FEED 26-AUG-75 15:42 33344

com 8/26

mta0, tape 123, (pooh)preface.com;1, proofs. They will mail on Thurs. 8/28/75. Pam

1

com 8/26

(J33344) 26-AUG-75 15:42;;;; Title: Author(s): Special Jhb Feedback/FEED; Distribution: /DMB([ACTION] dpcs notebook, please) &DPCS([INFO-ONLY]) FEED([INFO-ONLY]) ; Sub-Collections: SRI-ARC DPCS; Clerk: FEED;

33344 Distribution
Delorse M. Brooks, Documentation Production and Control System
Interest Group , Special Jhb Feedback,

DCE 26-AUG-75 15:58 33345

ARC Seminar Fri 29 Aug at 1330: Nick Schweitzer, CIA Office of Political Research

Nick is at ARC for the week, attending our AKW seminar. He has agreed to meet with interested ARC members in an informal seminar to describe the type of computer aids for intelligence analysts that his Office is considering. He says that he also will be happy to entertain questions and share his own perceptions about the CIA. 1

DCE 26-AUG-75 15:58 33345

ARC Seminar Fri 29 Aug at 1330: Nick Schweitzer, CIA Office of Political Research

(J33345) 26-AUG-75 15:58;;;; Title: Author(s): Douglas C. Engelbart/DCE; Distribution: /SRI-ARC([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: DCE;

33345 Distribution

Douglas C. Engelbart, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman, James C. Norton, Jeffrey C. Peters, Dirk H. Van Nouhuys, Kenneth E. (Ken) Victor, Richard W. Watson, Don I. Andrews, Mary Ann Kellan, Buddie J. Pine, Andy Poggio, David L. Retz, Laura J. Metzger, Karolyn J. Martin, Jan A. Cornish, Larry L. Garlick, Priscilla A. Wold, Pamela K. Allen, Delorse M. Brooks, Beverly Boli, Rita Hysmith, Log Augmentation, Joseph L. Ehardt, Raymond R. Panko, Susan Gail Roetter, Robert Louis Belleville, Rene C. Ochoa, Ann Weinberg, Joan Hamilton, Adrian C. McGinnis, Robert S. Ratner, David S. Maynard, Robert N. Lieberman, Sandy L. Johnson, James H. Bair, Jeanne M. Leavitt, Rodney A. Bondurant, Jeanne M. Beck, Marcia L. Keeney, Elizabeth K. Michael, Jonathan B. Postel, Elizabeth J. Feinler, Kirk E. Kelley, N. Dean Meyer, James E. (Jim) White

b,d

(J33346) 26-AUG-75 16:00;;;; Title: Author(s): Douglas C. Engelbart/DCE; Sub-Collections: SRI-ARC; Clerk: DCE;

Thanks.

Priscilla and Susan -
Thanks so much for the TNLS class, it was great. If there are ever any DNLS classes in the future which I could attend, I would appreciate hearing about them.
Thanks again,
[Geoff]

GSG 26-AUG-75 21:22 33347

Thanks,

(J33347) 26-AUG-75 21:22;;;; Title: Author(s): Geoffrey S. Goodfellow/GSG; Distribution: /PAW2([INFO-ONLY]) SGR([INFO-ONLY]) ; Sub-Collections: NIC; Clerk: GSG;

33347 Distribution
Priscilla A. Wold, Susan Gail Roetter,

DFB 27-AUG-75 05:25 33348

test one

This is a test of the sendmail facility. 1

test one

(J33348) 27-AUG-75 05:25;;;; Title: Author(s): Deane F. Bergstrom/DFB; Distribution: /DFB([INFO-ONLY]) ; Sub-Collections: RADC; Clerk: DFB;

33348 Distribution
Deane F. Bergstrom,

RBP 27-AUG-75 06:28 33349

Project 5550 - PMP

To information addressees - If you have anything to add, please let Dick, Jim, and me know as soon as possible.
To Bobbie - Please be sure Dick and Jim receive their copies.

RBP 27-AUG-75 06:28 33349

Project 5550 - PMP

From: R. Panara

Subject: Program Management Plan - Project 5550

To: J. Previte (ISCA)
R. Nelson (ISIS)

1. The task write-ups for the Project 5550 PMP are required by 29 Sept 75.

2. The format and funding levels for each task are provided on the attachment. As a separate item, I require a listing of all reports published under Project 5550 during the year.

1 Atch

PMP Guidance

Roger B. Panara
Project Engineer
Project 5550

cc. Krutz
Barnum
Tomaini
Loreto
McNamara

PMP Guidance

1. There are three tasks to be written this year with funding (x$1,000,000) below:

Task	76	7T	77	78	Task Engr
A. Assoc Processor	0.57	0.10	0.3	0.3	Previte
B. Config Processor	0	0	1.0	1.5	Previte
C. Software CR&T	3.11	1.10	5.7	9.0	Nelson

Notes:
Funds between task A & B can redistributed as desired.
I am trying to get guidance from AFSC on the FY76 funding level for task C. If the project ceiling is officialy changed to $3.0 million , then the figure will be changed to $2.150.

2. When writing up your task, keep in mind that it serves two purposes:
   (1) Informs others of our on-going program and near term plans.
   (2) Is used by headquarters personnel to defend and judge the need for this program when compared with others.

3. It is the second purpose which the PMP primarily should be designed to serve this year. As you can see, our budgetary figures for future years are jumping. We know, from experience, that these figures are higher than those which finally will be approved by Congress. However, we are in competition for funds and the competition is getting stiffer. We do not want an arbitrary decision to be made to hold the project to a constant level or a decision made to cut this project instead of another because of insufficient information in an inadequate plan.

4. I have received comments on last year's PMP and guidence from AFSC and USAF which should be useful in meeting the goal in 3 above as follows:
   a. The PMP will emphasis plans for FY77 and FY78.
   b. Be as specific and detailed as possible.
   c. The scope of the identified effort must visibly support the required dollars.
   d. Identify the expected output.
      (1) What is it?(report, program, specificaton,etc.)
      (2) What further effort may be required?
      (If work is to be transitioned to Engineering Development - as is the plan for the Language Control Facility - or to another Advanced Development - as has been discussed for the Associative Processor - be explicit about how far it will be carried in 5550 and what will be done under the other project.)
      (3) When will the output be available?

(4) Who do we expect to use it and where will it be used? 16d5

e. Coordination of this program with others and knowledge of related work other organizations are doing must be described. (We must show that we are aware of what others are doing and also show that we are making others aware of our program and plans. AFSC is particularly interested in coordination of Software CR&T with ISTAO, SAMSO and ASD, and with SAMSO/DYT on the Configurable Processor.) 16e

5. The format to be followed in the task write-ups is as follows: 17

a. Introduction (objectives and goals) 17a

b. Requirements (be specific - identify Air Force studies, ROCs, TNs, etc.) 17b

c. Problems (technical and managerial such as policy) 17c

d. Coordination and Related Programs 17d

e. Pay - offs (identify specific and potential users) 17e

f. Technical Approach 17f

g. Accomplishments 17g

h. Test and Evaluation (be specific on the plan to demonstrate that the technology will meet stauted objectives) 17h

i. Funding Chart (reference last PMP pp21 and 45- the charts will be for FY-76,7T, 77 and 78.) 17i

j. Milestone Chart - AFSC Form 103 - (cover CY 75 thru 79 - one milestone chart/area can be used for the S/W CR&T task if desired). 17j

Project 5550 - PMP

(J33349) 27-AUG-75 06:28;;;; Title: Author(s): Roger B. Panara/RBP; Distribution: /RN2([ACTION]) DRL2([ACTION]) RDK([INFO-ONLY]) ARB([INFO-ONLY]) FJH([INFO-ONLY]) FJT([INFO-ONLY]) JLM([INFO-ONLY]) RJC([INFO-ONLY]) ; Sub-Collections: RADC; Clerk: RBP; Origin: < PANARA, PMP-5550.NLS;1, >, 27-AUG-75 06:12 RBP ;;;; ####;

33349 Distribution
Richard Nelson, Daniel R. Loreto, Robert D. Krutz, Alan R. Barnum, Francis J. Hilbing, Frank J. Tomaini, John L. McNamara, Roberta J. Carrier,

EJK 27-AUG-75 10:17 33350

Everything you always wanted to know about NLS ...

By jumping to this link you will get the master index to NLS, its subsystems, and everything in the Journal for the last few years. Instructions for use are at the head of the file.

EJK 27-AUG-75 10:17 33350

Everything you always wanted to know about NLS ...

<USERGUIDES,LOCATOR, 1:ebt> 1

EJK 27-AUG-75 10:17 33350

Everything you always wanted to know about NLS ...

(J33350) 27-AUG-75 10:17;;;; Title: Author(s): Edmund J. Kennedy/EJK; Distribution: /RADC([INFO-ONLY]) ; Sub-Collections: RADC; Clerk: EJK;

33350 Distribution

Rocco F. Iuorno, Thomas J. Bucciero, Roger B. Panara, John L. McNamara, Joe P. Cavano, Duane L. Stone, Marcelle D. Petell, Thomas F. Lawrence,
Wolf-Hasso Kaubisch, Kim Cynthia Carter, Samuel L. Ruple, Stephen P. Sutkowski, Richard Calicchia, William W. Patterson, Francis J. Hilbing, Robert K. Walker, Frank P. Sliwa, Joe F. Femia, Roger W. Weber, Melville J. Draper, Robert D. Krutz, James W. Hyde, David T. Craig, Fred N. Dimaggio, Robert E. Doane, Richard Nelson, William F. Stinson, Daniel R. Loreto, John B. McLean, Murray L. Kesselman, Edward F. LaForge, Agatha C. Deconde, Alan R. Barnum, Larry M. Lombardo, Roberta J. Carrier, Richard H. Thayer, Frank J. Tomaini, Mike A. Wingfield, Edmund J. Kennedy, Ray A. Liuzzi, Donald VanAlstine, Deane F. Bergstrom, Frank S. LaMonica, William E. Rzepka

RA3Y 27-AUG-75 12:34 33353

The Hidden Print Command in the NLS-8 Command Summary

Jim, this is for the record. I tried to find the print command several times in the new command summary, and even when DVN told me where it was, I couldn't find it. The reason is that it was 1) indented, and 2) placed after the notation TNLS only. I strongly recomend that you always place the first word of tthe command first, and put notation like TNLS only after the command or below it. Once I saw how TNLS only and DNLS only were being used, I found severalf new commands. Thanks, Ra3y. 1

The Hidden Print Command in the NLS-8 Command Summary

(J33353) 27-AUG-75 12:34;;;; Title: Author(s): Raymond R. Panko/RA3Y; Distribution: /JHB([ACTION]) FEED([ACTION]) RA3Y([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: RA3Y;

33353 Distribution
James H. Bair, Special Jhb Feedback, Raymond R. Panko,

RA3Y 27-AUG-75 12:53 33354

This is an Unrecorded Message

So how come it gots a Journal number? Love, Ra3y 1

This is an Unrecorded Message

(J33354) 27-AUG-75 12:53;;;; Title: (Unrecorded) Title:
Author(s): Raymond R. Panko/RA3Y; Distribution: /FEEDBACK([ACTION])
RA3Y([INFO-ONLY]) ; Sub-Collections: SRI-ARC FEEDBACK; Clerk: RA3Y;

33354 Distribution
Special Jhb Feedback, Raymond R, Panko,

AKW2 27-AUG-75 15:14 33355

test

this is a test, tune to 630 on your radio dial and await further instructions,

1

test

(J33355) 27-AUG-75 15:14;;;; Title: Author(s): Seminar2/AKW2;
Distribution: /AKW([ACTION]) AKW2([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: AKW2;

33355 Distribution
Seminar, Seminar2,

AKW 27-AUG-75 15:19 33356

just a note

By the way, akw = John Adams

AKW 27-AUG-75 15:19 33356

just a note

Doug, just a note ofthanks for your hospitality during my visit here at arc. I hope that we can reciprocate sometime soon when you come east. 1

AKW 27-AUG-75 15:19 33356

just a note

(J33356) 27-AUG-75 15:19;;;; Title: Author(s): Seminar/AKW;
Distribution: /DCE([INFO-ONLY]) ; Sub-Collections: NIC; Clerk: AKW;

33356 Distribution
Douglas C. Engelbart,

AKW2 27-AUG-75 16:58 33357

list of sites

This will serve to remind you of a request for a list of your user sites. Nick S. 1

AKW2 27-AUG-75 16:58 33357

list of sites

(J33357) 27-AUG-75 16:58;;;; Title: Author(s): Seminar2/AKW2;
Distribution: /JCN([ACTION]) AKW2([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: AKW2;

33357 Distribution
James C, Norton, Seminar2,

DVN 28-AUG-75 09:34 33358

For the Whole Universe Catalog Command Language

Follows 33005

For the Whole Universe Catalog Command Language

I am no expert on these things, but I will throw in my two cents. Having had a chance to use WUC, and a slight acquaintance with other command input systems, I think ARC, TENEX, and others have in a certain sense made a mistake associating commands with spelling out English words. Perhaps the association makes the language easier to learn, although the success of TECO, control E in NLS, and Xerox's Gypsy system raise questions even on this point. 1

Getting a file by typing "Jump to Link" -- no matter how quickly recognized -- is a little like controlling a car by typing "Gee" and "Haw" instead of turning the wheel, or like playing a piano by typing "G-flat, C-sharp," etc. In fact, I feel certain that in the evolution of control of computers, commands based on English words will wither away. I think of extended mouse-keyset combinations, on say a 4x4 color-coded pushbutton matrix. Wouldn't it be nice, by the way if the present keyset were color coded? 2

