POOH 12-MAY-75 17:03 25862

Default viewspecs and prompting for naive users

After a discussion this am with kirk, Bev and, Susan, we all decided that there was once an agreement to have the default viewspecs for naive users include viewspec m and that there be parital prompting. If there are no objections to this, it would be nice to have it implemented which would mean talking to EKM. 1

Default viewspecs and prompting for naive users

(J25862) 12-MAY-75 17:03;;;; Title: Author(s): Ann Weinberg/POOH;
Distribution: /JHB([ACTION]) DVN([ACTION]) BEV([INFO-ONLY])
KIRK([INFO-ONLY]) SGR([INFO-ONLY]) ; Sub-Collections: SRI-ARC;
Clerk: POOH;

INTRODUCTION

The online computer system you will be using responds immediately to what you type at your terminal. This system has facilities to let you do almost everything you need with text: compose it; edit it; send it to (and receive it from) other persons; file it in one or more categories; cite and easily obtain documents; search for documents by author and subject; search in documents by word or phrase; and print in practically any format. See the "Preface to NLS" for a more complete description of the system.

The "Editing Sample Session I" demonstrates the commands used for writing and editing a memo. This process is explained for a typewriter terminal. You will find it useful to be at a terminal, typing in the commands and text as the sample session describes them.

Although this document describes specific functions, we add notes at each step which generalize the operation. Using this scenario as a model, the inexperienced user should be able to perform any of the operations described here and refer to online Help and other documentation for more information about the system.

Throughout this sample session, we spell out the sequence of keys you strike to make something happen and separately show what will appear on your terminal in response. Keys that do not print, such as carriage return, altmode (called "escape" on some terminals), and control characters, are named inside angle brackets, e.g. <CR>, <ALT>, and <CTRL-C>. <SP> represents a space. Information printed by the system is shown in a special typeface. The control key <CTRL> is used like the shift key. You hold it down while you type the letter that is after the hyphen. The notation for control keys is <CTRL-(some character)>.

Some control keys to remember...

<CTRL-X> aborts commands before you have typed <CR>.
<CTRL-O> stops printing.
<CTRL-W> deletes the word you have just typed.

OOPS...If you type an incorrect letter or number, just type your backspace key or <CTRL-A> immediately following your error and then you can type the correct character.

Are you stuck?? Confused?? Don't know what to type next??
Typing "?" will show you the next possible alternatives, you then type in one of the alternatives and continue your commands.
Typing <CTRL-Q> will provide you with information and explanations about NLS.
Typing <CTRL-X> will put you where you were before you typed <CTRL-Q>.
For more about getting information via <CTRL-Q> see the last section of this document and the "Help Sample Session."

What is the meaning of <CR>?
A. County Registrar
B. Cute Reindeer
C. Carriage Return

The correct choice is C. When you see <CR>, use the return or carriage return on your keyboard.

INSTRUCTION

1. Since you are going to write a memo, you will need an empty file (or workspace) in which to put it. You give the file a name so that you can call it back in future sessions.

If you type,	you should see:
<SP>crfmemo<CR>	BASE C: Create C:File T:memo < DIRECTORYNAME, MEMO,NLS;1 > BASE C:

When the system expects you to do something, it asks for a command word by prompting with a C:, and when it expects to type in some text, it prompts with T:.

The system usually completes a command word after you have typed in the first letter. In the case of some comamnds used less often, you have to type a space and then one, two, or three letters. This is called Terse recognition. Other modes of recognition are also offered. To find out about them, type <CTRL-Q>, the words "command recognition," and a <CR>.

You now have a new and empty file named MEMO. Filenames may be up to 29 letters and/or digits. File names may not include spaces. Commas, periods, and semicolons are usually supplied automatically. For more information use "filename" in the Help command.

If you leave the system without finishing your work, you can retrieve it (or any other stored file) by using the command Load File (shown below). YOU DO NOT NEED TO DO THIS NOW, because your file named MEMO is already loaded.

If you type,	you should see:
lfmemo<CR>	BASE C: Load C: File T: memo BASE C:

2. Now that you have created MEMO, the system has already inserted some information at the file's beginning or at the statement numbered 0. Statement 0 identifies the file MEMO and is generally unused by you except to cite the beginning of the file. To see the statement you are currently at, i.e., statement 0, type: \ at Base C:

.....

The response will be:

```
< DIRCTORYNAME, MEMO.NLS;1 >,    DATE    TIME    IDENT ;;;;
BASE C:
```

.....

3. You begin writing your memo by indicating you are going to insert a statement into your file MEMO starting after statement 0, and then by actually typing in some text. Statements are comparable to paragraphs of text. The system will automatically move the print head back when it runs out of room at the end of a line. You do not need a carriage return at the end of each line. The lines may not be the same as in the examples. Note intentional typogoofical errors for future correction.

.....

If you type,	you should see:
is0<CR>	BASE C: Insert C: Statement (to follow)A:0
<CR>	L:
Contradictions have	T:Contradictions have been
been alledged in our	alledged in our description
description of the	of the elephant.
elephant.<CR>	BASE C:

.....

Notice you are prompted for specific types of input. In this case A: asks you for an address, T: for typein. An address specifies a point in a file. You gave an address of "after statement 0" because that was where you wanted your new statement to begin. If you were creating a file that used an outline structure, L: would prompt you to specify the level in the outine where you wanted to put each statement. In this sample session you can ignore L: by typing a <CR>.

After this command is executed, the statement "Contradictions have been..." is inserted after statement 0, i.e., at the beginning of the file, and assigned the statement number 1.

4. As you enter statements into the file, you will periodically want to check how the memo looks as you go along. You can look at all or part of your file by printing it. To see only the statement you are at currently, type: \ at Base C:

```
.....................................................
```

The response will be:

```
1  Contradictions have been alledged in our description of
the elephant.
BASE C:
.....................................................
```

Later on when there are more statements in your file you can see more by using the Print Rest command, described in step 7.

5. Step 3 showed you how to enter one statement; more commonly, you will want to enter several statements, one after the other. Instead of repeating the Insert Statement command for each new statement, type the character <CTRL-E> at the end of your first statement. This tells the system to continue the Insert Statement command. We call this repeat insert, or insert mode. Once you get in the insert mode, you end each statement you type in with a <CR>, and then immediately type in another statement. Follow your last statement with a <CR> and a <CTRL-X>. This will take you out of the insert mode. To add (after statement 1) three more statements to your file, completing the rough draft of your memo:

If you type,	you should see:
is1<CR>	BASE C:Insert C:Statement(to follow) A:1
<CR>	L:
The review meeting will be	T:The review meeting will be
at 3:00<CTRL-e>	at 3:00<^E>
<CR>	L:
Only wise, blind men	T:Only wise, blind men should attend.
should attend.<CR>	
<CR>	L:
A recurcive redefinition	T:A recurcive redefinition
plan should imerge.<CR>	plan should imerge.
<CTRL-X>	L:
	BASE C:

6. You have now completed a rough draft of your memo and want to check it for completeness, typing errors, etc. To review the content of the file you use the Print Rest command. The print Rest command shown in Step 7 starts printing from the current statement to the end of the file, so you should first return to the beginning of the file before you use it. (Other versions of the Print command are described below). The command for going to the first statement you wrote (statement 1) is:

If you type,	you should see:
ja1<CR>	BASE C: Jump (to) C: Address A:1
	BASE C:

7. Use the Print Rest command to print the content of your memo from where you are to the end of your file.

If you type,	you should see:
pr<CR>	BASE C: Print C:Rest OK: 1 Contradictions have been alledged in our description of the elephant. 2 The review meeting will be at 3:00 3 Only wise, blind men should attend. 4 A recurcive redefinition plan should imerge. BASE C:

8. Now you might decide that statement 3 is superfluous. To delete statement 3:

If you type,	you should see:
ds3<CR> <CR>	BASE C: Delete C: Statement (at) A:3 OK: BASE C:

9. You may also decide to add text to the end of statement 2. To do so you use a command virtually identical to the insert statement command.

If you type,	you should see:
it2<SP>+e<CR> <SP>in the project room.<CR>	BASE C: Insert C: Text (to follow) A:2 +e T: in the project room. BASE C:

The significant difference in this command from the version you used to insert statements is that you specify where in the statement you want the text to go. The space followed by "+e" after the statement number tells the system to insert the text at the end of that statement.

Note that you are asked to type a space at the beginning of the insertion; that space avoids having "...3:00in the..." appear in the file.

10. If you want to insert text elsewhere in the statement you must specify exactly where. The easiest way to do so is to cite the place of insertion by content.

```
.....................................................................
     If you type,          you should see:

it2<SP>"3:00"<CR>     BASE C: Insert C: Text (to follow) A:2 "3:00"
<SP>sharp<CR>         T:  sharp
                      BASE C:
.....................................................................
```

The quotation marks indicate that you use quotes when you specify content. Note that the specific within-statement location follows the statement number and is separated from it by a space. The system "reads" addresses from left to right.

11. If you strike \ at Base C:, you can look at statement 2 to check the changes.

```
.....................................................................
The response will be:

2 The review meeting will be at 3:00 sharp in the project room.
BASE C:
.....................................................................
```

12. At this point you are ready to check your file for minor errors. Print it again as you did in Steps 6 and 7:

If you type,	you should see:
ja1<CR>	BASE C: Jump (to) C: Address A:1
pr<CR>	BASE C: Print C: Rest OK: 1 Contradictions have been alledged in our description of the elephant. 2 The review meeting will be at 3:00 sharp in the project room. 3 A recurcive redefinition plan should imerge. BASE C:

Note that when you deleted the old statment 3, the system renumbered the remaining statements.

13. The most convenient way to correct the kind of typographical errors found in this memo is by the Substitute Text command. This command asks you for the correct text and then the text you want replaced (or substituted for). You may specify only one change or several without repeating the command. Statement 3 contains two misspellings:

If you type,	you should see:
sts3<CR>	BASE C: Substitute C: Text (in) C: Statement (at) A:3
sive<CR>	<New Text> T: sive
cive<CR>	<Old Text> T: cive
n	(Finished?) Y/N:
eme<CR>	<New Text> T: eme
ime<CR>	<Old Text> T: ime
y	(Finisned?) Y/N: Substitutions Made : 2 BASE C:

Use this command cautiously. You must eliminate ambiguities and avoid causing the system to make substitutions that you don't want. For example in the first substitution if you had specified "e" for "i" instead of "eme" for "ime", the system would have changed ALL occurrences of the the letter "i". Make the text string unique to avoid surprises.

14. To check statement 3 strike \ at BASE C:

.....
The response should look like:

3 A recursive redefinition plan should emerge.
BASE C:
.....

HERE IS SOME COMMAND VOCABULARY YOU HAVE USED AND SOME EASY EXTENSIONS TO IT. THE EXTENSIONS ALL BEGIN WITH THE WORD "TRY" AND INCLUDE SOME EXPLANATION OF THE COMMAND.

More about Help

Typing <CTRL-Q> will give you information based on what you were doing before you typed <CTRL-Q>. Then it will prompt you "T/<-:". For more information, type in any term you see or the number of one of the "menu" of subjects that appears below each explanation and then type a <CR>.

If you type <- you will be able to return to the last explanation you were reading. If you say yes by typing "y", you will see this last explanation again. If you say no by typing "n", you will be given the chance to see the previous explanation and so on.

File Manipulation Commands

Create File - creates a new file

Update File - makes a fresh copy of the file with recent changes

Load File - calls up a previously saved file

A Few Useful Control Keys:

<CTRL-X> aborts commands before you have typed <CR>.

<CTRL-Q> gives you explanations about what you were doing and allows you to ask for the meanings of other terms.

<CTRL-E> allows you to continue to insert statements.

Try also:

<CTRL-S> prints out a succinct description of your command.

<CTRL-O> stops printing.

<CTRL-A> deletes the character you have just typed.

<CTRL-W> deletes the word you have just typed.

Creating Text

Insert Statement

Insert Text

Try Insert Word - the text you type is inserted after the point you specify and the system arranges spacing around it for a word.

Editing

Delete statement

Try Delete Text - it requires that you specify the beginning and ending locations of the text you want deleted.

Try Delete Word - you only have to specify one location anywhere in the word you want deleted and spaces, periods, commas, etc. are handled appropriately.

Moving Around In The File

Jump to A: ADDRESS<CR> - moves you to the address specified by ADDRESS.

The ways you have learned to address are:

whole statements by number's;

within statements by "+e" for end of statement, and by content "text", which searches for text in the remainder of the file and if found moves you to the last character of the text you specify.

Seeing Your File

\ - prints the current statement

Try <LF> to print the next statement (<LF> is the Line Feed or LF key on your terminal).

Print Rest - prints from your current statement to the end of the file.

Try Print Statement - it is similar to the "\" command except that it allows you to specify the address of the (single) statement to be printed and (optionally) certain view control codes.

EDITING SAMPLE SESSION I

SRI-ARC

14 MAY 75

Augmentation Research Center

STANFORD RESEARCH INSTITUTE
MENLO PARK, CALIFORNIA 94025

(J25863) 13-MAY-75 12:41;;; Title: Author(s): Beverly Boli/BEV; Distribution: /DIRT([INFO-ONLY]) ; Clerk: BEV; Origin: < BOLI, EDIT-SCENARIO,NLS;9, >, 13-MAY-75 12:28 BEV ;;;; Title: Author(s): Augmentation Research Center /&SRI-ARC; Distribution: /JOAN([ACTION] Please make this part of the DIRT notebook) DIRT([INFO-ONLY]) KWAC([INFO-ONLY] Updated since the architects meeting) ; Sub-Collections: DIRT SRI-ARC NIC KWAC; Clerk: DVN; Origin: < WEINBERG, PRIMER,NLS;14, >, 16-OCT-74 10:43 POOH ;;;;

.PEL; .PN=PN-1; .GCR;This is the completed document, a redo of part of the former Primer. I would appreciate any comments. Dee--Would you please put this in the DIRT Notebook, and print one hardcopy for Jim B. Thanks--Bev

L10 Documentation Fragments (to be incorperated later) 1

The construct DROP(ALL) has been implemented. 1a

This provides a way for a routine to drop all catchphrass it has invoked without knowing how many, their names, etc. In some cases, it will avoid the NOTE(return) that is put out when a procedure that has invoked catchphrases returns. In cases where a procedure owns coroutines that have invoked catchphrases, the NOTE will happen anyway. 1a1

New INVOKE argument: CATCHPARAM 1b

INVOKE now takes an optional third argument, which is a WORD that is computed at invoke time and made available to the invoked catchphrase when it is activated. In the catchphrase, it is referenced as CATCHPARAM. It may be a pointer to a list of locals, or whatever you like. 1b1

INVOKE(catchname,terloc,zonename) for example. 1b1a

In cachphrase: freeblk(blapo,CATCHPARAM); 1b1b

The catchphrase enable count is not available to programs. 1c

Procedure sysenc(catchphrase-name) returns the enable count for the most recently invoked instance of catchphrase catchphrase-name. 1c1

Establish a list length via setllen 1d

Procedure setllen(list-address, size) will assure that space is allocated for at least size elements in the list, no matter what size is. This is the only way to get a list larger than the system max (currently 60 elements) and it must be done before the list grows over that max. The list need not be empty however. It is faster if the list is empty, but it is not worth nulling the list first unless you have to do that anyway. 1d1

List element descriptors contain user buts. 1e

Every list element descriptor contains two user-settable bits. They are initialized to zero for new elements. They are read and set as follows: 1e1

Proceure lreadb(list-address, index) will return two arguments. The first is a 7 bit field of composite type: The low order 3 bits are element type and the high order 2 bits

are the user bits. Result two is just the user settable bits. 1e1a

procedure lsetb(list-address, index, value) will store the low order two bits of value in the user settable bits of list element descriptor #list#[index]. It will return a boolean FALSE if the index was wild, TRUE if the store was successful. 1e1b

L10 Documentation Fragments: New Thingys

(J25864) 13-MAY-75 12:58;;; Title: Author(s): Don I. Andrews/DIA;
Distribution: /NPG([INFO-ONLY]) RWW([INFO-ONLY]) ;
Sub-Collections: SRI-ARC NPG; Clerk: DIA; Origin: < ANDREWS,
L10MOREDOC.NLS;2, >, 13-MAY-75 12:55 DIA ;;;;####;

test

ddd

test

(J25865) 13-MAY-75 16:15;;;; Title: Author(s): Robert N. Lieberman/RLL; Distribution: /RLL([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: RLL;

RLL 13-MAY-75 17:34 25866

Response to Teleconferencing questionnaire.

