SRL 25-JUN-74 12:02 23460

A question or two about working at ARPA

Hi, looks like I'll be heading for Washington in about 2 weeks. In the time before I leave ARC I plan to work on course oulines etc, with Jim Bair in hopes of being prepared for a number of different situations. 1

I thought you might have a better idea than anyone else as to what kinds of teaching situations there will be. For instance, are there any definate plans for courses, or people who definitely plan to learn etc. Any details might help me be better prepared when I get there. 2

I'm really looking forward to spending some months in Wash, and I'll get in touch again if any more questions pop into my head! 3

MEH 25-JUN-74 12:20 23461

PROM, Memo to Bob Wing explaining request to purchase on Overhead.

MEH 25-JUN-74 12:20 23461

SRI MEMO

TO: Bob Wing DATE: 20 JUNE 74

FROM: Martin Hardy LOCATION: J-2072, X3921

SUBJECT: PROM order, Explanation

CC: JCN
RWW

The PROMs will be used as general lab support tools for development in conjunction with the Pro-Log programmer purchased on overhead for this same purpose. They will not be installed in client equipment other than for testing purposes.

Our immediate needs are:

1) To develop Lineprocessor Firmware programs to evaluate and support display terminals used by our office-1 clients.

2) To develop Lineprocessor Firmware programs to evaluate display terminals we anticipate using with future contracts.

It is important that SRI purchase these PROMs to support existing contracts, and proposals, requiring PROM program development, in order that ARC can continue to build and obtain support for it's NLS system.

Martin Hardy

JMB 19-JUN-74 16:45 23462

Misleading Prompt in Set Tty command (in New NLS & XNLS)

After saying Set Tty, the prompt says "B;/[A]:", but if you type a control-u and then the first character of any address element, you get a question mark. Thus, only a BUG is a choice here. So the prompt should say simply "B;" 1

JMB 19-JUN-74 17:22 23463

Sendmail's Process command doesn't work as advertised

I did Insert Sendmail in Editor. As Help advises (under sendmailforms) I deleted the "DONE:" and added "MESSAGE:" in its place. I then used editing commands to type in my message and fill in the other fields. Then I used Sendmail's Process command to send the item. Show Status then revealed that it got everything but the Message; indeed, DONE had "nothing to send!" Rumor is that the message needs a carriage return after it (though DONE: doesn't) for Process to work; that seems wierd and Help doesn't say anything about that. Could the command or the advertising be cleared up? 1

DCE 25-JUN-74 14:48 23464

Doug McKay, IBM, potential visit

I just had a short link-talk session, while Doug was visiting with Ira Cotton at NBS. Doug said that he was coming to this area next month and would like to visit -- good, we'll wait to hear from him when he makes final arrangements. I gave him Jim Norton's name as a contact in case I am out. 1

I met Doug last Sept. at the IBM-sponsored course given at the University of Newcastle upon Tyne, at Newcastle, England. He and I were invited lecturers. He has spent considerable time for IBM studying the computer-network technology. 2

Richard Witwer, SRI, NIOSH, Utility prospects

I just had a brief phone talk with Rick Witwer. We have had prior contact, once when he accompanied Vernon Rose of NIOSH (National Institute of Occupational Safety and Health -- one of the NIHs) on a visit to my office (see journal item -- 22651,), and a later phone talk when his crew was preparing the proposal for NIOSH (22664,). They have subsequently been awarded a large, several-year contract to establish a crew at SRI-Washington to develop special documentation for NIOSH. 1

The reason for Rick's call was that both the SRI-contract team, and possibly some operations within NIOSH's 'home activities', are coming to be perceived by the associated staff as being likely application for the AKW Utility. Besides ROse's visit here, there was a chance encounter with Jim Norton and Dean Meyer at SRI-Washington during a NIOSH evaluation team's site visit -- a demonstration on the Delta Data display, and a very positive impact upon the team. 2

Rick says that by Sept 3 they plan to have 21 SRI people teamed up and ready to work. He will be spending a good deal of time in Washington this summer. He would like us to keep their interest in mind; he suggests that after they have done their initial planning it might be appropriate to begin some direct talk about AKW support -- they assume it would be better to start out using more conventional tools. 3

I explained our organization, told him that Jim Norton would be the one with whom to begin serious talk. He was interested in hearing how we went about the training, and what sort of special-system study and development we stood ready to provide for a particular application. For these questions, I explained about the architect, and also about the Developmnt and Analysis activities at ARC that are ready to negotiate contracts for special needs -- but that the Application guys were the ones to start with. 4

I expect that he will call us later; but I think that it would be valuable to have some mutually informative talks with him in the relatively near future. 5

DCE 25-JUN-74 15:12 23466

Richard Witwer, SRI, NIOSH, Utility prospects

(J23466
) 25-JUN-74 15:12; Title: Author(s): Douglas C. Engelbart/DCE;
Distribution: /JCN([ACTION]) BC([INFO-ONLY]) RWW([INFO-ONLY]
) MDK([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: DCE;

XDOC Custodianship

This is to express formally my expectation about our external-document (XDOC) cataloging and indexing system: in the interim between Mil's departure and the establishment of some as-yet unknown level of activity for RINS/XDOC, I expect that: 1

With his Operational-support role, Jim Norton will have basic responsiblity for the accessiility and preservation of the document collection, its catalogs, and the special catalog-managemnt tools, 2

Someone in Jim's operational staff must know how to maintain and run the various catalog-management and index-generating processes that have been used, 3

Jake will be the one that stays in the know about the substantive-information cataloging conventions, folklore, etc.; and she will be the basic ARC custodian of both the catalog information and the docment collection, 4

Jeanne Leavitt will be shown how to input new material, at a cataloging level suitable for basic item control (i.e, enough to enable us to produce complete reference citations in reports, and to identify the item unambiguously). Jeanne, or anyone else who puts new informaton into XDOC, must work under procedures and agreements passed by both Jake and Jim, 5

At a later time, when resources improve for support of this sort of activity, we want to be able (if desired) to go back over the catalog and extend the information in selected entries, 6

XDOC Custodianship

(J23467) 25-JUN-74 15:35; Title: Author(s): Douglas C. Engelbart/DCE; Distribution: /JCN([ACTION]) MEJ([ACTION]) JAKE([ACTION]) SRI-ARC([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: DCE;

DCE 25-JUN-74 15:39 23468

Hardcopy indices for the XDOC Catalog

Jim and Beau: I have been counting upon there being a set of indices printed for the XDOC catalogs in their "final state" (as Mil will leave them). Time is getting short; Mil indicates that the catalog files are in final shape now. Between the two of you, please produce a plan and communicate it to me. Thanks, Doug 1

DCE 25-JUN-74 15:39 23468

Hardcopy indices for the XDOC Catalog

(J23468) 25-JUN-74 15:39; Title: Author(s): Douglas C. Engelbart/DCE; Distribution: /JCN([ACTION]) BAH([ACTION]) MEJ([INFO-ONLY]) JAKE([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: DCE;

DCE 25-JUN-74 16:24 23469

Request JHB and JAKE to assist on visit reports

Jim and Jake: You both expressed considerable interst over the collaboration possibilities discussed recently with Kjell Samuelson, Perhaps one or both of you would like to review and contribute to the visit reports that I started -- one for Kjell's recent visit (in which you both participated), and one for the earlier visit last Fall by the "IS Trio"? I'd like to review the drafts that you come up with before they are Journalized, You will find the material in (Engelbart, Visit,) -- I would prefer keeping the report as separate sub-plexes each under the branch source statement that will serve as the Sendmail Submission Form,, Regards, Doug 1

DCE 25-JUN-74 16:24 23469

Request JHB and JAKE to assist on visit reports

(J23469) 25-JUN-74 16:24; Title: Author(s): Douglas C. Engelbart/DCE; Distribution: /JHB([ACTION]) JAKE([ACTION]) JCN([INFO-ONLY]) MDK([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: DCE;

Capability Theory and Help

As the process of evolution increases capabilities to the place where slave-like behavior is not only no longer necessary, but downright harmful to life, the philosophical frameworks for human action have not progressed correspondingly. I come from the midwest where people, almost to a person, are enslaved to some religion of the more traditional sort. I find people on the west coast are different only in that their "religions" are somewhat less traditional. As evidenced by the new types of decision making standards that are gaining popularity here, the old ones no longer work for a growing number of people. 1

I think the goal in this area is for each individual to be as free as possible. In capability theory, one's freedom is measured by the capabilities one posseses. I think capability theory will create more capabilities than any of the current "religions". However, it is just a theory. I have a lot of development to do on it before I can ever expect to communicate it to very many other people. I would like to foster debate in these areas and eventually see capability theory grow into a science with practical applications in many fields, including everyday decisions. 2

As for the whole universe catalog, I see it as a necessary step in the direction of maximizing capabilities and I see capability theory as a necessary ingredient of this typy of technology if it is to be used to increase human freedom rather than eliminate human freedom which would be equivalent to human death. 3

The WUC accessing system was designed from this philosophy of maximizing capabilities and I think it is evident that it contains more capabilities than the current help system. It has drawbacks as well. The major drawback expressed by it's critics comes from the apparent inconsistency with nls. This has been expressed by jhb primarily and by hgl. This argument just doesn't make sense to me when comparing the wuc accessing system to the current system because in many more ways, the current system is inconsistent with nls. 4

In the TNLS version of the WUC accessing system, what the user types is a one word command which means show this word. (Multiple word entries are also possible). In other words, any word the user types could be thought of as a command word. One can think of the WUC accessing system as having an almost unlimited set of commands and command combinations. One to fit every need. 5

In the DNLS version, pointing from the mouse is like being in the sensible repeat mode of old NLS where every command is already available, plus, all others are available as well WITHOUT hitting command delete or worrying about pushing <^E> or <^B>. 6

In the DNLS version of the WUC system, one continues to bug with the

rightmost button, Command Delete is the middle button, The Leftmost button means Backspace, There are other capabilities with other button combinations that do not exist in the current NLS, Except for that, none of them are inconsistant with the current NLS, 7

I'm afraid I see so many capabilities in my system compaired to the current system that I can't place much weight in arguments against inconsistencies between my system and the current view in people's heads of what NLS traveling around, viewing, and information retrieval interfaces should be, 8

Of what good is consistency when it limits capabilities?? Of course one must count the capabilities gained by consistency of which the WUC accessing system has many, I have measured both systems by my standards, and I think if you measured both systems by your standards you would determine, as I have, that the capabilities gained in the WUC accessing system would vastly outweigh any capabilities lost due to whatever view of inconsistency and the total capabilities would be much greater than the current system, 9

Capability Theory and Help

(J23470) 25-JUN-74 19:54; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /CHI([INFO-ONLY]) RWW([INFO-ONLY]) DCE([
INFO-ONLY]) EKM([INFO-ONLY]) JHB([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: KIRK;