Of course in use "Jump to link" becomes a certain finger twitch, but it is not clear to me that that is the best route. Note that the keyboards in typing schools have blind keys. The characters on the keys are for us hackers who tend to remain that way. 3

I agree that WUC mouse usage can confuse new NLS users because it is different. I guess I think it is different and better. That leaves me in the all-to-frequent quandary of seeing an apparently more expedient implementation crowding out one that looks better in the long run. 4

A last word on pianos and guitars (33005,3f). In fact, it is not so simple as Jim says. the users frequently change the tuning of guitars (effectively changing what finger strokes mean), 9-string, 12-string guitars, and quarter-tone pianos have evolved, and someone who can play the piano can play the organ and harpsichard, although not necessarily well. 5

For the Whole Universe Catalog Command Language

(J33358) 28-AUG-75 09:34;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /FEEDBACK([ACTION]) DMB([ACTION] DIRT Notebook please) DIRT([INFO-ONLY]) SRI-ARC([INFO-ONLY]) JDC([INFO-ONLY]) ; Sub-Collections: SRI-ARC FEEDBACK DIRT; Clerk: DVN;

33358 Distribution

Don I. Andrews, James Dirk Cotton, Beverly Boli, Rita Hysmith, Log Augmentation, Joseph L. Ehardt, Raymond R. Panko, Susan Gail Roetter, Robert Louis Belleville, Rene C. Ochoa, Ann Weinberg, Joan Hamilton, Adrian C. McGinnis, Robert S. Ratner, David S. Maynard, Robert N. Lieberman, Sandy L. Johnson, James H. Bair, Jeanne M. Leavitt, Rodney A. Bondurant, Jeanne M. Beck, Marcia L. Keeney, Elizabeth K. Michael, Jonathan B. Postel, Elizabeth J. Feinler, Kirk E. Kelley, N. Dean Meyer, James E. (Jim) White, Douglas C. Engelbart, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman, James C. Norton, Jeffrey C. Peters, Dirk H. Van Nouhuys, Kenneth E. (Ken) Victor, Richard W. Watson

Special Jhb Feedback, Delorse M. Brooks, Jonathan B. Postel, Priscilla A. Wold, Rita Hysmith, Pamela K. Allen, Delorse M. Brooks, Elizabeth F. Finney, Beverly Boli, Lawrence A. Crain, Kirk Sattley, Susan Gail Roetter, Robert N. Lieberman, Ann Weinberg, Kenneth E. (Ken) Victor, Douglas C. Engelbart, James H. Bair, Elizabeth K. Michael, Richard W. Watson, Elizabeth J. Feinler, Harvey G. Lehtman, Kirk E. Kelley, Laura E. Gould, Jeanne M. Beck, Dirk H. Van Nouhuys, James C. Norton, Mary Ann Kellan, Buddie J. Pine, Andy Poggio, David L. Retz, Laura J. Metzger, Karolyn J. Martin, Jan A. Cornish, Larry L. Garlick, Priscilla A. Wold, Pamela K. Allen, Delorse M. Brooks

MAS2 28-AUG-75 09:36 33359

Corrections to BASE-TOP annexes 28,32,33

Hi Ann! I have finished the corrections for annex 28 part 1 and part 2, annex 32 part a and part b, and annex 33 part a and part b. Annex 33 part b didn't have any changes and neither did annex 32 part a. 1

Corrections to BASE-TOP annexes 28,32,33

(J33359) 28-AUG-75 09:36;;;; Title: Author(s): Marilynne A. Sims/MAS2; Distribution: /POOH([ACTION]) LAC([INFO-ONLY]) MAS2([INFO-ONLY]) KPH([INFO-ONLY]) ; Sub-Collections: NIC; Clerk: MAS2;

33359 Distribution
Ann Weinberg, Lawrence A. Crain, Marilynne A. Sims, Kenneth P. Hearn,

JLC 28-AUG-75 09:42 33360

INITIAL FILE FOR REBECCA A. REID

NLS WILL NOT RECOGNIZE IDENTITY RAR2. REGARDS, JOHN CRABTREE 1

JLC 28-AUG-75 09:42 33360

INITIAL FILE FOR REBECCA A. REID

(J33360) 28-AUG-75 09:42;;;; Title: Author(s): Johnny L. Crabtree/JLC; Distribution: /SRI-ARC([ACTION]) SGR([INFO-ONLY]) JLC([INFO-ONLY]) ; Sub-Collections: NIC SRI-ARC; Clerk: JLC;

33360 Distribution

Douglas C. Engelbart, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman, James C. Norton, Jeffrey C. Peters, Dirk H. Van Nouhuys, Kenneth E. (Ken) Victor, Richard W. Watson, Don I. Andrews, Susan Gail Roetter, Johnny L. Crabtree,
Mary Ann Kellan, Buddie J. Pine, Andy Poggio, David L. Retz, Laura J. Metzger, Karolyn J. Martin, Jan A. Cornish, Larry L. Garlick, Priscilla A. Wold, Pamela K. Allen, Delorse M. Brooks, Beverly Boli, Rita Hysmith, Log Augmentation, Joseph L. Ehardt, Raymond R. Panko, Susan Gail Roetter, Robert Louis Belleville, Rene C. Ochoa, Ann Weinberg, Joan Hamilton, Adrian C. McGinnis, Robert S. Ratner, David S. Maynard, Robert N. Lieberman, Sandy L. Johnson, James H. Bair, Jeanne M. Leavitt, Rodney A. Bondurant, Jeanne M. Beck, Marcia L. Keeney, Elizabeth K. Michael, Jonathan B. Postel, Elizabeth J. Feinler, Kirk E. Kelley, N. Dean Meyer, James E. (Jim) White

JCP 28-AUG-75 10:29 33361

Ident Setup for RAR2

Ident associations (granting that the ident already exists as Rebecca's does) happen on a per username basis. I set it up so that now ident RAR2 will be accepted for NLS entry under username DSDC-SC. If she needs NLS entry under other usernames as well, please send me the usernames so they can be set up also. Thanx and regards - Jeff 1

JCP 28-AUG-75 10:29 33361

Ident Setup for RAR2

(J33361) 28-AUG-75 10:29;;;; Title: Author(s): Jeffrey C. Peters/JCP; Distribution: /JLC([INFO-ONLY]) FEED([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: JCP;

33361 Distribution
Johnny L. Crabtree, Special Jhb Feedback,

IMM 28-AUG-75 12:35 33362

DDSI and COM TAPES

Dirk, I guess I had something to do with the request from DDSI,,what happened was I started to receive two sets of originals and for everything and also they were billing me for everything double so I called to find out the reason why the duplication and they mentioned that they ran everything twice,,however I see they contacted you,,I thought I would let you I called about it....Inez 1

IMM 28-AUG-75 12:35 33362

DDSI and COM TAPES

(J33362) 28-AUG-75 12:35;;;; Title: Author(s): Inez M. Mattiuz/IMM;
Distribution: /DVN([INFO-ONLY]) ; Sub-Collections: BELL-CANADA;
Clerk: IMM;

33362 Distribution
Dirk H. Van Nouhuys,

I hope by the timeeee 1

afm 66-1 Sample Journal Mail

(J33363) 28-AUG-75 12:54;;;; Title: Author(s): Robert E. Mortenson/RBTM; Distribution: /EKM([ACTION]) ; Sub-Collections: NIC; Clerk: RBTM;

33363 Distribution
Elizabeth K. Michael,

RA3Y 28-AUG-75 17:58 33366

Show Record and ,Lastname

When you want to find somebody's ident in DNLS, you can go to sendmail and give the command "Show Record ,Lastname," That's when the trouble starts. First, even if there is only one person with the last name, it asks you if this is the right person. OK, I guess I can live with that, but what does it then prompt you with a T:? Why does it expect an ident after you have said yes, forgoshsakes? 1

Show Record and ,Lastname

(J33366) 28-AUG-75 17:58;;;; Title: Author(s): Raymond R. Panko/RA3Y; Distribution: /FEEDBACK([ACTION]) ; Sub-Collections: SRI-ARC FEEDBACK; Clerk: RA3Y;

33366 Distribution
Special Jhb Feedback,

RA3Y 28-AUG-75 18:07 33367

altmode in TNLS

I agree with Jake's comment <journal,Jrn129,j26340:gw>. Of course altmode should be available in TNLS. 1

altmode in TNLS

(J33367) 28-AUG-75 18:07;;;; Title: Author(s): Raymond R. Panko/RA3Y; Distribution: /FEEDBACK([ACTION]) ; Sub-Collections: SRI-ARC FEEDBACK; Clerk: RA3Y;

33367 Distribution
Special Jhb Feedback,

Rob Lieberman mentioned that First National City Bank is a hot potential client. You should be aware that FNCB was one of the first pioneers in television teleconferencing in the early 1960's. They have an excellent reputation as a firm interested in innovative communications. 1

(J33368) 28-AUG-75 19:04;;;; Title: Author(s): Raymond R. Panko/RA3Y; Distribution: /JCN([INFO-ONLY]) RLL([INFO-ONLY]) DCE([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: RA3Y;

33368 Distribution
James C. Norton, Robert N. Lieberman, Douglas C. Engelbart,

last gasp

this is it, the last gasp. it's been fun; thanks. see you next time in nls.

1

last gasp

(J33369) 28-AUG-75 20:51;;;; Title: Author(s): Seminar2/AKW2;
Distribution: /AKW([ACTION]) AKW2([INFO-ONLY]) ;
Sub-Collections: NIC; Clerk: AKW2;

33369 Distribution
Seminar, Seminar2,

DLS 29-AUG-75 05:48 33370

A KWAC Agenda Item?

response to (26338,) and (26339,)

DLS 29-AUG-75 05:48 33370

A KWAC Agenda Item?

Dave,
We have been putting together a subsystem to handle several types of correspondence that is commonly generated here. We have also had some experience with handing mailing lists, but have never combined the two together. I agree that it should be straight forward to do something like that, but as usual it requires some L-10 talent to make it happen. We are developing some here (slowly), as I expect others are, out of necessity. 1

I believe that if the grand plans for community development are to reach fruition in a reasonable time frame, that the pool of people, who can DO SOMETHING about all the ideas that are continually generated, needs to be substantially increased. The world's supply of L-10 programmers still exists primarily at the ARC. 2

At the last KWAC meeting I expressed the desire for an L-10 course. There is a good possibility that this COULD take place this Fall under the guise of training a couple of IBM people who are about to do a job for RADC, if the ARC is willing to expand the enrollment. I would like to suggest this as an agenda topic for the upcoming KWAC meeting. 3

DLS 29-AUG-75 05:48 33370

A KWAC Agenda Item?

(J33370) 29-AUG-75 05:48;;;; Title: Author(s): Duane L. Stone/DLS; Distribution: /AID([ACTION]) JCN([INFO-ONLY]) JHB([INFO-ONLY]) ; Sub-Collections: RADC AID; Clerk: DLS;

33370 Distribution
Frank G. Brignoli, Inez M. Mattiuz, Connie K. McLindon, Michael A. Placko, David A. Potter, Terry H. Proch, Rudy L. Ruggles, Robert M. Sheppard, Duane L. Stone, Stanley M. (Stan) Taylor, Ronald P. Uhlig, James C. Norton, James H. Bair,

DFB 29-AUG-75 05:52 33371

Presentation

On September 16, 1975, Auerbach Associates will give a presentation on "Structured Design Methodology" in Conference Room 1. The presentation will address methods for developing techniques whereby formal design specifications can be produced and, subsequently, how these specifications can be integrated into the Program Support Library. For additional detail please call D. Bergstrom at extension 4654. 1

Presentation

(J33371) 29-AUG-75 05:52;;;; Title: Author(s): Deane F. Bergstrom/DFB; Distribution: /RADC([ACTION]) ; Sub-Collections: RADC; Clerk: DFB;

33371 Distribution

Rocco F. Iuorno, Thomas J. Bucciero, Roger B. Panara, John L. McNamara, Joe P. Cavano, Duane L. Stone, Marcelle D. Petell, Thomas F. Lawrence,
Wolf-Hasso Kaubisch, Kim Cynthia Carter, Samuel L. Ruple, Stephen P. Sutkowski, Richard Calicchia, William W. Patterson, Francis J. Hilbing, Robert K. Walker, Frank P. Sliwa, Joe F. Femia, Roger W. Weber, Melville J. Draper, Robert D. Krutz, James W. Hyde, David T. Craig, Fred N. Dimaggio, Robert E. Doane, Richard Nelson, William F. Stinson, Daniel R. Loreto, John B. McLean, Murray L. Kesselman, Edward F. LaForge, Agatha C. Deconde, Alan R. Barnum, Larry M. Lombardo, Roberta J. Carrier, Richard H. Thayer, Frank J. Tomaini, Mike A. Wingfield, Edmund J. Kennedy, Ray A. Liuzzi, Donald VanAlstine, Deane F. Bergstrom, Frank S. LaMonica, William E. Rzepka

asdghjl

asfhk;

DLS 29-AUG-75 10:50 33373

asdghj1

(J33373) 29-AUG-75 10:50;;;; Title: Author(s): Duane L. Stone/DLS;
Distribution: /JLM([ACTION]) MAW([ACTION]) FPS([ACTION])
RWW([ACTION]) JPC([ACTION]) ELF([ACTION]) EJK([ACTION])
WER([ACTION]) FSL([ACTION]) DLS([ACTION]) RBP([ACTION])
; Sub-Collections: RADC; Clerk: DLS;

33373 Distribution
John L. McNamara, Mike A. Wingfield, Frank P. Sliwa, Richard W. Watson, Joe P. Cavano, Edward F. LaForge, Edmund J. Kennedy, William E. Rzepka, Frank S. LaMonica, Duane L. Stone, Roger B. Panara,

asro

/DRAFT/

U.S. DEPARTMENT OF INTERIOR

GEOLOGICAL SURVEY

****

PROPOSAL

FOR

IMPROVING SELECTED HIGH-GAIN LONG-PERIOD SEISMOGRAPH STATIONS

(CONTINUATION OF ARPA ORDER 2862)

****

Prepared for the

ADVANCED RESEARCH PROJECTS AGENCY

****

August 1975

BACKGROUND

In June 1974, the Geological Survey submitted a proposal to upgrade High-Gain Long-period (HGLP) seismograph stations by replacing the digital data logger with an abbreviated version of the SRO digital recording system and adding a short-period vertical-comp>onent channel. The modified HGLP stations (to be designated ASRO) will produce shport-period and long-period seismic data in a format identical to the SRO data. The principal difference between the two types of stations will be that conventional long-period seismometers will continue in use at the modified HGLP stations. Under ARPA Order 2862, dated 5 August 1974, funds were provided to purchase six ASRO recording systems. Funds for installation and associated costs were deferred until fiscal year 1976."