This is only a personal response. Let me know your feelings by sending pertinent mesages messages to the teleconferncing group ident. Thanks.Glenn, sorry I am slow in responding.

RLL 13-MAY-75 17:34 25866

Response to Teleconferencing questionnaire.

FROM: Lieberman (RLL) 1

SUBJECT: Response to Teleconferencing questionnaire 2

Q1. Research to date indicates that there have been at least 8-10 separate attempts around the country to develop and implement computer conferencing packages. These include FORUM, PLANET, CONFER (PLATO IV) PARTY LINE, CONFERENCE/RIMS (Turoff), EMISSARY, ORACLE, TCTALK (Calvin) and General Conferencing System (GCS). (See attachment for background and details). Have you ever used any of these systems or any other teleconferencing system? 3

Q2. If yes, which one or ones? 4

Q3. How much experience have you had with such systems, i.e., number of times used, duration of use, etc.? Approximately when (i.e., calendar dates)? How many others participated? 5

A1, 2, 3: Yes. FORUM, very little about 18 months ago but not in a real conference; DOUG off and on only as a test. 5a

Q4. Are you convinced that teleconferencing should be available to NLS users on Office-1, -2, etc.? If so, could you tell us briefly why, or why not? 6

The addition of teleconferencing to the Office-n environment would be extremely useful. I believe this will be due to the similarity of the sort of things teleconferencing and NLS are striving for. 6a

The same kind of people that have accepted NLS are also most likily to accept teleconferencing. 6b

In fact, I believe that a disadvantage might result from including a teleconferencing system within the NLS world, that is, the increase use of the computer due to conferences. Also this might increase the desire of having more people on at the same time from one group. 6c

This might be very hard unless the pie slice scheduler is soon to be activate under 1.33. 6d

There might be some contractual problems but I think this could be solved by an agreement by all. 6d1

Q5. What do you think you would use it for? 7

As a partial substitute for the sndmsg, journal, and link facilities. 7a

Response to Teleconferencing questionnaire.

Linking will remain as the unplanned computer "telephoning". 7a1

As a training aid. 7b

Training courses could be given on NLS as a conference. 7b1

To get higher level people on line. 7c

This might not be a good idea. 7c1

To broaden the communication features of NLS by providing multi-person real time and asynchronous interaction. 7d

Q6. How would this use be different from mailbox capabilities such as message transfer in TENEX and the NLS journal system that are already implemented? 8

The flavor of real time interaction is not present in the journal or sndmsg. 8a

More importantly the sequence of the conversation on a particular subject will be clearer. 8b

Also, there is the potential that a conferencing system will be easier to learn and use than even a small, simple subset of NLS. 8c

Q7. Based on your experience, if any, with computer conferencing, which system(s) that you know of best represent what you think a teleconferencing system should be. 9

Unknown to me. Not enough experience. 9a

Q8. From the brief review of teleconferencing attached to this document, can you identify features that you think would be especially useful in an ARC teleconferencing package? Any specific features not especially useful? 10

Permanent record kept of conference sessions (to be integrated with Journal I guess) 10a

I would like to see both the 'speaker floor' concept and the totally asychronous mode combined. 10b

Thus only one person could have the floor and everyone vies for it in perhaps some queue. Listeners could have the option of listening only to the 'speaker' or to both the speaker and the background comments. 10b1

Participants can be asynchronously conferring. 10c

Reading of previous transcripts in a variety of ways (hopefully as an NLS file). 10d

Initially I think DELPHI capabilities will not be needed by NLS users. 10e

Also I believe that searching past transcripts by means of author, keywords, etc. is not needed (hopefully the files will be in NLS and can be searched there). 10f

More to the point searching should be left to NLS and not as part of a conferencing system. Any particular searching that conferencing would like to have should be some way incorporated into NLS or written as a separate retrieval subsystem. 10f1

Private notes might be excluded from conferencing subsystem since they are in effect part of the SNDMSG or JOURNAL subsystem. 10g

This assumes that a participant of the conference can go to NLS while in a conference and return to it. It also hopes that an immediate feature is integrated into the journal system so that both permanance and unique numbering can be maintained. Perhaps same automated way of relating a journal item to a particular conference is also necessary. 10g1

The feature of supporting spinoff conferences seems minor (in that that can be easily done). 10h

Voting is also an easliy accomplished facility. 10i

Most of the retrieval needs and reading facilities can be or could be satisfied by NLS. 10j

Q9. Considering other possible improvements, embellishments, etc., that ARC development could be spending its time on over the next 12 months, how would you rank the addition of teleconferencing? 11

Urgent 11a

Don't think so in any case. 11a1

High 11b

Doubt it, there does not seem to be higher enough need or interest in making this a high priority item. Yes, there is considerable interest in getting a conferencing system but none of it appears very high. 11b1

Maybe if a simple-minded system was added. 11b2

Response to Teleconferencing questionnaire.

The problem here is that a simple system often becomes the vehicle for whatever follows and that simple often is not what it becomes even at the first crack. 11b2a

Medium 11c

Probably the proper level for the next 12 months. 11c1

Low 11d

Q10. Would you favor getting an existing teleconferencing package onto Office-1, -2, etc. as soon as possible (if possible), or the development of a package specifically written for KWAC, by ARC research and development programmers and staff? 12

This depends on the community needs. No doubt whatever system is integrated into NLS it should be modified so that referencing to NLS statements con be included. The transcript should also be in NLS files. Thus, it seems that some critical work will have to be done for existing system and this would decrease the suitability of other systems. However, I would think some other system would be a good starting point. 12a

If what the needs are does not include some of the more complex features of teleconferencing than it might be the same cost to start from scratch within the NLS environment. 12b

Also the whole concept of what teleconferencing is must be examined for its proper connection to the journal system as well as the editing features. 12c

Q11. If the latter (Q10), would your organization be willing and in a position to contribute financially toward the development of an ARC-based (or NLS-based) package? 13

Norton's offer of 3 man months is still good. 13a

Q12. Do you have any other comments, questions, gentle cajolings or whatever to add to the discussion? 14

priorities must be set and once set they must be discussed with ARC. Also, the KWAC should quickly prepare a list of requirements they would like to see in the highest priority developments. The funding area must also be discussed and established. 14a

Thanks very much! 15

RLL 13-MAY-75 17:34 25866

Response to Teleconferencing questionnaire.

(J25866) 13-MAY-75 17:34;;; Title: Author(s): Robert N. Lieberman/RLL; Distribution: /GAS2([ACTION]) TELECON([INFO-ONLY]) JCN([INFO-ONLY]) JHB([INFO-ONLY]) ; Sub-Collections: SRI-ARC TELECON; Clerk: RLL; Origin: < LIEBERMAN, CONF.NLS;9, >, 13-MAY-75 17:23 RLL ;;;;####;

DVN 13-MAY-75 18:50 25867

Note on the Outcome of the Meeting Monday May 12

Norm, Dave, Doug and I were there. Mainly it was agreed that membership in the community would be conditional on having access to a slot, but that does NOT mean that NLS will become a productions system for all members of the comunity. Second it is on Dave Brown to write a description of that it is SRI is trying to sell. He's going to call anot4er meeting when he's done that. 1

DVN 13-MAY-75 18:50 25867

Note on the Outcome of the Meeting Monday May 12

(J25867) 13-MAY-75 18:50;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /KLM([ACTION] docplan notebook please) PWO([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: DVN;

DVN 13-MAY-75 19:11 25868

Brief Note on Meeting of Monday May 12

Norm, Doug, Dave Brown, and I were there. Mainly two things were decided. To be a member of the community a customer has to have access to a slot, but that does NOT mean we will try to sell him NLS as a production system. 2 It is on Dave Brown now to write a description of what it is we are selling. 1

DVN 13-MAY-75 19:11 25868

Brief Note on Meeting of Monday May 12

(J25868) 13-MAY-75 19:11;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /KLM([ACTION] docplan notebook please) &DOCPLAN([INFO-ONLY]) PWO([INFO-ONLY]) ; Sub-Collections: SRI-ARC DOCPLAN; Clerk: DVN;

Helping Keep Helps Under Control

please let me know what you think

Helping Keep Helps Under Control

HELPS 1

It's important to know what has been referenced where in which help tool. 1a

It's important to try and not duplicate information. 1b

Commandwords in a tool may also be the name of a more general concept in NLSUM. You may want the user to have access to the definition in NLSUM. He should be referenced from the tool to NLSUM with a "See also". 1c

The writers of NLSUM should know what has been referenced from other tools. Backlinks would take care of this. Backlinks are statements with percent signs inserted at the tail of the branch you are referencing. They would be in the form: 1d

%backlinks: <tool,branch(where you make reference)> 1d1

Example 1e

In Editor, the output commands will be something like this: 1e1

Output
one line definition, reference to menu items, See also:
NLSUM Output, 1e2

1..... 1e2a

2..... 1e2b

3..... 1e2c

In NLSUM 1e3

.....
..... 1e4

..... 1e4a

Output
general definition 1e4a1

1..... 1e4a1a

2..... 1e4a1b

3....(possible menu item to <editor,output>) 1e4a1c

%backlinks: <editor,output> 1e4a1c1

Helping Keep Helps Under Control

(J25869) 13-MAY-75 19:50;;; Title: Author(s): Ann Weinberg/POOH;
Distribution: /DVN([ACTION]) BEV([ACTION]) KIRK([ACTION])
DMB([ACTION] dirt notebook please) ; Sub-Collections: SRI-ARC;
Clerk: POOH;

POOH BEV DVN KIRK 13-MAY-75 19:54 25870

Informal Documentation Report for last week

Review process implemented, command summary sent back one more time, various scenarios started, and more ...

Informal Documentation Report for last week

POOH 1

Cue Card: had several meetings with Toni Clough and Will Ashworth about proofing and redoing cycles that the cue card is going through. It is hard to sayw hen it will be ready as report services has not been able to give me an estimate. 1a

Command Summary: received the photo ready copies, but there were still some errors..resent the file to DDSI and they will reprint the two pages with errors. It will then be ready to be printed. 1b

PReface: rewrote the preface, it was reviewed by documentation, the revisions were incorporated and it has been journalized. Some of the parts are still waiting for some decisions about NSW. 1c

Calculator: finished the revisions on the help data base and the introduction and journalized them both. The calculator help file and introduction are ready for July 1 if no other changes are made on the tool. 1d

Graphics: worked with Bob on some of the new commands that have been implemented and began writing some command descriptions. 1e

Other NSW: reviwed various documents that are being passed around among documentation. 1f

BEV 2

Editing Sample Session: Completed document online and passed it around for review. 2a

Sendmail Sample Session: Completed changes online and printed. Ready for review Monday morning. 2b

Help Sample Session: Completed first draft. Not yet online. 2c

Reviewed Preface. 2d

DVN: 3

Final Report: Doug has reorganized it as follows: everything that has been published before has been has been removed. The section on the NIC will be published separately as a technical report. Work on it is complete except for reading in a small number of SRI edtiing suggestions and COM. The editing work is waiting for Dee's attention behind two proposals. The remaineder of the final report went back to SRI editing for reconsideratin follwoing the cuts. When it comes back it will need their editing suggestions to be put in, work on the references, and a glossary. 3a

Informal Documentation Report for last week

Glossary: Pam and Pricilla continue to put in changes suggested by SRI copy proofing; We appreciate thier hours of labour. 3b

NSW: The introduction to DpCS has finally been typed online and will go to documentation review Monday. I have about 3/4 of the work done to convert (sattely,DOPCP-FE-CMDS,) and (millstein,WM-Procedures,txt;,) into a Help data base. A long link with Sattley helpt. This draft is handwritten offline and will take typing in. 3c

Progress on all of the above has been held up substantially by a lack of trained DEX and NLS typists. 3d

Met with Jim Bair and others on the question of the boundry between Applications and Development in Documentation and communication accross it. We have a procedure whereby any hardcopy documentation is reviewed first by the documentation group (BEV, KIRK, POOH and I), and then sent to this distribution (DIRT) for comment. Jim Bair will review it and offer suggestions from the applications point of view at that time. We recognize that some of the documents we will produce for NSW will not be of interest to Applications. An unsettled matter of some note is the cost of printing the glossary which I estimate between 2 and 3 thousand dollars. 3e

kirk 4

Re-formatted the glossary, sent another com test to DDSI. 4a

Reviewed docuents, answered questions, made some small edits to various help files. 4b

Informal Documentation Report for last week

(J25870) 13-MAY-75 19:54;;; Title: Author(s): Ann Weinberg, Beverly Boli, Dirk H. Van Nouhuys, Kirk E. Kelley/POOH BEV DVN KIRK; Sub-Collections: SRI-ARC; Clerk: KIRK;

DVN KIRK 15-MAY-75 12:11 25872

Rejected Proposal To Reduce SOURCE, DESTINATION, and CONTENT to POINT and TYPEIN

The documentation group considered the proposal and in the end rejected it because of the ambiguity about optional address and because of the time necessary to make the changes, but I thought the idea worth recording.

DVN KIRK 15-MAY-75 12:11 25872

Rejected Proposal To Reduce SOURCE, DESTINATION, and CONTENT to POINT and TYPEIN

New users and old have expressed confusion and frustration over the terms SOURCE, DESTINATION, and CONTENT to represent SSEL, DSEL, and LSEL in User Documentation and in response to <CTRL-S>. Because of changes in the definition of SSEL etc., it would be possible to reduce these three special terms to one as shown below. We have chosen the word "point" which would mean BUG/ADDRESS, then

```
SSEL=POINT/TYPEIN
DSEL=POINT
LSEL=TYPEIN/POINT                                                    1
```

Note that the address is occasionally optional and that fact would not appear in command syntax. It would have to be part of the definition of point. 2

DVN KIRK 15-MAY-75 12:11 25872

Rejected Proposal To Reduce SOURCE, DESTINATION, and CONTENT to POINT and TYPEIN

(J25872) 15-MAY-75 12:11;;; Title: Author(s): Dirk H. Van Nouhuys, Kirk E. Kelley/DVN KIRK; Distribution: /DMB([ACTION] dirt notebook please) DIRT([INFO-ONLY]) ; Sub-Collections: SRI-ARC DIRT; Clerk: DVN; Origin: < HAMILTON, DVNPALABER.NLS;2, >, 30-APR-75 18:25 JOAN ;;;;####;

DSM 15-MAY-75 15:22 25873

LIST Question

The following program has a syntax error. How do I do what I want to do? is it possible?

