

Proposed USING meeting

Group--

I believe another USING meeting is in order. We have gotten somewhere with NETEDS (even implemented on CASE), but we should now get going on other projects, particularly CCL. JI and I will go through our list of projects from the last meeting and pick out a reasonable agenda for the next meeting. (suggestions welcome.) This will be distributed later. Now I would like to hear comments on the proposed date-- Monday-Tuesday, Dec. 3-4 at UCLA (DHC will make the arrangements.)

IF YOU CANNOT COME ON THOSE DATES, LET ME KNOW RIGHT AWAY, so the necessary re-arrangements can be made. RSVP to NEIGUS@BBN-TENEX.
--Nancy

20070 Distribution

Abhay K. Bhushan, Robert P. Blanc, Barbara Noble, Leroy (Lee) C. Richardson, Frank G. Brignoli, Elizabeth J. (Jake) Feinler, Michael D. Kudlick, James E. (Jim) White, Michael A. Padlipsky, Kenneth L. Bowles, A. Wayne Hathaway, Jean Iseli, David H. Crocker, Nancy J. Neigus, Stephen M. Wolfe, Ronald M. Stoughton, Jim O. Calvin,

NJN 6-NOV-73 12:45 20070

Proposed USING meeting

(J20070) 6-NOV-73 12:45; Title: Author(s): Nancy J. Neigus/NJN;
Distribution: /USING; Sub-Collections: NIC USING; Clerk: NJN;

JLM 6-NOV-73 16:11 20071

software engineering

ments

is software engineering

the following is a set of notes from Judy Clapp's talk on Software engineering

1

Talked about collaborative programming brings to mind NLS. It would seem that NLS is a neat way to make the Chief programmer concept work

1a

Conversation centered on use of programmer estimate and actual times involved to help next estimate. The spectre of mgmt not allowing the worker bee to tell the truth because it might jeopardize his people came to life. As a result one can see very inflated estimates to protect one's tail could result

1b

She stresses that the neatest thing about Virtual Memories was it wiped out the need for overlays a very complex task

1c

Mentioned proofs of correctness as a hope in the future it essentially entails making assertions about what the program is doing and then using math to check out these assertions

1d

Interesting, she was an excellent spokesman for IS which convinces me the way to bring technology to bear or fruition is through Mitre

1e

Talked briefly about a programmers lab where many of the new and novel ideas could be tried out

1f

This turned out to be interesting since it is hard to get used to but in the Base arena the AF rights its own software which makes it very attractive to introduce some of these ideas. There reaction was we need money to try these out I feel strongly we should recruit their support since they are a real programming shop

1f1

20071 Distribution

JLM 6-NOV-73 16:11 20071

isoftware engineering

(J20071) 6-NOV-73 16:11; Title: Author(s): John L. McNamara/JLM;
Distribution: /; Sub-Collections: RADC; Clerk: JLM;
Origin: <MCNAMARA>SOFTWARE.;1, 30-OCT-73 17:42 JLM ;

transaction processing

The following is a set of minutes of a talk by Major Wickline of the data systems design center on the notions of a transaction oriented dbms

1

There are a number of systems on the 3500 all of which have as a minimum, the name of each individual. The current problem is that each data base is more or less kept up to date on its own and as a result, they do not agree in content even though they are on the same machine. His pitch is a single transaction update, shades of IDS, where each update ripples through the system and prevents the kind of chaotic situation which exists now. I can't help but feel that maybe even worse is the fact that the commander if he wanted to search across data bases in any meaningful way could not since the data is in various formats etc. There are currently systems on the support-Civilian pay, mil pay, Material, Supply, Transportation, plus some others.

1a

They currently have a base level inquiry system where for the most part reports are generated. There are three on-line systems now-2 of which can be in core at any one point in time.

1a1

The design center is currently bringing up a gins which will begin to handle all of the dbms work on the 3500. The early versions are not on line to speak of but the plans are to be on-line in the foreseeable future.

1a2

The big question is really a political one, will the various functional orgs be willing to share data and worse yet accept the updates of someone else? It would seem to me that one of the tough jobs of the panel is to show why this will pay off through specific examples. It is not just cost savings which I suppose would result from less redundant data but more importantly it would give the right people the chance to cut across org lines to examine the impact of various decisions.

1a3

20072 Distribution

JLM 6-NOV-73 16:14 20072

transaction processing

(J20072) 6-NOV-73 16:14; Title: Author(s): John L. McNamara/JLM;
Distribution: /; Sub-Collections: RADC; Clerk: JLM;
Origin: <MCNAMARA>TRANS.NLS;1, 6-NOV-73 16:02 JLM ;

Output Processor Cue Card

"Secondary Distribution" to NDM (For your info, Dean; seems like a worthwhile objective to discuss with DVN. Please let me know what comes of it.)

JI 4-NOV-73 22:29 20042

Output Processor Cue Card

Message: This is a mini-suggestion for the construct of an Output Processor Cue card like the NLS cue card that was distributed several months ago. In using the Output Processor, I find it a great annoyance and real handicap to always "thumb" through the manual to obtain the appropriate directives. I feel sure that many people react the same way and would be very appreciative to have such a cue card constructed and made available.

Would invite your consideration of this request. The few people I have mentioned it to would also like to have copies if they were available. Thanks.....Jean

20073 Distribution

N. Dean Meyer, Dirk H. Van Nouhuys, Richard W. Watson,

MDK 6-NOV-73 17:05 20073

Output Processor Cue Card

(J20073) 6-NOV-73 17:05; Title: Author(s): Michael D. Kadlick/MDK;
Distribution: /NDM DVN RWW; Sub-Collections: SRI-ARC; Clerk: MDK;

NDM 6-NOV-73 17:59 20074

Plea

Please?

Plea

I would like to arrange a little demonstration of a simple Computer Based Instruction system. Is there anyone out in that big world who would be willing to help or offer a bit of advice?

--Dean Meyer (NDM) [MEYER@SRI-ARC]

1

20074 Distribution

Gordon A. Smith, Murray Tondow, Karl L. Zinn, Thomas O'Sullivan,
Gene T. Sherron, John Seely Brown, Peter Kirstein, Don F. Mead,
Albert E. Hickey, Emir H. Shuford, Alfred Bork, David J. Farber,
James J. Regan, Frank Dare, Joseph S. Green, Jane McReynolds, John
Ford, John J. Collins, G. B. Howard, Jacob L. Barber, Marshall Farr,
Glen Bryan, Len Swanson, Joseph J. Passafiume, Richard Rubinstein,
Joseph W. Rigney, Jurg Nievergelt, Sylvia Mayer, Richard Atkinson, C.
Victor Bunderson, John Ford, Robert Gerry, Frank Giunti, Dave Hamnel,
Chris Jeffers, William Kemple, Austin Kibler, George Lawrence, Eric
McWilliams, Ernest Onastasio, Susan Rankaitis, Marty Rockway, James
Rogers, Sylvan Rubin, Harold Schulz, Robert Seidel

summary of interrogate sub-commands

undeleted only 1

This sub-command causes only undeleted archive files to be listed in response to an interrogate command. 1a

In the absense of other sub-commands, this is the default setting for interrogates. 1b

deleted only 2

This sub-command causes only deleted archive files to be listed in response to an interrogate command. 2a

all 3

This sub-command causes both deleted and undeleted archive files to be listed in response to an interrogate command. 3a

protection 4

This sub-command cause the protection of the files listed to be printed with each file. 4a

verbose 5

This is equivalent to giving the sub-commands "protection" and "dates". 5a

everything 6

This is equivalent to giving the sub-commands "protection" and "times and dates". 6a

dates 7

This sub-command causes the dates of archiving (for each archive tape) to be listed with each file. 7a

times and dates 8

This sub-command causes the times and dates of archiving (for each archive tape) to be listed with each file. 8a

no heading 9

This sub-command suppresses the printing of the heading for an interrogate list. 9a

summary of interrogate sub-commands

A heading is printed if either of the commands (or the equivalents of) "dates" or "times and dates" is given.

9a1

lpt

10

This sub-command causes the interrogate list to be printed on the line printer.

10a

output to file

11

This sub-command causes the interrogate list to be printed on the file specified by the user.

11a

double space

12

This sub-command puts a blank line between each file listed in the interrogate list.

12a

reverse

13

This sub-command causes the interrogate list to be listed in reverse order. (The normal order is most recently archived file is listed first.)

13a

since

14

This sub-command will cause only those files that have been archived since the date (and assumed time) specified to be listed in response to the interrogate command.

14a

The assumed time used is 00:00:00.1 AM of the specified date.

14a1

Note that by using both the sub-commands "since" and "before" an interval can be specified.

14a2

before

15

This sub-command will cause only those files that have been archived before the date (and assumed time) specified to be listed in response to the interrogate command.

15a

The assumed time used is 00:00:00.1 AM of the specified date.

15a1

Note that by using both the sub-commands "since" and "before" an interval can be specified.