The equipment to be installed at the modified stations will include anti-aliasing filters, a gain-ranging analog-to-digital converter, NOVA 1200 computer with 8K pof core memory and the necessary interfaces, nine-track synchronous tape transport, digital-to-analog converter, monitor recorder, a Helicorder for recording short-period data, digital clock and radio receiver, Teletypewriter, short-period

seismometer (to be obtained from surplus stock), and a short-period seismic amplifier. Existing SRO software will be compatible with the ASRO system and it will include the short-period event detection processor. Existing HLP equipment which will continue in use will be the three long-period seismometers, long-period seismic amplifiers (converted to SRO response), mass position and leveling control, photographic recorders, calibrator, and station power supply. 17

A contract for the ASRO recording systems was awarded to Unitech, Inc> on 30 June 1975. Only five ASRO systems were purchased uner this contract as the negotiated price exceeded the preliminary cost estimate.A separate contract for the NOVA computers was awarded to Data General on 5 June 1975. The first ASRO recording system is scheduled for delivery on 01 January 1976 with the remaining systems delivered one each month. 18

In the initial proposal it was assumed that only existing HGLP stations would be upgrade. During the past year, however, and partially as a result of changes in the SRO station distribution plan, it was agreed that one of the new recording systems would be installed in Kabul, Afghanistan and one in Brazilia, Brazil. Neither of these locations now have an HGLP system. The threee HGLP stations designated for upgrade are Charters Towers, Australia, La Paz, Bolivia, and Toledo, Spain. Because of the equipment delivery schedule, it is unlikely that more than three of the ASRO systems can be installed during this fiscal year. For this reason, this proposal is limited to activities related to the installation of the following three stations: Charters Towers, Australia, La Paz, Bolivia, and Kabul, Afghanistan. We recommend that actions concerning the other two stations be deferred until the remaining SRO systems are definitely committed as this may still impact on the decision to locate the ASRO stations. 19

JP6 29-AUG-75 10:50 33374

asro

(J33374) 29-AUG-75 10:50;;;; Title: Author(s): Jon Peterson/JP6;
Distribution: /JP6([ACTION]) ; Sub-Collections: NIC; Clerk: JP6;
Origin: < PETERSON, ASRO.NLS;1, >, 29-AUG-75 09:40 JP6 ;;;;####;

33374 Distribution
Jon Peterson,

27 AUGUST EXPENSE BREAKDOWN

Let us take the "boxes" under SRI Direct Labor. 1

Box #1 assumes that 3 Sr. Prof. (myself as General Chairman, Hew Crane as Session Chairman and one unspecified person performing tasks that may not be known until after the detailed planning) would be spending the entire week seeing to it that everything progressed properly. As such they would be concentrating on the Symposium and not available to other project work. Hence, 3 man-weeks, or 120 man-hours at $14.09/hr, is $1691. 2

Box #2 assumes that SRI people participating would not necessarily spend the full week on this project. Hence, the 135 man-hour derives from five people spending an average of 27 hours each at the Symposium. 3

Box #3 is, of course, an estimate. If the Symposium is to avoid pitfalls of previous efforts, a document must come out of it (the Report) which can be used to transmit to non-participants sufficient information to permit them to also generate worthwhile proposals. I would not want penny pinching in the area of creating that Report, hence we assumed approximately two man-months. This would include shorter stretches of several people's time such as Hew Crane, Jack Goldberg, John Wensley, John Kelly, etc. 4

Box #5 also assumes about two man-months, actually 342 man-hours have been assumed in the calculation. The primary effort here would come from Jack Goldberg, Hew Crane, John Kelly, Bert Raphael, and myself. The work involves the detailed planning--the actual conduct of the days, i.e., do we really want parallel sessions, if so how are they to be populated? The time and effort to select the participants from the potential participants, etc. 5

Under Materials and Services: Box #1 includes such things as the rental of transcription equipment, possible lunch or dinner served to participants, other materials tha may be required. 6

Boxes #3 and #4 are estimates based on past experience in similar kinds of projects. 7

Under Consultants -- Box #1 really assumed that it might require the honorarium by the time final dates were chosen in order to get proper Chairmen for the other sessions. John Davis and Ivan Sutherland "agreed" at a time when we were contemplating a November 1975 Symposium. I cannot get new commitments from people until we know whether or not there will be a Symposium. 8

I believe all of the other squares in the Matrix are self-explanatory. 9

27 AUGUST EXPENSE BREAKDOWN

(J33375) 29-AUG-75 10:51;;;; Title: Author(s): Stephen W. Miller/SWM; Distribution: /CF([ACTION]) ; Sub-Collections: NIC; Clerk: KLM; Origin: < MABREY, 27-AUG-75-EXPENSE-MILLER.NLS;1, >, 29-AUG-75 10:45 KLM ;;;;####;

33375 Distribution
Craig Fields,

111

ttt

111

(J33376) 29-AUG-75 11:04;;;; Title: Author(s): Duane L. Stone/DLS; Sub-Collections: RADC; Clerk: DLS;

JMB 29-AUG-75 16:48 33377

Part of NIC #8246 now online

Jon, Grace Geoghagan has input part of document NIC #8246. Here it is. Thanks for providing us with practice material.....jeanne

Part of NIC #8246 now online

II. COMMUNICATION CONCEPTS 1

II. COMMUNICATION CONCEPTS 2

PREFACE 3

This document specifies a protocol for use in communication between Host computers on the ARPA Network. In particular, it provides for connection of independent process in different Hosts, control of the flow of data over established connections, and several ancillary functions. Although basically self-contained, this document specifies only one of several ARPA Network protocols; all protocol specifications are collected in the document Current Network Protocols, NIC #7104. 3a

This document superccedes NIC #7147 of the same title. Principal differences between the documents include+ 3b

. prohibition of spontaneous RET, ERP, and RRP commands 3b1

. a discussion of the problem of unanswered CLS commands (page 18) 3b2

. a discussion of the implications of queueing and not queueing RFCs (page 15) 3b3

. the strong recommendation that received ERR commands be logged, and some additional ERR specifications. 3b4

In addition to the above, several minor editorial changes have been made. 3c

Although there are many individuals associated with the network who are knowledgeable about protocol issues, indivviduals with questions pertaining to network protocols should initially contact one of the following+ 3d

Steve Crocker
Advanced Research Projects Agency
1400 Wilson Boulevard
Arlington, Virginia 22209

(202) 694-5921 or 5922 3d1

Alex McKenzie
Bolt Beranek and Newman Inc.
50 Moulton Street
Cambridge, Massachusettts 02138

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(617) 491-1850 ext. 441 3d2

Jon Postel
University of California at Los Angeles
Computer Science Department
3732 Boelter Hall
Los Angeles, California 90024

(213) 825-2368 3d3

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Part of NIC #8246 now online

I. INTRODUCTION 5

The ARPA Network provides a capability for geographically separated computers, called Hosts, to communicate with each other. The Host computers typically differ from one another in type, speed, word length, operating system, etc. Each Host computer is connected into the network through a local small computer called an Interface Message Processor (IMP). The complete network is formed by interconnecting these IMPs, all of which are virtually identical, through wideband communications lines supplied by the telephone company. Each IMP is programmed to store and forward messages to the neighboring IMPs in the network. During a typical operation, a Host passes a message to its local IMP; the first 32 bits of this message include the "network address" of a destination Host. The message is passed from IMP to IMP through the Network until it finally arrives at the destination IMP, which is turn passes it along to the destination Host. 6

Specifications for the physical and logical message transfer between a Host and its local IMP are contained in Bolt Beranek and Newman (BBN) Report No. 1822. These specifications are generally called the first level protocol or Host/IMP Protocol. This protocol is not by itself, however, sufficient to specify meaningful communication between processes running in two dissimilar Hosts. Rather, the processes must have some agreement as to the method of initiating communication, the interpretation of transmitted data, and so forth. Although it would be possible for such agreements to be reached by each pair of Hosts (or processes) interested in communication, a more general arrangement is desirable in order to minimize the amount of implementation necessary for Network-wide communication. Accordingly, the Host organizations formed a Netswork Working Group (NWG) to facilitate an exchange of ideas and to formulated additional specifications for Host-to-Host communications. 7

The NWG had adopted a "layered" approach to the specification of communications protocol. The inner layer is the Host/IMP protocol. The next layer specifies methods of establishing communications paths, managing buffer space at each end of a communications path, and providing a method of "interrupting" a communications path. This protocol, which will be used by all higher-level protocols, is known as the second level protocol, or Host/Host protocol. (It is worth noting that, although the IMP sub-network provides a capability for message switching, the Host/Host protocol is based on the concept of

line switching.) Examples of further layers of protocol currently developed or anticipated include: 8

1) An Initial Connection Protocol (ICP) which provides a convenient standard method for several processes to gain simultaneous access to some specific process (such as the "logger") at another Host, 8a

2) A Telecommunication Network (TELNET) protocol which provides for the "mapping" of an arbitrary keyboard-printer terminal into a Network Virtual Terminal user at one Host site and a terminal-serving process at some other site which "expects" to be connected to a (local) terminal logically different from the (remote) terminal actually in use. The TELNET protocol specifies use of the ICP to establish the communication path between the terminal user and the terminal-service process. 8b

3) A Data Transfer protocol to specify standard methods of formatting data for shipment through the network, 8c

4) A File Transfer protocol to specify methods for reading, writing, and updating files stored at a remote Host. The File Transfer protocol specifies that the actual transmission of data should be performed in accordance with the Data Transfer protocol. 8d

5) A Graphics protocol to specify the means for exchanging graphiscs display information, 8e

6) A Remote Job Service (RJS) protocol to specify methods for submitting input to, obtaining output from, and exercising control over Hosts which provide batch processing facilities, 8f

The remainder of this document describes and specifies the Host/Host, or second level, protocol as formulated by the Network Working Group. 9

II. COMMUNICATIONS CONCEPTS 10

The IMP sub-network imposes a number of physical restrictions on communications between Hosts; these restrictions are presented in BBN Report Number 1822. In particular, the concepts of leaders, messages, padding, links, and message types are of interest to the design of Host/Host protocol. The following discussion assumes that the reader is familiar with these concepts. 10a

Although there is little uniformity among the Hosts in either hardware or operating systems, the notion of multiprogramming dominates most of the systems. These Hosts can each concurrently support several users, with each user running one or more

Part of NIC #8246 now online

processes. Many of these processes may want to use the network concurrently, and thus a fundamental requirement of the Host/Host protocol is to provide for process-to-process communication over the network. Since the first level protocol only takes cognizance of Hosts, and since the several processes in execution within a Host are usually independent, it is ncessary for the second level protocol to provide a richer addressing structure. 10b

JMB 29-AUG-75 16:48 33377

Part of NIC #8246 now online

(J33377) 29-AUG-75 16:48;;;; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /JBP([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
LAC; Origin: < AFM, NIC8246,NLS;8, >, 29-AUG-75 16:32 LAC
;;;;####;

33377 Distribution
Jonathan B. Postel,

JMB 29-AUG-75 16:54 33378

NIC # 30490 now online

Jon, Joan Ulferts put this document online this week, Thanks for providing us practice material.....jeanne

JMB 29-AUG-75 16:54 33378

NIC # 30490 now online

TIP/TENEX Reliability Improvements 1

During the past months we have felt strong pressure to improve the reliability of TIP/TENEX network connection as improvement in the reliability of users' connections between TENEXs and TIPs would have major impact on the appearance of overall network reliability due to the large number and high visibility of TENEXs and TIPs. Despite the emphasis on TIP/TENEX interaction, all work done applies equally well to interactions between Hosts of any type. The remainder of this RFC gives a sketch of our plan for improving the reliability of connections bettween TIPs and TENEXs. Major portions of this plan have already been implemented (TIP version 322; TENEX version 1,32) and are now undergoing final test prior to release throughout the network. Completion of the implementation of the plan is expected in the next quarter. 2

Our plan for improving the reliability of TIP/TENEX connections is concerned with obtaining and maintaining TIP/TENEX connections, gracefully recovering from lost connections, and providing clear messages to the user whenever the state of his connection changes. 3