KIRK 25-JUN-74 20:21 23471

after-thoughts on the meeting we had about the help accessing system

Harvey and Dirk, I don't think the TECO comparison with the Jump to Mouse command holds from a user's view. From a user's view, in TNLS each word he types is a command which means define this word. In other words, any word the user types is a commandword. One can think of it as having an almost unlimited set of commands and command combinations. 1

In DNLS, pointing from the mouse is almost exactly like being in the sensible repeat mode of oldnls where every command is already available, plus, all others are available as well WITHOUT hitting command delete or worrying about pushing <^E> or <^B>. 2

That is, in DNLS, one continues to point with the rightmost button. Command Delete is the middle button. Leftmost button means Backspace character. 3

Saying Goto Help, or Execute Help would be like getting into a Jump subsystem with automatic repeat. 4

I think the meeting we had was fruitful. As Harvey said, "It wasn't as painful as I thought it was going to be." We seem to be growing ever so slowly and expensively closer and closer to the simple inexpensive, easy to implement system I suggested a year and a half ago only now it will have the added capability of "included" links to be turned off in the Map view. Suddenly people are beginning to understand. There is a long way yet to go ... 5

KIRK 25-JUN-74 20:21 23471

after-thoughts on the meeting we had about the help accessing system

(J23471) 25-JUN-74 20:21; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /HGL([INFO-ONLY]) DVN([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: KIRK;

MEH 25-JUN-74 21:24 23472

PROMs, Memo 23461 update, Explanation to purchase on overhead,

SRI MEMO

TO: Bob Wing DATE: 20 JUNE 74

FROM: Martin Hardy LOCATION: J-2072, X3921

SUBJECT: PROM order, Explanation

CC: JCN
RWW

PROMs (programmable Read Only Memory) are logic chips memories which store information indefinitly when given a high charge of electricity, this stored information can only be erased by exposing the device to an ultraviolet light source. PROMs are 24 pin devices rectangular in shape measuring approximately 1/2" X 2".

We intend to use these PROMs as general lab support tools for development in conjunction with the Pro-Log programmer purchased on overhead for this same purpose. They will not be installed in client equipment other than for testing purposes.

Our immediate needs are:

1) To develop Lineprocessor Firmware programs to evaluate and support display terminals used by our office-1 clients.

2) To develop Lineprocessor Firmware programs to evaluate display terminals we anticipate using with future contracts.

It is important that SRI purchase these PROMs to support existing contracts, and proposals, requiring PROM program development, in order that ARC can continue to build and obtain support for it's NLS system.

Martin Hardy

MEH 25-JUN-74 21:24 23472

PROMs, Memo 23461 update, Explanation to purchase on overhead.

(J23472) 25-JUN-74 21:24; Title: Author(s): Martin E. Hardy/MEH;
Sub-Collections: SRI-ARC; Clerk: MEH; Origin: (HARDY,
PROM,NLS;16,), 25-JUN-74 21:16 MEH ;####;

MEH 25-JUN-74 22:49 23473

PROMs, Memo update #2, Explaining request to purchase on overhead,

SRI MEMO

TO: Bob Wing DATE: 20 JUNE 74

FROM: Martin Hardy LOCATION: J-2072, X3921

SUBJECT: PROM order, Explanation

CC: JCN
RWW

PROMs (programmable Read Only Memories) are logic chips memories which store information indefinitly when given a high charge of electricity. Once charged the stored information can not be erased by and electrical means. When required to store new information the old information can be erase by exposing the device to an ultraviolet light source. PROMs are 24 pin devices rectangular in shape measuring approximately 1/2" X 2".

We intend to use these PROMs as general lab support tools for development in conjunction with the Pro-Log programmer purchased on overhead for this same purpose. They will not be installed in client equipment other than for testing purposes.

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Martin Hardy

MEH 25-JUN-74 22:49 23473

PROMs, Memo update #2, Explaining request to purchase on overhead,

(J23473) 25-JUN-74 22:49; Title: Author(s): Martin E, Hardy/MEH;
Sub-Collections: SRI-ARC; Obsoletes Document(s): p; Clerk: MEH;
Origin: (HARDY, PROM,NLS;18,), 25-JUN-74 22:44 MEH ;####;

MEH 25-JUN-74 23:58 23474

Office-1, Memo to B Wing, Explanation for request to add memory.

SRI MEMO

TO: PURCHASING DATE: 14 JUNE 74

FROM: Martin Hardy LOCATION: J-2072, X3921

SUBJECT: Memory addition to Office-1, Explanation,

CC: JCN

These memories are needed to increase the operating capacity of our Office-1 PDP-10 Computer leased from Tymshare and operated by them at their Cupertino facility, This lease add-on must be coterminous with existing lease terminating Feb 10 1975, The MF-10 memories are the only reliable memories of that class compatable with the PDP-10 computer.

Martin Hardy

MEH 25-JUN-74 23:58 23474

Office-1, Memo to B Wing, Explanation for request to add memory.

(J23474) 25-JUN-74 23:58; Title: Author(s): Martin E. Hardy/MEH; Sub-Collections: SRI-ARC; Clerk: MEH; Origin: (HARDY, MF-10,NLS;15,), 25-JUN-74 08:16 MEH ;####;

RLL 26-JUN-74 07:29 23475

Bugs in viewing (maybe LP problem)

Two bugs: DNLS at the lineprocessor; 1) when having split screen (horizontal), wtih lower half having frozen st on (viewspec o) I did a viewspec K (signatures on) and f (refresh) the frozen statement dotts disappeared (there were no frozen staements at the time), Turned on viewspec o again, tried viewspec L (sign, off) and f(refresh) and again the dots disappeared, turning viewpec o and f on worked, My guess: on split screens with fronzen statements on, refreshing the screen causes the frozen st to be turned off, tried the same with no oslit screen and had no problems, (2) with no split screen tried viewspec K and f, got strnage view, namely it appears that the system thinks i have a very wide terminal, the whole staement appears (if I could see it) on one line, Of corse this cuts the staement off in the middle of what ever is the 72 character, only way out of this is by resetting NLS, again; this is DNLS with Lineprocessor,

RLL 26-JUN-74 07:29 23475

Bugs in viewing (maybe LP problem)

(J23475) 26-JUN-74 07:29; Title: Author(s): Robert N. Lieberman/RLL; Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: RLL;

MDK 26-JUN-74 07:58 23476

NSA Visitor 7/15 - 7/17

Jim .. sorry to be late with this reply. I would like to be on the schedule to talk with Gerald Bailey. Any time period during his three day visit would be fine. I undoubtedly need no more than a couple of hours. I'd be happy to join you at lunch on one of those days if that is planned. ... Mike 1

MDK 26-JUN-74 07:58 23476

NSA Visitor 7/15 - 7/17

(J23476) 26-JUN-74 07:58; Title: Author(s): Michael D. Kudlick/MDK; Distribution: /JEW([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: MDK;

State of COM: JOVIAL Manual, New Character Widths, Microfiche of NSW Manuals.

JOVIAL 1

DDSI has rerun the tape that previously produced lines with congested spacing (mjournal,23071,). They sent a copy flow of the rerun to Duane Stone who reports it looks good. We are waiting for Duane to make format changes of his own. He has some problems with the different ways tabs appear in different media on which he needs to talk with Dean. When he is set we will run a revised vesion of chapter II of the JOVIAL Manual through the output processor and make a new trial run at DDSI. 1a

New Tables of Character Width 2

Following (gjournal,23138,) DDSI will now give us Messenger when we ask for Currier. Terry Koken has done some additional "code cleanup" which results in some characters differing in width by less than half of one percent total for any given line segment. We had some difficulties finding a way to communicate the new values from DDSI ARC. The old system for exchanging this information had been arragnd between Paul Johnson and Walt Bass who are both gone. On Wednesday the 18th we received a new batch of character widths that appears clean. Elizabeth has not yet tried to get it in the system. 2a

The changes in width do not effect the JOVIAL Manual which does not contain Courrier (effects on the other fonts are negligible). 2b

MICROFICHE 3

We have received an online version of an Airforce Manual and succeeded in making it into an NLS File. Bill Carleson (WEC) is interested in printing it on microfiche. DoD manuals would be part of the NSW effort. Normally these are printed in a double-column format for hard copy and a single-column format for fiche. In this first case they are interested in only making fiche. 3a

Elizabeth Riddle (EAR) has sent us copies of the relevant Airforce specs.(AFM 5-1 and AFR 5-2) 3b

Dean has prepared a file formatted for COM (gjournal,23454,) 3c

Conversation with Terry Koken of DDSI revealed that DDSI makes fiche. They can do so by three routes: 3d

CRT-to-fiche, 3d1

CRT-to-35mm micro-film-to -fiche, 3d2

State of COM: JOVIAL Manual, New Character Widths, Microfiche of NSW Manuals,

and CRT-to-film-to-hardcopy-to fiche, 3d3

Kohen liked the last route best, Without committing ourselves closely it would cost about $3,60 a page, CRT-to-fiche would be about $2,60 a page, but be lower quality and more trouble to run at DDSI, Carleson has mentioned wanting the fiche containing the index to have an unusual arrangement of pages, That wold mean added expence for those pages on the CRT-to-fiche route but not in the CRT-film-hardcopy-fiche rout, 3e

For future reference it might be worth our while to as them to make a trial run via all three routs in paralell, 3f

DVN 26-JUN-74 10:42 23477

State of COM: JOVIAL Manual, New Character Widths, Microfiche of NSW Manuals.

(J23477) 26-JUN-74 10:42; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /NDM([INFO-ONLY] I leave it up to you if yo want to show this to Carelson or Riddle) DLS([INFO-ONLY]) DCE([INFO-ONLY]) RWW([INFO-ONLY]) DDSI([INFO-ONLY]) DPCS([INFO-ONLY]) COM([INFO-ONLY]) ; Sub-Collections: SRI-ARC COM DPCS DDSI; Clerk: DVN; Origin: (VANNOUHUYS, MYLIN,NLS;75,), 26-JUN-74 10:32 DVN ;####;

June 26, 1974

TO: USERS OF THE ARPANET

FROM: THE NETWORK INFORMATION CENTER

This is the second issue of the Arpanet Directory. It has been sent to all persons listed in the "individuals" section of the Directory. It replaces the January 1974 issue (NIC#19275).

Your attention is called to these changes:

1) A listing of individual NIC idents has been included following the full individual name-and-address listings.

2) The "utility programs" section of the "Programs" listing has been omitted, because these are not readily available to users.

3) The method of accessing off-line and on-line NIC services has been changed from that described in the January 1974. The new procedures are stated on page 3.