15a2

KEV 7-NOV-73 10:20 20075

summary of interrogate sub-commands

(J20075) 7-NOV-73 10:20; Title: Author(s): Kenneth E. (Ken)
Victor/KEV; Sub-Collections: SRI-ARC; Clerk: KEV;
Origin: <VICTOR>INT-COMMANDS.NLS;2, 7-NOV-73 10:18 KEV ;

Possible thesis topic for AFIT student

1. THESIS TOPIC: Computer Assisted Human Communication

2. INDIVIDUAL SPONSOR, SPONSORING LAB, TELEPHONE NUMBER:
Duane Stone, RADC/ISIM, 315-330-3857

3. DESCRIPTION: RADC/ISIM is pursuing experiments in computer aided human communication. Our experiments involve the implementation, use and evaluation of the technology developed at the Augmentation Research Center (ARC) at Stanford Research Institute. The on-line system developed at the ARC has a number of capabilities to aid communication, documentation, distribution, retrieval, programming and analysis. It is now being accessed via the ARPANET and used by the ISIM section at RADC to conduct most of its daily business. Its initial success promises to improve the quality and responsiveness of individuals and organizations who are primarily engaged in "knowledge work", and thus it has extensive application throughout the Air Force.

4. ENUMERATED OBJECTIVES:

a. Develop means of measuring the productivity of individuals and groups engaged in knowledge work.

b. Determine the impact of the implementation of such a technology on the organizational structure and communication channels of an Air Force organization.

c. Identify training requirements and costs that must be incurred to implement such a technology.

5. RESOURCE REQUIREMENTS: Terminal and access to the ARPANET

6. REFERENCES:

a. Engelbart, Watson & Norton; "The Augmented Knowledge Workshop", ARC Journal #14724, Stanford Research Institute, Menlo Park, Calif. (also published in the proceedings of the National Computer Conference, New York City, June 1973).

b. Bair, James H., "Evaluation and Analysis of an Augmented Knowledge Workshop", To be published as an RADC Technical Report, Available now from ISIM, RADC, Griffiss AFB, NY.

20076 Distribution

Edmund J. Kennedy, David L. Daughtry, William P. Bethke,

DLS 7-NOV-73 05:43 20076

Possible thesis topic for AFIT student

(J20076) 7-NOV-73 05:43; Title: Author(s): Duane L. Stone/DLS;
Distribution: /EJK DLD2 WPB; Sub-Collections: RADC; Clerk: DLS;
Origin: <STONE>THESIS.NLS;1, 7-NOV-73 05:42 DLS ;

AAM 7-NOV-73 06:01 20077

I got this fom Abhay recently, some of you may not have

AKB 3-NOV-73 06:34 20030

Change in Standard Host Name for Host 70

Message:

This short note is to inform the ARPANET community of a change in the standard Host name for Host 70. The name of our Host has been changed from MIT-DMCG to MIT-DMS. DMS is an abbreviation for the Dynamic Modeling System. The suggested nickname for our Host is DM. However you may continue to use DMCG or MIT-DMCG as nicknames to facilitate the name change. The change has been made on programs at our site, and I hereby request your cooperation in propogating this change.

Thank You, Abhay Bhushan

20077 Distribution

Jeanne B. North, Vinton G. Cerf, Robert C. Clements, Nancy J. Neigus,
Robert H. Thomas, Jerry D. Burchfiel,

AAM 7-NOV-73 06:01 20077

I got this fom Abhay recently, some of you may not have

(J20077) 7-NOV-73 06:01; Title: Author(s): Alex A. McKenzie/AAM;
Distribution: /JBN VGC RCC NJN RHT JDB; Sub-Collections: NIC; Clerk:
AAM;

System Downtime

In response to your question about our downtime, we have taken a look at the statistics we have available. 1

A lower bound for percent of time up between 5 a.m. and 6 p.m. appears to be 93%. However, considering the problems with our data, it is most likely around 96%. 2

Currently, none of our statistics are entirely accurate. One record is kept manually and the other picks up system problems in addition to crashes which are indistinguishable from system crashes. In the not too far distant future, we will have an automatic record made of system crashes in order to have more accurate statistics, as this is a recurrent question. 3

20078 Distribution

Robert N. Lieberman, James C. Norton, Paul Rech,

SRL 7-NOV-73 07:15 20078

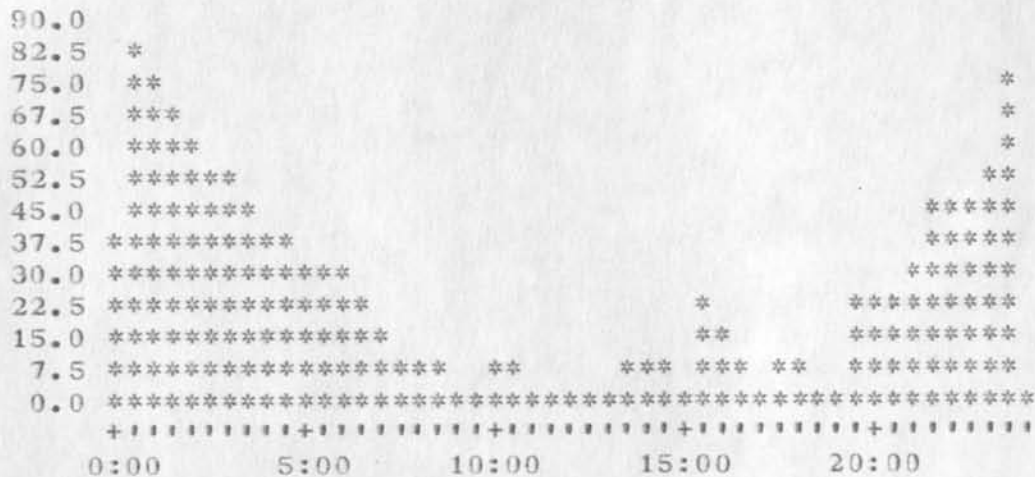
System Downtime

(J20078) 7-NOV-73 07:15; Title: Author(s): Susan R. Lee/SRL;
Distribution: /RLL JCN PR(for your information); Sub-Collections:
SRI-ARC; Clerk: SRL;
Origin: <LEE>DOWN.NLS;2, 7-NOV-73 07:09 SRL ;

Superwatch Average Graphs for Week of 10/29/73

TIME PLOT OF AVERAGE IDLE TIME FOR WEEK OF 10/29
 x axis labeled in units of hr:min, xunit = 30 minutes

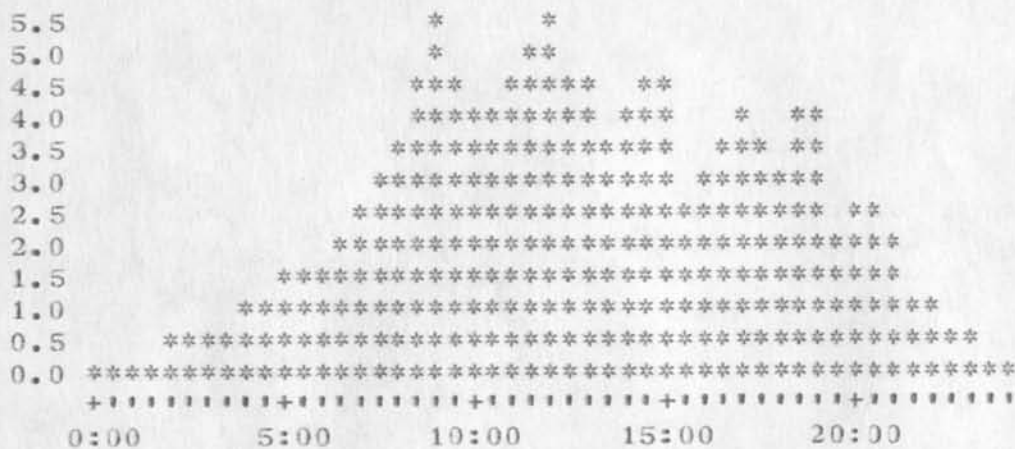
1



1a

TIME PLOT OF AVERAGE NUMBER OF GO JOBS FOR WEEK OF 10/29
 x axis labeled in units of hr:min, xunit = 30 minutes