LIST Question

```
FILE lsttest % <arcsubsys, x110,> TO <nsw-sources, lsttest.rel,>%                1
   (p1) PROCEDURE;                                                               1a
      LOCAL LIST lst[2];                                                         1a1
         #lst#[1] _ LIST( "now", "is", "the","time");                             1a1a
         #lst#[2] _ LIST( "for", "all", "good","men");                           1a1b
         p2(slst);                                                               1a1c
      END.                                                                       1a2
   (p2) PROCEDURE(plst REF LIST);                                                1b
      LOCAL i,j;                                                                 1b1
         FOR i _ 1 UP UNTIL >= plst.L DO                                         1b1a
            FOR j _ 1 UP UNTIL >= ([ ELEM #plst#[i] ]).L  DO                     1b1a1
               dismes(2,  (ELEM # (ELEM #plst#[i])#[j]) );                       1b1a1a
   END.                                                                          1c
FINISH                                                                           2
```

DSM 15-MAY-75 15:22 25873

LIST Question

(J25873) 15-MAY-75 15:22;;; Title: Author(s): David S. Maynard/DSM;
Distribution: /DIA([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
DSM;

KS 15-MAY-75 15:29 25874

Reply to 25861 -- We vote for CHARSTRs.

Charles -- 1

Despite the fun of playing with the syntax for Filespec and Filename, we here at Compass have come around to believing that, for the first round, it will be simplest to pass file names uniformly as CHARSTRs. We already have, for debugging purposes, a little scanner for Filespecs, and nobody but the WM really cares about the details of the internal structure. (I've made this change in my latest version of < SATTLEY, FE-CMDS, > .) 2

At some later time, we can reconsider whether it would be an optimization to switch to a parsed structure for communication. Your list-structure seems quite elegant for full file names, but for Filespecs, how does one detect where the ellipses "..." were inserted?-- Oh, I see -- by a reserved CHARSTR (such as "..."!). The new/old BOOLEAN then would signal whether the name had been recognized as a Filename or Filespec, respectively? All fine, but not yet relevant, I guess. Sorry to have stirred things up with the tricky syntax (which wouldn't have worked without a look-ahead, anyhow). 3

Point of clarification: An "absolute" file name -- i.e., starting with "%NSW" -- doesn't mean that the PROJECT TREE is used for disambiguation, but rather that the user's SCOPE is NOT used. It's a way of letting him designate a file outside his Scope, if he needs to, without having to temporarily change the scope. The name will be disambiguated with his Key(s) for the kind of access requested. 4

-- Kirk 5

KS 15-MAY-75 15:29 25874

Reply to 25861 -- We vote for CHARSTRs.

(J25874) 15-MAY-75 15:29;;; Title: Author(s): Kirk Sattley/KS;
Distribution: /CHI([ACTION]) REM([INFO-ONLY]) ; Sub-Collections:
NIC; Clerk: KS;

KEV 15-MAY-75 21:09 25875

otput quickprint strikes again

the following changes should be brought up at bbn in the next couple of days: 1

output quickprint should now listen to the user-options print options right margin 1a

for those of you who don't know what this means it should have no effect for you 1a1

hopefully output quickprint tabs should work better 1b

(incantation 3456789876543) 1b1

in doing these changes i discovered the following which i will pass on with no comment: 2

if you do an output quickprint while at the origin statement and you have on viewspec 1 or 9 (plex or branch only) then all level 1 statements will be indented 3 spaces; 2a

KEV 15-MAY-75 21:09 25875

otput quickprint strikes again

(J25875) 15-MAY-75 21:09;;; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Distribution: /SRI-ARC([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: KEV;

First release of NSW CLI-10

First release of CLI-10 [15-May-75]: 1

Introduction: 1a

The Command Language Interpreter (CLI) development has reached a point where I feel that it can be of significant help to WM and NLS s. It is currently able to parse all of the currently specified WM commands and most NLS commands. Instead of issuing PCP calls to remote procedures, it types out which procedure it would have called and the arguments it would have passed. Thus, I think the CLI can now be used to debug the CML grammars for tools and the interface between the FE and the execution functions that support the tool. 1a1

CLI status as of 15-May-75: 1b

Currently implemented and working (in CML compiler and CLI runtime): 1b1

Command Word recognition (four flavors ala NLS-8) 1b1a

Noise words, SHOW, IF, assignment, CONFIRM, ANSWER, OPTION, use of [], CLEAR, use of PARSE FUNCTIONS, execution of rules all work properly. 1b1b

Selection functions (ability to declare them in CML and to collect selections from users at typewriter terminals (fullduplex). 1b1c

The "?" (show me my current alternatives) feature seems to work properly. 1b1d

PCP calls are simulated with typed out report of the attempted call. 1b1e

Ability to declare pCp processes, packages, and procedures in CML. 1b1f

Builtin CML variables, rules, and functions to support LOGIN, LOGOUT, MOVELOG, RUNTOOL, and ENDTOOL are all implemented and functional. 1b1g

All of the currently specified WM command language now parses properly and makes correct PCP calls (as far as I can tell). 1b1h

Several representative NLS commands are now parsed correctly and make the correct PCP calls. I will be spending the rest

of today moving more of the NLS commands into the new CML and checking them out with the CLI. 1b1i

Yet to be done: 1b2

Handling multiple results from PCP calls (this is not difficult, it just seemed academic until there is a PCP). 1b2a

PCP-temporary-return rules and builtin variables (ditto the comment above). 1b2b

Out of line PCP calls and WAIT (ditto). 1b2c

Perform, Loop, and Exit loop have not yet been implemented. None are difficult. 1b2d

List-type CML variables. These are quite simple and will be implemented soon. 1b2e

Included here will be the ability to reference elements of the list. 1b2e1

File name collector. We need agreement on the form of filename to be passed among FE, WM, and tools. I plan to write the parser but dont know what the result of the parse should be. 1b2f

The major consideration here is the impact on tools. For example if a user asks a tool to do something with a file and instead of typing the file name tells the tool how to get it out of a text file, then the tool must be able to generate the required form of the filename before requesting service from the WM. 1b2f1

Support of halfduplex and line-at-a-time terminals. This should not be difficult. 1b2g

Change how builtin CML variables, rules, and fuctions are handled to simplify loading grammars dynamically. Currently they are link-loaded together. We could link-load whenever we load a grammar, But I am trying for a better approach. 1b2h

CML compacter. I have written but not debugged a CML grammar compacter. It requires variable length CML instructions which hairs up the CLI but makes the grammars about 50% smaller. 1b2i

PCP to CML to PCP data type converters. These will be written within the next few days. 1b2j

Syntax request. I have not debugged the ^S feature of the CLI. Nor have I debugged the connection to a sematic help process. In addition, a declaration facility in CML to allow the command language designer some control over the operation of ^S is only partially implemented. 1b2k

The INPUT FROM/OUTPUT TO facility for "typescript" and "runfil" have not been implemented. 1b2l

The declaration of a TERMINAL CLASS function to be called in a tool whenever the user changes his terminal class (because of shared displays or the user simulating a typewriter from a display) has not been implemented. 1b2m

Only one of the display oriented pointing collectors has been written (this was needed as a test case). The others will be put off until display support is needed. 1b2n

Command feedback for displays has not been implemented. 1b2o

Although the CLI uses a user-profile currently, it is not able to dynamically load one for the user. This should be very simple to do when necessary. 1b2p

Command backup (backing up the parse) has not been systematically tested and debugged, except in collecting typein parameters from the user. This will be happening during the next few days. 1b2q

HOW TO RUN THE CLI: 1c

Running it: 1c1

The program is <nsw-sources>cli.sav and can be run at anytime. Tonight I plan to create a CLI.WM and a CLI.NLS so that the WM and NLS people can debug their CML separately. The currrent CLI is equiped with all of the WM commands (including a forced login when you start the program) and three NLS commands. 1c1a

Creating new or updated grammars: 1c2

The file <nsw-sources>test-syntax.nls contains the CML for the commands currently available in CLI. I plan to create two file <nsw-sources>wm-cml.nls and <nsw-sources>nls-cml.nls containting the CML for the WM and NLS grammars, respectively. To compile the CML, use <nsw-sources>xcml.sav with the PROGRAMS Compile File (NLS) command. The rel file should be called

<nsw-sources>wmgram.rel and <nsw-sources>nlsgram, respectively, to be used with the RUNFIL files <nsw-sources>loadwmcli.txt and <nsw-sources>loadnlscli.txt. The load should not produce any undefined symbols, etc. 1c2a

INITIAL HOOKUP WITH NLS AND WM: 1d

Tomorrow we plan to start trying to load the CLI and NLS Backend together into a single save file such that the CLI will convert its arguments to PCP form and call the NLS dispatcher, which will decode the arguments and call the desired procedure and hopefully return results in the same fashion. This performs all tasks except PCP control transfer almost exactly as they will be done in the final system. We suggest arranging a similar hookup with the WM. Here the transfer from CLI to WM will be different, but is certainly doable. 1d1

First release of NSW CLI-10

(J25876) 16-MAY-75 00:23;;; Title: Author(s): Charles H. Irby/CHI; Distribution: /SRI-ARC([INFO-ONLY]) NSW([INFO-ONLY]) WEC([INFO-ONLY]) KS([INFO-ONLY]) DLS([INFO-ONLY]) LAC([INFO-ONLY]) ; Sub-Collections: SRI-ARC NSW; Clerk: CHI; Origin: < IRBY, RELEASE.NLS;1, >, 16-MAY-75 00:20 CHI ;;;;####;

DVN 16-MAY-75 00:26 25877

Please Let UsIn on Some User Service Course or Trip Reports

I would be grateful if you would distribute User Services Course and Trip reports to DVN, KIRK,POOH, and BEV. I think it would be really useful for keeping us writers here in touch with the people. 1

DVN 16-MAY-75 00:26 25877

Please Let Usin on Some User Service Course or Trip Reports

(J25877) 16-MAY-75 00:26;;;; Title: Author(s): pirk H. Van Nouhuys/DVN; Distribution: /US([ACTION]) DMB([ACTION] dirt notebook please) KIRK([INFO-ONLY]) BEV([INFO-ONLY]) POOH([INFO-ONLY]) ; Sub-Collections: DIRT SRI-ARC US; Clerk: DVN;

Relationship between NLS-8, 8.5, and 9

This is a brief description of the relationship between NLS-8, 8.5, and 9 which was prepared at Application's request. 1

The following userprograms can be easily attached to NLS-8 and will include the described changes: 1a

Format: New format(s) will be added that reflect the requests of the US Airforce 1a1

Modify: An automatic editing command will be added that: 1a2

corrects errors in spacing between the end of one sentence and the beginning of the next; 1a2a

corrects errors in spacing involving commas; 1a2b

corrects errors in spacing involving colons; 1a2c

corrects errors in spacing involving semicolons. 1a2d

Letter: Some changes will be made to the present Letter program. 1a3

Readmail (if written): Readmail will provide a variety of commands to help manage online communications. These include reading, filing, forwarding, and answering online mail as well as a simple-minded calendar with an automatic daily reminder. 1a4

New userprograms that will be written for NLS-9 will not be able to be used with either NLS-8 or NLS-8.5 because the compilers will be different. 1a5

Tabs: 1b

The implementation of Tabs may involve bringing up NLS-8.5 or it may be possible to do a Procedure Replace. 1b1

Tabs will implement an automatic right justification (against any character) feature along with statement dependent tab stops. This design deals with entering tabular text that ends up looking in the file like it did when it was entered. This implementation when combined with statement-dependant tab stop settings will provide the typist with the capability of usefully entering tabular material online 1b2

The following features will involve bringing up NLS-8.5 and this includes a new file structure: 1c

Graphics 1c1

Changes involving the Output Processor: 1c2

special statement(s) that would serve as a heading statement(s) but would not be part of the NLS hierarchy; 1c2a

page oriented output processesing; 1c2b

support for Singer 6000 COM; 1c2c

changes in the ouput commands as proposed by NDM (Applications has not approved this yet). 1c2d

Help Files 1d

NLS 8.5 will use a multi-file help tool that has a different search algoritm than the help file in NLS 8. If the decision is made to add only certain userprograms without the new help files, then the information in the various help files will need to be incorporated by hand into the existing large help file. This is not a trivial matter. If the multifile help data base is adapted and only certain userprograms are added, then extensives changes will need to be made by hand in the help file presently called NLSUM which will reference new NLS 8.5 features. 1d1

NLS-9: 1e

NLS-9 will operate with a Frontend-Backend split. The Frontend can run on a PDP-11 or a PDP-10. 1e1

Recommendation: 1f

Development would like NLS-8.5 to be the standard NLS on machines it is using starting June 1. We would recommend that after Applications assures itself of its reliability and compatability with present user needs, that NLS-8.5 also be brought up as its standard system at Office-1. 1f1

If measurements show that NLS-9 running Frontend and Backend on the same PDP-10 is as efficient as NLS-8, then it should probably be brought up as the standard NLS in Spring '76. Development will be using it consistently earlier. All future developments will be in NLS-9. 1f2

Relationship between NLS-8, 8.5, and 9

(J25878) 16-MAY-75 14:53;;; Title: Author(s): Richard W. Watson, Ann Weinberg/RWW POOH; Distribution: /SRI-ARC([INFO-ONLY]) ;
Sub-Collections: SRI-ARC; Clerk: POOH; Origin: < WEINBERG, RE.NLS;31, >, 16-MAY-75 14:50 POOH ;;;; ####;

RLL 16-MAY-75 15:06 25879

sug: Reducing the refreshing of DNLS screen for show disk, delete files, etc.

To reduce the time for refreshing I offer the following suggestion: For the show disk status command and similar commands as well as the display for deleted files do NOT clear screen but simply delete lines from top as needed in the same way when inserting several lines of text. 1

Optionally, for two or less lines of info, you can display the text in the TTY window with a message to the effect on the command feedback line (if you like). 2

RLL 16-MAY-75 15:06 25879

sug: Reducing the refreshing of DNLS screen for show disk, delete files, etc.

(J25879) 16-MAY-75 15:06;;; Title: Author(s): Robert N. Lieberman/RLL; Distribution: /FEED([ACTION]) JCN([INFO-ONLY]) RA3Y([INFO-ONLY]) JHB([INFO-ONLY]) DSM([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: RLL;

DMB 16-MAY-75 15:40 25880

Coffee Money

Our Coffee is dwindling away, along with the money! In an effort to continue the convenience of the coffee, it has been suggested that once a month (payday), we collect from each coffee drinking ARC member, two dollars (50 cent a week). This 6 cent a day, if everyone contributes his share faithfully, will not only pay for the coffee and things, but will also allow for treats more often (smile)!