If you find any errors or omissions, or have comments or suggestions, please contact:

Jake Feinler
Network Information Center
Stanford Research Institute
333 Ravenswood Avenue
Menlo Park, California 94025

FEINLER@SRI-ARC

Arpanet Directory Cover Letter - June 1974

(J23478) 26-JUN-74 11:05; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /JAKE; Sub-Collections: SRI-ARC; Clerk: MDK;
Origin: (KUDLICK, BLURB,NLS;2,), 26-JUN-74 10:38 MDK ;

KIRK 26-JUN-74 12:45 23479

Richard Raymond of Point to visit this friday

Dick Raymond, business manager of the Point foundation will be coming this friday 28-JUN. I intend to show him the WUC tape and then talk over lunch (at the cafeteria). I would like to leave for lunch around 12:30 - 1:00. Please let me know if you would like to join us. 1

<kelley,prop,> contains my most desired two-year proposal outline and cost estimate. It assumes: 2

1) there is no room at ARC for work on WUC per se,
2) a non-profit educational corporation named The Whole Universe Catalog can buy 1/2 slot on the utility. 2a

Of course niether of these parameters have been confirmed by the ARC management and the possibility exists for the Point foundation to buy research encompassed by ARC as well as a whole slot on the utility to be shared by Point and the Whole Universe Catalog effort. 3

KIRK 26-JUN-74 12:45 23479

Richard Raymond of Point to visit this friday

(J23479) 26-JUN-74 12:45; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /DCE([INFO-ONLY]) RWW([INFO-ONLY]) JCN([
INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: KIRK;

JMB 26-JUN-74 15:38 23480

Bug in Help software

Database statements preceded by a percent sign are being shown and menued when they are named (they're there because I need the name to be there). They're supposed to disappear when Help is run. Please fix. 26-JUN-74 1

JMB 26-JUN-74 15:38 23480

Bug in Help software

(J23480) 26-JUN-74 15:38; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /HGL([ACTION]) FDBK([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: JMB;

SRL 1-JUL-74 08:55 23490

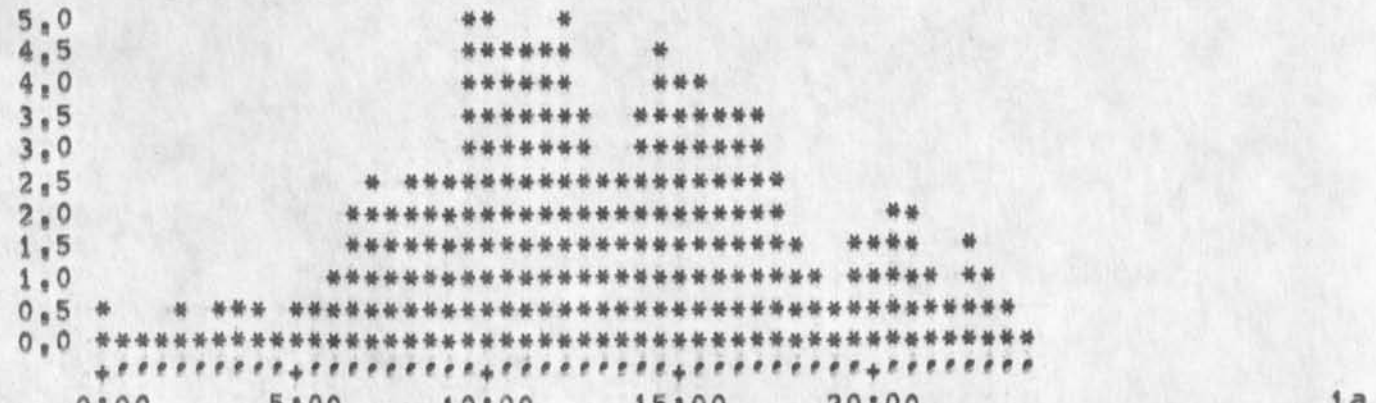
Superwatch Average Graphs for Week of 6/23/74

(J23490) 1-JUL-74 08:55; Title: Author(s): Susan R. Lee/SRL; Distribution: /JCN([INFO-ONLY]) RWW([INFO-ONLY]) DCE([INFO-ONLY]) PR([INFO-ONLY]) JCP([INFO-ONLY]) DVN([INFO-ONLY]) JAKE([INFO-ONLY]) DLS([INFO-ONLY]) BAH([INFO-ONLY]) WRF([INFO-ONLY]) DSM([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: SRL; Origin: (LEE, WEEK6/23GRAPHS,NLS;1,), 1-JUL-74 08:54 SRL ;####;

SRL 1-JUL-74 08:55 23490

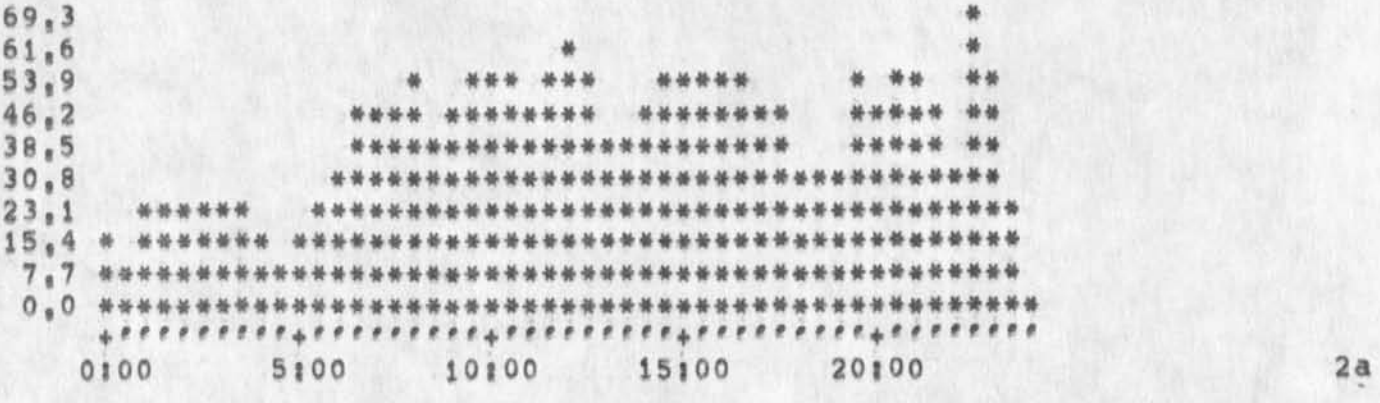
Superwatch Average Graphs for Week of 6/23/74

TIME PLOT OF AVERAGE NUMBER OF GO JOBS FOR WEEK OF 6/23/74
x axis labeled in units of hr:min, xunit = 30 minutes 1



1a

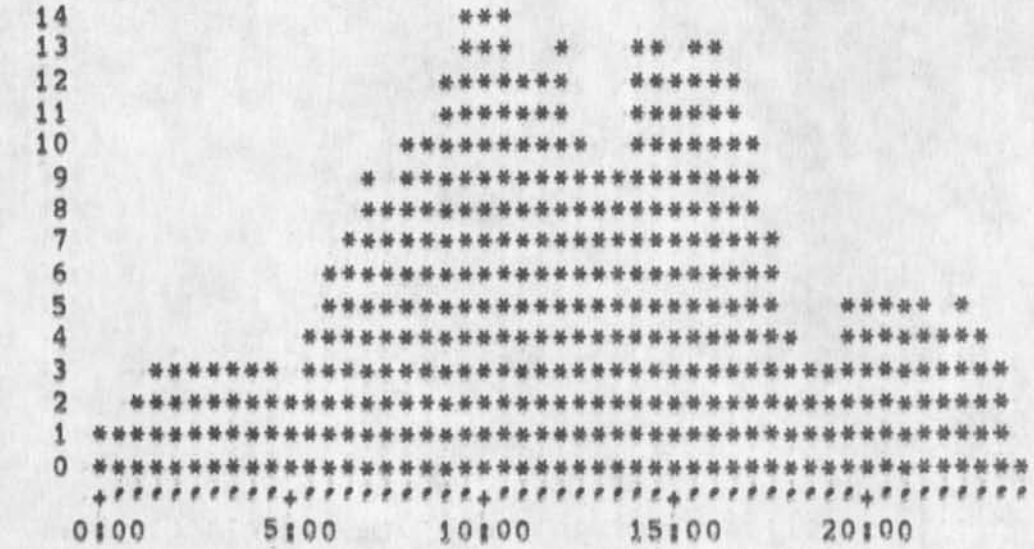
TIME PLOT OF AVERAGE PER CENT OF CPU TIME CHARGED TO USER ACCOUNTS
FOR WEEK OF 6/23/74
x axis labeled in units of hr:min, xunit = 30 minutes 2



2a

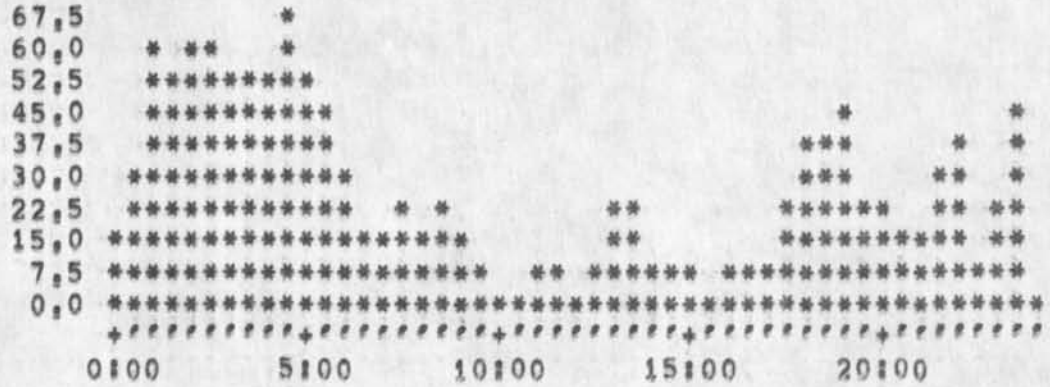
Superwatch Average Graphs for Week of 6/23/74

TIME PLOT OF AVERAGE NUMBER OF USERS FOR WEEK OF 6/23/74
x axis labeled in units of hr:min, xunit = 30 minutes 3



3a

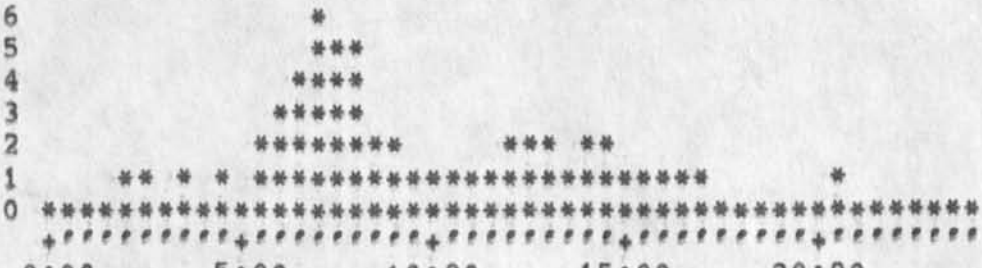
TIME PLOT OF AVERAGE IDLE TIME FOR WEEK OF 6/23/74
x axis labeled in units of hr:min, xunit = 30 minutes 4