2

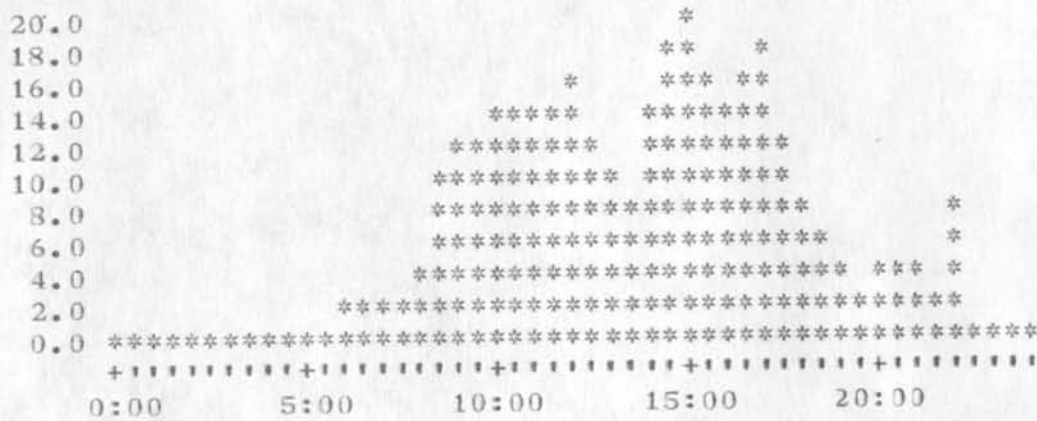


2a

Superwatch Average Graphs for Week of 10/29/73

TIME PLOT OF AVERAGE PER CENT OF SYSTEM USED IN DNLS FOR WEEK OF 10/29

x axis labeled in units of hr:min, xunit = 30 minutes

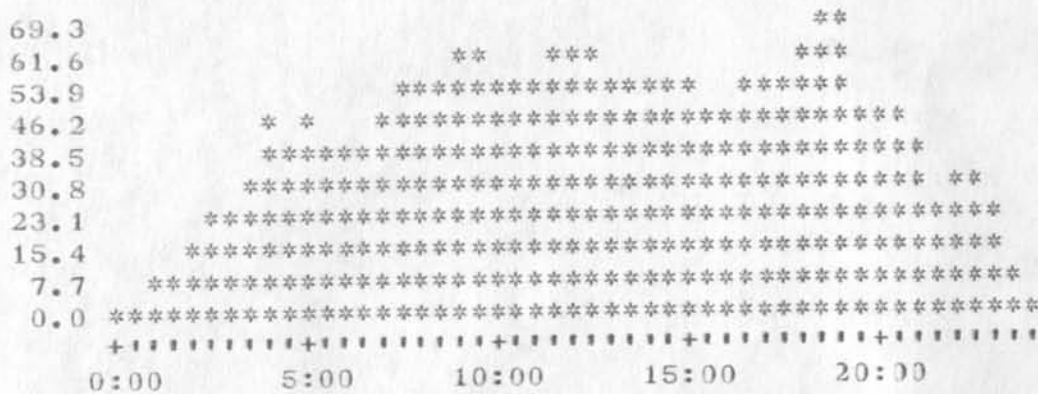


3

3a

TIME PLOT OF AVERAGE PER CENT OF CPU TIME CHARGED TO USER ACCOUNTS FOR WEEK OF 10/29

x axis labeled in units of hr:min, xunit = 30 minutes



4

4a

Superwatch Average Graphs for Week of 10/29/73

TIME PLOT OF AVERAGE NUMBER OF NETWORK USERS FOR WEEK OF 10/29
 x axis labeled in units of hr:min, xunit = 30 minutes

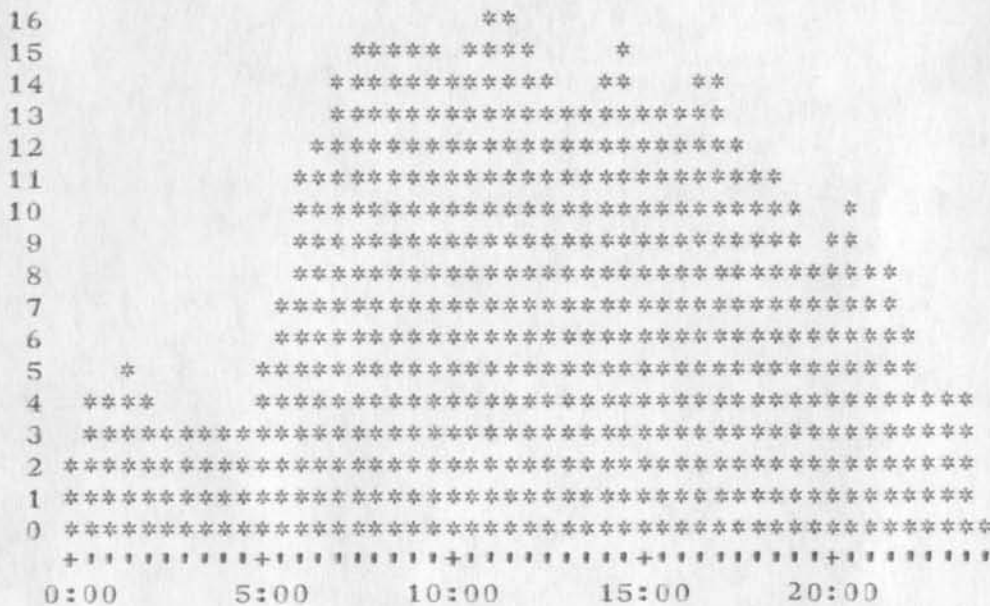
5



5a

TIME PLOT OF AVERAGE NUMBER OF USERS FOR WEEK OF 10/29
 x axis labeled in units of hr:min, xunit = 30 minutes

6



6a

SRL 7-NOV-73 07:27 20079

Superwatch Average Graphs for Week of 10/29/73

(J20079) 7-NOV-73 07:27; Title: Author(s): Susan R. Lee/SRL;
Distribution: /JCN RWW DCE PR DCW JCP DVN JAKE CFD KIRK DLS BAH;
Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>WEEK10/29GRAPHS.NLS;1, 6-NOV-73 17:15 SRL ;

20079 Distribution

James C. Norton, Richard W. Watson, Douglas C. Engelbart, Paul Rech,
Donald C. (Smokey) Wallace, Jeffrey C. Peters, Dirk H. Van Nouhuys,
Elizabeth J. (Jake) Feinler, Charles F. Dornbush, Kirk E. Kelley,
Duane L. Stone, Beauregard A. Hardeman,

JLM 7-NOV-73 07:40 20080

automated base supply

this is a set of notes on a pitch i heard on subject,

automated base supply

The is a summary of a plan created by the base supply people to automate or aid with the use of computers the wheel process of supply.

The overall plan seems to be the put all of the info in the computer and have the the personnel access the data when needed. In addition, there are planning to automate the entire process of maintenance which apparently is a real problem on a base. -namely- Having the right repairman available when the aircraft is available.

Their overall goal is to relieve the technicians requirement in paper production, it is estimated that they spend about 40 to 60 % time on paper work and feel this can be substantially reduced

They will be integrated with ALS though it is important to stress that this study addressed base supply not the AMAs which support weapon systems

Main change is that the customer will go straight in to the system not only to request the part but also to see what is the status of his request etc.

They also propose to automate the base procurement in terms of where are the purchase orders as well as somehow making them up which I really did not understand too well

They also are talking about a transaction oriented system where one update ripples its way through the whole system

They propose to have terminals of various types in work center areas though when asked they did not see the people using it for more than an access mechanism to the supply process. I am not too sure, I think like everything else, once he has it in his work area he will find uses of it like message sending not anticipated by the designers

They propose to use the base computer to support this operation so at this point it sounds like it is essentially a given as far as we are concerned

Some guys on the study feel this was the other genesis to the study saying, Sheddler the single manager for computers said we have got to get some orderly plan rather than having each functional area design and implement their own system including the computer

They did say they are going in with a DAR around the first of the year and hope to implement a test bed by FY-73

20080 Distribution

Frank J. Tomaini, Richard H. Thayer,

JLM 7-NOV-73 07:40 20080

automated base supply

(J20080) 7-NOV-73 07:40; Title: Author(s): John L. McNamara/JLM;
Distribution: /FJT RHT2; Sub-Collections: RADC; Clerk: JLM;
Origin: <MCNAMARA>STALOG.NLS;1, 7-NOV-73 07:36 JLM ;

Additional Info on Tickler

(nth2) 8 November - Thursday

0830 hrs. - Branch Chief's Meeting

Laboratory Activity Reports due today: Bucciero must have them by 1000, ISM must have them by 1100, and DOT must have them by 1600.

(nf2) 9 November - Friday

Due Date - ISIM/Capt Daughtry - Sponsorship of AFIT Student Theses
Timecards due today.

Bobbie: Travel figures due by noon.

Due Date - ISIS/ISIM - Project Engineers Bimonthly Review of Tech
Completions

Due Date - ISIM/Stone - Tech Eval of Contract Services -
F30635-74-M-0877, Maint Service for Execuports, Serial Numbers
2475 and 3125 and Tech Eval of Contract Services -
F30635-73-M-1152, Maint Service for Execuport, Serial Number 2479
- Completed.

(nm3) 12 November - Monday

0830 hrs. Branch Chief's Meeting

Supervisory Appraisal Form Briefing - for Supervisors Only - 0900
- 1030 hrs. - Auditorium in 106.

Due Date - ISIM/Capt Daughtry - Settlement of Over-Advance Travel
Allowance

(nt3) 13 November - Tuesday

Annual Disaster Preparedness Indoctrination - ISIS/Capt Ives -
0930 hrs. - 1130 hrs. - Bldg. 106 - Auditorium - Attendance will
be recorded.

(nw3) 14 November - Wednesday

Supervisory Appraisal Form Briefing - For Supervisors Only - 0900
- 1030 hrs. - Auditorium in 106.

Center MIS Presentation to IS - E. Kennedy

(nth3) 15 November - Thursday

Additional Info on Tickler

0830 hrs. Branch Chief's Meeting

6a

Federal Employees Health Benefits Program - 1973 Open Season
BEGINS - Ends 30 Nov 73.

6b

Laboratory Activity Reports due today: Bucciero must have them by
1000, ISM must have them by 1100, and DOT must have them by 1600.

6c

(nf3) 16 November - Friday

7

Supervisory Appriasal Form Briefing - For ADMINISTRATORS ONLY -
0900 - 1030 hrs. - Bldg. 106 - Room A-119

7a

Bobbie: Travel figures due by noon.

7b

R & T Selection of the Month is due in ISI.