Please help us help you. We'll be calling on your donations on our next payday 5/30/75!

1

DMB 16-MAY-75 15:40 25880

Coffee Money

(J25880) 16-MAY-75 15:40;;;; Title: Author(s): Delorse M. Brooks/DMB; Distribution: /SRI-ARC([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: DMB;

KEV 16-MAY-75 18:10 25881

coffee

is there any reason why coffee [etc,] can't be paid for out of petty cash? 1

KEV 16-MAY-75 18:10 25881

coffee

(J25881) 16-MAY-75 18:10;;;; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Distribution: /SRI-ARC([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: KEV;

KIRK 16-MAY-75 20:28 25882

quick question

Did you fix the 1/g indentation bug? Note that if Q is on, it should indent from the origin. 1

KIRK 16-MAY-75 20:28 25882

quick question

(J25882) 16-MAY-75 20:28;;;; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /KEV([ACTION]) ; Sub-Collections: SRI-ARC; Clerk:
KIRK;

KIRK 16-MAY-75 21:50 25883

Names of top-level Help descriptions

I propose that we change the top level descriptions for NLS and NSW to something meaningful such as "NLS" and "NSW". Dirk points out that calling the top level branch describing the NLS environment "NLS" could be misleading. For instance, in the editor "Output" command description we would then say "See NLS output" for a more general description. Since you are already looking at the editor "Output" command this might imply that it is not an NLS command. Technically there is no problem. Since in NLS-9 there will be no tool named "NLS" how can it have a command? While it is concievable that misunderstanding may occur, I think this possibility is better than naming the highest level concepts "NLSUM", "FE-WM", or "UMBRELLA". Unless we can think of more appropriate names for the top level statements describing, and classifying descriptions of, the NLS and NSW environments, I request that NLS and NSW be the words used.

1

KIRK 16-MAY-75 21:50 25883

Names of top-level Help descriptions

(J25883) 16-MAY-75 21:50;;;; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /DVN([ACTION]) POOH([ACTION]) BEV([ACTION]) ;
Sub-Collections: SRI-ARC; Clerk: KIRK;

JAKE 16-MAY-75 23:43 25884

PHONE LOG: C. Stringfellow, SAI, RE: NIC contract and transfer of Network from Arpa to DCA

Charles Stringfellow from Science Applications Inc. (SAI) called to inquire about current NIC services. He was also interested in finding out what services had been cut as of June 1974. Stringfellow is involved in a contract sponsored by DCA and ARPA to oversee the transfer of the management of the ARpanet from ARPA to DCA. He stated that Bob Brownfield and Ed Alexander would be in Menlo Park May 20-21 to discuss NIC contract and other matters. (He is apparently working in same building with Brownfield and Alexander and is in close contact with them.) 1

Stringfellow has been associated with the World Wide Military Command and Control Network (WWMCCs). Although most of our conversation centered around what documents the NIC is currently producing (Directory, Resource Handbook, Current Network Protocols - We also discussed former catalog and indexing activities and journal system as well as contents of NIC collection that are only available from SRI such as RFCs and like documents). There were some pieces of information regarding the new management of the network which may be of interest to some or all of you: 2

- Most of the recommendations for the transfer of the Arpanet from ARPA to DCA were laid down in the DOD Data Internet Study which was produced by a committee of DOD representatives cochaired by DCA. This is for Official Use Only but Stringfellow will send a copy if he can. 2a

- There will be a second NCC patterned after the NCC at Boston which will be run by the Defense Communication Engineering Center (DCEC). It will be located at Reston , Va. Originally this NCC will be used for training of the DCA people and for studying the operation of the network . It will be run in parallel with the Boston NCC. This arrangement will probably be operational for a few years before the transfer is complete and the Boston NCC is phased out (at least that seemed to be the implication). 2b

- DCA is not interested in sponsoring R & D on the Arpanet but is primarily interested in the operational and maintenance aspects only. In this capacity they will probably put more emphasis on how the network functions and will in all probability be more businesslike or organized in their approach. Stringfellow thought that this would eventually be a win for users and in fact DCA seems to be fairly user oriented in their handling of things so far. 2c

- There will be a multiservice sponsor's group composed of representatives of the various government agencies active on the network. Although he did not specify exactly who would be in this group he did mention the services (Army, Navy, and Air Force) and

PHONE LOG: C. Stringfellow, SAI, RE: NIC contract and transfer of Network from Arpa to DCA

ARPA as well as NBS. In describing the RFCs I mentioned the fact that Jon Postel was Co-ordinator of the Network Working Group and that this group had been very active in design and implimentation of the network protocols which greatly affected the way the network performs. He was quite interested in this activity and so I suggested that it might be useful to have the co-ordinator of this group as a non-voting representative of the Sponsor's Group. Stringfellow thought this would be a good idea. 2d

- The Sponsor's Group will act as a user group with 'board of directors' type control as best I could ascertain. 2e

With respect to NIC-like activity, DCA seems quite interested in sponsoring this work and seems to see it as a necessary activity. There seems to be some discussion still about which agency whould sponsor what (ARPA or DCA). Indications were that ARPA will fund NIC until Dec at which time DCA will take over or it will be split in some fashion between the two. 3

We discussed the role of the ARC journal as a depository for much of the network technical information and I stressed the fact that this was an important network resource that needed to be ongoing. 4

Stringfellow seemed like a sharp guy who understood many of the problems of the network and of information handling and technology transfer. I felt it was worth taking the time to try to 'educate' him as to some of our activities (especially the ones that are not as visible to outsiders) since he will have a part in recommending what is supported and how the transfer is to be made. 5

One final thing came out of the discussion. He was very interested in finding out who the user population of the Arpanet is. I told him that there had been no real work done on this. 6

I told him that the NIC and our Utility probably had collectively a better feeling for users than most any other group on the network. I mentioned the paper that I had written for USING, and that I would like to conduct such a user survey. He thought this would be a very useful thing to have. My own feeling is that Jim Baer and/or Ray and myself should pursue a small contract from ARPA, DCA or NSF to do such a user study. It would be useful to the Utility, NIC, Sponsor's Group, ARPA, DCA and NSW as well as prestigious. Any interest DCE JCN RA3Y JHB??? Comments??? 7

JAKE 16-MAY-75 23:43 25884

PHONE LOG: C. Stringfellow, SAI, RE: NIC contract and transfer of Network from Arpa to DCA

(J25884) 16-MAY-75 23:43;;; Title: Author(s): Elizabeth J. Feinler/JAKE; Distribution: /JCN([ACTION]) DCE([ACTION]) RWW([ACTION]) JHB([ACTION]) RA3Y([ACTION]) SRI-ARC([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: JAKE; Origin: < FEINLER, STRINGFELLOW.NLS;3, >, 16-MAY-75 23:38 JAKE ;;;;####;

DVN 19-MAY-75 12:50 25885

Marge Lambie of the Bonneville Power Authority Will Visit SRI

Marge Lambie (25065,)(25216,) (25309,) of the Bonneville Power Authority will be here Friday the 23rd. She expects to arrive about 9:30 but may be delayed. If she is delayed she will be able to notify me on Thursday. Doug and I will talk to her about DPCS and other possibilities at Bonneville and I will demonstrate NLS. She is particularly interested in versions of NLS running on a Front End machine and/or on their Burroughs equipment. I will ask Elizabeth Michael and Pat Whitting-O'Keefe to talk with her about these and related system matters. 1

DVN 19-MAY-75 12:50 25885

Marge Lambie of the Bonneville Power Authority Will Visit SRI

(J25885) 19-MAY-75 12:50;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /KLM([ACTION] docplan notebook please) EKM([ACTION]) PWO([ACTION]) DPCS([INFO-ONLY]) DOCPLAN([INFO-ONLY]) ; Sub-Collections: SRI-ARC DPCS DOCPLAN; Clerk: DVN; Origin: < VANNOUHUYS, MYLIN.NLS;107, >, 16-MAY-75 18:00 DVN ;;;; 2212####;

KEV 19-MAY-75 15:01 25886

quick response (re-- journal, jrn127, j25882 :gw)

no

KEV 19-MAY-75 15:01 25886

quick response (re-- journal, jrn127, j25882 :gw)

(J25886) 19-MAY-75 15:01;;;; Title: Author(s): Kenneth E. (Ken) Victor/KEV; Distribution: /KIRK([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: KEV;

KIRK DVN POOH BEV 19-MAY-75 16:52 25887

Informal Documentation weekly report

Final report: another 2 weeks. Glossary: still editing. Sample sessions coming out like mad. More...

Informal Documentation weekly report

DvN: 1

Final Report: 1a

It returned from SRI Editing. Doug and I met with the Editor, agreed on a new outline, some other changes. Work remaining to be done is as follows: Restructure file (POOH), put in references (POOH with help from authors), add Glossary (DvN), evaluate (DvN) and read in (DNB + ???) detailed editorial suggestions, gather illustrations and set aside space for them in the text where it hasn't been done (POOH, DvN + authors). All this should take about 3 days of POOH's time, 2 of DvN's, and 4 of the time of a typist, DMB + whoever we can gdt to work on it. We hope to be done in less than two weeks. 1a1

Previous contracts have required in effect a review period of several months at RADC before final printing. This contract has no such requirement. We must decide if we want to print a short run of a line-printer verison to get it to the customer and COM it at leisure, or wait as much as a month longer for the COM verson to be ready. I reccomend we get out a quick line-printer version in say 100 copies. 1a2

Glossary: Pam and Pricilla still polishing away on it. Should be done early next week. Then it will need a final printout and readcver, then to COM. 1a3

NSW: The Discursive Introduction to DPCS has gone to Documentation Review. The draft frontend-works manager Help file is waiting to be typed in. It will take substantial review from CharlesIrby, Kirk Sattley, et al, but the basic thing is there. 1a4

BEV 2

Completed and journalized Editing Sample Session I. 2a

Went over review copy of Sendmail Sample Session. Incorporated editing, rewrote. Now ready to journalize and put in COM Directory. Hope to have done this afternoon. Terminal situation a bit nerve-racking this week. 2b

Completed Help Sample Session, First Draft. Will circulate Monday for review. 2c

Reviewed Dirk's discursive introduction. 2d

POOH 3

Informal Documentation weekly report

Command Summary: received proofs from DDSI and more corrections were made, it is ready to go to DDSI again 3a

Cue Card: worked with Will Ashworth and Toni Clough on next steps with Cue Card. It has been color coded and now test proofs will be run. 3b

Business Cards: received proofs from DDSI. They are ready to go for final run. 3c

Other documentation: Repreinted some L-10 documentation since the demand is so high. 3d

Final Report: began to work on final report but only briefly 3e

Journalized short report for RWW on the differences between NLS-8, 8.5, and 9. 3f

Editor help tool: worked on rewriting some of the editor help data base. 3g

kirk 4

Received Glossary COM test: looks beautiful. 4a

Reviewed docuents, answered questions, made some small edits to various help files. 4b

Incorporated RLL's very good suggestions into the Readmail Help/Guide/Design. Found a neat way to have text appear when! doing Output Printer but disappear when directives are deleted. But doesn't seem to work (EKM is looking at it). 4c

Worked on getting tabs to work. 4d

KIRK DVN POOH BEV 19-MAY-75 16:52 25887

Informal Documentation weekly report

(J25887) 19-MAY-75 16:52;;; Title: Author(s): Kirk E. Kelley, Dirk H. Van Nouhuys, Ann Weinberg, Beverly Boli/KIRK DVN POOH BEV;
Distribution: /DIRT([INFO-ONLY]) DMB([INFO-ONLY] dirt report) ;
Sub-Collections: SRI-ARC DIRT; Clerk: KIRK;

DMB 19-MAY-75 17:47 25888

coffee

In answer to your question "why coffee can't be paid for out of petty cash". The petty cash funds can be used for reimbursement for low-cost materials and services not readily available within SRI, such as minor machinery repairs, local transportation, books and periodicals, printing and art supplies, mailing, etc., and any other necessity, not conveniences such as coffee & things. Also, anything purchased with petty cash takes JCN, DCE, and Bob Wing's approval and Bob would probably never approve such an unnecessary item as coffee. 1

coffee

(J25888) 19-MAY-75 17:47;;;; Title: Author(s): Delorse M. Brooks/DMB; Distribution: /KEV([ACTION]) ; Sub-Collections: SRI-ARC; Clerk: DMB;

BEV 19-MAY-75 18:13 25889

I'd like to have this file checked over as soon as possible. It is an outline of the porposed (and completed) sample sessions for the Secretarial Functions Guide. I have listed all the areas that were to be covered by sample sessions, showing which sample sessions would apply in each area. Then I have given a detailed breakdown of what each sample session would coverin these different areas. I feel I need some feedback before I go much further. I'm sure you will want to modify these outllines , and I'd like to have everything nailed down before I start writing them. Thanks . ...Oh. I've printed out a hardcopy if you want to see it. This file is a little hard to get an overall picture of online. The hardcopy is on my desk.--Bev

(J25889) 19-MAY-75 18:13;;; Title: Author(s): Beverly Boli/BEV;
Distribution: /DVN([ACTION]) KIRK([ACTION]) POOH([INFO-ONLY]
) ; Sub-Collections: SRI-ARC; Clerk: BEV; Origin: < BOLI,
SECFUNC.NLS;3, >, 19-MAY-75 17:59 BEV ;;;;####;

CML-PCP-CML data type conversions

CML DATA TYPES 1

Data elements are fully typed in CML. The following describes the conversion of these data types into PCP format for passing arguments to tool/WM procedures. 1a

CML Integer -> PCP INTEGER 1a1

CML TRUE -> PCP BOOLEAN: TRUE 1a2

CML FALSE -> PCP BOOLEAN: FALSE 1a3

CML NULL -> PCP EMPTY 1a4

CML Command Word, user typein string, or #"..." literal -> PCP 1a5

LIST(%type% INTEGER, %selection% CHARSTR) 1a5a

%type will be the integer specified in the DECLARE COMMAND WORD declaration or zero if not declared (e.g. in #"any string")% 1a5a1

CML address selection -> PCP 1a6

LIST(%arg type% INDEX [=1], %entity type% INTEGER, %address% CHARSTR, ...) 1a6a

where ... denotes zero or more repetitions of the last element. 1a6a1

CML point selection -> PCP 1a7

LIST(%arg type% INDEX[=2], %entity type% INTEGER, *POINT, ...) 1a7a

Where *POINT is shorthand for 1a7b

LIST(%windowid% INTEGER, %stringid% INTEGER, %character-count% INTEGER) 1a7b1

CML BLOCK (for use by tool-specific selection and parse functions) -> PCP 1a8

LIST(%arg type% INDEX[=3], %block% BITSTR) 1a8a

where the length of the BITSTR will be an integral multiple of the wordsize of whatever machine the CLI is running on. 1a8a1

CML-PCP-CML data type conversions

CML list -> PCP 1a9

LIST (*ELEM, *ELEM, ...) 1a9a

Where *ELEM is shorthand for any of the PCP data structures described above. 1a9b

