Establishing/maintaining professional relationships

-----	None at all	
-----	About one hour per month or less	
-----	One to four hours per month	
-----	One to four hours per week	
-----	One or more hours per day	10e

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DEVELOPING PERSONAL SKILLS

11

33. Accepting self

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 11a

34. Evaluating self

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 11b

35. Planning for self-improvement/improving self

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 11c

36. Accepting responsibility

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week

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----- | One or more hours per day 11d

37. Developing subject-related skills

----- | None at all
----- | About one hour per month or less
----- | One to four hours per month
----- | One to four hours per week
----- | One or more hours per day 11e

38. Accepting others

----- | None at all
----- | About one hour per month or less
----- | One to four hours per month
----- | One to four hours per week
----- | One or more hours per day 11f

39. Solving problems

----- | None at all
----- | About one hour per month or less
----- | One to four hours per month
----- | One to four hours per week
----- | One or more hours per day 11g

DEVELOPING PUPIL SELF

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12

40. Developing pupil self-concept

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 12a

41. Developing pupil social interaction skills

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 12b

42. Developing pupil learning to learn skills

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 12c

43. Developing pupil acceptance of responsibility

- | None at all
- | About one hour per month or less
- | One to four hours per month
- | One to four hours per week
- | One or more hours per day 12d

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44. Developing pupil attitudes and values

----- | None at all

----- | About one hour per month or less

----- | One to four hours per month

----- | One to four hours per week

----- | One or more hours per day

12e

NEW HAVEN

DAP 16-APR-75 06:18 32306
TIME ON TASK

(J32306) 16-APR-75 06:18;;; Title: Author(s): David A. Potter/DAP;
Distribution: /DVN([ACTION]); Sub-Collections: NIC; Clerk: DAP;
Origin: < POTTER, TASK/TIME.NLS;2, >, 16-APR-75 05:55 DAP ;;;
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