7c

Due Date - ISIS/White - Revised Final Rpt - Contract
F30602-73-C-0062 for technical review. Completed

7d

20081 Distribution

Larry M. Lombardo, Anna A. Cafarelli, Roberta J. Carrier, Donna R. Robilotta, David L. Daughtry, Richard H. Thayer, Frank J. Tomaini, Mike A. Wingfield, Edmund J. Kennedy, Ray A. Liuzzi, Richard Calicchia, John W. Johnson, Donald Van Alstine, Dean F. Bergstrom, William P. Bethke, Frank S. LaMonica, William E. Rzepka, Rocco F. Luorno, Frank P. Sliwa, Thomas J. Bucciero, Robert E. Doane, David A. Luther, Roger B. Panara, John L. McNamara, Joe P. Cavano, Duane L. Stone, Marcelle D. Petell, Josephine R. Stellato, Robert K. Walker, Thomas F. Lawrence, James H. Bair,

FJT 7-NOV-73 08:09 20081

Additional Info on Tickler

(J20081) 7-NOV-73 08:09; Title: Author(s): Frank J. Tomaini/FJT;
Distribution: /RADC; Sub-Collections: RADC; Clerk: FJT;

Status of Tektronics 4023 video display

I had a phone conversation with Stan Davis of Tektronics yesterday (11/6/73). Stan is the project engineer for the Tektronics 4023 video display terminal.

He understands our requirements for a video display and knows how to modify the 4023 to work well with the Line Processor.

He said that a Tektronics rep (local to Palo Alto) had contacted someone at ARC. We told the rep that we wanted two prototypes and that the potential market was about 100 terminals.

I would like to know who he talked with...

That was not enough to get them to do anything.

If anything is going to happen now, we have to make it happen. Our options are as follows:

1) Buy a 4023 and modify it ourselves, then have them produce it. This is unrealistic for both ARC and Tektronics, I think.

2) Place an order for 50 or more modified terminals. Fifty seems to be the magic number. The unmodified 4023 costs \$3,000. I would expect that 50 modified terminals would still be cheaper per unit than Delta 5200's at \$5,000 each. But we don't need 50, at least not yet.

3) Buy 2 modified terminals and pay a large engineering fee, perhaps \$5 to \$10K. Others could subsequently buy the modified terminal on a production basis.

4) Let the whole thing fall on the floor.

The modified 4023 is an attractive idea because it is potentially the best video display on the market for use as a Line Processor workstation. For example:

It has upper/lower case standard (but costs extra on others)

High speed is standard (ditto)

It has a video slave jack on the back (slave is impossible with Delta 5200)

It is the fastest around in terms of delete line time, etc. which is important for NLS. (3.5 ms. vs. 80+ ms. for Delta 5200)

The cursor is a reverse video rectangle, which is easier to see.

Status of Tektronics 4023 video display

Marking would be implemented as reverse video also, which is perhaps the best of all possibilities (flashing cursor, blinking chars, underlined chars).

6f

I would like to see us send them a request for a price quotation for the engineering charge route. But can we first come up with what we would be willing to pay?

7

20082 Distribution

Douglas C. Engelbart, Richard W. Watson, James C. Norton, Charles H. Irby, Martin E. Hardy, Kenneth E. (Ken) Victor, Donald C. (Smokey) Wallace,

DIA 7-NOV-73 08:36 20082

Status of Tektronics 4023 video display

(J20082) 7-NOV-73 08:36; Title: Author(s): Don I. Andrews/DIA;
Distribution: /DCE RWW JCN CHI MEH KEV DCW; Sub-Collections: SRI-ARC;
Clerk: DIA;
Origin: <ANDREWS>TEK.NLS;4, 7-NOV-73 08:08 DIA ;

dialogue for the new command language

is there a file (or ident) in which we can maintain a dialog of needed things to be done, etc. (e.g. recognition of file names in links) for the new command language. (if there isn't, there should be.)

1

20083 Distribution

Donald C. (Smokey) Wallace, Kenneth E. (Ken) Victor, James E. (Jim) White, Charles F. Dornbush, Elizabeth K. Michael, Diane S. Kaye, Don I. Andrews, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman,

KEV 7-NOV-73 10:30 20083

dialogue for the new command language

(J20083) 7-NOV-73 10:30; Title: Author(s): Kenneth E. (Ken)
Victor/KEV; Distribution: /NPG; Sub-Collections: SRI-ARC NPG; Clerk:
KEV;

xnls and connect to directory

connect to directory should be done in the experimental system.
please contact me if any problems.

1

20084 Distribution

Donald C. (Smokey) Wallace, Kenneth E. (Ken) Victor, James E. (Jim) White, Charles F. Dornbush, Elizabeth K. Michael, Diane S. Kaye, Don I. Andrews, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman,

KEV 7-NOV-73 11:09 20084

xnls and connect to directory

(J20084) 7-NOV-73 11:09; Title: Author(s): Kenneth E. (Ken)
Victor/KEV; Distribution: /NPG; Sub-Collections: SRI-ARC NPG; Clerk:
KEV;

PSO Meeting Thursday

Some of you may recall that PSO (People Support Organization) used to meet as a group. (ljournal,12606,1).

1

On the premis that we sometimes do uselss work or suffer frustration because we do not know what our colleagues are doing, these meetings were to exchange information. Each person told what she had been doing since the last meeting. I tried to chair then briskly and refer matters that required analysis or debate to other meetings.

2

The sereies died because a majority thought they were useless and boring. But the makeup of PSO has changed and new people learning our on and offline system may be more eager for information.

3

So I am caling a PSO meeting for Thursday afternoon, November 8, in the Parrsely room at 4:00. I expect Jeanne Leavitt, Marie, Kirk, and Mil to attend. As always, visitors are welcome.

4

xxxx

4a

xxxx

4a1

xxxx

4a2

20085 Distribution

Donald C. (Smokey) Wallace, Richard W. Watson, Don I. Andrews,
A. Jim Blum, A. Analysis, Meredith(Reddy) E. Dively, Jeanne M.
Leavitt, Rodney A. Bondurant, Jeanne M. Beck, Mark Alexander Beach,
Judy D. Cooke, Marcia Lynn Keeney, Carol B. Guilbault, Susan E. Lee,
Elizabeth K. Michael, Charles F. Dornbush, Elizabeth J. (Jake)
Feinler, Kirk E. Kelley, N. Dean Meyer, James E. (Jim) White, Diane
S. Kaye, Paul Rech, Michael D. Kudlick, Ferg R. Ferguson, Douglas C.
Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper,
Charles H. Irby, Mil E. Jernigan, Harvey G. Lentman, Jeanne B. North,
James C. Norton, Jeffrey C. Peters, Jake Ratliff, Edwin K. Van De
Riet, Dirk H. Van Nouhuys, Kenneth E. (Ken) Victor

DVN 7-NOV-73 12:00 20085

PSO Meeting Thursday

(J20085) 7-NOV-73 12:00; Title: Author(s): Dirk H. Van Nieuhuys/DVN;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: DVN;

Phone Log: 6 Nov 73, Dr. L. L. Dickerson, Army Safeguard Systems Command

Unsolicited phone call to D. C. Engelbart, 6 Nov 73, by:

Dr. L.L. Dickerson
U.S. Army Safeguard Systems Command
P.O. Box 1500
Huntsville, Alabama 35807
(205) 895-4160

Residential mailing address:
411 Echols Avenue S.E.
Huntsville, Alabama 35801

His call was prompted by an assignment to search for computer aids to help in the writing and retrieval operations within "Safeguard." Dickerson apparently doesn't have an extensive background in computers. He said that he had been talking to an "SRI Huntsville" guy who hoped that they were going to get to use our system there in Huntsville when the Utility came up. (I don't know anything about such a desire, but as a point of information, Bart Cox is working toward getting SRI to buy at least one minimum module of Utility service.)

Dickerson seems to be in a very early phase of exploring their interest. He didn't know what terminals they already had around; he said that they had a CDC 6400 and a CDC 7600. He did say that in their organization they have internal subgroups and the attendant communication and coordination problems.

I outlined briefly the basis upon which we were taking on subscribers to the Utility's services, and how the services were delivered on the client's site. When I said that it really would take a visit here at ARC to get a substantial idea of what we were talking about, he said that he and Colonel MacPherson Morgan, an SRI employee at SRI Huntsville, had already talked about dropping by on one of their trips.

ACTION: We left it that I would send him some literature, and they would plan on coming by for a visit as soon as they could arrange it.

We are sending him a copy of this report, and the following documentation:

D. C. Engelbart and W. K. English. "A Research Center for Augmenting Human Intellect", AFIPS Proceedings, Fall Joint Computer Conference, 1968, Washington, D.C. (XDOC -- 3954.)

[NOTE: An old paper, but its description of the basic features of NLS are quite good. We use a different computer

Phone Log: 6 Nov 73, Dr. L. L. Dickerson, Army Safeguard Systems
Command

now; and the support to display and typewriter over the ARPNET
are working.]

6a1

D. C. Engelbart, R. W. Watson, J. C. Norton, THE AUGMENTED
KNOWLEDGE WORKSHOP, paper presented at the National Computer
Conference, New York City, June 1973. (Journal -- 14724.)

6b

[NOTE: Our most recent general paper, containing perspective
on the larger set of services within the 'Workshop' system than
are usually considered -- i.e., more than an editor and a data
management system.]

6b1

J. C. Norton, R. W. Watson, WORKSHOP UTILITY SERVICE FOR ARPA AND
IPT CONTRACTOR USE OF KNOWLEDGE WORKSHOP UTILITY, Technical
Proposal to ARPA/IPTO, SRI No. ISU 73-5, March 1973 (Journal --
14946,)

6c

[NOTE: This is for a sample of the basic working arrangement
that we are offering through the Utility; through this
proposal, ARPA has become a service client, as are two other
subscribers, RADC and Bell Telephone Co. of Canada.]