When results are returned to the CLI, the following conversions will take place: 1b

PCP INTEGER or INDEX -> CML integer 1b1

PCP BOOLEAN: TRUE -> CML TRUE 1b2

PCP BOOLEAN: FALSE -> CML FALSE 1b3

PCP EMPTY -> CML NULL 1b4

PCP CHARSTR -> CML typein string (type = 0) 1b5

PCP BITSTR -> CML BLOCK 1b6

where the last word of the CML data element will be zero filled, if necessary. 1b6a

PCP LIST of above -> CML list 1b7

Any other PCP data structure will be considered illegal and ignored (with a warning message to the user). 1b8

CHI 19-MAY-75 18:24 25890

CML-PCP-CML data type conversions

(J25890) 19-MAY-75 18:24;;; Title: Author(s): Charles H. Irby/CHI;
Distribution: /NPG([INFO-ONLY]) RWW([INFO-ONLY]) KS([INFO-ONLY
]) ; Sub-Collections: SRI-ARC NPG; Clerk: CHI; Origin: <
NSW-SOURCES, CML-PCP-MEMO.NLS;1, >, 19-MAY-75 14:57 CHI ;;;;####;

BEV 19-MAY-75 18:37 25891

Standard Format for Sample Sessions

It has occurred to me that we should settle on a standard format for all of the sample sessions. The two which we created out of the old primer (Editing SS 1 and Sendmail SS 1) will look slightly different, but the remainder should probably be uniform. At least this is my feeling. The Help Sample session which you are all reviewing right now seems at least a good basis from which to start. It is pretty easy to format (especially since thre directives can now be copied from file to file) and easy to read to my eye. Also, should we standardize the front stuff (i.e., brief definition of what is being shown, information on control keys, etc.? As I am now going on to do more of these things, I'd appreciate some immediate feedback.
Thanks. Bev

1

BEV 19-MAY-75 18:37 25891

Standard Format for Sample Sessions

(J25891) 19-MAY-75 18:37;;;; Title: Author(s): Beverly Boli/BEV;
Distribution: /DVN([ACTION]) POOH([ACTION]) KIRK([ACTION]) ;
Sub-Collections: SRI-ARC; Clerk: BEV;

Introduction 1

Data structures may be encoded according to PCPB8 when the physical channel allows messages which are streams of 8-bit binary bytes. 1a

The first byte of a data structure is a type code, with the type zero having the special interpretation indicating that a key is present for this data structure, non-zero codes indicate element types. 1b

Data Structure Encoding 2

Key 2a

FLAG (1 byte) = 0 2a1

VALUE (any element) 2a2

Elements 2b

CHARSTR 2b1

TYPE (1 byte) = 1

SIZE (1 byte)

COUNT (size bytes)

TEXT (count bytes)

BITSTR 2b2

TYPE (1 byte) = 2

SIZE (1 byte)

COUNT (size bytes)

BITSTRING (count bits ((count+7)/8) bytes)

INTEGER (two's complement) = 3 2b3

TYPE (1 byte)

SIZE (1 byte)

COUNT (size bytes)

INTEGER (count bits ((count+7)/8) bytes)

BOOLEAN 2b4

TYPE (1 byte) = 4

VALUE (1 byte)

FALSE=0

TRUE =1

EMPTY 2b5

TYPE (1 byte) = 5

LIST 2b6

TYPE (1 byte) = 6

SIZE (1 byte)

COUNT (size bytes)

REPEAT (1 byte)

SPECIFIEDELEMENTS=0

Count Data Structures

REPEATEDELEMENT=1

One Data Structure (representing count repeated instances)

REPEATEDHEADER=2

One Data Structure Header

Count Data Structure Values

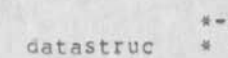
INDEX 2b7

TYPE (1 byte) = 7

VALUE (2 bytes)

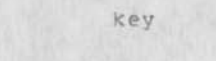
The value represents a positive integer in the range 1 through 2**15 - 1

Data Structure Format 3

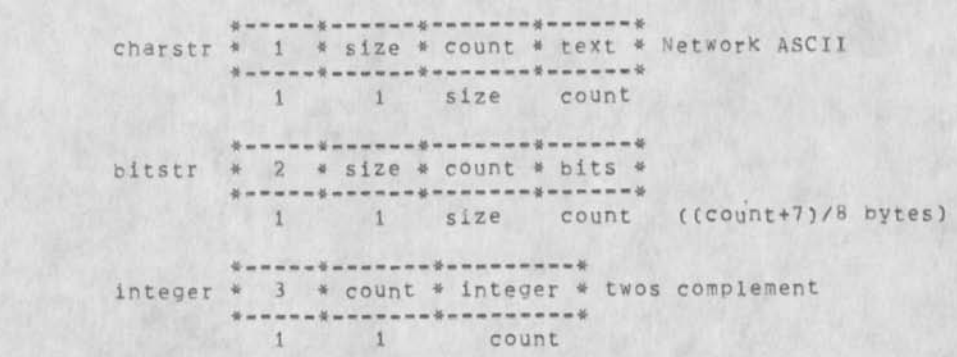


3a

key 3a1



element 3a2



```
          *-----*--------*
boolean   *  4  * 0 or 1 * 0 for FALSE or 1 for TRUE
          *-----*--------*
             1       1

          *------*
empty     *  5   *
          *------*
             1

          *-----*------*-------*--------*------------------*
list      *  6  * size * count * repeat * count-structures *
          *-----*------*-------*--------*------------------*
             1       1    size        1

          *-----*--------*
index     *  7  * value * small positive integer
          *-----*--------*
             1       2
```

Examples 4

Character string "ABCDE" 4a

1	1	5	A	B	C	D	E

4a1

Bit string "10001111101011" 4b

2	1	1100	10001111	10101100

4b1

Integer "-3" 4c

3	1	11111101

4c1

Boolean "TRUE" 4d

```
*-------*-------*
*   4   *   1   *
*-------*-------*
```

4d1

Empty 4e

```
*-------*
*   5   *
*-------*
```

4e1

List of a character string "A" and a boolean "FALSE" 4f

```
*-------*-------*-------*-------*-------*-------*-------*-------*-------*
*   6   *   1   *   2   *   0   *   1   *   1   *   A   *   4   *   0   *
*-------*-------*-------*-------*-------*-------*-------*-------*-------*
```

4f1

List of three the booleans "TRUE", "FALSE", "TRUE" 4g

```
*-------*-------*-------*-------*-------*-------*-------*-------*-------*
*   6   *   1   *   3   *   0   *   4   *   1   *   4   *   0   *   4   *   1   *
*-------*-------*-------*-------*-------*-------*-------*-------*-------*
```

4g1

or 4h

```
*-------*-------*-------*-------*-------*-------*-------*-------*
*   6   *   1   *   3   *   2   *   4   *   1   *   0   *   1   *
*-------*-------*-------*-------*-------*-------*-------*-------*
```

4h1

Index "7" 4i

```
*-------*-------*-------*
*   7   *   0   *   7   *
*-------*-------*-------*
```

4i1

Boolean "TRUE" with character string Key "X1" 4j

4j1

(J25892) 19-MAY-75 20:15;;; Title: Author(s): Jonathan B.
Postel/JBP; Distribution: /NSW([INFO-ONLY]) ; Sub-Collections:
SRI-ARC NSW; Clerk: JBP; Origin: < POSTEL, PCPB8.NLS;11, >,
19-MAY-75 19:49 JBP ;;;;####;

April Downtime

This is a log of the times when BBN-Tenex System B was unavailable to users at SRI-ARC. This log was kept off-line by hand on a note pad. There are undoubtedly errors in this information due to misrecording or misinterpretation of events. Also note that not all service interruptions were recorded.

The times are west coast time. The durations in minutes. The descriptions are often a quote of the TIP message that signalled the serivce interruption, but sometimes not. Often the users found that even after long service interruptions that their jobs were detached rather than killed.

date	time	duration	description
4-1	0800	430	extended pm
	1400	?	host dead
	2049	?	host down
4-2	1010	50	imp dead then host dead
	1155	13	imp dead
	1252	13	imp dead
4-3	0830	5	host not responding
	0850	10	host dead
	1008	6	host dead
	1022	?	host dead
	1030	1	host dead
	1338	1	host dead
4-4	0945	?	connection suspended
	1000	1	connection suspended
	1002	2	connection suspended
	1022	8	host not responding
	1055	3	connection suspended
	1110	?	connection suspended

April Downtime

	1235	?	host dead	22
	1405	?	host dead	23
	1435	3	net trouble	24
4-5	0000	20	host dead	25
4-7	1050	?	connection closed	26
4-10	1410	2	connection suspended	27
	1554	1	connections broken	28
	2220	110	host disconnected	29
4-16	0430	310	host dead	30
4-18	1024	40	host disconnected	31
	1107	1	host disconnected	32
4-22	1005	10	host disconnected	33
	1128	30	host disconnected	34
	1222	28	host down	35
	1252	58	host down	36
4-25	0850	300	network down	37
4-26	0230	5	host dead	38
	0240	?	host dead	39
4-29	0719	10	host dead	40

We seem to have caught a couple of times that were not in your reports. For example the mornings of the 16th and 25th. Also note that on days like the 4th where there are a series of short interruptions we spend so much time logging in or attaching to jobs that very little useful works gets done. 41

April Downtime

(J25893) 20-MAY-75 02:28;;; Title: Author(s): Jonathan B. Postel/JBP; Distribution: /RWW([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: JBP; Origin: < POSTEL, APRIL-DOWNTIME.NLS;3, >, 20-MAY-75 02:27 JBP ;;;;We seem to have caught a couple of times that were not in your####;

If we forward Private Files, they are still Private.

Thnak you for the citations to 32526 and 32525, but the system won't let me load them. Since Rita is here I will ask her to print me copies.

1

If we forward Private Files, they are still Private.

(J25894) 19-MAY-75 23:00;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /FEED([ACTION] I se this as a design bug) JMB([INFO-ONLY]) ; Sub-Collections: SRI-ARC; Clerk: DVN;

DVN 20-MAY-75 12:09 25895

NSW Documentation Planning: Sample Session Format and Coordination; Names of Help Files

In general I agree with thee Sample Session Format proposed in in (25891,). In general I agree witn the outline of sample sessions planned in (25889,). I am worried that we cannot do all that and get the Help files ready too by July. I guess the fact that I can't think of a better name for (help,NLSum,) that "NLS" has a moral: I will accept that "NLS" if Kirk will accept"Worksmanager" for (help,fewm,). I think we four should meet Tuesday particularlly to set priorities among the Sample Sessions and Help files and to settle the File name issue. How About 4:00? 1

DVN 20-MAY-75 12:09 25895

NSW Documentation Planning: Sample Session Format and Coordination; Names of Help Files

(J25895) 20-MAY-75 12:09;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /KIRK([ACTION]) BEV([ACTION]) POOH([ACTION]) DMB([ACTION] dirt notebook please) DIRT([INFO-ONLY]) ; Sub-Collections: SRI-ARC DIRT; Clerk: DVN;

More L10 Documentation Fragments 1

The L10 runtime packages have debugging breakpoints: 1a

On both the 10 and the 11, L10 runtime files contain labels for breakpoints to help in debugging: 1a1

BPTRCV: 1a1a

This is right at the start of sysrcv - the "recover" routine. The arguments are the error type, the error string address, and the source address or port. 1a1a1

BPTCTN: 1a1b

Control goes thru here every time a catchphrase is activated. At this point SYSSIG is the signal value, SYSGTP is the type, SYSCPM is the catchphrase parameter, SYSCPT points to the catchphrase 'frame' which contains 1a1b1

catchphrase address (+0) 1a1b1a

" port ID (+1) 1a1b1b

" enable count (+2) 1a1b1c

S at invoke time (+3) 1a1b1d

real return location for owning procedure (zero if not first invoke) (+4) 1a1b1e

termination location (+5) 1a1b1f

parameter (+6) 1a1b1g

owning procedure's port ID (+7) 1a1b1h

BPTRES: 1a1c

This is in the RESUME code, just before control is returned. This routines' first local is the port being returned to, the third and following are the RESUME results. 1a1c1

BPTINV: 1a1d

This is in INVOKE. SYSCPE points to the catchphrase frame for the newly formed catchphrase. The owning port ID is not set up at this time, but everything else is. 1a1d1

BPTTRM: 1a1e

This is in the TERMINATE code, before the NOTE(unwind) takes place. The location to which the TERMINATE will go is in systloc, SYSCPT still points to the active (TERMINATing) catchphrase frame. 1a1e1

The list element type names are built-in constants now. 1b

(lnull, linteg, lstrin, llist, lblock). 1b1

If a catchphrase does not specify how to dispatch a catchphrase and control "falls thru" the catchphrase, a CONTINUE will take place. Previously, this was an error. 1c

A global catchphrase MAY have a semicolon at the end. It is not required. 1d

If a list element is read, and the element index is "wild" (no such element exists), a null descriptor and a vlue of zero are obtained. If a write is done with a wild index, that is larger than the current length, null elements will be filled in unless the index is larger than the MAX(list.M, system list max). In other cases, a 'recover' will take place. 1e

Where a sublist is specified (e.g. [e1 TO e2]), if the bounds are bad, they are changed by the runtime code to MAX(1,e1) and MIN(e2,list.M) before any operations are done on the list. 1f

The L10 LIST document is not very clear on this point: 1g

#list#[i] _ NULL; 1g1

Replaces element i with a NULL element; 1g1a

#list#[i] _ ; 1g2

Removes element i from the list and moves following elements up one slot. 1g2a

DIA 20-MAY-75 12:20 25896

More L10 Documentation Fragments

(J25896) 20-MAY-75 12:20;;; Title: Author(s): Don I. Andrews/DIA;
Distribution: /NPG([INFO-ONLY]) ; Sub-Collections: SRI-ARC NPG;
Clerk: DIA;

DVN 20-MAY-75 17:12 25897

Visit Arrangements for Marge Lambie; Planning for EPC

I will try to arrange a time for Marge to describe the Bonneville situation to all interested parties. <responds to (32562,)> .
I'm glad to hear the EPC is still alive. I think it is important for SRI to form a clean response in a reasonable time. Since Tom will return from Japan tomorrow and fly to Brazil on Saturday, it may be between you and Dave to do the planning and talking necessary with Blake. <responds to (32544,)>

1

DVN 20-MAY-75 17:12 25897

Visit Arrangements for Marge Lambie; Planning for EPC

(J25897) 20-MAY-75 17:12;;;; Title: Author(s): Dirk H. Van Nouhuys/DVN; Distribution: /DCE([ACTION]) DRB([ACTION]) KLM([ACTION] docplan notebook please) DOCPLAN([INFO-ONLY]) ; Sub-Collections: SRI-ARC DOCPLAN; Clerk: DVN;

KIRK 20-MAY-75 23:26 25898

Money for index creation and maintenance necessary for future Help development

It has become obvious that the multi-file Help search algorithm recently approved by the NLS and Documentation teams will eventually require an index creation and maintenance program. Money for this development effort should be included in proposals for work after July. 1

1) Minimal indexing can be done by hand and Documentation expects to live with this until July. Shortly after July, a simple minded index program that creates links to named statements will be needed. At current computer resource levels this might take .5 person months. 1a

2) Maintenance of indexes such as produced from this program will require at least a simple minded back-link capability. Documentation is already using a manual method of back-linking important references. Programs and special commands to automatically back-link will be needed if the Help file indexes for tools are to grow and evolve. One person month should get us a long way toward what's needed. 1b

3) Creating a hash table for indexed words and implementing searches with boolean operators has been suggested as a logical next step. Two person months? 1c

Money for index creation and maintenance necessary for future Help development

(J25898) 20-MAY-75 23:26;;; Title: Author(s): Kirk E. Kelley/KIRK;
Distribution: /RWW([ACTION]) EKM([ACTION]) HGL([ACTION])
DIRT([INFO-ONLY]) DMB([INFO-ONLY] dirt notebook) ;
Sub-Collections: SRI-ARC DIRT; Clerk: KIRK;

SRI Proposal No. ISU 75-113
NLS Workshop Support for AFAA

This is the proposal sent to AFAA in June 1975.