4a

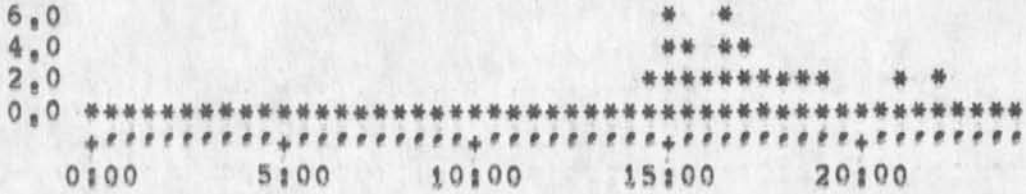
Superwatch Average Graphs for Week of 6/23/74

TIME PLOT OF AVERAGE NUMBER OF NETWORK USERS FOR WEEK OF 6/23/74
x axis labeled in units of hr:min, xunit = 30 minutes 5



5a

TIME PLOT OF AVERAGE PER CENT OF SYSTEM USED IN DNLS FOR WEEK OF 6/23/74
x axis labeled in units of hr:min, xunit = 30 minutes 6



6a

JHB 1-JUL-74 10:27 23491

Visitlog 28 June 74 Manfred Kochen, University of Michigan

(J23491) 1-JUL-74 10:27; Title: Author(s): James H. Bair/JHB;
Distribution: /DCE([ACTION]) JCN([ACTION]) RWW([INFO-ONLY])
MDK([INFO-ONLY]) RLL([INFO-ONLY]) ; Sub-Collections: SRI-ARC;
Clerk: JHB; Origin: (BAIR, VISITLOG,NLS;2,), 1-JUL-74 10:22
JHB ;####;

Visitlog: 28 June 74, Manfred Kochen 1

Research Scientist in Mathematics, Professor of Psychiatry, Professor of Urban Regional Planning Program(1971), Mental Health Research Institute, The University of Michigan, Ann Arbor 1a

Brief Visit: 1b

Met with DCE and received a demo from JHB. He is interested in Utility service on a partial slot basis within the next year. He seemed impressed by the capabilities of DNLS, particularly the searching and library type facilities. He is acquiring a TI terminal with a cassette tape based stand alone editor. He is interested in hooking up to SUMEX at S.U. which will be headed by Dr. Lederburg(sp). He was concerned about connecting via the Net or some other avenue, such as direct dial. He noted that the nearest TIP is at Case Western. He has talked to Steve Crocker and may receive money from ARPA!! 1b1

He is widely published, particularly in the information sciences, and although he does not seem to be too clear about details, he has powerful credentials which suggest that collaboration would be valuable (Columbia PhD in Applied math, etc.). See the XDOC collection beginning with (A4657). 1b2

Documentation: 1b3

In addition to the documents he has received on previous visits I added "Coordinated Services for a Mission Oriented Dicipline..." (DCE). 1b3a

DVN 1-JUL-74 10:28 23492

Who is Doing th COM Transfer,Table Status,

(J23492) 1-JUL-74 10:28; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /NDM([ACTION]) EKM([INFO-ONLY]) ; Sub-Collections:
DPCS COM SRI-ARC; Clerk: DVN;

DVN 1-JUL-74 10:28 23492

Who is Doing th COM Transfer,Table Status,

In your sndmssg of 6:45 this morning I was not sure whom you ment by "we" when you say "we will do the COM run, I will be in tonight, I expect to find a file with an appropriate naame in the COM directo and transfer it to ISI,
Elizabetth is putting in the new character proportiontables right now, She does not expect to have thme allin and compiled today however,

1

MDK 1-JUL-74 10:37 23493

some minor but annoying bugs in new nls

(J23493) 1-JUL-74 10:37; Title: Author(s): Michael D. Kudlick/MDK; Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: MDK;

some minor but annoying bugs in new nls

1) if you go to tenex, do some things,, then quit and therby go back into DNLS, the subsystem herald is no longer displayed;

2) if a statement name has one or more apostrophes in it (such as the names in the ident file) then a jump to item using the option to type in a statement name, and a jump to name BOTH FAIL with error messages. Seems that apostrophe has a significant meaning in address exressions that conflicts with previous usage, as exemplfied by the ident file name conventions;

3) if you type rapidlu enough while inputting a literal, then DNLS sucks up the <ca> and doesn't --- or at most subliminally --- displays the full literal in the lit feedback window; it simply does the intended task. This is especially annoying on a jump to link, inserting strings, and similar tasks.

4) aafter an update file or update file compact, the DNLS display is signiicantly different from what it was at the timme the update was given. It seems that the tail of the plex displayed when the update was issued is dsplayed after the update, instead of displaying the same statements that were on the screen when the uppdate was given.

5) jump to link on a journal item which is in fact a message ppositions you at the "up" of the statementt you really want to see, Try it on this one.

SLJ 1-JUL-74 11:17 23494

TIMECARDS TIMECARDS TIMECARDS

(J23494) 1-JUL-74 11:17; Title: Author(s): Sandy L. Johnson/SLJ;
Distribution: /SRI-ARC([ACTION]) ; Sub-Collections: SRI-ARC;
Obsoletes Document(s): ; Clerk: SLJ;

SLJ 1-JUL-74 11:17 23494

TIMECARDS TIMECARDS TIMECARDS

hi people, i am not going to be in the united states on friday, please get your timecards to me by wednesday noon aad if you forget i'll come around and squirt you so DON'T FORGET!!!!!!!!!!!!!!!!!!love, miranda

1

SRL 28-JUN-74 08:43 23495

New Lineprocessor Bugs

(J23495) 28-JUN-74 08:43; Title: Author(s): Susan R. Lee/SRL;
Distribution: /DIA([ACTION]) CHI([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: SRL;

SRL 28-JUN-74 08:43 23495

New Lineprocessor Bugs

There have been a couple of new bug reports about the lineprocessor. They are in (feedback,fdbk,7j). If there is any information to pass on to the users, let me know. 1

DVN 27-JUN-74 16:41 23496

SCSR JSYS error crstr

(J23496) 27-JUN-74 16:41; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /NEWNLS([ACTION]) ; Sub-Collections: SRI-ARC NEWNLS;
Clerk: DVN;

DVN 27-JUN-74 16:41 23496

SCSR JSYS error crstr

For what it matters, when I quit at tasker, detacched, attached at the line processor, and atempted to continue, that was the error message I recieved, suceeded by a series of "NLS Display Error," 1

SRL 28-JUN-74 08:39 23497

Status of Help software bug

(J23497) 28-JUN-74 08:39; Title: Author(s): Susan R. Lee/SRL;
Distribution: /JMB([INFO-ONLY]) HGL([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: SRL;

SRL 28-JUN-74 08:39 23497

Status of Help software bug

Ref: (23480,) and (23485,) Bug in Help Software - Harvey would be the person to fix such a bug and he's gone on vacation until Tuesday. I don't think you should expect it to be fixed before then, but I will check with Elizabeth to see if she or someone else wants to look at it before then.

1

SRL 1-JUL-74 12:05 23498

NLS out of space for LSRT

(J23498) 1-JUL-74 12:05; Title: Author(s): Susan R. Lee/SRL; Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: SRL;

SRL 1-JUL-74 12:05 23498

NLS out of space for LSRT

I had been working for about an hour with split screens on, turned them off, connected to a new directory, loaded a file, tried to split screen again, and got "NLS out of space for LSRT" and a blank screen.

1

JMB 1-JUL-74 15:32 23499

Bug in Useroptions Show Control characters command

(J23499) 1-JUL-74 15:32; Title: Author(s): Jeanne M. Beck/JMB; Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: JMB;

JMB 1-JUL-74 15:32 23499

Bug in Useroptions Show Control characters command

Command failed in several NLS sessions 1-JUL-74 - I did 1

JMB 1-JUL-74 15:34 23500

Bug in Useroptions Show Control characters command

(J23500) 1-JUL-74 15:34; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /FDBK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
JMB;

JMB 1-JUL-74 15:34 23500

Bug in Useroptions Show Control characters command

Command failed in several NLS sessions 1-JUL-74 - I did
Execute Useroptions
Show Control etc,
nothing happened, (Three dots appeared for a suspiciously long time,
Did a <^T>--found it at IO Wait,,,& wait,,,& wait, A CA gets out of
it, but no info) Then did-
Goto Useroptions OK
Show Control etc,
Nothing happened again, Show All works,

JAKE 1-JUL-74 18:23 23502

New Arpanet Directories available

(J23502) 1-JUL-74 18:23; Title: Author(s): Elizabeth J. (Jake) Feinler/JAKE; Distribution: /SRI-ARC([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: JAKE;

JAKE 1-JUL-74 18:23 23502

New Arpanet Directories available

The new ARPAnet Directories are now available for distribution. Due to lack of bodies to hand them out, please help yourself from the open box near the xerox machine. They are blue this time so you will be able to tell them from your SRI phone directory! Many thanks to Marcia and the girls for all their help in getting this out. 1

JHB 1-JUL-74 18:25 23503

Notes from Laura Gould Visit 24 June 1974 (visitlog)

(J23503) 1-JUL-74 18:25; Title: Author(s): James H. Bair/JHB;
Distribution: /FDBK([ACTION]) RWW([ACTION]) MDK([ACTION])
SRI-ARC([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: JHB;
Origin: (BAIR, GOULD,NLS;4,), 1-JUL-74 18:16 JHB ;####;

JHB 1-JUL-74 18:25 23503

Notes from Laura Gould Visit 24 June 1974 (Visitlog)

These notes are colored by my interests, rough but readable, and hopefully contain those suggestions that will be useful in the development of NLS.