When a TIP user attempts to open a connection to any Host, the Host may be down. In this case it would be helpful to provide the user with information about the extent of the Host's unavailability. To facilitate this, we modified the IMP program to accept and utilize information from a Host about when the Host will be back up and for what reason it is down. TENEX is to be modified to supply such information before it goes down, or through manual means, after it has gone down. When the TIP user then attempts to connect to the down TENEX, the IMP local to the TENEX returns the information about why and for how long TENEX will be down. The TIP is to be modified to report this sort of information to the user; e.g., "Host unavailable because of hardware maintenance -- expected available Tuesday at 16:30 GMT". 4

The TIP's logger is presently not reentrant. Thus, no single TIP user can be allowed to tie up the logger for too long at a time; and the TIP therefore enforces a timeout of arbitrary length (about 60 seconds) on logger use. However, a heavily loaded Host cannot be guaranteed always to respond within 60 seconds to a TIP login request, and at present TIP users sometimes cannot get connected to a heavily loaded TENEX. To correct this problem, the TIP logger will be made reentrant and the timeout on logger use will be eliminated. 5

One notorious soft spot in the Host/Host protocol which degrades the reliability of connections is the Host/Host protocol incremental allocate mechanism. Low frequency software bugs, intermittant hardware bugs, etc., can lead to the incremental allocates associated with a connection getting out of synchronization. When this happens

it usually appears to the user as if the connection just "hung up". A slight addiition to the Host/Host protocol to allow connection allocates to be resynchronized has been designed and implemented for both the TIP and TENEX. 6

TENEX has a number of internal consistency checks (called "bughalts") which occasionally cause TENEX to halt. Frequently, after diagnosis by system personnel, TENEX can be made to proceed without loss from the viewpoint of local users. A mechanism is being provided which allows TENEX to proceed in this case from the point of view of TIP users of TENEX. 7

The appropriate mechanism entails the following: TENEX will not drop its ready line during a bughalt (from which TENEX can usually proceed successfully), nor will it clear its NCP tables and abort all connections. Instead, after a bughalt TENEX will: discard the message it is currently receiving, as the IMP has returned an Incomplete Transmission to the source for this message; reinitialize the interface to the IMP; and resynchronize, on all connections possible, Host/Host protocol allocate inconsistencies due to lost messages, RFNMs etc. The latter is done with the same mechanism described above. This procedure is not guaranteed to save all data -- a tiny bit may be lost -- but this is of secondary importance to maintaining the connection over the TENEX bughalt. 8

The TIP user must be kept fully informed as TENEX halts and then continues. Therefore, the TIP has been modified to report "Host not responding -- connection suspended" when it senses that TENEX has halted (it does this by properly interpreting messages returned by the destination IMP). When TENEX resumes service after proceeding from a bughalt, the above procedure notifies the TIP that service is restored, and the TIP has been modified to report "Service resumed" to all users of that Host. 9

On the other hand, the service interruption may not be proceedable and TENEX may have to do a total system reload and restart. In this case TENEX will clear its NCP connection tables and send a Host/Host protocol reset command to all other Hosts. On receiving this reset command, the TIP will report "Host reset -- connection closed" to all users of that Host with suspended connections. The TIP user can then re-login to the TENEX or to some other Host. 10

Of couse, the user may not have the patience to wait for service to resume after a TENEX bughalt. Instead, he may unilaterally choose to connect to some other Host, ignoring the previously suspended connection. If TENEX is then able to proceed, its NCP will still think its connection to the TIP is good and suitable for use. Thus, we have a connection which the TIP thinks is closed and TENEX thinks is open, a phenomenon known as the "half-closed connection". An

automatic procedure for cleanly completing the closing of such a connection has been specified and implemented for the TIP and TENEX. 11

Since TENEX will maintain connections across service interruptions, the TIP user will be required to take the security procedure telling the TIP to "forget" his suspended connection before abandoning his terminal. The command @H 0 (for example) will guarantee that his connection will not be reestablished on resumption of service. Otherwise, his job would be left at the mercy of anyone who acquires that terminal. 12

An appendix follows which describes the Host/Host protocol changes made. These changes are backward compatible (with the exception that Hosts which have not implemented these changes will sometimes receive unrecognizable Host/Host protocol commands which they presumably discard without suffering harm). These protocol changes are ad hoc in nature but in light of their backward compatibility and potential utility, ARPA okayed their addition to the TIP and TENEX NCPs without (we believe) any implication that other Hosts have to implement them (although we would encourage their widespread implementation). 13

Appendix - Ad Hoc Change to Host-Host Protocol 14

A.1 Introduction 14a

The current Host-Host protocol (NIC #8246) contains no provisions for resynchronizing the status information kept at the two ends of each connection. In particular, if either host suffers a service interruption, or if a control message is lost or corrupted in an interface or in the subnet, the status information at the two ends of the connection will be inconsistent. 14a1

Since the current protocol provides no way to correct this condition, the NCPs at the two ends stay "confused" forever. An occasional frustrating symptom of this effect is the "lost allocate" phenomenon, where the receiving NCP believes that it has bit and message allocations outstanding, while the sending NCP believes that it does not have any allocation. As a result, information flow over that connection can never be restarted. 14a2

Use of the Host-Host RST (reset) command is inappropriate here, as it destroys all connections between the two hosts. What is needed is a way to resynchronize only the affected connection without disturbing any others. 14a3

A second troublesome symptom of inconsistency in status information is the "half-closed" connection: after a service

interruption or network partitioning, one NCP may believe that a connection is still open, while the other believes that the connection is closed (does not exist). When such an inconsistency is discovered, the "open" end of the connection should be closed. 14a4

A.2 The RAR, RAS and RAP commands 14b

To achieve resynchronization of allocation, we add the following three commands to the host-host protocol. 14b1

The RAS command is sent from the Host sending on "link" to the Host receiving on "link". This command may be sent whenever the sending Host desires to resynch the status information associated with the connection (and doesn't have a message in transit through the network). Some circumstances in which the sending Host may choose to do this are: 14b2

1) After a timeout when there is traffic to move but no allocation (assumes that an allocation has been lost); 14b2a

2) When an inconsistent event occurs associated with that connection (e.g. an outstanding allocation in excess of 2^32 bits or 2^16 messages); 14b2b

3) After the sending host has suffered an interruption of network service; 14b2c

4) In response to a RAP (see below). 14b2d

The RAR command is sent from the Host receiving on "link" to the Host sending on "link" in response to an RAS. It marks the completion of the connection resynchronization. When the RAR is returned the connection is in the known state of having no messages in transit in either direction and the allocations are zero. The receiving Host may then start afresh with a new allocation and normal message transmission can proceed. Since the RAR may be sent ONLY in response to an RAS, there are no races in the resynchronization. All of the initiative lies with the sending Host. 14b3

If the receiving Host detects an anomalous situation, however, there is no way to inform the sending Host that a resynchronization is desirable. For this purpose, the RAP command is provided. It constitutes a "suggestion" on the part of the receiving Host that the sending Host resynchronize; the sending Host is free to honor it or not as it sees fit. Since there is no obligatory response to a RAP, the receiving Host may send them as frequently as it chooses and no harm can

occur. For example, if a message in excess of the allocate arrives, the receiving Host might send RAPs every few seconds until the sending Host replies with no fears of races if one or more RAPs pass a RAS in the network. 14b4

A.3 Resynchronization Procedure 14c

The resynchronization sequence below may be initiated only by the sender either for internally generated reasons or upon the receipt of a RAP. 14c1

a) Sender - decision to resynch 14c1a

1) Set state to "Wait-for-RAR" (Defer transmission of message.) 14c1a1

2) Wait until no RFNM outstanding 14c1a2

3) Send RAS 14c1a3

4) Zero allocation 14c1a4

5) Ignore allocates until RAR received 14c1a5

6) Set state to "Open" (Resume normal message transmission subject to flow control.) 14c1a6

b) Receiver - receipt of RAS 14c1b

1) Send RAR 14c1b1

2) Zero allocation 14c1b2

3) Send a new allocation 14c1b3

When the sender is in the "Wait-for-RAR" state it is not permitted to send new regular messages. (Note that steps 4 and 5 will insure this in the normal course of events.) With the return of the RAR the pipeline contains no messages and no allocates, the outstanding allocation variables at both ends are forced into agreement by setting them both to zero. The receiver will then reconsider bit and message allocation, and send an ALL command for any allocation it cares to do. 14c2

A.4 The Problem of Half-closed Connections 14d

The above procedures provide a way to resynchronize a connection after a brief lapse by a communications component,

which results in lost messages or allocates for an open connection. 14d1

A longer and more severe interruption of communication may result from a partitioning of the subnet or from a service interruption on one of the communicating hosts. It is undesirable to tie up resources indefinitely under such circumstances, so the user is provided with the option of freeing up these resources (including himself) by unilaterally dissolving the connection. Here "unilaterally" means sending the CLS command and closing the connection without receiving the CLS acknowledgement. Note that this is legal only if the subnet indicates that the destination is dead. 14d2

When service is restored ater such an interruption, the status information at the two ends of the connection is out of synchronization. One end believes that the connection is open, and may proceed to use the connection. The disconnecting end believes that the connection is closed (does not exist), and may proceed to re-initialize communication by opening a new connection (RTS or STR command) using the same socket pair or same link. 14d3

The resynchronization needed here is to properly close the open end of the connection when the inconsistency is detected. We will accomplish this by specifying consistency checks and adding a new pair of commands. 14d4

A.5 The NXL and NXR Commands 14e

The "missing CLS" situation described above can manifest itself in two ways. The first way involves action taken by the NCP at the "open" end of the connection. It may continue to send regular messages on the link of the half-closed connection, or control messages referencing its link. The closed end should respond with an NXS if the message referred to a non-existent transmit link (e.g. was an ALL) or NXR if the message referred to a non-existent receive link (e.g. a data message). On receipt of such an NXS or NXR message, the NCP at the "open" end should close the connection by modifying its tables (without sending any CLS command) thereby bringing both ends into agreement. 14e1

A.6 Consistency Checks 14f

A second way this inconsistency can show up involves actions initiated by the NCP at the "closed" end. It may (thinking the connection is closed) send an STR or RTS to reopen the connection. The NCP at the "open" end should detect the

inconsistency when it receives such an RTS or STR command, because it specifies the same socket pair as an existing open connection, or, in the case of an RTS, the same link. In this case, the NCP at the "open" end should close the connection (without sending any CLS command) to bring the two ends into agreement before responding to the RTS/STR. 14f1

A.7 Conclusion 14g

The scheme presented in Section A.2 to resynchronize allocation has one very important property: the data stream is preserved through the exchange. Since no data is lost, it is safe to initiate resynchronization from either end at any time. When in doubt, resynchronize. 14g1

The consistency checks for RTS and STR, and the NXR and NXS commands provide the synchronization needed to complete the closing of "half-closed" connections. 14g2

The protocol changes above will make the host-host protocol far more robust, in that useful work can continue in spite of lapses by the communications components. 14g3

JMB 29-AUG-75 16:54 33378

NIC # 30490 now online

(J33378) 29-AUG-75 16:54;;;; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /JBP([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
LAC; Origin: < AFM, NIC30490.NLS;12, >, 29-AUG-75 13:54 LAC
;;;;####;

33378 Distribution
Jonathan B, Postel,

GSG 30-AUG-75 03:41 33379

Usage Stats

Just wondering, how often do you comiple those usage statistics and who gets them? Since I now have my own directory under the SRI slot here, I would be interested how my usage compairs with the oters in this slot.