SRI Proposal No. ISU 75-113
NLS Workshop Support for AFAA

10-JUN-75
SRI-ARC 25899

1m SRI Proposal No. ISU 75-113

1n NLS Workshop Support for AFAA

1o Part One---Technical Proposal

1p Prepared for:

Air Force Audit Agency
AFAA/DOY
Norton Air Force Base
San Bernadino, CA 92409

Attn: Melvin Draper

1q Prepared by:

James C. Norton, Assistant Director
Augmentation Research Center

1r Approved:

Douglas C. Engelbart, Director
Augmentation Research Center

Bonnar Cox, Executive Director
Information Science and Engineering Division
Stanford Research Institute

1a

I INTRODUCTION

1a

1a1 A. Brief Scope Statement

1a1

1a1a The purpose of this proposal is to request support for the use of knowledge workshop technology developed at the Augmentation Research Center (ARC) of SRI by the Air Force Audit Agency (AFAA). The service would be used by those AFAA-selected people who are willing to undertake exploratory use of knowledge workshop techniques through the use of the online system (NLS) and participate in a knowledge workshop community. 1a1a

1a1b The support is required for two activities: computer services and technical services. 1a1b

1a1b1 The computer services are being supplied through the ARPANET and other communication means to geographically distributed user groups from computer facilities maintained and operated by subcontractors under ARC. As prime contractor, ARC handles all service subcontracts. 1a1b1

1a1b1a Presently, Tymshare, Inc. is providing computer services to the Workshop Community. 1a1b1a

1a1b2 The technical services provided by ARC personnel have the following objectives: 1a1b2

1a1b2a Maintain and update the workshop community ("utility") version of our application software (NLS). 1a1b2a

1a1b2b Support the user groups in learning how to use these tools. 1a1b2b

1a1c Descriptions of the applications being suggested for exploratory use are given in a paper by Engelbart, Watson, and Norton [3] and in an earlier paper by Engelbart [2]. Copies of these documents are included with this proposal as Attachments A and B. 1a1c

1a2 B. Organization of this Proposal

1a2

1a2a This proposal is divided into two parts, each of which is broken down into several sections. 1a2a

1a2a1 Part One is the Technical Proposal, covering the proposed work and its background and context. 1a2a1

1a2a1a Section I is the introduction. 1a2a1a

1a2a1b Section II is a summary outline of proposed project activity. 1a2a1b

1a2a1c Section III is an extended discussion of proposed project activity. 1a2a1c

1a2a1d Section IV is a list of selected references. 1a2a1d

1a2a2 Part Two contains the Contractual Provisions, with sections covering such topics as estimated time and charges, reports, contract form, acceptance period, and a cost estimate with supporting schedules. 1a2a2

1a2b The Attachments contain additional supporting material. 1a2b

1a3 C. ARC's "Community Plan" 1a3

1a3a Introduction 1a3a

1a3a1 ARC is a one-organization community of researchers and system developers, supported by several different contracts. The research and development activities of ARC are aimed at exploring the possibilities for augmenting individuals and groups in the performance of knowledge work with the help of computer aids. These aids range from offline batch to online real-time facilities. Exploratory development and operation of augmentation systems have been our substantive work. 1a3a1

1a3b ARC's Research and Development Strategy 1a3b

1a3b1 An expanding stage of applications has been established with the advent of the second year of Workshop Utility service. We are involving a wider group of system users so that we can begin to transfer the results of our past work to others, and so that we can obtain feedback needed for further evolution from wider application than is possible in our Center alone. We have been providing Workshop support service to selected groups who are willing to take extra trouble to be exploratory, but who: 1a3b1

1a3b1a 1) are not necessarily oriented to being workshop system developers (they have their own work to do), 1a3b1a

1a3b1b 2) can see enough benefit from the system's application and from the experience of trying it so that they can justify the extra risk and expense of being "early users," and 1a3b1b

1a3b1c 3) can accept our assurance that reliability, system stability, and technical application help will be available to meet their conditions for risk and cost. 1a3b1c

1a3c Establishment of a Workshop Utility and promotion of the type of service work proposed herein are part of ARC's long-term commitment to pursue the continued development of augmented knowledge workshops in a pragmatic, evolutionary manner. Note that our last few years of work have concentrated on the means for delivering support to a distributed community, for providing teleconferencing and other basic processes of collaborative dialogue, etc.--consciously aiming toward having experience and capabilities especially applicable to support remote and distributed groups of exploratory users. 1a3c

1b II SUMMARY OF PROPOSED PROJECT ACTIVITY 1b

1b1 The proposed project work will include: 1b1

1b1a Providing training to AFAA-selected users as appropriate in the use of Display NLS (DNLS), Typewriter NLS (TNLS), and Deferred Execution (DEX) software subsystems. 1b1a

1b1b Providing technical assistance to an AFAA-selected "workshop architect" in the formulation, development, and implementation of augmented knowledge work procedures within user groups. 1b1b

1b1c Providing appropriate terminal equipment for AFAA use as mutually found to be necessary. 1b1c

1b2 The technical assistance will include help in the development of NLS use strategies suitable to the client's environment and procedures within its organization for implementing these strategies. 1b2

1b3 The service will also include the availability 20 hours a day, 7 days a week of Workshop Utility service via the ARPANET or specially arranged communication lines from a PDP 10 TENEX system operated by commercial facility management. 1b3

1c III EXTENDED DISCUSSION OF PROPOSED PROJECT ACTIVITY 1c

1c1 A. Objective 1c1

1c1a The objective of this effort is to work with AFAA personnel in the mutual development and use of procedures, methodology, software features, and other online tools; and in the training of users in NLS that will allow their exploratory use of our Workshop system. This objective has the following key components: 1c1a

1c1a1 1) Building an AFAA user group whose members will find real value in applying the service, and whose participation will contribute to AFAA organizational goals both directly (by making the users' AFAA-related activities more effective) and indirectly (by accelerating the maturation and acceptance of augmented knowledge workshop techniques). 1c1a1

1c1a2 2) Using and extending ARC's know-how and capability for integrating innovation with new-development transfer. 1c1a2

1c2 B. Background 1c2

1c2a The Augmentation Research Center has developed, over a period of years under Government sponsorship, a general-purpose interactive augmentation system centering about what we now call an "Augmented Knowledge Workshop," abbreviated below as "Workshop." The goal of ARC's work has been to evolve a prototype Workshop system that will significantly improve the performance of individuals and teams engaged in knowledge-work activities, where the Workshop "system" involves daily use of coordinated tools, procedures, methodologies, and languages. 1c2a

1c2b For further background discussion, see [2] and [3], and the references in Section IV. 1c2b

1c2c While the discussion in Attachment B is oriented toward communities of discipline or mission oriented users, the same types of services and knowledge workshop orientation apply to individuals and groups of workers in a local environment. 1c2c

1c3 C. Scope of Proposed Work 1c3

1c3a Introduction 1c3a

1c3a1 The types of workshop services that we are beginning to support at varying levels of capability are described in [3] under the headings: 1c3a1

- 1c3a1a Collaborative Dialogue 1c3a1a
- 1c3a1b Document Development, Production, And Control 1c3a1b
- 1c3a1c Research Intelligence 1c3a1c
- 1c3a1d Community Handbook Development 1c3a1d
- 1c3a1e Computer-Based Instruction 1c3a1e
- 1c3a1f Meetings And Conferences 1c3a1f
- 1c3a1g Community Management And Organization 1c3a1g
- 1c3a1h Special Knowledge Work By Individuals And Teams 1c3a1h

1c3a2 Our present capabilities in the above areas are briefly indicated in [2] and [3]. For each area, there is an immediate applicability of the basic NLS provisions for composing, modifying, studying, publishing, and collaborating, and we have additional special provisions specifically supporting almost every area. 1c3a2

1c3b Technology Transfer 1c3b

1c3b1 We have started to transfer technology from our local group of experienced users to a wider group of inexperienced, geographically separate users. This technology consists of online software capabilities; a coordinated repertoire of online-assistance tools; associated concept and language additions dealing with the tools and with the information organization and task processes associated with their use; new aspects to intragroup organization and working methodology. Training a group in these new matters is necessary to the transfer; and to help others learn to train people in the new technology requires a transfer of the additional technology used to support the training. 1c3b1

1c3b2 The process of technology transfer is not a simple process, judged by our and others' experiences. We base our "Community Plan" strategy upon our experience that there are at least two main requirements for successful transfer process that proceeds at a reasonable speed and cost: 1c3b2

- 1c3b2a 1) The group originating the technology and having the experience, enthusiasm, and initial commitment

to its value must follow through with training and application support of the end user groups until a critical mass of equivalently experienced and enthusiastic end users has developed. 1c3b2a

1c3b2b 2) The end user groups must each have at least one properly placed, active supporter of the transfer process. We have been using the term "local workshop architect" for this role. 1c3b2b

1c3b2b1 We find this concept is highly relevant both for the successful transfer of our technology and for keeping the cost of this transfer at a reasonable level. 1c3b2b1

1c3b3 We like to give particular emphasis to this second requirement -- that each coherent group planning to integrate the proposed services into its working life should have at least one member serving as a "workshop architect" or "group coordinator." The function of this person is to be familiar in detail with both the needs of his organization and the capabilities we are proposing. This person, knowing his group's needs and our capabilities, would help introduce a workshop system meeting these needs into his organization in the appropriate evolutionary stages. ARC personnel would work closely with the workshop architect -- in training him, in initially giving him significant help in his role, and in continuing exchange of technical information. 1c3b3

1c3b3a The labor-funding levels in this proposal are based on the assumption that when a client group is allocated a portion of the Utility Online Services, the corresponding allocation of direct technical support will go primarily to its workshop architect. We assume that much of the responsibility for integrating the workshop service into his organization or community will be handled by this person. If a workshop architect is not available within a client group, or if extra people need our direct technical support, then additional funding will have to be provided. 1c3b3a

1c3b4 For any group of users we expect evolutionary growth of their workshop service application, in both quantity and range. This growth will take guidance and support of the sort that in the commercial computer world would be offered by the applications specialists and "systems engineers." 1c3b4

1c3c Services Offered 1c3c

1c3c1 The proposed Workshop Utility service consists of two components: computer support and people support. We discuss these components in detail below. 1c3c1

1c3c2 Computer Services 1c3c2

1c3c2a The Underlying Computer Service Support 1c3c2a

1c3c2a1 We are offering a Workshop Utility version of ARC's online system (NLS), accessed over the ARPANET or specially arranged communication circuits, at least 20 hours a day, seven days a week. NLS features are described in the documents listed in Section IV. 1c3c2a1

1c3c2a2 This service is provided by a computer system operated and managed by a subcontracted timesharing utility company, rather than from a system directly operated by ARC. There are two important reasons for this arrangement: 1c3c2a2

1c3c2a2a 1) A commercial firm has the experience, facilities, leverage on vendors, and redundant equipment that make possible more reliable service than can be produced in a research and development environment. 1c3c2a2a

1c3c2a2b 2) It will be possible to expand the service in a more flexible manner in increments of whole or partial machines as usage grows. 1c3c2a2b

1c3c2b Service Partitioning 1c3c2b

1c3c2b1 We are now using a "group allocation" scheme for partitioning online access and service among groups of users. This guarantees each group its fair share of access to system resources while preserving both adequate responsiveness and independence for each group to plan its own usage loading. During this coming year, we plan to further develop the resource allocation system, working toward allocation of central processing unit (CPU) time, rather than login access. 1c3c2b1

1c3c2c File Privacy 1c3c2c

1c3c2c1 The Workshop Utility provides the necessary

standard TENEX software and facility operating procedures to ensure some privacy of file access. In addition, user-controlled NLS privacy features allow useful dialogue attended with flexible privacy restrictions. However, it is important to note that the visibility and availability of planning information and other recorded dialogue in ARC's currently open Journal System provide some of the more significant potential of our Workshop system. 1c3c2c1

1c3c2c2 We assume that ARC online-service personnel may occasionally have to access clients' user files (at a client's request only) as required from an operational standpoint; however, other users of the Workshop Utility Service will be denied read, write and list access to a client's files, unless he specifically releases files for general use. 1c3c2c2

1c3c3 People Support Services 1c3c3

1c3c3a We are still learning about the amount and nature of people support services that a successful Workshop Utility needs, particularly in the direct client support category. The levels specified in this proposal seem to us to be minimal. Charges for such service will be made as delivered to each client. 1c3c3a

1c3c3b Overhead Services 1c3c3b

1c3c3b1 The entire operation, including the interface between the Utility and the clients, needs competent administration. 1c3c3b1

1c3c3b2 Documentation of the basic user features of the system and of their application techniques needs to be complete and will have various special versions tailored for particular types of users. 1c3c3b2

1c3c3b3 The version of NLS that runs on the Utility needs maintenance and quality assurance. A systematic means is being provided for features found useful in the development version of the system to be integrated into the version running on the Utility. This includes the handling of user feedback, a significant effort on the part of ARC Utility staff, providing service to users and important input to system builders. 1c3c3b3

1c3c3b4 Clerical support of various types is needed. 1c3c3b4

1c3c3c Direct Client Support Services 1c3c3c

1c3c3c1 Our clients' users must be trained to varying levels of competence, depending upon the nature of their jobs and the tasks they perform. New procedures and methods will have to be developed and learned to allow effective use of the system in their working environments. Specifying these procedures will require help in analyzing the group's needs and present operations. 1c3c3c1

1c3c3c2 Therefore the following types of necessary services will be provided. 1c3c3c2

1c3c3c2a Assistance in training Utility clients to make special use of the system for applications that are peculiar to their user environments. 1c3c3c2a

1c3c3c2b Assistance to Utility clients in developing related documentation, procedures, records, and methods as needed locally to support their special use of the system. 1c3c3c2b

1c3c3c2c Assistance to Utility clients in the selection, acquisition, and maintenance of hardware that is used principally for the Utility service. 1c3c3c2c

1c3c3c3 Help for the above areas will come in several forms: 1c3c3c3

1c3c3c3a Sessions at SRI for training and application-system design. 1c3c3c3a

1c3c3c3b Temporary residency of SRI personnel at client sites to offer analytic or design help and training. 1c3c3c3b