6c1

20086 Distribution

Richard W. Watson, James C. Norton, Bonnar Cox, David R. Brown,

DCE 7-NOV-73 12:35 20086

Phone Log: 6 Nov 73, Dr. L. L. Dickerson, Army Safeguard Systems
Command

(J20086) 7-NOV-73 12:35; Title: Author(s): Douglas C. Engelbart/DCE
; Distribution: /rww jcn bc drb ; Sub-Collections: SRI-ARC; Clerk:
DCE ;

xnls and expunge directory

expunge directory is now done in xnls (awaiting compilation and new load).

(Note expunge directory expunges both the login and connected directories)

1

20087 Distribution

Donald C. (Smokey) Wallace, Kenneth E. (Ken) Victor, James E. (Jim) White, Charles F. Dornbush, Elizabeth K. Michael, Diane S. Kaye, Don I. Andrews, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman,

KEV 7-NOV-73 13:05 20087

xnls and expunge directory

(J20087) 7-NOV-73 13:05; Title: Author(s): Kenneth E. (Ken)
Victor/KEV; Distribution: /NPG; Sub-Collections: SRI-ARC NPG; Clerk:
KEV;

JCN Memo to Bart Cox: ARC 1974 Budget Factors

To: Bart Cox cc: Doug Engelbart, Dick Watson

From: Jim Norton

7 November 1973

Subject: ARC 1974 Budget Factors

In response to your request for comments on the Augmentation Research Center's plans and expectations for 1974, we offer the following:

GENERAL STRENGTH FOR 1974

Contracts in hand

Project 1868 ARPA/RADC: This contract will end February 1974. About \$ 60k Revenue in January is anticipated.

Anticipated new work.

Two-year extension of the ARPA/RADC contract is anticipated, starting February 1974.

This is the main ARC support for ARC Operations, Development, and Analysis and for NIC services. We have been funded at a \$ 1.3 m level during each of the past two years. The extension will be at a \$ 1.5 m per year level as agreed with ARPA this past summer.

The two-year proposal (ISU 73-128 for \$3.2 m) is in ARPA's hands and at the ARPA high-level management final approval stage. We expect negotiations to start (with RADC for ARPA) in December or January.

We expect acceptance of an extension to project 8622 (ONR) at a \$ 40k level. This would start January 1974 and continue for 12 months.

We are in the process of negotiating a contract with RADC/ARPA for the major part of a Workshop Utility service, expected to commence the first year of operation December 1973.

The total first year budget is estimated at about \$ 800k, with about 3/5 of that amount being funded initially. The initial funding is what we are counting on for budget estimating purposes.

JCN Memo to Bart Cox: ARC 1974 Budget Factors

Included in this amount is a small Bell Canada purchase of initial Utility service for \$ 40k, just accepted this past week.

There are indications that RADC may be interested in buying additional Utility service sometime in the middle of 1974, but this needs further investigation. We will be actively seeking other Utility subscribers during the year also.

AREAS OF ANTICIPATED NEW OR CONTINUED INVESTMENT WHEREIN SOME SOLD TIME LIMITATIONS MAY PREVAIL.

Although we have estimated a level of performance that we feel is possible to meet within the funding prospects we now foresee, we should mention here that we are also considering a possible investment in development of a new program next year that would launch what we are calling a SEAS Community (Software Engineering Augmentation Systems).

This might involve an additional 1 or 2 ARC people being engaged in program development overhead activities for a good part of the year. The exact nature of this work is not yet well-defined, but indications are that it could lower sold time slightly from estimated levels in the current budget figures.

STAFF ADDITIONS ANTICIPATED

We anticipate adding a minimum of 6 people during 1974 (from 36 people at present to 42 by period 7), most of them in the first half. This will permit us to staff up for the Utility service now being funded, to increase our Analysis activity staff and to increase our Development activity staff.

DIFFERENCE BETWEEN THIS YEAR'S EXPECTED PERFORMANCE AND NEXT YEAR'S BUDGET

We are expecting considerably more REVENUE this next year, due to the increased level of ARPA support and the start of the Utility service.

As a result of the added support, we expect to maintain a more consistent level of TIME SOLD (starting with the higher funding level in February). Time sold is estimated to average about 75.5 % for the year as compared with a level of 73.0 % to date this year.

OPERATING INCOME is estimated at about \$ 445 k for 1974, as

JCN Memo to Bart Cox: ARC 1974 Budget Factors

compared with an expected actual of about \$ 320 k in 1973 at current trends. This is due primarily to the increased Revenue, staff and time sold level, together with the expected fee on the the sizeable Utility service non-labor costs (the Tymshare subcontract).

20088 Distribution

Richard W. Watson, Douglas C. Engelbart, James C. Norton,

JCN 7-NOV-73 13:25 20088

JCN Memo to Bart Cox: ARC 1974 Budget Factors

(J20088) 7-NOV-73 13:25; Title: Author(s): James C. Norton/JCN;
Distribution: /RWW(copy) DCE(copy) JCN; Sub-Collections: SRI-ARC; Clerk:
JCN;
Origin: <NORTON>DATA.NLS;1, 7-NOV-73 11:26 JCN ;

What is your simple Computer Based Instruction system?

1

20089 Distribution
N. Dean Meyer,

KIRK 7-NOV-73 15:05 20089

(J20089) 7-NOV-73 15:05; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /NDM; Sub-Collections: SRI-ARC; Clerk: KIRK;

Design for Whole Universe Catalog with Online Access

Whole Universe Catalog with Online Access

Design for Whole Universe Catalog with Online Access

I thought you might be interested in this description of what I am working on in my spare time.

Design for Whole Universe Catalog with Online Access

Introduction

1

The Whole Universe Catalog augmented memory is a computer aided instruction tool. As a free-form educational method it does not rely on programmed instruction. Instead, the catalog is structured to maximize the information controlled by the student. While finding answers, the catalog is designed to help define questions. One can find information about a field in which he is unfamiliar as well as the answer to well formulated questions about a subject in which he is expert. The catalog can provide a coherent overview to any available level of interest as well as specific information about particular points of interest.

1a

The catalog lives in a four-dimensional information space viewed on television screens through the control of a hand-held pointing block with three buttons. This pointer is called a mouse. NLS (oNLine System) is the basic tool in the Augmented Knowledge Workshop being developed at Stanford Research Institute under the direction and inspiration of Doug Englebart. The following ideas for use of the mouse, the four dimensional conceptions of NLS capabilities, and the structure and content of the Whole Universe Catalog belong to the author.

1b

The NLS query system

2

The four dimensions available in NLS include the two dimensions available on paper (characters in a line and lines in a plane) with line clipping control over the second dimension. Volume, the third dimension, is controlled by level clipping. The vehicles to the fourth dimension are indirect addresses called links. These can be taken one at a time at the user's option or turned into warps to view the information addressed by the link within it's current context.

2a

The four dimensions can be accessed using only the three buttons with the mouse. The right button is used to point to a choice. The middle button is used to point to an interesting word as a subject. After pointing to a choice or subject, the right button will show a line clipped outline of available sub-topics. The middle button provides a verbose overview. The left button returns you to your previous view. There are other functions available with different combinations of buttons. Typing in words from a keyboard is possible but not necessary to profitably access the catalog.

2b

The structure of the catalog

3

Introduction

3a

Design for Whole Universe Catalog with Online Access

The databases are structured in such a way that you can sensibly read at your level of interest by level clipping, or zoom in on a specific point by line clipping and key-word combinations. As a result, the catalog functions as a subject index interface to all available media as well as an encyclopedia in its own right. This is the primary advantage over a machine structured database. It should eventually be maintained by experts who are responsible for the structuring of their field of expertise and interfacing with machine structured databases to be sure that all relevant material no matter how insignificant is made available in an easily accessible way.

3a1

Time

3b

There is a basic database called Time which consists of entries to cultural works, political events, news stories, scientific, engineering, and medical reports, etc. Each entry is labeled by date and time in a hierarchical time structure. On top of the basic database there are alternative classification structures that not only access entries in Time database, but are databases in their own right containing a considerable amount of information. These include structured information modules for sciences, maps, political history, music, drama, architecture, etc.

3b1

A module is limited in length to about three times the size of this paragraph. Modules describe the subject that, for fast searching, is the first word of the module. The description contained in the module uses links to information too long to fit in the module or classified elsewhere. In addition, links to entries in the Time database are accessed from a module.

3b2

Entries are special modules located as leaves on the end of the Time database tree. They can contain a description with links to available references and expanded descriptions:

3b3

(d16) The Boston Tea Party in which citizens, disguised as Indians, boarded British ships and dumped tea into the harbor. See also: East India Company, <references, AD1773 M12 D16> Coercive Acts: <y1774>

3b3a

or an abstract and a link to an actual item such as a textual report, graphic drawing, or audio-video tape:

3b4

(h12:m15) Beatles, HARD DAY'S NIGHT -- 90 min.
<vcassette,MM177st>.

3b4a

History

3c

Design for Whole Universe Catalog with Online Access

In the Time database, the highest levels are astronomical units of time starting from the origin of the universe. The classification modules at each succeeding level contain overviews of the modules classified under them in the time structure. At the bottom level are the entries. A lower level is viewed by pointing to the desired unit of time displayed with line and level truncation in a higher level.

3c1

The Space database allows specification of spatial and geographic location with the mouse by having pictures of the universe, galaxies, solar systems and planets at the higher levels; land masses, nations, and provinces in the middle levels; and maps of terrain, cities, and public buildings at lower levels. A lower level is viewed by pointing to its location in the picture at a higher level.