I also got the word from Jake that you wanted a copy of Mil's TNLS manuel, so I put one on your desk this afternoon. Hope you got it.
[Geoff]

1

Usage Stats

(J33379) 30-AUG-75 03:41;;;; Title: Author(s): Geoffrey S. Goodfellow/GSG; Distribution: /RA3Y([ACTION]) ; Sub-Collections: NIC; Clerk: GSG;

33379 Distribution
Raymond R. Panko,

DCE 31-AUG-75 09:26 33380

To Potter, re response to (33311,)

Dave: I'd like to communicate to Carl Zinn; what are your thoughts re participating in "...a special session for next April's annual meeting of the American Education?? Research Association (in San Francisco) -- topic: 'Computer Assisted Seminars,' ...", as described in my 22 Aug note, (HJOURNAL,33311,)? Regards, Doug. 1

DCE 31-AUG-75 09:26 33380

To Potter, re response to (33311,)

(J33380) 31-AUG-75 09:26;;;; Title: Author(s): Douglas C. Engelbart/DCE; Distribution: /DAP([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: DCE;

33380 Distribution
David A. Potter,

MIKE 31-AUG-75 10:17 33381

demo, reply to your request re EFTS

Larry, this is a sample of how one might compose a custom document on very short notice.

demo, reply to your request re EFTS

The Impact of Electronic Funds Transfer Systems on Personal Privacy and Security. 1

The Role of the Business Planning Group 2

The Business Planning Group of Bell Canada is the Company's long-range market planning group. "Futures research" is the term that most accurately, if somewhat loosely, describes the nature of the work done by the group. The group has been charged by the Company with the responsibilty of identifying potential new business opportunities (emerging in the ten to fifteen year time frame), and to alert the Company to developing threats to existing markets. In keeping with the long range time frames and the corporate-wide impacts of the subjects studied by the group, the majority of the output of the group is intended for the senior management of the Company, from the Vice-Presidential level and up. 2a

The group consists of eleven professional planners or researchers. The breadth of the material covered by the group is such that each member of the group is responsible for a wide variety of project areas, and the generic connection between any two of an individuals projects may seem hazy unless the entire scope of the group's work is considered as well. 2b

Research areas that have been investigated during the past year include the following: 2c

Travel/Communication Substitution 2c1

A comprehensive two-year study focusing on the reasons motivating business executives to travel rather than make use of telecommunication alternatives was concluded. A survey of 40,000 business travellers (traveling along four major Canadian travel corridors, using four different modes of transportation) generated a large data base that has helped Bell Canada answer such questions as why business executives travel out of town, how the travel pattern differs according to the type of traveler (salary, management level within the company, distance traveled, corridor traveled, etc.), how the nature of the meeting affected the propensity to substitute communications alternatives, and how the executives perceived the utility of a number of teleconferencing media. 2c1a

Evaluation of Computer-Augmented Management Systems 2c2

The group is now in a position to evaluate its participation in the OFFICE-1 Computer Augemented Management System

demo, reply to your request re EFTS

(CAMS). OFFICE-1 is a time-sharing computer dedicated to assisting a group of knowledge workers in their day-to-day operations. It combines a sophisticated text editor (for preparing reports, letters, memos, etc.), an output processor for formatting documents (page width and length, pagination, size and style of font, etc.), and a sophisticated message handling capability (for distributing documents to intended recipients, whether they be "on-line" or not). OFFICE-1 is operated by Tymeshare Inc. in Cupertino, California, and it is one of three computers in the world providing NLS, a CAMS language developed by Stanford Research Institute's Augmentation Research Center. Bell Canada is the only non-government institution that is participating in the use and evaluation of NLS. 2c2a

Analysis of Teleconferencing Media 2c3

The Business Planning Group has been making use of a large number of teleconferencing media in order to gain first-hand experience in how they might serve managers in the future. Also, the group has sponsored or cooperated with other groups (H.O. Marketing, Bell Northern Research Systems Engineering) conducting evaluations of the use of these media. The specific media being analyzed include the following: 2c3a

Audio conferencing, utilizing new technologies developed at BNR and implemented on a prototype basis in five selected conference rooms in Bell Canada and BNR. 2c3b

Studio-based video conferencing, operating between studios in four major Canadian cities, and available to interested business executives (both inside and outside the Company) at no charge during the evaluaton period; 2c3c

Graphics conferencing, specifically the patented work of Bell Northern Research of Scribblephone, an interactive graphics terminal; 2c3d

Computer conferencing, in which members of the conference enter comments or vote on proposals by using a computer terminal. The computer keeps a record of each conference; since conferences may last anywhere from two or three days to several months, particpants can rely on the computer to hold messages for them until they are able to "sign on" to the conference at a convenient time. Also, all messages are stored in a permanent file; this makes is easy to go back to check on a previous message, or for new members to join the conference in progress and be brought up to date quickly. 2c3e

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Study of the Energy Requirements of Different Travel and Communications Systems 2c4

Evaluation of the Impact of the "Wired City" 2c5

The subject of this current series of reports is the impact of the possible widespread utilization of certain "wired city"-type services on the individual and interpersonal attitudes and behaviours of both users and non-users of the services. 2c5a

The group has conducted a limited amount of professional consulting work for outside clients. The maor thrust of the services provided include assistance in methodology development, questionnaire design, and project management and control. 2d

Content of the Report: The Impact of Electronic Funds Transfer Systems on Personal Privacy and Security. 3

Services Selected for Evaluation 3a

The basis for the selection of services considered in the forerunner to this study was the extensive research done by Arthur D. Little, Inc. and Stanford Research Institute, and Institute for the Future. These organizations conducted multi-client studies into the development of residence-based communications services in the future, with a heavy emphasis on the specific types of services that could be expected to emerge, the costs of developing the hardware and software neeeded to provide the services, and estimates of the demand elasiticies of prospective users of the services. The Business Planning study was conducted with the objective of validating these U.S. studies in a Canadian context, and developing a feeling for the actual utility and degree of improvement of the services. Ten services were selected for analysis of the five service categories described above: Remote Shopping, Remote Banking, Electronic Surveillance Service, Programmed Education, Consumer Shopping Guide, Consumer Service Guide, Consumer Rating Service, Demand News Service, Demand Information Service, Demand Education Service, Household Information Service, Electronic Bulletin Board, Personal Filing Service, and Home Calculator Service. 3a1

After reviewing the results of that earlier study and integrating them with similar work done by others since that study's inception, the following list of services was developed for analysis in the current study: 3a2

Entertainment on Demand 3a3

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Abbreviated Service Description 3a3a

This service would permit users to select any of a number of different entertainment programs for immediate viewing, it would not be necessary to wait for a scheduled network performance. 3a3a1

Education on Demand 3a4

Abbreviated Service Description 3a4a

Users would be able to request educational material for immediate viewing in the home. Subject material would be quite far-ranging, and question-and-answer formats would be available. 3a4a1

Household Information Service 3a5

Abbreviated Service Description 3a5a

General household information, usually available elsewhere but with less convenience, would be available to users on a "demand" basis. 3a5a1

Dedicated News Service 3a6

Abbreviated Service Description 3a6a

Users would be able to tailor their news reports to include only the news subjects and level of detail they desired. The reports would be available on a "demand" basis. 3a6a1

Shopping and Purchasing From the Home 3a7

Abbreviated Service Description 3a7a

Householders would be able to compare different items from different stores and make purchases, without leaving home. 3a7a1

Remote Banking 3a8

Abbreviated Service Description 3a8a

All normal banking functions could be conducted remotely, with the use of a home terminal device and authorization code of some sort to provide security. 3a8a1

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Remote Work Center 3a9

Abbreviated Service Description 3a9a

New communications services would permit many office workers to work from their homes. Community Work Centers are discussed in this second questionnaire. 3a9a1

Remote Medical Diagnosis 3a10

Abbreviated Service Description 3a10a

Doctors (or para-medics) would be able to screen and diagnose patients without requiring the patients to come to their offices. The more serious or questionnable patients would come to the office for a face-to-face visit. 3a10a1

Remote Political Participation 3a11

Abbreviated Service Description 3a11a

Citizens would be able to send messages to representatives, sit in on legislative meetings, participate in "town hall" type forums, and vote on referenda, all without leaving home. 3a11a1

Home Surveillance Systems 3a12

Abbreviated Service Description 3a12a

A system of alarms in the home that would notify proper community emergency authority in the event of fires intrusion, accidents, etc. 3a12a1

Impacts to be Evaluated 3b

This study investigated potential impacts in four areas: time-related impacts, privacy- and security-related impacts, impacts on interpersonal relations, and the impact of increasing dependence on technology. The selection of these four general areas was based on the results of the previous enquiry into the marketing feasiblity of the services being considered, on developing public concern over some of the issues which are starting to make themselves felt even today and which the "wired city" may accelerate, on formal and informal discussions with other researchers in this field, and on the researcher's background knowledge on the trends observed to date in the evolution of the "wired city". 3b1

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Perhaps more important than the criteria used in selecting the impacts that would be analyzed in this study is the care that went into the study design to guard against the chance that the researcher's personal expectations or limitations did not limit the range of the specific impacts analyzed, nor the depth of the analysis. The study methodology described in the next section is innovative and fefree-wheeling, perhaps to the extent that this study will be criticized for its lack of experimental or statistical rigour. Nevertheless, it was thought that any approach to this question of potential impacts that imposed a greater degree of structure on the participating experts would limit their ability to contribute maximally. These experts (described in greater detail in the following section) were able to respond in a free-form fashion to the questions posed by the researcher, and to criticize the responses of their fellow respondents in an equally unimposing environment. 3b2

To provide an initial focus to the study, the following ten questions were posed, with the hope that they would be modified, expanded, or contracted where necessary, and that the finished product would contain a list of the most important issues surrounding the widespread use of these services, with constructive, solution-oriented, actionable suggestions for challanging those issues: 3b3

Time-Related Impacts: 3b4

Will available leisure time tend to increase or decrease if the service were in widespread use? 3b4a

Will the service encourage people to stay at home, or encourage them to get away from the home ? 3b4b

Will the relationship between gainful employment and recreation become more or less similar? 3b4c

Privacy-Related Impacts: 3b5

Will people tend to spend more or less money on protecting the privacy of information? 3b5a

Will people's respect for the privacy of others tend to increase or decrease? 3b5b

What would be the severity of a temporary but complete breakdown in the privacy of the information being processed in this service? 3b5c

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Impacts Related to Interpersonal Relations: 3b6

Will people tend to see more or less of their old friends and acquaintances if this service develops into widespread use? 3b6a

Will people tend to make many more new acquaintances (or much fewer) if this service develops into widespread use? 3b6b

Will relations with other people tend to become more formal or more informal? 3b6c

Dependence on Technology: 3b7

What would be the severity of the impact of a temporary but complete disruption of the basic service? 3b7a

Remote Banking Service 4

The results of an earlier Business Planning Group study of the marketing aspects of this service include the following: 4a

over 75% said, yes, it would be used if available 4a1

cost to the user would be about the same as alternative status quo 4a2

most useful documentation in form of hard-copy statemnts, bills; 4a3

reference in Business Delphi study of availability on weekends, etc. (good reference, use it !) 4a4

indications that it would tend to substitute heavily for traditional paper-bound banking practices (10%-40%); most heavy substitution for payments to utitlity co.'s, and recurring payments for things like insurance, rent or mortgage, etc.) 4b

The panelists indicated that one of the main factors encouraging customers' use of services such as this was the time and inconvenience associated with traditional banking practices: 4c

(501-302-00) Banking chores are unattractive, tedious and time-consuming. Automatic systems will be adopted quickly at least in urban areas. 4c1

(501-118-00) The present banking system for the public is so out moded and restrictive that any change would be an

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improvement. The public (especially working people are badly served by inconvenient hours, long lines on pay day, rigid old-fashioned accounting. But remote banking will require public safeguards which banks themselves must not provide to protect users. One would not want to "send the fox to watch the chickens". 4c2

This last respondent's concern for safeguards in the system was one of the main topics that came out of the first round: 4d

Round 1 Researcher: We will need some foolproof method of remote verification of personal identification. I at must be quick, positively accurate, and have the legal binding of one's signature. Ultimately, we will need to know just who made this transaction. This requires positive proof on one's identity. Several successful incidents of masquerading to "rob the bank" will cause so much consternation that highly foolproof procedures wll become commonplace. 4d1

Round 1 Researcher: The only bottleneck is a "cheap" means of personal identification over the phone - a code number is not going to be enough. 4d2

Round 1 Researcher: Security is badly handled by banks now - at least the privacy aspect - what's needed are changeable encrypted passwords on accounts, audits, ways to correct errors, consumer protection laws regarding illegal misuse of the system. 4d3

This researcher recognized and commented on the fact that the question of protection of privacy was more than a hardware or software concern: 4e

Round 1 Researcher: Unfortunately people in general would probably be hardpressed to describe such a system in terms that are intelligible intelligible; banking security is acquired by reputation and tradition rather than logic. 4e1

The privacy of the information stored in the memory of systems such as this received a great deal of additional comment in the second round. 4f

(503-504-00) Security and privacy are all important factors; this could be overcome by a rapid system of "voice printing" and comparison. Official institutions (income tax, etc.) however, must be allowed to check the computer banks, but the citizen involved must be aware and consenting. 4f1

(503-218-00) Decentralization & partition of Data should be

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maintained except when there is a special need for long-distance reference, Keep as much of the system close to the users as possible, Perhaps every terminal should have Data cassette or Hard Copy output for the users to keep their own records, 4f2

(503-115-01) In order to be successful, the system would have at least to be absolutely secure, simple to understand and to use and to retain at least the same advantages to the consumer than the current system (control of bank account, credit extension, etc,)
** Absolute privacy and hard copy receipt at time of transaction, Also, the right to question one's credit file and credit rating, 4f3

(503-122-00) There are over 140 bills on privacy now in US Congress, Privacy is a popular bug, Will have to ensure accuracy & security, 4f4

(503-130-00) In the U,S, much legistation is being enacted which bears on many of these questions, Unfortuantely, the legislations themselves differ from state to state, or is between state and Federal, It is likely to be a highly confused (and risky) area for some time to come, 4f5

This researcher alone commented on the distinction between the privacy of the information, and the misuse of that information (although the same point WAS brought up by several others in responding to the general questions on the changing attitudes toward privacy that might be brought about by the proliferation of this and other "wired city" services): 4g

(503-203-00) Oppenheimer is quoted as saying that we must reach the day when secrecy is illegal - as far as practically possible, I think the privacy bit is a strawman which has to be knocked down, Prevention of misuse of information - yes, secrecy no, 4g1

Of the hardware suggestions for increasing the security of the information contained in systems of this sort, voice-prints were mentioned most frequently; it may be interesting to note that the researchers did not mention voice-prints at all, 4h

(503-604-00) I would think that something like your fingerprints would be the least personal verification people would require, Or a voiceprint, Something absolutely personal, 4h1

(503-504-00) Security and privacy are all ijportant factors; this could be overcome by a rapid system of "voice printing"

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and comparison, Official institutions (income tax, etc.) however, must be allowed to check the computer banks, but the citizen involved must be aware and consenting. 4h2

(503-212-01) Handprint, voiceprint transmitted to central memory bank and back from point of transaction. 4h3

The fact that services of this nature could eliminate a majority of the "float" experienced as a result of traditional paper-bound accounting methods came in for some comment in the second round, although the statistical responses did not indicate whether the absense of a float would neither encourage nor discourage bank patrons from using the service. 4i