1c3c3c3c "Circuit riders" who periodically visit client sites to discuss problems, receive feedback on how to improve the service, and offer training or analytic help. 1c3c3c3c

1d

IV SELECTED REFERENCES

1d

1d1 1 ARC 3906, D. C. Engelbart, "Augmenting Human Intellect: A Conceptual Framework," Summary Report, Contract AF 49(638)-1024, SRI Project 3578, Stanford Research Institute, Menlo Park, California, AD 289 565, October 1962. 1d1

1d2 2 ARC 12445, D. C. Engelbart, "Coordinated Information Services for Discipline- and Mission-Oriented Communities," Stanford Research Institute, Augmentation Research Center, 12 December 1972.
Also published in "Time Sharing: Past, Present, Future," Proceedings of the Second Annual Computer Communications Conference at California State University, San Jose, California, January 24-25 1973, pp 2.1-2.4. 1d2

1d3 3 ARC 14724, D. C. Engelbart, R. W. Watson, J. C. Norton, "The Augmented Knowledge Workshop," AFIPS Proceedings National Computer Conference, June 1973. 1d3

SRI Proposal No. ISU 75-113
NLS Workshop Support for AFAA

1s

10-JUN-75
SRI-ARC 25899

1t SRI Proposal No. ISU 75-113

1u NLS Workshop Support for AFAA

1v Part Two---Contractual Provisions

1w Prepared for:

Air Force Audit Agency
AFAA/DOY
Norton Air Force Base
San Bernadino, CA 92409

Attn: Melvin Draper

1e I ESTIMATED TIME AND CHARGES 1e

1e1 It is proposed that the work outlined herein be performed during a period of six months commencing 18 July 1975 or as soon as appropriate computer facilities can be made available. 1e1

1e1a If a delay in contract start date occurs, then the completion date of 17 January 1976 would remain in effect, but the contract period would be shortened. 1e1a

1e2 The proposed project will result in Workshop Utility service being made available to offices selected by AFAA. 1e2

1e2a The costs of the total Workshop Utility service will be accounted for separately by the Institute, with the amount charged to AFAA under this contract being determined as a proportion of the total common cost of the Workshop Utility operation based on its availability for AFAA-directed use together with direct charges for people services as incurred. 1e2a

1e2b We propose to provide guaranteed access to one user "jobslot" 20 hours per day, 7 days per week, from the contract start date through 17 January 1976. 1e2b

1e3 Pursuant to the provisions of ASPR 16-206.2, attached is a cost estimate and support schedules in lieu of the DD Form 633-4. 1e3

1e3a The estimated costs shown in the cost attachment are for the total Workshop Utility service operation. Costs expected to be borne by AFAA over six months are estimated to be about $20,261 as shown in the attached cost estimate. If the service period commences after 18 July, then the costs would be reduced accordingly. 1e3a

1f II UTILITY COMPUTER SUPPORT SUBCONTRACT 1f

1f1 Tymshare, Inc. in Cupertino, California was selected by the Institute as the Computer Support subcontractor for the first year of service. Service through this second year is also being provided by Tymshare. 1f1

1g III REPORTS 1g

1g1 Because of the support nature of the efforts proposed herein, there will be no technical reports produced under this contract. Rather, documentation will be provided along the lines outlined below. 1g1

1g1a The technical documentation will include: 1g1a

1g1a1 TNLS and Deferred Execution User Guides and updates 1g1a1

1g1a2 DNLS User Guide and updates 1g1a2

1h IV CONTRACT FORM 1h

1h1 Because of the nature of the work proposed, it is requested that any contract resulting from this proposal be awarded on a cost-plus-fixed-fee basis as a government contract. 1h1

1i V ACCEPTANCE PERIOD 1i

1i1 This proposal will remain in effect until 17 July 1975. If consideration of the proposal requires a longer period, the Institute will be glad to consider a request for an extension of time. 1i1

SRI Proposal No. ISU 75-113
NLS Workshop Support for AFAA

1j
1j1
1j1a
1j1a1 COST ESTIMATE FOR SECOND YEAR WORKSHOP UTILITY SERVICE
(based on the total OFFICE-1 facility)
1j1a2 Personnel Costs
1j1a2a
1j1a2a1 Supervision 985 hrs.
1j1a2a2 Professional 6750 hrs.
1j1a2a3 Technical 2940 hrs.
1j1a2a4 Clerical 985 hrs.
1j1a2b Total Direct Labor $
84,353
1j1a2c Payroll Burden @ 29.0 %
24,462
1j1a2d Total Labor and Burden
108,815
1j1a2e Overhead @ 110.0 %
119,697
1j1a2f Total Personnel Costs
228,512
1j1a2g
1j1a3 Direct Costs

1j1a3a Travel
16,051
1j1a3a1 27 trips East @ $368 = $ 9,936
1j1a3a2 122 Days Subsistence @ $42.50= 5,185
1j1a3a3 Auto Rental 62 days @ $15 = 930
1j1a3b Utility Online Support Subcontract
710,280
1j1a3b1 [256k core, 3 drums, 20hrs/7days
1j1a3b2 12 mo @ $ 59,190 = $ 710,280]
1j1a3c Materials and Supplies (tape, paper)
2,400
1j1a3d Communications
3,600
1j1a3e Documentation Costs
3,945
1j1a3f Total Direct Costs
736,276

1j1a4 Total Estimated Cost 964,788
1j1a5 Fixed Fee 48,239
1j1a6 Total Estimated Cost Plus Fixed Fee $1,013,027
1j1a7 Estimated six month cost 506,513
1j1a8

SRI Proposal No. ISU 75-113
NLS Workshop Support for AFAA

1j1a9 AFAA CONTRACT SHARE: 1 slot for 6 months = $ 20,261

1j1a10 See following Schedules.

1j2
1j2a
1j2a1
1k
1k1 SCHEDULE A
1k1a DIRECT LABOR
1k1a1
1k1a2 Direct labor charges are based on the actual salaries for the staff members contemplated for the project work plus a judgmental factor applied to base salary for merit increases during the contract period of performance. Frequency of salary reviews and level of merit increases are in accordance with the Institute's Salary and Wage Payment Policy as published in Topic No. 505 of the SRI Administration Manual and as approved by the Defense Contract Administration Services Region.
1k1b
1k2 SCHEDULE B
1k2a OVERHEAD AND PAYROLL BURDEN

1k2a1 These rates are based upon our 1975 budget plan, and have been submitted to the Cognizant Agency of the Department of Defense for approval as bidding and billing rates for the year 1975. We request that these rates not be specifically included in the contract, but rather that the contract provide for reimbursement at billing rates acceptable to the Contracting Officer, subject to retroactive adjustment to fixed rates negotiated on the basis of historical cost data. Included in payroll burden are such costs as vacation, holiday and sick leave pay, social security taxes, and contributions to employee benefit plans.
1k2b
1k3 SCHEDULE C
1k3a TRAVEL COSTS
1k3a1
1k3a2 Air fares and car rental rates are established in the current Official Airline Guide.
1k3a3 Domestic subsistence rates and travel by private auto are established standards based on cost data submitted to DCAA.
1k3b

1k4 SCHEDULE D

1k4a

1k4b DOCUMENTATION COSTS

1k4b1

1k4b2 Report costs are estimated on the basis of the number of pages of text and illustrations and the number of copies of reports to be produced, in accordance with the following rates per page:

1k4b2a Editing	$ 2.55	
1k4b2b Composition	2.50	
1k4b2c Coordination	.74	
1k4b2d Proofreading	.77	
1k4b2e Illustration	21.96	
1k4b2f Press and Bindery	.022	per impression

1k4b3 The following is a breakdown of the estimated cost of report production:

1k4b3a Text preparation, 439 pages at $ 6.56 per page (including editing, composition, report coordination and proofreading)	$ 2,880
1k4b3b Illustration, 40 pages at $ 21.96 per illustration	878
1k4b3c Press, binding, and photography for 8,500 printed pages at $ .022 per printed page	187
1k4b3d Total Estimated Documentation Costs	$ 3,945

1k4b4

1k4b5

1k5 SCHEDULE E

1k5a

1k5b UTILITY COMPUTER SUPPORT SUBCONTRACT COSTS

1k5b1 As per SRI/Tymshare quotaton dated 11 December 1974,

1k5b1a Basic system:	$ 54,790	per month
1k5b1b RM-10B's x 2	$ 4,400	per month
1k5b1c Total	$ 59,190	per month

11

JCN 30-JUN-75 18:41 25899

SRI Proposal No. ISU 75-113
NLS Workshop Support for AFAA

(J25899) 30-JUN-75 18:41;;;; Title: Author(s): James C. Norton/JCN; Distribution: /ARC-APP([INFO-ONLY]) RWW([INFO-ONLY]) JBP([INFO-ONLY]) ; Sub-Collections: NIC ARC-APP; Clerk: RLL;

1 25899 distribution
1a Laura J. Metzger, Priscilla A. Wold, Pamela K. Allen, Joan Hamilton, Rene C. Ochoa, Jeffrey C. Peters, Marcia L. Keeney, Jeanne M. Beck, Geoffrey S. Goodfellow, Rodney A. Bondurant, Douglas C. Engelbart, Jeanne M. Leavitt, Susan Gail Roetter, Raymond R. Panko, Adrian C. McGinnis, James C. Norton, J. D. Hopper, Elizabeth J. Feinler, James H. Bair, Robert N. Lieberman, N. Dean Meyer, Sandy L. Johnson, Martin E. Hardy, Richard W. Watson, Jonathan B. Postel,

SRI Proposal No. ISU 75-115
NLS Workshop Support for AMC

This is the proposal sent to AMC in June 1975.

SRI Proposal No. ISU 75-115
NLS Workshop Support for AMC

10-JUN-75
SRI-ARC 25900

1m SRI Proposal No. ISU 75-115

1n NLS Workshop Support for AMC

1o Part One---Technical Proposal

1p Prepared for:

HQ, U.S. Army Materiel Command
AMCMS-I
5001 Eisenhower Ave.
Alexandria, VA 22333

Attn: Dr. Ronald p. Uhlig

1q Prepared by:

James C. Norton, Assistant Director
Augmentation Research Center

1r Approved:

Douglas C. Engelbart, Director
Augmentation Research Center

Bonnar Cox, Executive Director
Information Science and Engineering Division
Stanford Research Institute

SRI Proposal No. ISU 75-115
NLS Workshop Support for AMC

1

1

1a

I INTRODUCTION

1a

1a1 A. Brief Scope Statement

1a1

1a1a The purpose of this proposal is to request support for the use of knowledge workshop technology developed at the Augmentation Research Center (ARC) of SRI by the Army Materiel Command HQ (AMC). The service would be used by those AMC-selected people who are willing to undertake exploratory use of knowledge workshop techniques through the use of the online system (NLS) and participate in a knowledge workshop community. 1a1a

1a1b The support is required for two activities: computer services and technical services. 1a1b

1a1b1 The computer services are being supplied through the ARPANET and other communication means to geographically distributed user groups from computer facilities maintained and operated by subcontractors under ARC. As prime contractor, ARC handles all service subcontracts. 1a1b1

1a1b1a Presently, Tymshare, Inc. is providing computer services to the Workshop Community. 1a1b1a

1a1b2 The technical services provided by ARC personnel have the following objectives: 1a1b2

1a1b2a Maintain and update the workshop community ("utility") version of our application software (NLS). 1a1b2a

1a1b2b Support the user groups in learning how to use these tools. 1a1b2b

1a1c Descriptions of the applications being suggested for exploratory use are given in a paper by Engelbart, Watson, and Norton [3] and in an earlier paper by Engelbart [2]. Copies of these documents are included with this proposal as Attachments A and B. 1a1c

1a2 B. Organization of this Proposal

1a2

1a2a This proposal is divided into two parts, each of which is broken down into several sections. 1a2a

1a2a1 Part One is the Technical Proposal, covering the proposed work and its background and context. 1a2a1

1a2a1a Section I is the introduction. 1a2a1a

1a2a1b Section II is a summary outline of proposed project activity. 1a2a1b

1a2a1c Section III is an extended discussion of proposed project activity. 1a2a1c

1a2a1d Section IV is a list of selected references. 1a2a1d

1a2a2 Part Two contains the Contractual Provisions, with sections covering such topics as estimated time and charges, reports, contract form, acceptance period, and a cost estimate with supporting schedules. 1a2a2

1a2b The Attachments contain additional supporting material. 1a2b

1a3 C. ARC's "Community Plan" 1a3

1a3a Introduction 1a3a

1a3a1 ARC is a one-organization community of researchers and system developers, supported by several different contracts. The research and development activities of ARC are aimed at exploring the possibilities for augmenting individuals and groups in the performance of knowledge work with the help of computer aids. These aids range from offline batch to online real-time facilities. Exploratory development and operation of augmentation systems have been our substantive work. 1a3a1

1a3b ARC's Research and Development Strategy 1a3b

1a3b1 An expanding stage of applications has been established with the advent of the second year of Workshop Utility service. We are involving a wider group of system users so that we can begin to transfer the results of our past work to others, and so that we can obtain feedback needed for further evolution from wider application than is possible in our Center alone. We have been providing Workshop support Service to selected groups who are willing to take extra trouble to be exploratory, but who: 1a3b1

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1a3c Establishment of a Workshop Utility and promotion of the type of service work proposed herein are part of ARC's long-term commitment to pursue the continued development of augmented knowledge workshops in a pragmatic, evolutionary manner. Note that our last few years of work have concentrated on the means for delivering support to a distributed community, for providing teleconferencing and other basic processes of collaborative dialogue, etc.--consciously aiming toward having experience and capabilities especially applicable to support remote and distributed groups of exploratory users. 1a3c

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1b3 The service will also include the availability 20 hours a day, 7 days a week of Workshop Utility service via the ARPANET or specially arranged communication lines from a PDP 10 TENEX system operated by commercial facility management. 1b3

1c III EXTENDED DISCUSSION OF PROPOSED PROJECT ACTIVITY 1c

1c1 A. Objective 1c1

1c1a The objective of this effort is to work with AMC personnel in the mutual development and use of procedures, methodology, software features, and other online tools; and in the training of users in NLS that will allow their exploratory use of our workshop system. This objective has the following key components: 1c1a

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1c2c While the discussion in Attachment B is oriented toward communities of discipline or mission oriented users, the same types of services and knowledge workshop orientation apply to individuals and groups of workers in a local environment. 1c2c

1c3 C. Scope of Proposed Work 1c3

1c3a Introduction 1c3a

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- 1c3a1c Research Intelligence 1c3a1c
- 1c3a1d Community Handbook Development 1c3a1d
- 1c3a1e Computer-Based Instruction 1c3a1e
- 1c3a1f Meetings And Conferences 1c3a1f
- 1c3a1g Community Management And Organization 1c3a1g
- 1c3a1h Special Knowledge Work By Individuals And Teams 1c3a1h

1c3a2 Our present capabilities in the above areas are briefly indicated in [2] and [3]. For each area, there is an immediate applicability of the basic NLS provisions for composing, modifying, studying, publishing, and collaborating, and we have additional special provisions specifically supporting almost every area. 1c3a2