3c2

The Space database is cross-linked with the Time database to allow specification of specific space-time coordinates and to show changes in a single geographic area over time. Using the mouse, the user might find he is at the Renaissance and then select England, architecture, and music in which case he could listen to a chronological history of English Renaissance music while he views video tapes of it's Architecture.

3c3

Science

3d

The Science database is structured both classically and interdisciplinarily. This is done by devoting the highest levels to classical knowledge-tree branches from the most basic to the most dependant: Logic, Mathematics, Physics, Chemistry, Biology, Psychology, Social Sciences, Philosophy of Science. A linear reading of the Science database would result in a classical presentation of the material. However, the lower levels contain modules describing laws and models of the universe. These modules contain links to historical references and expanded descriptions, scientific reports, and other entries in the Time database. The substructure under a module lists other modules that substantiate the parent law or model as would be expected. These modules may be links to substantiating items in other branches so that using the mouse, the student could ask the inexhaustable "why?" until he was satisfied (or exhausted). He might initially choose psychology and end up learning all there is available about physiology of the organism, biology of organs, chemistry of the biology, physics of the chemistry, math of the physics, logic of the math and so on, depending on how much time he spends in the Science branch.

3d1

The Science database is an attempt to present a concise,

Design for Whole Universe Catalog with Online Access

internally consistent system that will provide a complete but easily learned model of the universe that is really only a place to stand from which both the universe and the model itself can be observed. The goal being to have the universe modeled as accurately as possible and the model changed when improvements are discovered.

3d2

Implementing the Catalog

4

The catalog is designed to give the unsupervised user online access to information at least to the level of first-year college survey courses. Assuming there is an equivalent of 25 400 page text books worth of information to be input into the Science database, that is 10,000 pages of text total. This would take less than five months for one person working 40 hours/week to type at 50 words/minute. Assuming it would take the same length of time to make the decisions about the proper hierarchical location and syntax for the information, one man-year might be necessary to complete this online file of basic science information up to the level of first year survey courses in college.

4a

Assuming 4000 400 word pages of material is necessary to catalog the major cultural, social, political, and historical events covered up to freshman college course level, that is less than half of Science, so an estimate on the total time necessary for the completion of both Time and Science databases would be 18 months. At \$600/month, it would take \$10,800 in total salary. Doubling for overhead comes to \$21,600. The computer time using deferred execution at negligible cost for input and NLS at \$15/hour for editing, would cost about \$25,000 for a year and a half (cost of Terminals and 15,000 pages of random access memory is included in overhead).

4b

The total cost for a solid database is 1.5 man years at \$46,600. Income from users accessing the database through cable television or phone lines could be expected after the database is built.

4c

20091 Distribution

Gordon A. Smith, Murray Tondow, Karl L. Zinn, Thomas O'Sullivan,
Harvey G. Lehtman, Elizabeth J. (Jake) Feinler, Jeanne B. North,
James C. Norton, Douglas C. Engelbart, Richard W. Watson, Michael D.
Kudlick, Elizabeth K. Michael, Ferg R. Ferguson, Susan R. Lee, James
H. Bair,
Gene T. Sherron, John Seely Brown, Peter Kirstein, Don F. Mead,
Albert E. Hickey, Emir H. Shuford, Alfred Bork, David J. Farber,
James J. Regan, Frank Dare, Joseph S. Green, Jane McReynolds, John
Ford, John J. Collins, G. B. Howard, Jacob L. Barber, Marshall Farr,
Glen Bryan, Len Swanson, Joseph J. Passafiume, Richard Rubinstein,
Joseph W. Rigney, Jurg Nievergelt, Sylvia Mayer, Richard Atkinson, C.
Victor Bunderson, John Ford, Robert Gerry, Frank Giunti, Dave Hammel,
Chris Jeffers, William Kemple, Austin Kibler, George Lawrence, Eric
McWilliams, Ernest Onastasio, Susan Rankaitis, Marty Rockway, James
Rogers, Sylvan Rubin, Harold Schulz, Robert Seidel

Design for Whole Universe Catalog with Online Access

(J20091) 7-NOV-73 16:53; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /CBIG HGL JAKE JBN JCN DCE RWW MDK EKM WRF SRL JHB;
Sub-Collections: SRI-ARC CBIG; Clerk: KIRK;
Origin: <KELLEY>CATALOG.NLS;6, 7-NOV-73 16:38 KIRK ;

USING Meeting

Nancy ...

re your USING meeting announcement:
MONDAYS are very bad for me, so are
the last two weeks of December.
Other times are o.k. How about Nov 29-30
or Jan 3-4 ? I definitely would
like to be at the meeting. ... Mike Kudlick
P.S. If it's in January, we'd be happy
to have it at SRI-ARC if it wasn't possible
to do so at UCLA.

1

20092 Distribution
Nancy J. Neigus,

MDK 7-NOV-73 17:27 20092

USING Meeting

(J20092) 7-NOV-73 17:27; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /NJN; Sub-Collections: SRI-ARC; Clerk: MDK;

Output directives cue card, response to JI

Thanks for including me in your distribution. I agree that a cue card would be of great value given my experience over the years preparing long documents for printout and using a small subset of the directives. The only problem is deciding which directives; a subset that may not be the same for each user let alone different applications. Perhaps you could suggest a subset for stated applications. (response to --20042,)

1

20093 Distribution

David H. Crocker, Jean Iseli, Jonathan B. Postel, Douglas C. Engelbart, Michael D. Kudlick, N. Dean Meyer, Mil E. Jernigan, Jim O. Calvin, Ernest H. Forman, Harvey G. Lehtman, James C. Norton, Dirk H. Van Nouhuys, Jeanne B. North, Alex A. McKenzie,

JHB 7-NOV-73 18:26 20093

Output directives cue card, response to JI

(J20093) 7-NOV-73 18:26; Title: Author(s): James H. Bair/JHB;
Distribution: /DHC JI JBP DCE MDK NDM MEJ JOC EHF HGL JCN DVN JBN AAM;
Sub-Collections: SRI-ARC; Clerk: JHB;

Dean Meyer Will Make an Output Processor Cue Card

Dean Meyer has agreed to do an output processor cue card. He clearly seems the right person. He will be glad to listen to suggestions about format and directives to be listed. When he has a draft we will bring it to your attention.

1

20094 Distribution

Walt Bass, N. Dean Meyer, Dirk H. Van Nouhuys, Marilyn F. Auerbach,
Diane S. Kaye, Douglas C. Engelbart, James C. Norton, Richard W.
Watson, Charles H. Irby, Jean Iseli, David H. Crocker, Jonathan B.
Postel, Douglas C. Engelbart, Richard W. Watson, Michael D. Kudlick,
N. Dean Meyer, Mil E. Jernigan, Jim O. Calvin, Ernest H. Forman,
Harvey G. Lehtman, James C. Norton, James H. Bair, Jeanne B. North,
Nancy J. Neigus, Alex A. McKenzie,

DVN 7-NOV-73 20:34 20094

Dean Meyer Will Make an Output Processor Cue Card

(J20094) 7-NOV-73 20:34; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /DPCS JI DHC JBP DCE RWW MDK NDM MEJ JOC EHF HGL JCN JHB
JBN NJN AAM; Sub-Collections: SRI-ARC NIC DPCS; Clerk: DVN;

DEX and Journal Messages

Doug:

I have been trying out DEX today which I now find I can use from UK-ICS ok. The problem is that COPY is not allowed to network users... is there any way in which I can get a paper tape into the system from UK-ICS ?

My sequence of operations in the case of the funny journal message was to send you the first message, which later turned up at ISI in the mail for KIRSTEIN. Thinking something may have gone wrong and you might not have received my message I sent it again but used send xxxx.. sorry submit file with the file name being the journal file of the previous message. Hope this clarifies what I did
cheers Steve

1

20095 Distribution
Douglas C. Engelbart,

SRW 8-NOV-73 03:56 20095

DEX and Journal Messages

(J20095) 8-NOV-73 03:56; Title: Author(s): Stephen R. Wilbur/SRW;
Distribution: /DCE; Sub-Collections: NIC; Clerk: SRW;

NETWORK NOTEBOOKS

I HAVE JUST TAKEN OVER THE JOB OF KEEPING THE NETWORK NOTEBOOK UP
TODATE FOR ARPA. WE ARE KEEPING TWO COPIES OF ALL NOTE BOOKS.
PLEASESEND THE FOLLOWING:

NOTEBOOKS ONLY: NETWORK PROTOCOLS - NIC 7104

NOTEBOOKS ONLY: CATALOG OF THE NIC COLLECTION - NIC 5154
- CURRENT DIRECTORY OF NETWORK PARTICIPANTS - NIC 5150 COMPLETE
WRITE UP ON RESOURCE NOTEBOOK , NETWORK INFO. CENTER USER GUIDE (2
COPIES). DO YOU HAVE NOTEBOOKS FOR THE ARPANET NEWS, IF SO PLEASE
SENT TWO COPIES. I ALSO NEED COPIES OF NIC DOC. 18638 AND 18775 AS
SOON AS POSSIBLE. PLEASE SEND THIS TO BERTHA ROUSSEAU KEYDATA CORP.
1400 WILSON BLVD. ARLINGTON VA. 22209. BERTHA (BAR2)

20097 Distribution

Marcia Lynn Keeney, Gary L. Bockweg,

BAR2 8-NOV-73 07:40 20097

NETWORK NOTEBOOKS

(J20097) 8-NOV-73 07:40; Title: Author(s): Bertha A. Rousseau/BAR2;
Distribution: /MLK GLB; Sub-Collections: NIC; Clerk: BAR2;
Origin: <ARPA>MESSAGE.NLS;1, 8-NOV-73 07:38 BAR2 ;

Reply to (20042,) and OP Cue Card Discussion

Jean-

My own preference is for a primer for the OP which would have much of the info now in the User Guide, minus the COM info. I would find a cue card of little value because my questions, and I suspect yours, in relation to OP need the explanatory material on ranges and the compatibilities of various directives, as well as at what point the directive takes effect. I can see a use for a subset of much-used directives for header statements, and that a card of these could be devised. Kirk has a file of standard headings which is very useful and it could be published.