(517-123-50) I'm a "kite flyer" who lives on the "float". We ar a significant force - perhaps a majority among consumers. 4i1

(517-132-30) A few play with the float to a minor degree but overall I would not expect any real effect.E 4i2

(517-218-40) Current line of interest rates make all interest free delays quite valuable to the consumer. 4i3

(517-302-30) Some sort of credit arrangement can replace the float system. 4i4

Amount of Money Spent on Maintaining Privacy 5

According to the respondents' numerical responses, there does not appear to be any expectation that householders will be spending less money to protect their privacy in the future. For a few services (Remote Banking, the Remote Work Center, Remote Medical Diagnosis, and Remote Political Participation) it appears they may be spending more. 5a

The concept of having to spend money to protect privacy seemed strange to some of the panelists. They pointed this out in some cases, or pointed out that up to now, the cost of privacy had remained hidden from them. 5b

(d053-111-00) I don't consciously spend any now I wouldn't in the future. But I would raise hell and attempt to sue if there were any breaks now or in the future. 5b1

(d253-203-00) This is a psychological problem to a large extent. The need for privacy of household information is because in the past someone was allowed to misuse the information. 5b2

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(d053-607-00) I don't know where privacy is involved, not in this day and age anyway. 5b3

Other panelists pointed out that the degree of privacy desired by householders was a function of the sensitivity of the information involvled, and that in many cases they would not be willing to pay anything to protect privacy. 5c

(d053-109-00) Privacy mainly needed to protect confidential information about other peoples' business i.e. client relationships. Responsibility for costs due to such leaks is a dominant consideration. 5c1

(d053-123-00) Most thinking people would only be concerned about the confidentiality of sensitive personal information such as financial/banking transactions, medical records, criminal history and arrest files and tax returns. I could care less if you know what kind of entertainment I watch. The privacy of personal information about political involvement and personal ideology could get rather sticky! 5c2

(d053-504-00) Since social interaction is reduced, what does it really matter if people know how you spend your leisure time (unless it's criminal activities)? 5c3

The allocation of the costs of maintaining the privacy of the information transmitted and stored by users and providers of these services is a factor that could vary for different services, or for different user-perceptions of the value of privacy. The differences in cost to the user could be based on several different philosophical views of the subject. 5d

(d053-101-00) Perhaps money spent as a fraction of the cost of service. Some of these services might contain a fairly high percentage of the total cost for privacy. Perhaps if this were true, the consumer could buy a cheap, low privacy service or an expensive high privacy one. 5d1

(d053-303-00) Index of respondent refusal on questionnaires. - Legal proceedings involving privacy. - # of articles in press concerning privacy. - I believe people are concerned but frustrated in knowing how to protect their privacy, to what extent it has already been violated. It is therefore difficult to quantify the price people are willing to pay for a basic civil right. 5d2

(d053-505-00) I would suggest you approach it from, how much time people would try to have privacy, if these services were

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installed. In my family, I know that a great deal of privacy is looked for, but not much money is spent on it. 5d3

In the same vein, the incidence of the costs of privacy - wether the cost falls directly on the user, on the provider, or perhaps on the government - is related to the cost of the services, since in some manner these costs will have to be picked up somewhere. This first statement reflects the idea that someone has the right to privacy without having to pay anything for it. Is this belief justified only if one further believes that the individual willing to pay nothing for privacy in no way benefits from the the information or transactions that others are paying to protect? 5e

(d053-113-00) 1) Pressure groups for the promotion of privacy legislation may be formed. People signing such petitions or whatever shows concern for privacy without spending $$$ on it. 5e1

(d053-141-00) People are concerned about privacy but may not be willing to spend their own $ for it. 5e2

(d653-141-00) The skewed results on Remote Work Centers may be a reflection of the fact that someone else will pay for the privacy, ie, government or business. 5e3

At least one respondent related very weeall to the concept of putting a dollar value on privacy; rather than pay to keep it to himself, he is going to turn around and sell it to interested parties: 5f

(d053-101-00) If a user has a right of privacy, he can sell information about himself and his tastes to advertisers; the user then has a choice. 5f1

In an earlier discussion on the security requirements of the Remote Banking service, the differentiation between access to information and misuse of information was made. The difference was brought out by respondents in this section also. 5g

(503-203-00) Oppenheimer is quoted as saying that we must reach the day when secrecy is illegal - as far as practically possible. I think the privacy bit is a strawman which has to be knocked down. Prevention of misuse of information - yes, secrecy no. 5g1

(d053-203-01) If someone misused this information he might be in trouble - eg, used as evidence to establish a case of sex offender! The point is to control mis-use of info. ** These question don't make sense to me unless I don't want people to know that I watch pornographic opera! 5g2

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Changes in Respect for the Privacy of Others 6

with no exceptions, the six participating groups indicated that none of these servies services would result in an increase or decrease in people's respect for the privacy of others around them, 6a

There was some disagreement over one of the comments from the first questionnaire; this researcher was concerned that a heavy reliance on telecommunicatons services to produce informaton "on demand" would affect the way people related to other people: 6b

Round 1 Researcher: "Significant decrease"; habituation to information "on demand" could cause general loss of patience and drop in traditional manners, 6b1

Some of the respondents in the second questionnaire saw it differntly: 6c

(e054-111-02) Interesting, Plausible, But I doubt it, 6c1

(e054-130-02) I agree, This is already a dangerous trend, The question of property rights in information is one that is beginning to be fought out in the U,S, courts, and probably will, over the next decade, become a major societal issue, 6c2

The following statements seem to make an implicit differentiation between absolute privacy (no one will know anything about the information coming INTO or OUT of the home) and security against misuse of that information, 6d

Round 1 Researcher: The availaility of information on entertainment choices could be embarassing to some, 6d1

Round 1 Researcher: Very small percent of users will be embarrassed by disclosing their choice of programs, 6d2

(f055-212-01) Round 1 Educator: Above all, we don't want any data collection system which can automaticaly identify what person watched which program, or which household, for that matter, 6d3

Some second round replies directed at this comment: 6d3a

(f055-212-01) Why not? It might result in more programs of the type I want? 6d3a1

(f055-301-01) This is terrifying! Surely the central issue of privacy includes the right to do things that

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others may disapprove of. This guy seems to be willing to forego this right! 6d3a2

(e054-113-00) Making a phone call is an infringement on someone else's privacy. Additional telecommnications services into the home, if switched or feed-back capabilities are included, may cause people to forget about other people's privacy, even more. But since these services are not switched, or there are no cameras in people's home, there's no problem. No change in the respect for other people's privacy. 6d4

(e054-216-00) I suppose the implication of some of these is that if you have a party line you are tempted to listen to it. 6d5

(f055-216-00) I cannot understand the heavy emphasis by some on privacy of the first three services. 6d6

(f055-303-00) I cannot imagine that a company selling entertainment services etc would not wish to know something about their customers in an effort to improve their marketing and thus their profits. Thus the simple administrative cum accounts of the operation would provide such information. What should be of primary concern for the consumer is that he or she is unwittingly furnishing this information that can be used by the vendor or whomever without any control whatsoever exercised by the customer. 6d7

Probably more than one respondent felt that entirely too much time was devoted to this question. 6e

(e054-106-00) What is this question all about? It's like asking whether use of the system will affect the likelihood of contacting civilization on other planets. 6e1

MIKE 31-AUG-75 10:17 33381

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(J33381) 31-AUG-75 10:17;;;; Title: Author(s): Michael T. Bedford/MIKE; Distribution: /LHD([ACTION]) IMM([INFO-ONLY]) ; Sub-Collections: NIC; Clerk: MIKE;

33381 Distribution
Lawrence H. Day, Inez M. Mattiuz,

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TITLE: Remote Banking (EFTS) and the Impact on Individual Privacy and security of Information 1

The Role of the Business Planning Group 2

The Business Planning Group of Bell Canada is the Company's long-range market planning group. "Futures research" is the term that most accurately, if somewhat loosely, describes the nature of the work done by the group. The group has been charged by the Company with the responsibilty of identifying potential new business opportunities (emerging in the ten to fifteen year time frame), and to alert the Company to developing threats to existing markets. In keeping with the long range time frames and the corporate-wide impacts of the subjects studied by the group, the majority of the output of the group is intended for the senior management of the Company, from the Vice-Presidential level and up. 2a

The group consists of eleven professional planners or researchers. The breadth of the material covered by the group is such that each member of the group is responsible for a wide variety of project areas, and the generic connection between any two of an individuals projects may seem hazy unless the entire scope of the group's work is considered as well. 2b

Research areas that have been investigated during the past year include the following: 2c

Travel/Communication Substitution 2c1

A comprehensive two-year study focusing on the reasons motivating business executives to travel rather than make use of telecommunication alternatives was concluded. A survey of 40,000 business travellers (traveling along four major Canadian travel corridors, using four different modes of transportation) generated a large data base that has helped Bell Canada answer such questions as why business executives travel out of town, how the travel pattern differs according to the type of traveler (salary, management level within the company, distance traveled, corridor traveled, etc.), how the nature of the meeting affected the propensity to substitute communications alternatives, and how the executives perceived the utility of a number of teleconferencing media. 2c1a

Evaluation of Computer-Augmented Management Systems 2c2

The group is now in a position to evaluate its participation in the OFFICE-1 Computer Augemented Management System

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(CAMS). OFFICE-1 is a time-sharing computer dedicated to assisting a group of knowledge workers in their day-to-day operations. It combines a sophisticated text editor (for preparing reports, letters, memos, etc.), an output processor for formatting documents (page width and length, pagination, size and style of font, etc.), and a sophisticated message handling capability (for distributing documents to intended recipients, whether they be "on-line" or not). OFFICE-1 is operated by Tymeshare Inc. in Cupertino, California, and it is one of three computers in the world providing NLS, a CAMS language developed by Stanford Research Institute's Augmentation Research Center. Bell Canada is the only non-government institution that is participating in the use and evaluation of NLS. 2c2a

Analysis of Teleconferencing Media 2c3

The Business Planning Group has been making use of a large number of teleconferencing media in order to gain first-hand experience in how they might serve managers in the future. Also, the group has sponsored or cooperated with other groups (H.O. Marketing, Bell Northern Research Systems Engineering) conducting evaluations of the use of these media. The specific media being analyzed include the following: 2c3a

Audio conferencing, utilizing new technologies developed at BNR and implemented on a prototype basis in five selected conference rooms in Bell Canada and BNR. 2c3b

Studio-based video conferencing, operating between studios in four major Canadian cities, and available to interested business executives (both inside and outside the Company) at no charge during the evaluaton period; 2c3c

Graphics conferencing, specifically the patented work of Bell Northern Research of Scribblephone, an interactive graphics terminal; 2c3d

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The subject of this current series of reports is the impact of the possible widespread utilization of certain "wired city"-type services on the individual and interpersonal attitudes and behaviours of both users and non-users of the services. 2c5a

The group has conducted a limited amount of professional consulting work for outside clients. The maor thrust of the services provided include assistance in methodology development, questionnaire design, and project management and control. 2d

Background and Objectives: A Futures Research Continuum 3

The "Wired City" : Capability - Feasibility - Desirability 3a

The concept of a research continuum is fundamental to a number of the study areas tackled by the Business Planning Group. The Group's involvement in the "wired city" is one such area. 3a1

In the late 1960's and early in this decade, technological forecasting was a major activity in the Business Planning Group. It was important to have a firm grasp of what technolgical CAPABILITIES would be available to the cCompanyompany and potential competitors before developing the analysis of how to best make use of the resources available to the Company. Forecasts of the major technolgical developments in three different fields were conducted; these included the following: Educational Technology, Medical Technology, and Business Information Processing Technology. A broad range of technologies was analyzed in each study, but one area of interest was common to all; each of these forecasting exercises contained enquiries into the technical capability of providing individual residences with the ability to telecommunicate with a wide variety of data bases, and to interact in various ways with these data bases. In all the studies, it was found that by the 1981-1985 time frame, 20% of North American homes would be able to interact in such a manner. That is, they would be able to interact in an "on demand" fashion with an audio, audio-visual, or alpha-numeric data base through the facilities of a home terminal and associated communications links. By 1990, this figure was expected to rise to 55%, with two-way interactive video systems developing somewhat later. 3a2

Having developed a feeling for what technolgical capabilities

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would become available during the next twenty years, the Group began an analysis of the market demand for new communications services, with the objective of identifying how the availability of the technology might change the customer's need for communications services, and of determining if any specific technology might be employed to improve existing services. (This latter function is carried out more intensively in a number of other department within Bell Canada and Bell Northern Research, specifically Bell's Network Planning Group, and BNR's Systems Engineering Department.) 3a3

In the field of new residence-based services, a study and report titled "The Future of Communications Services in the Home" provided the Group with information on the FEASIBILITY of offering some specific communications services to the general public on a commercial basis. Many of the new services proposed in that study took advantage of the soon-to-be-available technologies forecast in the earlier studies, but the major emphasis was on the services that might be provided rather than the specific method of delivering the service. The study investigated limited-interaction and high level-interaction versions of five service concepts: Remote Shopping, Remote Banking, Demand Entertainment and Education, Household Information Services, and Household Security Services. The results contained housewive's and expert opinion on the importance of the information processed in each service, on the percieved utility of the different services, and on the degree of improvement over existing methods of obtaining or processing the same information. 3a4