JHB 1-JUL-74 18:25 23503

Notes from Laura Gould Visit 24 June 1974 (Visitlog)

Notes from Laura Gould Meeting, 24 June 1974 1

Seminar included discussion of three areas concerning the CAI NLS Project , "Mixed Intivie Tutorial Sysytem to Aid Users of the On-Line System", Contracted by The Deputy for Command and Management Systems, ESD, USAF (Dr. Mayer). 1a

Overview of the Primer (...see hardcopy): 1b

3 Units (chapters) or "lessons" which are roughly estimated to take about 1,5 hours each; 1b1

13 demo tasks run by the simulator; 1b2

An Agenda program drives Scholar (not sure why that's significant...); 1b3

It has the question mark facility. 1b4

Student tasks: 1b5

Student performed tasks are evaluated -- task evaluator which references to a preferred command sequence; 1b5a

Has hierarchy of tasks; 1b5b

references to kinds of questions the student asks, noting the knowledge necessary to answer; 1b5c

Question-answering system: 1b6

Natural language -- comfortable subset of English, uses dynamic parsing; 1b6a

Data Base which includes the structured facts encompassing 90% of the Primer (see listing of Data Base); 1b6b

Instantiation -- will do natural language command that is discussed or introduced by the student. In general, the simulator, written in LISP, can perform 90% of the NLS commands. 1b6c

Primer deals with NLS divided into subsystems, eg, file handling. 1b7

Does not provide for different groups of students, no facility for skipping ahead over material that is known a priori. 1b8

Also "secretive", that is about not introducing commands,

many of which represent short cuts, until a later session could conceivably cause bad feelings...."why didn't it show that before...." 1b8a

Recognition issue: 1c

LEG advocates DEMAND, not fixed anticipatory as we do, 1c1

because of the nmumonic value of typing up to a certain (comfortable) point, maybe even the whole command word, and the CONTROL of recognition (system doesn't take off and do something until the student is ready,**) 1c2

Recommendations (in addition to the recognition mode): 1d

Explicitly terminate the L: prompt field with CA, whether Null or not; 1d1

Print file command instead of Print only. This would not move the CM but would Print File from origin with basic default viewspecs (ell, all, m...); 1d2

Print Rest command was cited (CHI) as improvement over the current Print only, which doesn't have a noun field. 1d3

LEG's comment in the context of training and introducing NLS to new users: "Need subset of NLS." 1d4

NO C: prompt for the first 2 fields: "what else can you type after the the herald?" Also, F: for filename rather thn T:. 1d5

"Noise words more helpful than prompts". 1d6

HELP data base not comprehendable, gave example of response to question about address. (Show Address...) 1d7

JHB Questions 1e

Suggestions for explaining plex. 1e1

Reference book...necessary?? Yes, of course. 1e2

Ideas about test of NLS skill level...user assessment. 1e3

Graduated levels of NLS with restricted command set availability...first cut of this was given to her. Her response was favorable. She recommended the addition of markers and intoducing SIDs a little earlier in the progression. 1e4

DVN 1-JUL-74 21:04 23504

Request for Comment on HELP syntax

(J23504) 1-JUL-74 12:50 1-JUL-74 12:51 1-JUL-74 12:54 1-JUL-74 21:04;
Title: Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution:
/LEG([ACTION]) DIRT([INFO-ONLY]) ; Distribution: /LEG([ACTION
]) DIRT([INFO-ONLY]) ; Sub-Collections: DIRT SRI-ARC; Clerk: DVN;

DVN 1-JUL-74 21:04 23504

Request for Comment on HELP Syntax

Laura,
Rumour reached me that you find fault with the syntax that the help system provides. We are in the stage of firming up that syntax so I would like a lot to hear what you saw as problems and especially any helpful suggestions you might have. 1

DVN 1-JUL-74 21:30 23505

Call for Meeting on Documentation Specifications

(J23505) 1-JUL-74 21:30; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /DIRT([INFO-ONLY]) ; Sub-Collections: DIRT SRI-ARC;
Clerk: DVN;

DVN 1-JUL-74 21:30 23505

Call for Meeting on Documentation Specifications

Following (gjournal,23281,) Jim Bair and I have been chatting about additional documentation he would like to see printed before New NLS comes up on the Utility and Jeanne, Charels, and I have been talking (journal,23256,) about specs for CML to generate syntax (and examples??) both for HELP and hardcopy. 1

We should allow three weeks for printing and another week for distribution, which means the effective deadline for having perfect copy online is September 1. With Jeanne and Kirk working full time and me half time, that means the documenters have 5 person months for their part of the the job plus any other work on the HELP data base. 2

With that deadline and resources I think it is very important to have clear specs now so that we don't waste time floundering around figuring out what to do and doing things we later discard. 3

Thefore I would like atleast Charles, Jeanne, Jim Bair, and I to meet at 10:00 on Wednesday to nail down what we expect from one another. Other interested parties are welcome. If any of those named can't make it then, please lt me know. 4

JMB 2-JUL-74 09:29 23507

Bug in Useroptions Printoptions command

(J23507) 2-JUL-74 09:29; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /CHI([ACTION]) FDBK([ACTION]) ; Sub-Collections:
SRI-ARC; Clerk: JMB;

JMB 2-JUL-74 09:29 23507

Bug in Useroptions Printoptions command

Indenting in the Useroptions Printoptions command does not currently take effect until the next time you go into NLS. Charles says it's a bug if it does not take immediate effect. 1

It is also implied that Printoptions' Tab settings should also take immediate effect. I think it should affect all windows (since you cannot set tabs for individual files & Indenting affects all windows) from now on until you change it again. Could you check into this? 2

I'll have the documentation say that all the Printoptions things will take immediate effect for all "windows" and for future sessions until user changes them--this is preferable for consistency. If this is not what will end up implemented, let me know. 3

SLJ 2-JUL-74 16:40 23512

TI 725's

(J23512) 2-JUL-74 16:40; Title: Author(s): Sandy L. Johnson/SLJ; Distribution: /SRI-ARC([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: SLJ;

SLJ 2-JUL-74 16:40 23512

TI 725's

OK< PEOPLE,,,we have a problem, GOD has asked for two TI 725 (portable tis) to be sent to WASHINGTON DC on wednesday, and at the latest on friday, but ALAS, ALAS, where are they, ????????we recently got some new ones which were in the storage room and i know where two are,,,,,but what about the others????Can you help???if no one comes through on this i may even have to go over to Doug's and get his,,,,and well, you know,,,

1

JMB 2-JUL-74 18:09 23513

A bug that really blows out beginning Help users

(J23513) 2-JUL-74 18:09; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /BUGS([ACTION]) HGL([ACTION]) EKM([ACTION])
RWW([INFO-ONLY]) DVN([INFO-ONLY]) KIRK([INFO-ONLY]) ;
Sub-Collections: SRI-ARC BUGS; Clerk: JMB;

JMB 2-JUL-74 18:09 23513

A bug that really blows out beginning Help users

--which we certainly don't need

JMB 2-JUL-74 18:09 23513

A bug that really blows out beginning Help users

I've observed a person who's totally unfamiliar with our system try to learn how to use NLS from the Help system, in order to find out why it's reported to be so frustrating. 1

One of the more serious difficulties this person had was in learning that he had to get out of the Help subsystem in order to try any of the commands being described. When a new user first sees the various commands for traveling between subsystems, he is very likely to attempt to Goto whatever, rather than Quit Help. The bug that results from doing that (one gets to Editor but the text of the database is displayed on the screen) is very confusing--fatally so, since he can't find out why or where he is--to the user. 2

If a command is not going to be available from Help, it should not be listed for Questionmmark and should not be specifiable! Better yet, if Help is a subsystem, all subsystem commands should be available from it. And still better, all the commands the uer is reading about he should be able to try without going through a tortuous maze, and then be able to get back to Help. At least fix that bug with Goto (get the other file back--the one the user can write on). 3

KIRK 2-JUL-74 18:51 23514

A look at NLS commanding axioms or how to have your CA and repeat it too!

(J23514) 2-JUL-74 18:51; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /DVN([ACTION]) MDK([ACTION]) JMB([ACTION])
RWW([ACTION]) DIRT([INFO-ONLY]) FDBK([INFO-ONLY]) ;
Sub-Collections: SRI-ARC DIRT; Clerk: KIRK;

KIRK 2-JUL-74 18:51 23514

A look at NLS commanding axioms or how to have your CA and repeat it too!

Axiom for NLS command functions as I understand it: 1

In order to have an expandable set of functions using only the finite set of keys available on standard keyboards, single keys are not always associated with single functions. Instead, command words recognized by certain combinations of keyboard keys are used to command specific functions. In this way functions are not limited to the number of available keys. 1a

Facts concerning a useable NLS Help system: 2

1. No more than 4 basic functions are necessary. The help system in favor of simplicity and ease of learning, using, and teaching, does not need an expandable set of functions. 2a

2. A single command automatically repeated and containing all of the necessary functions is easier to learn, use, and teach than several commands. 2b

3. The user must be able to easily use the commands in the subsystem for which he is getting help. 2c

4. Questionmark should give the user a meaningful response. 2d

5. through 50. See <feedback, fdbk, help !software> 2e

Conclusion: The help system should not be a seperate CML subsystem. It should instead be a command available in every subsystem. 3

I suggest the command be the single word "HELP" and that this command automatically place the user in the Help database at information for the appropriate subsystem and in a repeat mode until he hits command delete. <^Q> would also put the user in the command repeat mode and in the appropriate place in help. This command would work the same in DNLS as in TNLS except that in DNLS the mouse could be used to point to things on the screen if desired. The user would be placed back into the file from whence he came before he typed "HELP" or <^Q> by hitting command delete. 4

The four necessary functions are: 5

1. Specifying a menu or word and showing a map view (V: teb) of that branch. 5a

2. Specifying a menu or word and showing a full view. (V: seb) 5b

3. Returning to previous views. 5c

A look at NLS commanding axioms or how to have your CA and repeat it too!

4, Command Delete, 5d

The user types a word, or number followed by a questionmark for a full view or a Command Accept for a Map view, Returning to previous views would be specified by hitting the back arrow key, Command Delete is Command Delete, 6

The software for this command has been written, exists as a userprogram, works in both TNLS and DNLS (using the mouse to point), and is interfaced through CML as a command, Questionmark gives the user meaningful information, 7

Each word typed by the user can be thought of as part of an open ended command set easily expanded and updated by the database builder, 8

This command would allow for a much more flexible database allowing longer, more meaningful descriptions, 9

If this implementation is agreeable with Dirk, Jeanne Beck, Mike Kudlick, and Dick Watson and no difficult implementation complications appear, I propose changing the software implementation of the NLS Help system to the command described above, I volunteer to do it myself if my efforts are desired, 10

JHB 2-JUL-74 21:49 23515

New NLS Bug

(J23515) 2-JUL-74 21:49; Title: Author(s): James H. Bair/JHB;
Distribution: /FDBK([ACTION]) CHI([INFO-ONLY]) KEV([INFO-ONLY
]) HGL([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: JHB;

JHB 2-JUL-74 21:49 23515

New NLS Bug

The Set Filter To... command is not only compiling the pattern, butsetting the viewspec i on in the window with the bug but NOT recreating that window. Makes it pretty hard to bug anything in that window. Causes blowup..fst nonexistent etc. CHI says its a bug. 1

DSM 3-JUL-74 00:53 23516

t,i,'s

(J23516) 3-JUL-74 00:53; Title: Author(s): David S. Maynard/DSM; Distribution: /SLJ([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: DSM;

DSM 3-JUL-74 00:53 23516

t.i.'s

Hello sandy, i have two t.i.'s 700's with acoustic couplers here at asilomar. I will be back wednesday evening approx. 7 p.m. they came from the parsley room and from dean meyers office. I will bring them in as soon as i get into palo alto. 1

DVN 3-JUL-74 08:55 23517

Problems Associated with Process Commands in Branch

(J23517) 3-JUL-74 08:55; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /NEWNLS([ACTION]) ; Sub-Collections: SRI-ARC NEWNLS;
Clerk: DVN; Origin: (VANNOUHUYS, MYLIN,NLS;76,), 3-JUL-74
08:21 DVN ;####;