1c3b Technology Transfer 1c3b

1c3b1 We have started to transfer technology from our local group of experienced users to a wider group of inexperienced, geographically separate users. This technology consists of online software capabilities; a coordinated repertoire of online-assistance tools; associated concept and language additions dealing with the tools and with the information organization and task processes associated with their use; new aspects to intragroup organization and working methodology. Training a group in these new matters is necessary to the transfer; and to help others learn to train people in the new technology requires a transfer of the additional technology used to support the training. 1c3b1

1c3b2 The process of technology transfer is not a simple process, judged by our and others' experiences. We base our "Community Plan" strategy upon our experience that there are at least two main requirements for successful transfer process that proceeds at a reasonable speed and cost: 1c3b2

1c3b2a 1) The group originating the technology and having the experience, enthusiasm, and initial commitment

to its value must follow through with training and application support of the end user groups until a critical mass of equivalently experienced and enthusiastic end users has developed. 1c3b2a

1c3b2b 2) The end user groups must each have at least one properly placed, active supporter of the transfer process. We have been using the term "local workshop architect" for this role. 1c3b2b

1c3b2b1 We find this concept is highly relevant both for the successful transfer of our technology and for keeping the cost of this transfer at a reasonable level. 1c3b2b1

1c3b3 We like to give particular emphasis to this second requirement -- that each coherent group planning to integrate the proposed services into its working life should have at least one member serving as a "workshop architect" or "group coordinator." The function of this person is to be familiar in detail with both the needs of his organization and the capabilities we are proposing. This person, knowing his group's needs and our capabilities, would help introduce a workshop system meeting these needs into his organization in the appropriate evolutionary stages. ARC personnel would work closely with the workshop architect -- in training him, in initially giving him significant help in his role, and in continuing exchange of technical information. 1c3b3

1c3b3a The labor-funding levels in this proposal are based on the assumption that when a client group is allocated a portion of the Utility Online Services, the corresponding allocation of direct technical support will go primarily to its workshop architect. We assume that much of the responsibility for integrating the workshop service into his organization or community will be handled by this person. If a workshop architect is not available within a client group, or if extra people need our direct technical support, then additional funding will have to be provided. 1c3b3a

1c3b4 For any group of users we expect evolutionary growth of their Workshop service application, in both quantity and range. This growth will take guidance and support of the sort that in the commercial computer world would be offered by the applications specialists and "systems engineers." 1c3b4

1c3c Services Offered 1c3c

1c3c1 The proposed Workshop Utility service consists of two components: computer support and people support. We discuss these components in detail below. 1c3c1

1c3c2 Computer Services 1c3c2

1c3c2a The Underlying Computer Service Support 1c3c2a

1c3c2a1 We are offering a Workshop Utility version of ARC's online system (NLS), accessed over the ARPANET or specially arranged communication circuits, at least 20 hours a day, seven days a week. NLS features are described in the documents listed in Section IV. 1c3c2a1

1c3c2a2 This service is provided by a computer system operated and managed by a subcontracted timesharing utility company, rather than from a system directly operated by ARC. There are two important reasons for this arrangement: 1c3c2a2

1c3c2a2a 1) A commercial firm has the experience, facilities, leverage on vendors, and redundant equipment that make possible more reliable service than can be produced in a research and development environment. 1c3c2a2a

1c3c2a2b 2) It will be possible to expand the service in a more flexible manner in increments of whole or partial machines as usage grows. 1c3c2a2b

1c3c2b Service Partitioning 1c3c2b

1c3c2b1 We are now using a "group allocation" scheme for partitioning online access and service among groups of users. This guarantees each group its fair share of access to system resources while preserving both adequate responsiveness and independence for each group to plan its own usage loading. During this coming year, we plan to further develop the resource allocation system, working toward allocation of central processing unit (CPU) time, rather than login access. 1c3c2b1

1c3c2c File Privacy 1c3c2c

1c3c2c1 The Workshop Utility provides the necessary

standard TENEX software and facility operating procedures to ensure some privacy of file access. In addition, user-controlled NLS privacy features allow useful dialogue attended with flexible privacy restrictions. However, it is important to note that the visibility and availability of planning information and other recorded dialogue in ARC's currently open Journal System provide some of the more significant potential of our Workshop system. 1c3c2c1

1c3c2c2 We assume that ARC online-service personnel may occasionally have to access clients' user files (at a client's request only) as required from an operational standpoint; however, other users of the Workshop Utility Service will be denied read, write and list access to a client's files, unless he specifically releases files for general use. 1c3c2c2

1c3c3 People Support Services 1c3c3

1c3c3a We are still learning about the amount and nature of people support services that a successful Workshop Utility needs, particularly in the direct client support category. The levels specified in this proposal seem to us to be minimal. Charges for such service will be made as delivered to each client. 1c3c3a

1c3c3b Overhead Services 1c3c3b

1c3c3b1 The entire operation, including the interface between the Utility and the clients, needs competent administration. 1c3c3b1

1c3c3b2 Documentation of the basic user features of the system and of their application techniques needs to be complete and will have various special versions tailored for particular types of users. 1c3c3b2

1c3c3b3 The version of NLS that runs on the Utility needs maintenance and quality assurance. A systematic means is being provided for features found useful in the development version of the system to be integrated into the version running on the Utility. This includes the handling of user feedback, a significant effort on the part of ARC Utility staff, providing service to users and important input to system builders. 1c3c3b3

1c3c3b4 Clerical support of various types is needed. 1c3c3b4

1c3c3c Direct Client Support Services 1c3c3c

1c3c3c1 Our clients' users must be trained to varying levels of competence, depending upon the nature of their jobs and the tasks they perform. New procedures and methods will have to be developed and learned to allow effective use of the system in their working environments. Specifying these procedures will require help in analyzing the group's needs and present operations. 1c3c3c1

1c3c3c2 Therefore the following types of necessary services will be provided. 1c3c3c2

1c3c3c2a Assistance in training Utility clients to make special use of the system for applications that are peculiar to their user environments. 1c3c3c2a

1c3c3c2b Assistance to Utility clients in developing related documentation, procedures, records, and methods as needed locally to support their special use of the system. 1c3c3c2b

1c3c3c2c Assistance to Utility clients in the selection, acquisition, and maintenance of hardware that is used principally for the Utility service. 1c3c3c2c

1c3c3c3 Help for the above areas will come in several forms: 1c3c3c3

1c3c3c3a Sessions at SRI for training and application-system design. 1c3c3c3a

1c3c3c3b Temporary residency of SRI personnel at client sites to offer analytic or design help and training. 1c3c3c3b

1c3c3c3c "Circuit riders" who periodically visit client sites to discuss problems, receive feedback on how to improve the service, and offer training or analytic help. 1c3c3c3c

1d IV SELECTED REFERENCES 1d

1d1 1 ARC 3906, D. C. Engelbart, "Augmenting Human Intellect: A conceptual Framework," Summary Report, Contract AF 49(638)-1024, SRI Project 3578, Stanford Research Institute, Menlo Park, California, AD 289 565, October 1962. 1d1

1d2 2 ARC 12445, D. C. Engelbart, "Coordinated Information Services for Discipline- and Mission-Oriented Communities," Stanford Research Institute, Augmentation Research Center, 12 December 1972.
Also published in "Time Sharing: Past, Present, Future," Proceedings of the Second Annual Computer Communications Conference at California State University, San Jose, California, January 24-25 1973, pp 2.1-2.4. 1d2

1d3 3 ARC 14724, D. C. Engelbart, R. W. Watson, J. C. Norton, "The Augmented Knowledge Workshop," AFIPS Proceedings National Computer Conference, June 1973. 1d3

SRI Proposal No. ISU 75-115
NLS Workshop Support for AMC

1s

10-JUN-75
SRI-ARC 25900

1t SRI Proposal No. ISU 75-115

1u NLS Workshop Support for AMC

1v Part Two---Contractual Provisions

1w Prepared for:

HQ, U.S. Army Materiel Command
AMCMS-I
5001 Eisenhower Ave.
Alexandria, VA 22333

Attn: Dr. Ronald p. Uhlig

1e I ESTIMATED TIME AND CHARGES 1e

1e1 It is proposed that the work outlined herein be performed during a period of six months commencing 18 July 1975 or as soon as appropriate computer facilities can be made available. 1e1

1e1a If a delay in contract start date occurs, then the completion date of 17 January 1976 would remain in effect, but the contract period would be shortened. 1e1a

1e2 The proposed project will result in Workshop Utility service being made available to offices selected by AMC. 1e2

1e2a The costs of the total Workshop Utility service will be accounted for separately by the Institute, with the amount charged to AMC under this contract being determined as a proportion of the total common cost of the Workshop Utility operation based on its availability for AMC-directed use together with direct charges for people services as incurred. 1e2a

1e2b We propose to provide guaranteed access to three user "jobslots" 20 hours per day, 7 days per week, from the contract start date through 17 January 1976. 1e2b

1e3 Pursuant to the provisions of ASPR 16-206.2, attached is a cost estimate and support schedules in lieu of the DD Form 633-4. 1e3

1e3a The estimated costs shown in the cost attachment are for the total Workshop Utility service operation. Costs expected to be borne by AMC over six months are estimated to be about $60,783 as shown in the attached cost estimate. If the service period commences after 18 July, then the costs would be reduced accordingly. 1e3a

1f II UTILITY COMPUTER SUPPORT SUBCONTRACT 1f

1f1 Tymshare, Inc. in Cupertino, California was selected by the Institute as the Computer Support subcontractor for the first year of service. Service through this second year is also being provided by Tymshare. 1f1

1g III REPORTS 1g

1g1 Because of the support nature of the efforts proposed herein, there will be no technical reports produced under this contract. Rather, documentation will be provided along the lines outlined below. 1g1

1g1a The technical documentation will include: 1g1a

1g1a1 TNLS and Deferred Execution User Guides and updates 1g1a1

1g1a2 DNLS User Guide and updates 1g1a2

1h IV CONTRACT FORM 1h

1h1 Because of the nature of the work proposed, it is requested that any contract resulting from this proposal be awarded on a cost-plus-fixed-fee basis as a government contract. 1h1

1i V ACCEPTANCE PERIOD 1i

1i1 This proposal will remain in effect until 17 July 1975. If consideration of the proposal requires a longer period, the Institute will be glad to consider a request for an extension of time. 1i1

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NLS Workshop Support for AMC

1j
1j1
1j1a
1j1a1 COST ESTIMATE FOR SECOND YEAR WORKSHOP UTILITY SERVICE
(based on the total OFFICE-1 facility)
1j1a2 Personnel Costs
1j1a2a
1j1a2a1 Supervision 985 hrs.
1j1a2a2 Professional 6750 hrs.
1j1a2a3 Technical 2940 hrs.
1j1a2a4 Clerical 985 hrs.
1j1a2b Total Direct Labor $
84,353
1j1a2c Payroll Burden @ 29.0 %
24,462
1j1a2d Total Labor and Burden
108,815
1j1a2e Overhead @ 110.0 %
119,697
1j1a2f Total Personnel Costs
228,512
1j1a2g
1j1a3 Direct Costs

1j1a3a Travel
16,051
1j1a3a1 27 trips East @ $368 = $ 9,936
1j1a3a2 122 Days Subsistence @ $42.50= 5,185
1j1a3a3 Auto Rental 62 days @ $15 = 930
1j1a3b Utility Online Support Subcontract
710,280
1j1a3b1 [256K core, 3 drums, 20hrs/7days
1j1a3b2 12 mo @ $ 59,190 = $ 710,280]
1j1a3c Materials and Supplies (tape, paper)
2,400
1j1a3d Communications
3,600
1j1a3e Documentation Costs
3,945
1j1a3f Total Direct Costs
736,276

1j1a4 Total Estimated Cost 964,788
1j1a5 Fixed Fee 48,239
1j1a6 Total Estimated Cost Plus Fixed Fee $1,013,027
1j1a7 Estimated six month cost 506,513
1j1a8

1j1a9 AMC CONTRACT SHARE: 3 slot for 6 months = $ 60,783

1j1a10 See following Schedules.

SRI Proposal No. ISU 75-115
NLS Workshop Support for AMC

1j2
1j2a
1j2a1
1k
1k1 SCHEDULE A
1k1a DIRECT LABOR
1k1a1
1k1a2 Direct labor charges are based on the actual salaries for the staff members contemplated for the project work plus a judgmental factor applied to base salary for merit increases during the contract period of performance. Frequency of salary reviews and level of merit increases are in accordance with the Institute's Salary and Wage Payment Policy as published in Topic No. 505 of the SRI Administration Manual and as approved by the Defense Contract Administration Services Region.
1k1b
1k2 SCHEDULE B
1k2a OVERHEAD AND PAYROLL BURDEN

1k2a1 These rates are based upon our 1975 budget plan, and have been submitted to the Cognizant Agency of the Department of Defense for approval as bidding and billing rates for the year 1975. We request that these rates not be specifically included in the contract, but rather that the contract provide for reimbursement at billing rates acceptable to the Contracting Officer, subject to retroactive adjustment to fixed rates negotiated on the basis of historical cost data. Included in payroll burden are such costs as vacation, holiday and sick leave pay, social security taxes, and contributions to employee benefit plans.
1k2b
1k3 SCHEDULE C
1k3a TRAVEL COSTS
1k3a1
1k3a2 Air fares and car rental rates are established in the current Official Airline Guide.
1k3a3 Domestic subsistence rates and travel by private auto are established standards based on cost data submitted to DCAA.
1k3b

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1k4 SCHEDULE D

1k4a

1k4b DOCUMENTATION COSTS

1k4b1

1k4b2 Report costs are estimated on the basis of the number of pages of text and illustrations and the number of copies of reports to be produced, in accordance with the following rates per page:

1k4b2a Editing	$ 2.55	
1k4b2b Composition	2.50	
1k4b2c Coordination	.74	
1k4b2d Proofreading	.77	
1k4b2e Illustration	21.96	
1k4b2f Press and Bindery	.022	per impression

1k4b3 The following is a breakdown of the estimated cost of report production:

1k4b3a Text preparation, 439 pages at $ 6.56 per page (including editing, composition, report coordination and proofreading)	$ 2,880
1k4b3b Illustration, 40 pages at $ 21.96 per illustration	878
1k4b3c Press, binding, and photography for 8,500 printed pages at $ .022 per printed page	187
1k4b3d Total Estimated Documentation Costs	$ 3,945

1k4b4

1k4b5

1k5 SCHEDULE E

1k5a

1k5b UTILITY COMPUTER SUPPORT SUBCONTRACT COSTS

1k5b1 As per SRI/Tymshare quotaton dated 11 December 1974.

1k5b1a Basic system:	$ 54,790	per month
1k5b1b RM-10B's x 2	$ 4,400	per month
1k5b1c Total	$ 59,190	per month

11

SRI Proposal No. ISU 75-115
NLS Workshop Support for AMC

(J25900) 30-JUN-75 19:00;;;; Title: Author(s): James C. Norton/JCN;
Distribution: /ARC-APP([INFO-ONLY]) RWW([INFO-ONLY]) JBP([
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1 25900 Distribution

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