1

20098 Distribution

Donald C. (Smokey) Wallace, Richard W. Watson, Don I. Andrews,
Jean Iseli, A. Jim Blum, A. Analysis, Meredith(Reidy) E. Dively,
Jeanne M. Leavitt, Rodney A. Bondurant, Jeanne M. Beck, Mark
Alexander Beach, Judy D. Cooke, Marcia Lynn Keeney, Carol B.
Guilbault, Susan R. Lee, Elizabeth K. Michael, Charles F. Dornbush,
Elizabeth J. (Jake) Feinler, Kirk E. Kelley, N. Dean Meyer, James E.
(Jim) White, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Ferg R.
Ferguson, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E.
Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G.
Lehtman, Jeanne B. North, James C. Norton, Jeffray C. Peters, Jake
Ratliff, Edwin K. Van De Riet, Dirk H. Van Nouhuys, Kenneth E. (Ken)
Victor

JBN 8-NOV-73 08:03 20098

Reply to (20042,) and OP Cue Card Discussion

(J20098) 8-NOV-73 08:03; Title: Author(s): Jeanne B. North/JBN;
Distribution: /J1 SRI-ARC; Sub-Collections: NIC SRI-ARC; Clerk: JBN;
Origin: <NORTH>ISELIREPLY.NLS;1, 8-NOV-73 07:51 JBN ;

Thanks for List of Host Names from Clements

Clements at BBN-TENEX

This is to acknowledge your repeated request for Host Names. Dialogue is in proress among all concerned, with issues and facts to be resolved in a day or two. Thanks from NIC for your present list, which I have passed on to Feinler and Kudlick.

Jeanne North.

1

20099 Distribution

Robert C. Clements, Michael D. Kudlick, Elizabeth J. (Jake) Feinler,
Vinton G. Cerf, Alex A. McKenzie,

JBN 8-NOV-73 08:21 20099

Thanks for List of Host Names from Clements

(J20099) 8-NOV-73 08:21; Title: Author(s): Jeanne B. North/JBN;
Distribution: /RCC MDK JAKE VGC AAM; Sub-Collections: NIC ; Clerk: JBN;

Improvement to SA Transmittal Letter

Marcia says she has apologized for misspelling your name.

1

Re the transmittal letter: it's the same letter and practice we have always used. Your response prompts me to improve the statement:

2

*Sent to Liaisons

2a

to

2a1

*Sent to Liaison during the current period

2b

We have always mailed single items to Liaisons as soon as possible, and then sent weekly, or approximately weekly, mailings to Stations Agents, with a transmittal letter to them and a copy to Liaisons, indicating the contents to SA's and any incremental mailings to Liaisons. I hope that changing the wording will make this clear.

3

20100 Distribution

Jonathan B. Postel, Michael D. Kudlick, Marcia Lynn Keeney,

JBN 8-NOV-73 08:31 20100

Improvement to SA Transmittal Letter

(J20100) 8-NOV-73 08:31; Title: Author(s): Jeanne B. North/JBN;
Distribution: /JBP MDK MLK; Sub-Collections: NIC ; Clerk: JBN;
Origin: <NORTH>JONREPLY.NLS;1, 8-NOV-73 08:22 JBN ;

A First Look at the System since the October 15 Allocation Change

INTRODUCTION

1

Beginning the week of October 15 the total group allocation was reduced to 20 as the result of the programmer's unilateral decision to cut their group's allocation from 4 to 3 between 8 and 2 and from 7 to 3 between 2 and 5. This resulted in a decrease of 13 hours available to programmers between 8 and 5 each day.

1a

Jim Norton has asked Analysis to study this situation and as a result we have addressed the following questions:

1b

(1) Have there been any marked changes in the system?

1b1

(2) Has the percentage of the system the programmers are getting changed?

1b2

(3) Are there other actions which should be taken to improve system response.

1b3

For example, limiting elogs or the printing of long files.

1b3a

SYSTEM CHANGES

2

The following Superwatch statistics have been compared for four weeks prior to and two weeks after the allocation change:

2a

GJ - Load Average

2a1

#AU - Number of active users

2a2

%U - Percent of system charged to users

2a3

AXD - Average execution time in DNLS

2a4

AXT - Average execution time in TNLS

2a5

ARD - Average real time for task execution in DNLS

2a6

ART - Average real time for task execution in TNLS

2a7

There has been no appreciable change in any of these indications of system response except for #AU which has decreased by one.

2a8

The fact that #AU showed a drop of one while the allocation dropped by two was a major reason we checked further into elog usage which is discussed below.

2a9

Conclusions

2b

A First Look at the System since the October 15 Allocation Change

The decreased allocation has resulted in a net improvement of only one less user. It is not surprising then that there is no noticeable difference in the system indications of usage we checked. The total allocation should be decreased by at least two more users to evaluate the change in system response resulting from fewer users. Since the new utility is coming up next month, we suggest that at that time the total allocation be lowered again.

2b1

PROGRAMMER USAGE

3

The programmer's use of the system has been looked at in three ways.

3a

First, a brief look was made of the times individuals worked on the system to see if there had been any changes in working patterns or in hours worked on weekends and at nights. No consistent changes were seen when compared to past usage patterns.

3a1

Second, the amount of the system used by each individual was compared with usage over the past three months (based on BAH's weekly reports). The purpose was to see if people were getting as much of the system after the allocation change. Individual patterns were evident both before and after the allocation change, i.e. most people are not consistent users and while some people got more just as many got less

3a2

To get an overall view, the total used by the programming group was also compared for the past 3 months. Again, there have not been consistent drops in usage and we felt it was too soon to know the effects of the allocation change.

3a3

Conclusions

3b

As a result of looking at usage patterns we do feel we have a more valid means of determining how much should be allocated to the programmer group.

3b1

The average connect time per programmer per week before the allocation change was 22 hours or a total of 250 hours per week for the group.

3b1a

If we assume that 200 of these hours are between 8 am and 6 pm, then 40 connect hours are required per day.

3b1b

Forty connect hours are the equivalent of 4 slots in constant use or more probably 5 slots when accounting for idle time.

3b1c

A First Look at the System since the October 15 Allocation Change

It is therefore our suggestion that the programmers be allocated the equivalent of 5 slots per day with no increase in total allocation. This may necessitate the lowering of some other group's allocations or might best occur when the utility comes up.

3b2

Note: It is too soon to judge the total effect of allocating less time to programmers (they currently have 3 slots allocated all day). There are some indications of decreased use, but it is unclear whether this is due to vacations, the ASIS meeting or fewer hours allocated. More time is needed to see if these trends continue.

3b3

However, we do not recommend a return to the previous levels of allocated time unless other groups are cut correspondingly.

3b4

OTHER POSSIBILITIES FOR CHANGE

4

Limiting Elog

4a

Suggestions to limit elog have come from several fronts. The following are the considerations Analysis has made.

4a1

An estimate of the average number of elogs per hour when the system is loaded may be obtained by dividing the total number of elogs by the number of hours when the system is fully loaded.

4a2

Since the new allocation the system has been fully loaded (20 or greater jobs) 46% of the time between 8 and 5. This is approximately 4-1/2 hours per day.

4a3

There are currently 55 elogs a day between 8 and 5.

4a4

With the above assumptions in mind, there are 12 elogs per hour when the system is loaded. Of course all elogs do not occur in 4-1/2 hours, so the actual average is smaller, but the point is, when there are an average of 6-12 elogs per hour, this is equivalent to adding at least another user.

4a5

Conclusions

4a6

Analysis feels that it is important to maintain an on-line environment and that elogs are a necessary part of that environment when the total system available is less than required (as in our situation). We think that the elog capability should be easily obtainable but not for doing regular work.

4a6a

A First Look at the System since the October 15 Allocation Change

We therefore think that the first measure taken should be to check idents of people using elogs and preventing a person from eloging twice in succession or twice in a certain period of time.

4a6b

Second, an upper limit of two elogs at one time should be instituted.

4a6c

Limiting Printing

4b

In response to feelings that the printer was using more than its share of the system, statistics for printer usage have been maintained over the past few weeks.

4b1

From an analysis of this data it appears that any file over 100,000 bytes (approximately 80 pages or two copies of a 40 page file, etc.) puts an excessive load on the printer.

4b2

However, the extra load on the printer does not correlate directly with load average. For this reason we do not feel long files should automatically be queued by the printer but the load must also be taken into consideration.

4b3

It is easy to identify which people have printed out long files during a period of high load. We feel the first step must be administrative, that is requesting that people not print files longer than n pages (80 or some other length) between 8 and 5.

4b4

Any exceptions to the above should be required to get authorization before printing a large file.

4b5

To reinforce this "voluntary state" a record should be kept of who prints long files.

4b6

This study is not intended to be a final look at the problems addressed in this memo but rather a first attack of the problem. There are other possibilities for system unresponsiveness that we have not as yet checked.