While this work was being conducted, it became increasingly clear that while the Business Planning Group was developing a good idea of which services would succeed if offered on a pure marketing feasibility standpoint, there were other larger, more global considerations to be considered, namely the DESIRABLIITY of making these services available. Desirability can take on a variety of connotations, and the Group wrestled with the problems of determining from whose point of view the desirability should be evaluated. Obvious contenders included the following: the prospective users of the services, the non-users of the services (that is, those who were unwilling or unable to use the services), society as a whole, as represented by government legislators and regulators, and the people financing the development of the services, of whom the shareholders of the Company represent a major portion. 3a5

It is the purpose and objective of this current study to analyze these different elements of desirability, to develop some measure of the relative desirability of a number of

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specific "wired city"-type services, and to develop a framework around which any potential communication service can be evaluated according to its desirability to different sectors of society. 3a6

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Round 1 Researcher: We will need some foolproof method of remote verification of personal identification. I at must be

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quick, positively accurate, and have the legal binding of one's signature. Ultimately, we will need to know just who made this transaction. This requires positive proof on one's identity. Several successful incidents of masquerading to "rob the bank" will cause so much consternation that highly foolproof procedures will become commonplace. 4d1

Round 1 Researcher: The only bottleneck is a "cheap" means of personal identification over the phone - a code number is not going to be enough. 4d2

Round 1 Researcher: Security is badly handled by banks now - at least the privacy aspect - what's needed are changeable encrypted passwords on accounts, audits, ways to correct errors, consumer protection laws regarding illegal misuse of the system. 4d3

This researcher recognized and commented on the fact that the question of protection of privacy was more than a hardware or software concern: 4e

Round 1 Researcher: Unfortunately people in general would probably be hardpressed to describe such a system in terms that are intelligible intelligible; banking security is acquired by reputation and tradition rather than logic. 4e1

The privacy of the information stored in the memory of systems such as this received a great deal of additional comment in the second round. 4f

(503-504-00) Security and privacy are all important factors; this could be overcome by a rapid system of "voice printing" and comparison. Official institutions (income tax, etc.) however, must be allowed to check the computer banks, but the citizen involved must be aware and consenting. 4f1

(503-218-00) Decentralization & partition of Data should be maintained except when there is a special need for long-distance reference. Keep as much of the system close to the users as possible. Perhaps every terminal should have Data cassette or Hard Copy output for the users to keep their own records. 4f2

(503-115-01) In order to be successful, the system would have at least to be absolutely secure, simple to understand and to use and to retain at least the same advantages to the consumer than the current system (control of bank account, credit extension, etc.)

** Absolute privacy and hard copy receipt at time of

demonstration of document production on a custom basis,

transaction. Also, the right to question one's credit file and credit rating. 4f3

(503-122-00) There are over 140 bills on privacy now in US Congress. Privacy is a popular bug. Will have to ensure accuracy & security. 4f4

(503-130-00) In the U.S. much legistation is being enacted which bears on many of these questions. Unfortuantely, the legislations themselves differ from state to state, or is between state and Federal. It is likely to be a highly confused (and risky) area for some time to come. 4f5

This researcher alone commented on the distinction between the privacy of the information, and the misuse of that information (although the same point WAS brought up by several others in responding to the general questions on the changing attitudes toward privacy that might be brought about by the proliferation of this and other "wired city" services): 4g

(503-203-00) Oppenheimer is quoted as saying that we must reach the day when secrecy is illegal - as far as practically possible. I think the privacy bit is a strawman which has to be knocked down. Prevention of misuse of information - yes, secrecy no. 4g1

Of the hardware suggestions for increasing the security of the information contained in systems of this sort, voice-prints were mentioned most frequently; it may be interesting to note that the researchers did not mention voice-prints at all. 4h

(503-604-00) I would think that something like your fingerprints would be the least personal verification people would require. Or a voiceprint. Something absolutely personal. 4h1

(503-504-00) Security and privacy are all ijportant factors; this could be overcome by a rapid system of "voice printing" and comparison. Official institutions (income tax, etc.) however, must be allowed to check the computer banks, but the citizen involved must be aware and consenting. 4h2

(503-212-01) Handprint, voiceprint transmitted to central memory bank and back from point of transaction. 4h3

The fact that services of this nature could eliminate a majority of the "float" experienced as a result of traditional paper-bound accounting methods came in for some comment in the second round, although the statistical responses did not indicate whether the

demonstration of document production on a custom basis.

absense of a float would neither encourage nor discourage bank patrons from using the service. 4i

(517-123-50) I'm a "kite flyer" who lives on the "float", We ar a significant force - perhaps a majority among consumers. 4i1

(517-132-30) A few play with the float to a minor degree but overall I would not expect any real effect.E 4i2

(517-218-40) Current line of interest rates make all interest free delays quite valuable to the consumer. 4i3

(517-302-30) Some sort of credit arrangement can replace the float system. 4i4

Amount of Money Spent on Maintaining Privacy 5

According to the respondents' numerical responses, there does not appear to be any expectation that householders will be spending less money to protect their privacy in the future. For a few services (Remote Banking, the Remote Work Center, Remote Medical Diagnosis, and Remote Political Participation) it appears they may be spending more. 5a

The concept of having to spend money to protect privacy seemed strange to some of the panelists. They pointed this out in some cases, or pointed out that up to now, the cost of privacy had remained hidden from them. 5b

(d053-111-00) I don't consciously spend any now I wouldn't in the future. But I would raise hell and attempt to sue if there were any breaks now or in the future. 5b1

(d253-203-00) This is a psychological problem to a large extent. The need for privacy of household information is because in the past someone was allowed to misuse the information. 5b2

(d053-607-00) I don't know where privacy is involved, not in this day and age anyway. 5b3

Other panelists pointed out that the degree of privacy desired by householders was a function of the sensitivity of the information involvled, and that in many cases they would not be willing to pay anything to protect privacy. 5c

(d053-109-00) Privacy mainly needed to protect confidential information about other peoples' business i.e. client

demonstration of document production on a custom basis.

relationships. Responsibility for costs due to such leaks is a dominant consideration. 5c1

(d053-123-00) Most thinking people would only be concerned about the confidentiality of sensitive personal information such as financial/banking transactions, medical records, criminal history and arrest files and tax returns. I could care less if you know what kind of entertainment I watch. The privacy of personal information about political involvement and personal ideology could get rather sticky! 5c2

(d053-504-00) Since social interaction is reduced, what does it really matter if people know how you spend your leisure time (unless it's criminal activities)? 5c3

The allocation of the costs of maintaining the privacy of the information transmitted and stored by users and providers of these services is a factor that could vary for different services, or for different user-perceptions of the value of privacy. The differences in cost to the user could be based on several different philosophical views of the subject. 5d

(d053-101-00) Perhaps money spent as a fraction of the cost of service. Some of these services might contain a fairly high percentage of the total cost for privacy. Perhaps if this were true, the consumer could buy a cheap, low privacy service or an expensive high privacy one. 5d1

(d053-303-00) Index of respondent refusal on questionnaires. - Legal proceedings involving privacy. - # of articles in press concerning privacy. - I believe people are concerned but frustrated in knowing how to protect their privacy, to what extent it has already been violated. It is therefore difficult to quantify the price people are willing to pay for a basic civil right. 5d2

(d053-505-00) I would suggest you approach it from, how much time people would try to have privacy, if these services were installed. In my family, I know that a great deal of privacy is looked for, but not much money is spent on it. 5d3

In the same vein, the incidence of the costs of privacy - wether the cost falls directly on the user, on the provider, or perhaps on the government - is related to the cost of the services, since in some manner these costs will have to be picked up somewhere. This first statement reflects the idea that someone has the right to privacy without having to pay anything for it. Is this belief justified only if one further believes that the individual willing

demonstration of document production on a custom basis.

to pay nothing for privacy in no way benefits from the the information or transactions that others are paying to protect? 5e

(d053-113-00) 1) Pressure groups for the promotion of privacy legislation may be formed, People signing such petitions or whatever shows concern for privacy without spending $$$ on it. 5e1

(d053-141-00) People are concerned about privacy but may not be willing to spend their own $ for it. 5e2

(d653-141-00) The skewed results on Remote Work Centers may be a reflection of the fact that someone else will pay for the privacy, ie, government or business. 5e3

At least one respondent related very weeall to the concept of putting a dollar value on privacy; rather than pay to keep it to himself, he is going to turn around and sell it to interested parties: 5f

(d053-101-00) If a user has a right of privacy, he can sell information about himself and his tastes to advertisers; the user then has a choice. 5f1

In an earlier discussion on the security requirements of the Remote Banking service, the differentiation between access to information and misuse of information was made. The difference was brought out by respondents in this section also. 5g

(503-203-00) Oppenheimer is quoted as saying that we must reach the day when secrecy is illegal - as far as practically possible. I think the privacy bit is a strawman which has to be knocked down. Prevention of misuse of information - yes, secrecy no. 5g1

(d053-203-01) If someone misused this information he might be in trouble - eg, used as evidence to establish a case of sex offender! The point is to control mis-use of info. ** These question don't make sense to me unless I don't want people to know that I watch pornographic opera! 5g2

Changes in Respect for the Privacy of Others 6

With no exceptions, the six participating groups indicated that none of these servies services would result in an increase or decrease in people's respect for the privacy of others around them. 6a

There was some disagreement over one of the comments from the first questionnaire; this researcher was concerned that a heavy

demonstration of document production on a custom basis,

reliance on telecommunicatons services to produce informaton "on demand" would affect the way people related to other people: 6b

Round 1 Researcher: "Significant decrease"; habituation to information "on demand" could cause general loss of patience and drop in traditional manners. 6b1

Some of the respondents in the second questionnaire saw it differntly: 6c

(e054-111-02) Interesting. Plausible. But I doubt it. 6c1

(e054-130-02) I agree. This is already a dangerous trend. The question of property rights in information is one that is beginning to be fought out in the U.S. courts, and probably will, over the next decade, become a major societal issue. 6c2

The following statements seem to make an implicit differentiation between absolute privacy (no one will know anything about the information coming INTO or OUT of the home) and security against misuse of that information. 6d

Round 1 Researcher: The availaility of information on entertainment choices could be embarassing to some. 6d1

Round 1 Researcher: Very small percent of users will be embarrassed by disclosing their choice of programs. 6d2

(f055-212-01) Round 1 Educator: Above all, we don't want any data collection system which can automaticaly identify what person watched which program, or which household, for that matter. 6d3

Some second round replies directed at this comment: 6d3a

(f055-212-01) Why not? It might result in more programs of the type I want? 6d3a1

(f055-301-01) This is terrifying! Surely the central issue of privacy includes the right to do things that others may disapprove of. This guy seems to be willing to forego this right! 6d3a2

(e054-113-00) Making a phone call is an infringement on someone else's privacy. Additional telecommnications services into the home, if switched or feed-back capabilities are included, may cause people to forget about other people's privacy, even more. But since these services are not switched, or there are no

demonstration of document production on a custom basis.

cameras in people's home, there's no problem. No change in the respect for other people's privacy. 6d4

(e054-216-00) I suppose the implication of some of these is that if you have a party line you are tempted to listen to it. 6d5

(f055-216-00) I cannot understand the heavy emphasis by some on privacy of the first three services. 6d6

(f055-303-00) I cannot imagine that a company selling entertainment services etc would not wish to know something about their customers in an effort to improve their marketing and thus their profits. Thus the simple administrative cum accounts of the operation would provide such information. What should be of primary concern for the consumer is that he or she is unwittingly furnishing this information that can be used by the vendor or whomever without any control whatsoever exercised by the customer. 6d7

Probably more than one respondent felt that entirely too much time was devoted to this question. 6e

(e054-106-00) What is this question all about? It's like asking whether use of the system will affect the likelihood of contacting civilization on other planets. 6e1

demonstration of document production on a custom basis.

(J33382) 31-AUG-75 10:56;;;; Title: Author(s): Michael T. Bedford/MIKE; Distribution: /LHD([ACTION]) IMM([INFO-ONLY]) ; Sub-Collections: NIC; Clerk: MIKE;

33382 Distribution
Lawrence H. Day, Inez M. Mattiuz,

DCE 31-AUG-75 11:29 33383

Phone Log, 29 Aug 75: Michael Knowles, CERL

Interest in AKW Utility. Lieberman to follow up.