DVN 3-JUL-74 08:55 23517

Problems Associated With Process Commands in Branch

The command ""Substitute Text Plex (vannouhuys,directory,1)
y " 1

processes fine, "The command ""Substitute Character Plex
(vannouhuys,directory,1)
y " " blows up. 2

This journal item is wriiten in three statements because various
funny problems seem to arise when I end statements with , For example
I was unable to insert text after the above and when I refresh
display, sometimes I see "<"T>" or "<NULL>" there. 3

SRL 3-JUL-74 09:05 23518

Response to Feedback Received as of 7/2/74

(J23518) 3-JUL-74 09:05; Title: Author(s): Susan R. Lee/SRL;
Distribution: /SRI-ARC([INFO-ONLY]) LEG([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: SRL;

Response to feedback received as of 7/2/74 1

Bugs listed below as fixed, are fixed in XNLS and will be a part of the running system whenever a new system is brought up, 1a

For other lists of fixed bugs and answers to questions see, (23428,), (23358,) (23214,) (23019,) (22973,) (22915,) (22896,), 1b

Kirk - 1c

Ref: (23384,) - ,fr should work in jump to link (as you probably know!) 1c1

Reset Temporary Modifications should work O.K. now by not deleting anything unless set to do so, 1c2

Robert - 1d

Control S does not work in new NLS but has been reported as a bug, 1d1

Mike - 1e

Ref (23493,) - An apostrophe is the character used for a content search for one character. Also I tried the jump to link on a journal message and it seemed to go to the right statement in XNLS. Let me know if you're still having a problem with this. Statements 1 and 4 are assigned to KEV and HGL respectively and 3 is in the Np section, 1e1

Jean Beck - 1f

You should be able to stop a content-analyzer search with ^D and KEV is working on it, in the meantime CD gets you out of the state where what you type goes into the viewspecs field, 1f1

Ref: (23500,) This was not repeatable, and so dropped until further problems arise, 1f2

The Reset Prompt command should be out of the Editor subsystem in XNLS, 1f3

Jim Bair - 1g

Ref: (23405,) - Last I heard, the defaults won't be changed until there will be some new users using the system since they are aimed at new users and would just be a hassle for everyone now, 1g1

SRL 3-JUL-74 09:05 23518

Response to Feedback Received as of 7/2/74

Ident File problems are known and will be fixed soon. 1g2

Dick -

1h

Output Sequential may be ended with a control D without getting Illegal Instruction now. 1h1

JMB 3-JUL-74 09:54 23519

Re Kirk's (GJOURNAL,23514,1:w)

(J23519) 3-JUL-74 09:54; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /DIRT([INFO-ONLY]) FDBK([INFO-ONLY]) ;
Sub-Collections: SRI-ARC DIRT; Clerk: JMB;

JMB 3-JUL-74 09:54 23519

Re Kirk's (GJOURNAL,23514,1:w)

Based on some recent experience with naive users trying learn NLS from Questionmark and Help, I believe that Kirk's (gjournal,23514,1:w) suggests an improvement. The possibility that something like he déscribes can be implemented wthout much rewriting merits looking into. 1

NDM 3-JUL-74 13:38 23520

Message from Kennedy: bug report

(J23520) 3-JUL-74 13:38; Title: Author(s): N. Dean Meyer/NDM;
Distribution: /FEED; Sub-Collections: SRI-ARC; Clerk: NDM;

NDM 3-JUL-74 13:38 23520

Message from Kennedy: bug report

[ACTION]

NDM 3-JUL-74 13:38 23520

Message from Kennedy: bug report

26-JUN-74 1448-PDT KENNEDY at OFFICE-1: <user-progs>sortmsg(?)
Distribution: MEYER AT SRI-ARC
Received at: 26-JUN-74 14:49:27 1

When asked to get tthe rel file, the system responds sayning that the program has been instituted as a sort key program, it hasn't, If you try to institute it you get kicked into the exec with a msg, DEFERR called with otther that GSTACK -- no linkage found to GSTACK (please reppport this to ARC programming personnel) I know my typing stinks but the system sspells it personell,
I am not greatly disturbed by this, but since i was asked to report it i did, I shall now tttry a print file and see if I can find out what I did wrong, 1a

SRL 3-JUL-74 15:37 23521

Arriving in Washington

(J23521) 3-JUL-74 15:37; Title: Author(s): Susan R. Lee/SRL;
Distribution: /CKM([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk:
SRL;

SRL 3-JUL-74 15:37 23521

Arriving in Washington

I got your message and thanks, I'm looking forward to getting into things more when I get there. Speaking of which, I thought you might want to know that I'll be flying to Wash. on Thursday the 11th, I'll plan to be at ARPA Friday so I'll see you then. 1

Draft of Document being prepared by Martin Hardy on NLS Workstations

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RWW 3-JUL-74 16:03 23522

Draft of Document being prepared by Martin Hardy on NLS Workstations

This document should provide everything Larry needs at this point, It contains all we presently know on the subject, which does not mean that there are not other terminals out there that meet our requirements, If you know of any let us know and we will start the checkout process on them, Dick

Draft of Document being prepared by Martin Hardy on NLS Workstations

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WORKSTATIONS

Since 1963, under a multiproject program sponsored by ARPA and the Air Force, the Augmentation Research Center at Stanford Research Institute has been developing an interactive computer based system to augment human intellect [1,2]. This program has invested heavily and consistently in the design of tools that enhance real-time interaction with computers. For the past several years, the program's major focus has been developing hardware and software tools to facilitate knowledge workers [2]. The Hardware tools have been consolidated into three basic configurations which we call Workstations.

This reference guide is an attempt to define these three Workstations (Lineprocessor, Teletype, DEX) and the reguirments for the equipment involved.

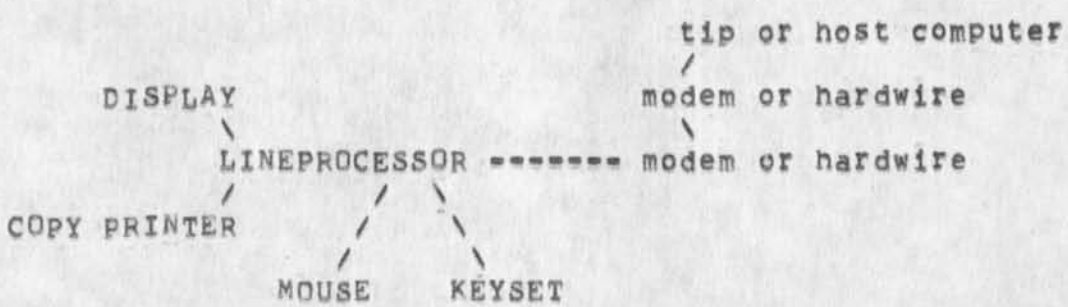
It must be realized that this document is in not complete, and will change as new, or overlooked, information become known to us. It must also be realized that the equipment lists are only partical lists, and contain only the equipment that we known operate with these workstations. And, we would appericiate hearing from any person knowing of other compatable equipment.

1) LINEPROCESSOR

DESCRIPTION

A Lineprocessor Workstation is basically composed of five devices: text editing display terminal, Mouse, Keyset, copy printer, and Lineprocessor.

CONFIGURATION



DEVICE

DISPLAY

DESCRIPTION

The display terminal must be an ASCII display with text editing and online capabilities in order to operate with a Lineprocessor and Display NLS. These attributes are necessary to insure performance and hardware compatibility. Typically, it is a low cost display ($2,000 to $6,000).

REQUIREMENTS

ONLINE EDITING

Required: it must be possible to perform several kinds of display editing functions online. That is, the display is required to have certain text manipulation functions and aids that can be controlled (addressed) via a remote (on-line) connection.

ADDRESSABLE CURSOR

This is required and is necessary for Mouse tracking. (The Lineprocessor must be able to address the cursor to position it relative to Mouse movements).

For good response, the display should complete the positioning (character andline) within one millisecond.

For best appearance, and minimum annoyance, a non-blinking cursor that is not displayed during addressed moves is preferred. Various implementations are availables such as: a solid line under scoring the character, or reverse video haloing the character, or display hardware that blanks the cursor until after the display completes the request (online) to move the cursor (X,Y).

Our experience is that after a few hours of use a blinking cursor is very annoying. A simple modification is usually all that is necessary to stop the blinking -- like cutting a wire. If the display you like best has a blinking cursor, request that it be delivered without blinking; the suppliers will usually oblige.

REMOTE VIDEO CONNECTION

This is not required, but is useful for conferencing or demostrations.

It is desirable that the display use standard 525 television line scan in order to be compatible with standard television monitors. Special line scan monitors are very expensive (like $2,000) compared to standard monitors ($200).

DELETE LINE

This required. The display should delete a full line within 5 to 7 milliseconds, with a maximum of 120 milliseconds; any longer is too slow for effective NLS operation.

INSERT LINE

This is required, and should be respond with in 1 millesecond. The Lineprocessor uses this function to rewrite the screen after a simple edit or jump.

CLEAR SCREEN

This is required, and should be completed with in 5 to 7 milliseconds, and with in 120 maximum. The Lineprocessor uses this function to clear the screen when initializing and when easier to rewrite all text rather than several pieces.

ON-LINE PORT CONNECTION

This is the external port used to connect the Lineprocessor to the display terminal.

BAUD RATE

A minimum of 2400 baud is required; 9600 baud is recommended.

High baud is essential to allow the Lineprocessor to effectively control the display cursor during Mouse tracking.

This rate is independent of Lineprocessor to TIP, or Host computer, rate (see communication link) except in the following case.

If the external on-line connection is slower than 9600 baud will require special Lineprocessor programming, and in these cases the connection to the host computer must be slower than the display terminal baud rate because of the time involved to execute the display editing functions because of the slower baud rate connection to the display.

9600 baud: - recommended

At this rate the Lineprocessor can address the cursor fast enough for very smooth tracking.

4800 baud: - satisfactory

OK, but cursor tracking will be a bit jerky; communication between Lineprocessor and display are to slow too allow a high enough addressing rate for smooth tracking.

2400 baud: - the display should have at least this rate

COMPATABILITY

Bit serial, ASCII (upper/lowercase), RS-232, non-parity, 10 unit code: (1 start, 8 data, 1 stop).

MEMORY SIZE

Large enough to display a full screen of text.

CARRIAGE-RETURN LINE-FEED FUNCTION

It is required that the display respond to carriage-return and line-feed simular to standard teletype like terminals; That is, carriage-return moves the cursor to the left margin and line-feed to the next line without changing character position.

Some displays have a next-line function, this function is often very useful, but sometimes less processing time is required by the Lineprocessor, or Host computer, if it can simply send a carriage-return and/or Line-feed.