5

20101 Distribution

James C. Norton, Paul Rech, Richard W. Watson,

SRL 8-NOV-73 09:23 20101

A First Look at the System since the October 15 Allocation Change

(J20101) 8-NOV-73 09:28; Title: Author(s): Susan R. Lee/SRL;
Distribution: /JCN PR RWW; Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>SYS.NLS;4, 7-NOV-73 06:56 SRL ;

Request for Increased Disk Allocation

Ferg-- I would like to have my disk allocation bumped from 200 to 400 pages. I am CONTINUALLY over allocation (e.g., I currently have a 100-page FAIL pgm, a 60-page design document, and miscellaneous smaller files in my directory). I can't receive SNDMSGs at all, and can't do ANY work without being enabled. Thanks. --Jim

1

20102 Distribution
Ferg R. Ferguson,

JEW 8-NOV-73 10:23 20102

Request for Increased Disk Allocation

(J20102) 8-NOV-73 10:23; Title: Author(s): James E. (Jim)
White/JEW; Distribution: /WRF; Sub-Collections: SRI-ARC; Clerk: JEW;

What Repeat Will Do; For Prompts N: I: and F:

WHAT SHOULD REPEAT DO?

Those of you who have been using experimental system may have longed, as I have, for command accept to return you to the last keyword as does the old system, rather than throwing you back to command reset and forcing you to spell out the next command. CFD, JMB, KIRK, and I met briefly yesterday and agreed that the REPEAT character will do what command accept does in the old dystem. REPEAT will return to beginning of the command you are repeating, then parse forward until it encounters a field that is not a keyword.

Some of us objected that we very frequently wanted to repeat commands in display, particuarlly jump to item, and would rather have easy-to-hit CA set up the repetition for us. Chuck assured us that the proposed profile branch will allow us to define CA as REPEAT in display.

PROMPTS, F: I: N:

Chuck Dornbush has reduced the prompts in the new NLS to harmonize with the parser by combining F:, I: and N: into F:.

But I believe the prompts are there to help the user get what he wants. If a user types in a file command text that is not a file name, the parser will not cough but the user will get an error message instead of a file. Likewise with idents. Likewise with journal numbers.

The argument has been advanced that if we prompt for files, idents, and numbers, we should prompt for the string entities, visible, invisible, etc.

Prompts for string entities would would be a slightly different case because the system will execute the command no matter what kind of typein the users gives (i.e. you can go ahead and replace a character with a string that is in fact a word).

Prompts for string entities would produce an alphabete crisis because of "viewspecs" and "visibles" and "text" and "typein".

I certainly feel that F:, I: and N: offer valuable help to the user, particularly because the last two are used by many people in commands which they employ infrequently.

PROMPTS, C: [**]

Chuck has alos introduced the prompts C: for confirm and [**] for options.

What Repeat Will Do; For Prompts N: I: and F:

I find C: useful.

3b

I find the prompt for option useful, but I think it should be
[O:].

3c

The square brackets harmonize with the convention for
describing options in <documentation,help,syntax>

3c1

20103 Distribution

James H. Bair, Elizabeth K. Michael, Richard W. Watson, Elizabeth J. (Jake) Feinler, Harvey G. Lehtman, Kirk E. Kelley, Laura E. Gould, N. Dean Meyer, Jeanne M. Beck, Charles F. Dornbush, Dirk H. Van Nouhuys, Michael D. Kudlick, Diane S. Kaye, James C. Norton, Douglas C. Engelbart,

DVN 8-NOV-73 10:25 20103

What Repeat Will Do; For Prompts N: I: and F:

(J20103) 8-NOV-73 10:25; Title: For Prompts N: I: and F:"; Author(s):
Dirk H. Van Nouhuys/DVN; Distribution: /DIRT DCE; Sub-Collections:
SRI-ARC DIRT; Clerk: DVN;
Origin: <VANNOUHUYS>CMNDS.NLS;2, 8-NOV-73 10:21 DVN ;

Info on Purdue

The following info comes courtesy of Ed Schelonka and Jake Feinler:
Purdue will not be on the Network as a host until Spring '74. They
currently run through a dedicated port on the ANTS machine at
Illinois. The Liaison will be Wayne Robey (317) 493-1429. Suggest
you call him for more details. --Jim White

1

20104 Distribution
Jim O. Calvin,

JEW 8-NOV-73 11:26 20104

Info on Purdue

(J20104) 8-NOV-73 11:26; Title: Author(s): James E. (Jim)
White/JEW; Distribution: /JOC; Sub-Collections: SRI-ARC; Clerk: JEW;

bug

try output device teletype on some file then hit control o two or more times. it bombs. 'illegal instruction ...' try it, you may like it.

1

20105 Distribution

James C. Norton, Bgs Bugs, Diane S. Kaye, Harvey G. Lehtman, Charles
H. Irby, I. Larry Avrunin,

RLL 8-NOV-73 11:32 20105

bug

(J20105) 8-NOV-73 11:32; Title: Author(s): Robert N. Lieberman/RLL;
Distribution: /JCN BUGS ILA; Sub-Collections: NIC BUGS; Clerk: RLL;

bug on addressing

another bug. refer to old one on pointer going to address $.0 + 1$, i think i found at least one case where it will almost always go awry. while giving an address, do a control a, then command accept, no indication that nls did not understtand but one finiss oneself at $.0 + 1$. this of course is bad, bad bad. robert

1

20106 Distribution

James C. Norton, Bgs Bugs, Diane S. Kaye, Harvey G. Lehtnan, Charles
H. Irby,

RLL 8-NOV-73 11:37 20106

bug on addressing

(J20106) 8-NOV-73 11:37; Title: Author(s): Robert N. Lieberman/RLL;
Distribution: /JCN BUGS; Sub-Collections: NIC BUGS; Clerk: RLL;

Transferring NLS Files via FTP

Nancy-- Yes, CPYNET does live under socket 105 octal at SRI-ARC, but only because nobody's bothered to remove it. Blows up for me, too, and it really doesn't seem worth while pursuing that problem. I suggest you use the same mechanism I've used to support transfer of NLS files between SRI-ARC and the Tymshare machine. If you tack ';XPACK' onto the end of filenames when you talk to the SRI-ARC FTP server, it will automatically pack or unpack the file, before or after the transfer for RETR or STOR, respectively. The server does a SAVE or GET; writing a program to do the opposite at your end is trivial. Two things wrong with '<FEINLER>HOSTNAMES-2.XNLS'. First, it's semi-colon, not period, before 'XNLS'; second, you must supply the extension 'NLS'.

20107 Distribution
Nancy J. Neigus,

JEW 8-NOV-73 11:44 20107

Transferring NLS Files via FTP

(J20107) 8-NOV-73 11:44; Title: Author(s): James E. (Jim)
White/JEW; Distribution: /NJN; Sub-Collections: SRI-ARC; Clerk: JEW;

Notes on Standard Hostname Determination

Host name change for DMCB (host 70)

Recently there have been many inquiries and exchanges concerning standard host names for the ARPANET, particularly for TELNET and FTP implementation. A recent note from Clements at BBN asking for a standard list of names, and a note from Abhay Bhushan advising the community of the new name, 'MIT-DMS' for MIT-DMCB underlines the revived interest in this subject.

By now, some of you will have received a note from Steve Crocker relating the new mechanism for determining host names both for present hosts and new ones which are anticipated soon. Mike Kudlick, or his designated representative at NIC will be responsible for negotiating new names with hosts wishing to change their present ones, and with new hosts not yet on the network.

To recapitulate the simple rules, host names consist of up to 48 characters drawn from the alphabet (A-Z), the digits (0-9) and the minus sign (-). There is no distinction made between upper and lower case letters, and no restriction on the first character of the name. In order to accommodate multiple networks, we also specify that a complete host name includes a prefix of up to 24 characters, enclosed in parentheses, designating the network in which the host resides. The characters used in the network name are drawn from the same set as for host names. No attempt has been made to impose any further structure on these names. As an example of valid names, we have:

(ARPANET)MIT-DMS

(CYCLADES)IRIA

Erewhon-FAKESITE

-fUnNyName---sameas-FUNNYNAME

Note that no embedded blanks are permitted.

When the first official host name list has been compiled (no later

Notes on Standard Hostname Determination

than year's end) it will be published in the ARPANET NEWS. Some thought is also being given to establishing a machine readable copy of this list with correspondence with host numbers so that TELNETs and FTPs can update their tables dynamically on a periodic basis. Similarly, it should eventually be possible to interrogate the resource notebook on-line by host name to find out important things such as responsible personnel, how to get accounts, what services are available, etc.

3g

3h

Vint Cerf [CERF@ISI]

3i

20108 Distribution

Steve D. Crocker, Robert E. Kahn, Michael D. Kudlick, Jeanne B. North, Vinton G. Cerf, Alex A. McKenzie, James E. (Jim) White, Elizabeth J. (Jake) Feinler, Jean Iseli, J. C. R. Licklider, Robert C. Clements, Edward P. Schelonka,

Notes on Standard Hostname Determination

(J20108) 8-NOV-73 11:45; Title: Author(s): Vinton G. Cerf/VGC;
Distribution: /SDC2 REK2 MDK JBN VGC AAM JEW JAKE JI JCRL RCC EPS;
Sub-Collections: NIC; Clerk: VGC;
Origin: <SU-DSL>HOSTHAMES.NLS;2, 7-NOV-73 20:58 VGC ;