DCE 31-AUG-75 11:29 33383

Phone Log, 29 Aug 75: Michael Knowles, CERL

Phone call, 29 Aug 75. Knowles seemed to be anxious to find things out as soon as possible. 1

Michael Knowles
Construction Engineering Research Lab
P.O. Box 4005
Champaign, Ill 61820
(217) 352-6511, ext 392 1a

This lab is part of the Army Corps of Engineers, but it has a direct affiliation with the University of Illinois. 2

Mike visited ARC last Spring. Some years ago he was part of the Advanced Computation group at U of I, set up by Dan Slotnick after the ILLIAC IV was moved out, I had met Mike there. 3

Mike is interested in the AKW Utility; he had a number of explicit questions that I answered. I got the impression that documentation was of special interest. He'd like some written material; I told him that I would have Robert Lieberman call him for follow up, and that Robert could arrange to send him what literature he might need. 4

DCE 31-AUG-75 11:29 33383

Phone Log, 29 Aug 75: Michael Knowles, CERL

(J33383) 31-AUG-75 11:29;;;; Title: Author(s): Douglas C. Engelbart/DCE; Distribution: /RLL([ACTION] Robert: Please contact Mike by phone soon) SRI-ARC([INFO-ONLY]) DOCPLAN([INFO-ONLY]) ; Sub-Collections: SRI-ARC DOCPLAN; Clerk: DCE;

DCE 1-SEP-75 11:28 33384

Interest by Dr. Enoch Callaway for ARPA-related AKW Medical Community

CONTACT: 1

Dr. Enoch Calloway
401 Parnassus Avenue
San Francisco, Ca. 94143 1a

Calloway is a psychiatrist at the Langley Porter Clinic, UC Med Center. He has several kinds of valid interest in our AKW service. The most hopeful is one he wants to explore with us soon -- he's waiting for an explicit arrangement. I will contact him soon and set a visit date. 2

Apparently he is part of a group of medical researchers (or behavioral scientists?) working for ARPA HRRO; I gather that they are distributed around the country. He thinks they could benefit from the AKW Community sort of support. Wants to come check that out. He'd bring a post-doctoral resident who seems suitable for the architect role. If they like it, they'd approach ARPA -- apparently McNeil (??) of HRRO and and Craig Fields of IPTO have been involved in negotiation. If all proceeded well, might be ready to start next Spring. 3

I sent him the following materials: 4

D. C. Engelbart, Coordinated Information Services for a Discipline- or Mission-Oriented Community, Stanford Research Institute, Augmentation Research Center, Menlo Park, California, Paper given at Second Annual Computer Communications Conference, San Jose, California, 24 January 1973, 12 December 1972, Preprint, 13p. (12445,) 4a

D. C. Engelbart, W. K. English, A Research Center for Augmenting Human Intellect, In: AFIPS Proceedings, Fall Joint Computer Conference, Vol. 33, p.395-410, 1968. (3954,) 4b

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. (14724,) 4c

Norton, James C., The SRI-ARC Workshop Utility Service: What and Why. (24031,) 4d

DCE 1-SEP-75 11:28 33384

Interest by Dr. Enoch Callaway for ARPA-related AKW Medical Community

(J33384) 1-SEP-75 11:28;;;; Title: Author(s): Douglas C. Engelbart/DCE; Distribution: /SRI-ARC([INFO-ONLY]) ARC-LOG([INFO-ONLY]) ; Sub-Collections: SRI-ARC ARC-LOG; Clerk: DCE;

33384 Distribution

Douglas C. Engelbart, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Harvey G. Lehtman, James C. Norton, Jeffrey C. Peters, Dirk H. Van Nouhuys, Kenneth E. (Ken) Victor, Richard W. Watson, Don I. Andrews, James C. Norton, Log Augmentation, Mary Ann Kellan, Buddie J. Pine, Andy Poggio, David L. Retz, Laura J. Metzger, Karolyn J. Martin, Jan A. Cornish, Larry L. Garlick, Priscilla A. Wold, Pamela K. Allen, Delorse M. Brooks, Beverly Boli, Rita Hysmith, Log Augmentation, Joseph L. Ehardt, Raymond R. Panko, Susan Gail Roetter, Robert Louis Belleville, Rene C. Ochoa, Ann Weinberg, Joan Hamilton, Adrian C. McGinnis, Robert S. Ratner, David S. Maynard, Robert N. Lieberman, Sandy L. Johnson, James H. Bair, Jeanne M. Leavitt, Rodney A. Bondurant, Jeanne M. Beck, Marcia L. Keeney, Elizabeth K. Michael, Jonathan B. Postel, Elizabeth J. Feinler, Kirk E. Kelley, N. Dean Meyer, James E. (Jim) White

NDM 1-SEP-75 12:04 33385

Contact report: Federal Energy Administration

29-AUG-75 visit with 5 representatives of FEA

Contact report: Federal Energy Administration

(FEA) Contact report: Federal Energy Administration 1

(DATE) 29-AUG-75 1a

(BY) NDM 1b

(ATTENDEES) 1c

Intergovernmental Relations 1c1

Andre Argeaux 1c1a

Policy and Analysis: Energy Information Sys 1c2

Neil Moerschel 1c2a

Conservation and Environment 1c3

Michael Pete -- see (HJOURNAL, 26119, 1:w) 1c3a

Mike Power 1c3b

Pat McArdle 1c3c

(ADDRESSES) Federal Energy Administration
12000 Pennsylvania Avenue
Washington D.C. 20461 1d

Michael Pete: Room 6445 (soon to move)
(202) 961-6217 1d1

(MEDIUM) FACE-TO-FACE 1e

(WHERE) SRI-Washington 1f

(ACTION-ITEMS) 1g

I will get impressions from Michael Pete on others' reactions and possibilities for pursuing their interests. 1g1

Michael is waiting on the passage of the Weatherization Assistance Act of 1975 (HR8650) to see if he has funding. The chances are fairly good, but won't know for a couple months. If it does, he will have a budget of $55 million. About one million of this will be set aside to run the program; this piece could include experimenting with the AKW. 1g2

I mentioned NSF/PII. Neil and Michael both seemed to be interested in checking into the possibility for joint funding.

Contact report: Federal Energy Administration

The two of them were also thinking about the possibilities in Congress! (No real connection there, I assume,) 1g3

I mentioned Bud Mulhall at GSA and their audio-teleconferencing facilities in the ten federal regional centers. Michael is interesting in experimenting with tools like that wherever they seem useful. 1g4

(DISTRIBUTION) ARC-LOG DCE JCN RLL 1h

(REFERENCES) 1i

(DOCUMENTS) Hard copy given and received 1j

(GIVEN) 1j1

<12245,> 1j1a

<14724,> 1j1b

<meyer,eit,nls,> (Michael Pete had seen this and shared it with his colleagues,) 1j1c

(RECEIVED) 1j2

Biographies on: Frank ZARB, Eric ZAUSNER, Roger SANT, Dennis BAKKE 1j2a

Org. chart for Office of Conservation and Environment 1j2b

Memorandum from Roger Sant on appointment of Michael Pete as Director of Office of Weatherization Programs 1j2c

CSA and FEA Regional Representatives list 1j2d

Description of current and anticipated weatherization programs 1j2e

(REMARKS) 1k

Note on Demo: Datamedia screen went out... Rita saved me by borrowing one from ARPA. High-speed phone lines went out... had a TI with detachable coupler so ran DNLS at 300 baud. We talked a lot... 1k1

Impressions: People are naive but quick to turn on to the AKW concepts. There is interest in improving the efficiency of their offices. There is much interest in saving energy by replacing some travel with better communications tools

Contact report: Federal Energy Administration

(reminding me of Larry Day). Money is there once the decision is made (although deregulation of oil prices will throw a good part of FEA out of work). About 3/1 professional-to-clerical. In all, looks very exciting to me. 1k2

Intergovernmental Relations 1k3

facilitate and analyze communications between FEA, regional offices, and other governmental organizations. 1k3a

Andre Argeaux -- saw some potential...not really turned on 1k3b

Policy and Analysis: Energy Information Sys 1k4

for all publications (internally and externally generated) which pass through FEA, this office maintains bibliographies (including abstracts) and catalogs, respond by hand on requests for information, some pressure to make this available to the regional offices in a more efficient way. 1k4a

Neil Moerschel -- saw lots of potential...seemed open and understanding...turned on 1k4b

Conservation and Environment 1k5

Michael Pete -- Low-Income Weatherization -- see (HJOURNAL, 26119, 1:w) 1k5a

message switching: within federal office, to and between 10 regional offices, and eventually including state governors' offices. 1k5a1

communications with regional offices struggling with slow postal service and less-than-ideal internal processing when speedy turn-around is important 1k5a1a

letter writing, in government format, getting proper initials before leaving office, maintaining records of interactions. 1k5a2

structured database, information on program effectiveness, how money is being used, mostly gathered by regional offices, to be maintained and made available by federal office. occasional reports and formatted extractions. 1k5a3

budgeting and financial planning of program money to be distributed to 50 states (about $55 million if bill passes). 1k5a4

Contact report: Federal Energy Administration

training people in regional offices in programs, practices, policies, etc., preferably remotely (perhaps allowing them to explore a tutorial database). 1k5a5

bibliography on conserving energy to be made available to public. 1k5a6

Mike Power -- Analysis, Evaluation, and Systems Studies -- seems very interested (had to leave early) 1k5b

Pat McArdle -- legal assistant 1k5c

Contact report: Federal Energy Administration

(J33385) 1-SEP-75 12:04;;;; Title: Author(s): N. Dean Meyer/NDM;
Distribution: /ARC-LOG([INFO-ONLY]) DCE([INFO-ONLY]) JCN([
INFO-ONLY]) RLL([INFO-ONLY]) ; Sub-Collections: SRI-ARC ARC-LOG;
Clerk: NDM; Origin: < MEYER, FEA,NLS;3, >, 1-SEP-75 11:44 NDM
;;;;####;

33385 Distribution
James C. Norton, Log Augmentation, Douglas C. Engelbart, James C. Norton, Robert N. Lieberman,

DVN 3-SEP-75 12:19 33386

Letter to Lee Revens of the Association for Computing Machinery (ACM)
Reporting the Status of the Editorial Processing Center Project (EPC)

Sent September 2

DVN 3-SEP-75 12:19 33386

Letter to Lee Revens of the Association for Computing Machinery (ACM)
Reporting the Status of the Editorial Processing Center Project (EPC)

33386 1

DVN 3-SEP-75 12:19 33386

Status of EPC

Dirk H. van Nouhuys
Stanford Research Institute
Information Sciences Group
333 Ravenswood Avenue
Menlo Park, California 94025
3 SEP 75

Lee Revens
Association for Computing Machinery
1133 6th Avenue
New York, N Y 10036

2

Dear Mr. Revens:

You may recall my visit last spring in connection with SRI's response to The National Science Foundation's solicitation for development of an Editorial Processing Center. You were good enough to respond with a letter expressing the ACM's interest in taking part. You may recall that I wrote you sometime later reporting the project had been delayed but was still alive. It has still been delayed and is still alive. I inclose a copy of a recent revised proposal. The preface explains something about the delays. We hope and expect that the contract will shortly be concluded and we can start work. We hope you are still interested.

3

Sincerely,

Dirk H. van Nouhuys

DVN 3-SEP-75 12:19 33386

Letter to Lee Revens of the Association for Computing Machinery (ACM)
Reporting the Status of the Editorial Processing Center Project (EPC)

(J33386) 3-SEP-75 12:19;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /KLM([ACTION] docplan notebook please) DOCPLAN([INFO-ONLY]) WEC([INFO-ONLY]) ; Sub-Collections: SRI-ARC DOCPLAN; Clerk: DVN;

33386 Distribution

Kathey L. Mabrey, Raymond R. Panko, James H. Bair, David R. Brown, Glenn A. Sherwood, N. Dean Meyer, Kathey L. Mabrey, Norman R. Nielsen, Thomas L. Humphrey, Robert Louis Belleville, Elizabeth K. Michael, Richard W. Watson, James C. Norton, Robert N. Lieberman, Pat Whiting O'Keefe, Douglas C. Engelbart, Dirk H. Van Nouhuys, William E. Carlson,

Modify's Substitute Command and Output Procesdor Directives

I'm afraid in some cases anyway when Modify finds a directive it carefully destroys it by putting spaces after the period and semicolon as directed. It could be fixed reasonably I think by having it search forward when it found a period to see if it found a semicolon without an intervening invisible and having it search backward when it found a semicolon to see if it found a period without an intervening invisible. If they reset their delimiters to any character involved in the action of the Modify Subsitute command, they they would still be running a risk, but in that case I think they could go on on their own.

1

Modify's Substitute Command and Output Procesdor Directives

(J33387) 2-SEP-75 09:35;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /FEEDBACK([ACTION]) DPCS([INFO-ONLY]) KIRK([INFO-ONLY]) ; Sub-Collections: SRI-ARC FEEDBACK DPCS; Clerk: DVN;

33387 Distribution

Special Jhb Feedback, Marilynne A. Sims, Delorse M. Brooks, Elizabeth F. Finney, Beverly Boli, Joseph L. Ehardt, James H. Bair, Robert N. Lieberman, Pat Whiting O'Keefe, James H. Bair, Robert Louis Belleville, Ann Weinberg, Thomas L. Humphrey, Jeanne M. Leavitt, Kirk E. Kelley, Duane L. Stone, Elizabeth J. Feinler, N. Dean Meyer, Dirk H. Van Nouhuys, Douglas C. Engelbart, James C. Norton, Richard W. Watson, Charles H. Irby, Kirk E. Kelley,

Demonstration for Jesse Hill

Outline of What I Covered

Demonstration for Jesse Hill

Demonstration for Jesse Hill

(J33388) 2-SEP-75 10:26;;;; Title: Author(s): N. Dean Meyer/NDM;
Distribution: /ARC-LOG([INFO-ONLY]) DCE([INFO-ONLY]) JCN([
INFO-ONLY]) RLL([INFO-ONLY]) JNH([INFO-ONLY]) ;
Sub-Collections: SRI-ARC ARC-LOG; Clerk: NDM; Origin: < MEYER,
NSA.NLS;4, >, 2-SEP-75 10:24 NDM ;;;;
####;

33388 Distribution
James C. Norton, Log Augmentation, Douglas C. Engelbart, James C. Norton, Robert N. Lieberman, Jesse N. Hill,

JLC 2-SEP-75 11:49 33389

message

I have tried for so long to tell you how I actually feel however certain circumstances prevent me from doing so. In case I fail to ask you please remind me, anomously..

1

message

(J33389) 2-SEP-75 11:49;;;; Title: Author(s): Johnny L. Crabtree/JLC; Distribution: /RAR2([ACTION]) ; Sub-Collections: NIC; Clerk: JLC;

33389 Distribution
Rebecca A. Reid,