REVERSE VIDEO

Required for "marking" if the display does not have one of the following set of capabilities:

Capability A

1) 4800 baud, or faster, communication port,

2) Blanking cursor; (Not displaying cursor until X,Y move is complete),

With these capabilities the Lineprocessor can be microprogrammed to mark text by flashing the cursor below character positions.

Capability B

1) Single Character blink; without requiring rewriting character or use of additional character positions,

With this capability the Lineprocessor can be microprogrammed to flash the character marked.

Capability C

1) Underlining

With this capability the Lineprocessor can be microprogrammed to underline character marked.

NOTE:

Marking is necessary and happens when a user selects a character on the screen by pointing to it with the Mouse and pushing a button, -- very important to NLS operation.

Marking is done by altering the appearance of the character without obliterating it if possible. If the user selected the wrong character he will abort (or "back out of") that selection and select another. The NLS program responds by removing the first mark and putting up another. Hence, it is desirable to mark and unmark characters on

the screen without altering the text in any other way and without re-writing the character.

BLINKING

Required if the display does not have REVERSE VIDEO, UNDERLINING, HIGH INTENSITY, or some sort of capability for standing out text.

This is necessary to get the user's attention while he is reading the text, in most cases it will be done by writing text in an altered form such that it stands out.

TEXT AREA

We consider 24 lines by 64 characters the usable minimum for most NLS user needs; however, 27 lines by 80 characters is more useful with the most desirable a full text page of 66 lines by 80 characters.

DISPLAYABLE CHARACTER SET

The display must display the full ASCII character set (upper/lower case).

KEYBOARD

The keyboard must transmit full ASCII (upper/lower case).

DEVICES THAT ARE KNOWN TO HAVE THESE REQUIREMENTS

Hazeltine 2000

Lineprocessor microprogram

developed

Lines - Characters

27 x 74

Model number and special options

Model 2000 with upper/lowercase, and remote video (if desired).

Cost

Approximately $3,000 to purchase, $107/mo to rent, plus $225 for upper/lowercase and $xxx for remote monitor (if desired).

What we think of it

+ It is the least expensive display we have found thus far that is usable with NLS and the Lineprocessor.

+ Delete line is very fast, the fastest we have seen thus far.

+ It uses standard 525 telvision line scan.

- It does not have reverse video or underline. "Marking" is done by obliterating the character, -- to erase, the Host computer must rewrite the screen.

- The keyboard is cheap. Most users do not like it because of its poor action -- but it is usable.

- The display characters are green on a dark background and do not focus well in the corners.

Hazeltine 3000

This is a fancier model than the 2000, it is basically the same display except it has a microprocessor for handling I/O. It can be used with the Lineprocessor, but costs more money than the 2000. We have not developed a Lineprocessor microprogram specifically for it, -- it may be that the 2000 will work, but we have not tested.

Delta Data 5200

Lineprocessor microprogram

developed

Lines - Characters

27 x 80

Model number and special options

Model GJA1T020: (4800/9600 baud, U/L case, bonded tube, 2,048 memory, 10 bit code, and remote monitor),,

Specify to include SRI modifications: non-blinking cursor, non decrementing Y cursor when addressing X, ETX blank, and remote video conditioning.

Cost

Approximately $5,500 to purchase, $225/mo rent, and $200 one time charge for remote video.

What we think of it

+ Displays the best text we have seen so far, characters are 7 by 9 matrix, and are green on a dark background.

0 Delete line is not the fastest, but adequate.

- The display is not standard 525 television scan. It is 720 which requires a special remote monitor such as: Conrac's RQ series which cost about $2,000 each.

- Repeat character is accomplished by holding down individual keys, -- most users do not like this.

- It is very expensive.

LSI

Lineprocessor microprogram

not developed

Lines - Characters

24 x 80

Model number and special options

Model ADM-2 includes upper/lowercase.

Cost

Approximately $2,500 to purchase, $??/mo rent, and $??? one time charge for remote video.

What we think of it

We have not tested, we are going by spec sheet information.

+ Uses 7 by 9 character matrix.

? Don't know how fast delete line is.

? Don't know what line rate it operates at.

DMC

Lineprocessor microprogram

not developed

Lines - Characters

up to 24 x 80

Model number and special options

Model Elite-2500 includes upper/lowercase.

Cost

Approximately $???? to purchase, $??/mo rent, and $??? one time charge for remote video.

What we think of it

We have not tested this display, we are going by spec sheet information.

? Don't know how fast delete line takes.

? Don't know what line rate it operates at.

INFTON

Lineprocessor microprogram

not developed

Lines - Characters

24 x 80

Model number and special options

Model Vistar-Plus with upper/lowercase opition,

Cost

Approximately $???? to purchase, $??/mo rent, and $??? one time charge for remote video,

What we think of it

We have not tested this display, we are going by spec sheet information,

? Don't know how fast delete line takes,

? Don't know what line rate it operates at,

MOUSE and KEYSET

DESCRIPTION

The Mouse and Keyset plug into the Lineprocessor, They are used by the user to control the display cursor and enter characters and function requests,

The Mouse rests on a table top to the right of the display and is operated by the right hand, The Lineprocessor tracks the Mouse position, and positions the display cursor correspondingly, In addition, on top of the Mouse are three switches used in combination with the Keyset,

The Keyset resembles a small five key piano keyboard, It rests on a table top to the left of the display and is operated by the left hand,

The Keyset, together with the Mouse switches, supplement the keyboard and provide rapid character entry and function request while controlling the display cursor with the Mouse,

AVAILABILITY

Cybernex Corporation
Box B, Stanford, Calif, 94025

Ordering notes:

When ordering, specify for use with SRI Lineprocessor.

COST

Mouse: approximately $350

Keyset: approximately $150

LINEPROCESSOR

DESCRIPTION

The Lineprocessor connects Mouse, Keyset, display and copy printer together as a Workstation. It was specifically designed for this purpose and represents a virtual display terminal to the Host computer.

It is microprogrammed to perform seven basic tasks:

(1) Pass keyboard, Keyset and Mouse characters to main computer.

(2) Control display cursor position.

(3) Control display text manipulating modes.

(4) Pass Host computer display text to the display.

(5) Pass Host computer print text to the copy printer.

(6) Initialize display and user program.

(7) Detect protocal errors.

ARCHITECTURE

The Lineprocessor is a buss oriented microcomputer composed of six basic sub-blocks: microprocessor, program store, data store, serial communication, A/D converter, and data input multiplexor.

AVAILABILITY

Presently, production models are available from SRI, Cybernex Corporation assembles them for us and they anticipate supplying them commercially about August of this year.

SRI contacts: Jim Norton, Martin Hardy

COST

approximately $2,000 (without Mouse or Keyset)

COPY PRINTER

DESCRIPTION

This device connects to the Lineprocessor. The Host computer multiplexes print data with display data and the Lineprocessor demultiplexes allowing the display user to continue his display work while the printer is printing.

REQUIREMENTS

CHARACTER SET

Full ASCII (upper/lower case) is required

INTERFACE

BAUD RATE

Can be any baud rate up to 9600, but, because print data is multiplexed, throughput rate (effective print rate) will be limited to a maximum of 1200 baud (120 characters per second).

COMMUNICATION

Bit serial ASCII RS-232, 10 unit non-parity; (1 start, 8 data, 1 stop).

SPROCKET FEED

Recommended, -- keeps the paper straight, and is required with form control.

Most printer companies have available perforated paper that tears off to a standard page,

If not, paper with special cuts and perforations can be gotten from Moore Business Forms,

The standard we use is: 18 pound, vertically perforated ,5 inches from the left edge, 8,5 from the left perforation, and horizontally every 11 inches, In addition, we have three binder holes punched in each page,

FORM CONTROL

recommended, with it, the Host computer can do nice things, like paginate, for you,

DEVICES HAVING THESE REQUIREMENTS

MEMOREX 1240

Formatting program

Not available yet, will be programmed as need arrises,

printhead

impact, cartridge

print rate

10/15/30/60/120 cps

print character set

128 ASCII (upper/lowercase)

form capability

6 part, 120 column, pin feed,

interface

RS-232, modem,

Cost

approximately $5,000 purchase, $160/mo,

What we think of it

+ Is the best print we have seen (rating = 1),

+ Zerox copies are quite good,

+ Provide nation-wide service,

G.E TERMINET 300/1200

Formatting program

available

TYpe of printing

impact, character belt

print rate

10/15/30/60/120 cps

print character set

128 ASCII (upper/lowercase)

form capability

7 part, 70/80/118 column, pin-feed,

interface

RS-232, modem, acoustic coupler, 20 mil, parallel

Cost

approximately $5,000 purchase, $160/mo rent,

What we think of it

+ Is good print (rating = 2),

+ Zerox copies are good,

+ Nation-wide service available,

- Print is not always consistant in density,

- When density is bad, zerox copies are also,

ANDERSON JACOBSON AJ630

Formatting program

Not available yet, will be programmed as need arrises,

Type of printing

non-impact, thermal, 5 X 8 matric,

print rate

10/15/30/60 cps

print character set

128 ASCII (upper/lowercase)

form capability

1 part, 140 column,

interface

RS-232, modem, acoustic coupler,

Cost

approximately $?,??? purchase, $???/mo,

What we think of it

0 Have not evaluated it yet

- As a general rule of thumb, dot matric is not acceptable for medium quality,

- Also, most thermal printers use a role paper which does not have page perforations and is hard to store and copy,

NOVAR 5-60

Formatting program

Not available yet, will be programmed as need arrises.

Type of printing

impact (selectric), cartridge

print rate

15 cps only

print character set

128 ASCII (upper/lowercase)

form capability

6 part, 130 column, pin-feed.

interface

RS-232, modem, CCITT, modem, acoustic coupler.

Cost

approximately $?,??? purchase, $???/mo,

What we think of it

+ Is very high quality print (rating = 1) It is an IBM selectric,

+ Zerox copies are very good,

+ nation-wide service is available.

COMMUNICATION LINK

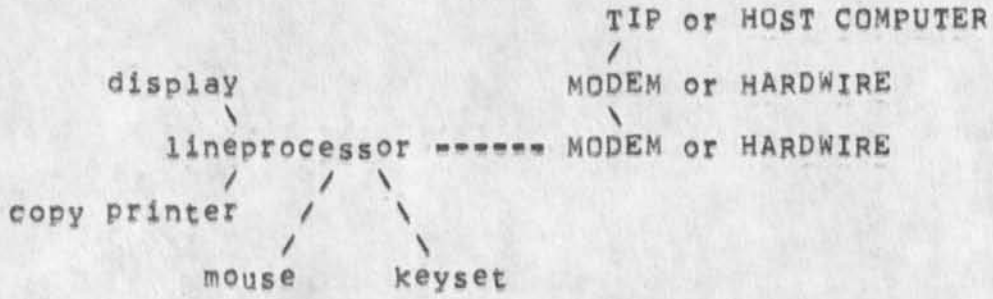
DESCRIPTION

This is the local communication link connecting the Lineprocessor to the Host computer. It is usually leased voice grade telephone lines and modems or hardwire connecting to a TIP in the local vicinity.

For effective NLS operation, it is necessary that this link be high speed. For example: at 1200 baud it takes approximately 70 seconds to write a full screen;

2400, 35 seconds; 4800, 15 seconds; 9600, 13 seconds, etc..

CONFIGURATION



REQUIREMENTS

VOICE GRADE LINK

9600 baud is the maximum bandwidth of voice grade lines.

LINE

REQUIREMENTS

The Lineprocessor requires: one 4 wire type 3002 circuit (full duplex, non-conditioned).

MODEM

REQUIREMENTS

BAUD RATE

4800 baud is recommended.

This seems to be the match with average data throughput when operating NLS. Also, modem and line conditioning is very expensive at higher baud rates, and the possibility of data errors are more likely.

DUPLEX

Full duplex (4 wire) is required.

SYNCHRONIZATION

Line discipline can be synchronous or asynchronous, Communications must be asynchronous,

What this means is that the modem can be a synchronous or asynchronous type, but each data character sent must contain start and stop bits (asynchronous method of transmission), specifically: (1 start bit, 8 data bits, 1 stop bit),

DEVICES HAVING THESE REQUIREMENTS

AT&T 208A

DATA RATE

4800

LINE CONDITIONING

none required

LINE

4 wire

BELL EQUIVALENT

208A

WHAT WE THINK OF IT

+ It is being used in several Lineprocessor installations with no reported problems,

+ Is service supported nation wide,

+ Can be leased month to month,

COST

rents for $116/mo month to month,

OPTIONS (REQUIRED)

1) internal timing
2) continuous carrier
3) continuous Request-to-Send
4) one second carrier holdover
5) strap AB to AA (grounds),
6) CC on when AL button depressed

ICC 4600/48

DATA RATE

4800

LINE CONDITIONING

none required

LINE

4 wire

BELL EQUIVALENT

208A

WHAT WE THINK OF IT

0 The specifications look good, but we have no experience with it, I might note that ICC is one of the largest and most respected suppliers of modem equipment in the world, The reason we did not choose them was because it was easier to rent from AT&T the modem and the line together,

+ Is service supported nation wide,

- can not be leased month to month,

COST

approximately $5,000 each, $100/mo year to year,

OPTIONS (REQUIRED)

I have not checked, but assuming options are the same as the AT&T 208A,

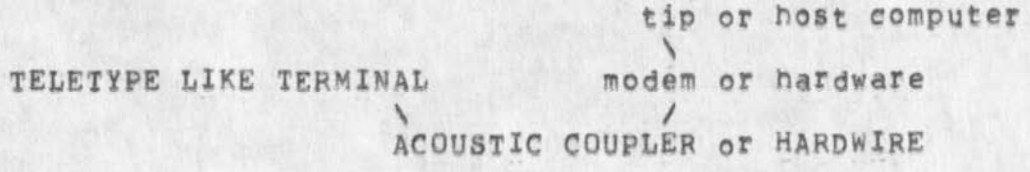
1) internal timing
2) continuous carrier
3) continuous Request-to-Send
4) one second carrier holdover
5) strap AB to AA (grounds)
6) CC on when AL button depressed

2) TELETYPE LIKE

DESCRIPTION

This type of Workstation is generally a portable hard copy terminal with a built in, or detached, acoustic coupler. The terminal does not have to be a hard copy type, it can be any ASCII display that acts, and behaves, like a standard teletype.

CONFIGURATION



DEVICE

TERMINAL

REQUIREMENTS

BAUD RATE

May be any rate as long as it is compatible with the intended communication link, -- typically 300 baud which is compatable with a acoustic coupler used over the dial-up telephone network.

CHARACTER SET

Full ASCII (upper/lowercase)

INTERFACE

EIA, RS-232, 10 unit code: (1 start bit, 8 data bits, 1 stop bit)

DUPLEX

full

PARITY

non-parity

DEVICES HAVING THESE REQUIREMENTS

There are several to choose from, We seem to like the Texas Instrument terminals best,

TI 733

Cost approximately rent $1,550 with upper/lowercase, rent $80/mo,

TI 725

This is a portable terminal with built-in coupler, It is being replaced by the 735; which is 10 pounds lighter,

Total weight: 35 pounds,

If you intend to use this unit with a cassette recorder (see 3) DEX) it must have the EIA option to allow connecting the cassette between keyboard-printer and coupler,

Cost approximately $2,780 with upper/lowercase, rent approximately $125/mo,

TI 735

This is TI's new portable terminal with built-in coupler, It is 10 pounds lighter than the 725 and will eventually replace it,

Total weight is 25 pounds,

Cost approximately $2,580 with upper/lowercase, rent approximately $115/mo,

If you intend to use this unit with a cassette

recorder (see 3) DEX) it must have the EIA option to allow connecting the cassette between keyboard-printer and coupler.

COMMUNICATION LINK

DESCRIPTION

Must be compatible with terminal speed. Typically 300 baud. The Link may be a acoustic coupler, modem ,or hardwire connecting the terminal directly to the TIP.

CONFIGURATION

REQUIREMENTS

DEVICES HAVING THESE REQUIREMENTS

3) DEX WORKSTATION

DESCRIPTION

The DEX workstation is what we call our "Deferred Execution Workstation". This Workstation allows typing text onto a cassette recorder in offline mode (not connected to the computer), then later, when time permits, spool cassette into the computer.

Typically the workstation is a 300 baud station configured with a cassette and portable teletype like terminal with built in coupler that can be disconnected to allow connecting the cassette between acoustic coupler and keyboard-printer.

CONFIGURATION

HARDCOPY TERMINAL ACOUSTIC COUPLER or hardwire

DEVICE

TERMINAL

REQUIREMENTS

It must be an ASCII device with upper/lowercase

If it is a portable with built-in coupler, it must have the capability to allow connecting the cassette between the coupler and keyboard-printer.

All communication interfaces must be EIA RS-232.

Baud rate can be any as long as it is compatable with cassette and communication device. Typically it is 300 which is compatable with the dial-up telephone network and most cassette devices.

DEVICES HAVING THESE REQUIREMENTS

There are several to choose from. We seem to like the Texas Instrument terminals best.

TI 733

Is a 300 baud device.

Cost approximately rent $1,550 with upper/lowercase, rent approximately $80/mo.

This device does not come with an acoustic coupler, to connect to the Host computer via the dial-up telephone network it will be necessary to have a coupler (see communication link).

TI 725

This is a portable terminal with built-in coupler. It is being replaced by the 735; which is 10 pounds lighter.

Total weight: 35 pounds.

Cost approximately $2,780 with upper/lowercase, rent approximately $125/mo.

TI 735

This is TI's new portable terminal with built-in coupler. It is 10 pounds lighter than the 725 and will eventually replace it.

Total weight is 25 pounds.

Cost approximately $2,580 with upper/lowercase, rent approximately $115/mo.

CASSETTE RECORDER

These cassettes are digital recorders which connect between terminal and coupler, or modem, via their serial ASCII RS-232 ports. In offline mode communication is between terminal and recorder only (used to prerecord a cassette tape), in the online mode communications is between terminal and Host computer and Host computer and cassette, (the cassette internally switches the terminal through the cassette recorder allowing it to the converse with the Host computer). Also in online mode the Host computer can direct the cassette to spool prerecorded information to the computer.

REQUIREMENTS

INTERFACE

EIA RS-232, bit serial

SPOOLING CONTROL

It is necessary to have control over the transmission length (numbers of characters in transmision block) in order not to over run the TIP or Host computer input buffer. Specifically, the cassette must output no more than 80 characters at a time, typically the way this is implemented is the operator records a carriage return on the tape at each line break, during the read the recorder senses the carrage return and stops and waits for the next read command.

BAUD RATE

Can be any rate as long as it is compatible with other DEX devices. Typically it is 300 baud.

DUPLEX

Full duplex.

OPTIONS:

The cassette must have the following addressable controls:

1) rewind = control W
2) record = control R
3) stop record = control T
4) read = control Q
5) stop read = carreage return

CASSETTE TAPES

Our experience has been that TDK standard audio tape work fine, though it is necessary to clean the tape head more often (every couple of days). If one wishes to use certified digital tapes K-Tronics 102-51 are seem to work quit well. The problem with cassette tapes is, in general, not the quality of the tape, but the mechanical assembly.

Audio tapes cost approximately $2.00 each, digital $6.00.

DEVICES HAVING THESE REQUIREMENTS

We are using two different manufactures ICP and Tech Tran, our preference is ICP, but are unable to rent them on the west coast, therefore have resorted to using Tech Tran.

A Tenex utility program exists that supports both ICP and Tech Tran, it is designed such that it can be modified easily to include other models.

ICP 3000-3

Cost approximately $2,000 to purchase and $75/mo.

See requirement options for control codes required.

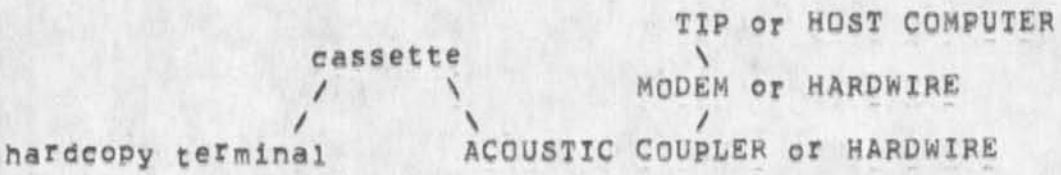
TECH TRAN 4100

Cost approximately $2,000 to purchase and $75/mo.

See requirement options for control codes required.

COMMUNICATION LINK

CONFIGURATION



REQUIREMENTS

The communication link device must be compatible with the workstation devices. This link could be Hardwire connecting the workstation directly to a TIP or Host computer, or an acoustic coupler intended for use over the dial-up telephone network, or a modem connected to a special leased line. Typically it is a 300 baud acoustic coupler connecting the workstation to the dial-up telephone network.

INTERFACE

EIA RS-232

DEVICES HAVING THESE REQUIREMENTS

COUPLER

There are several devices to choose from which we seem to like and have been using for several years now. Novation's garden-variety 300 baud coupler. It is an inexpensive coupler that rests under the telephone and measures approximately 7" X 10" X 3". Another

supplier is Anderson Jocbson, which several people think make the best coupler available,

Novation DC-102, approximately $150, or $15/mo,

MODEM

As with couplers there are several modems to choose from: Vadic Corporation has a one that can operate 1200 baud full duplex over the dial-up network, thus not requiring leased lines, We use them and they work just fine,

The biggest supplier is AT&T and they rent on a month-to-month basis, ICC is probably the next best but rents only year to year,

VADIC VA 1601/3405

Options required:

1) strapped for 1200 baud service
2) programmed for full duplex ASCII 10 bit
3) 103 tpe interface

It transmits or receives data at 300 or 1200 baud,