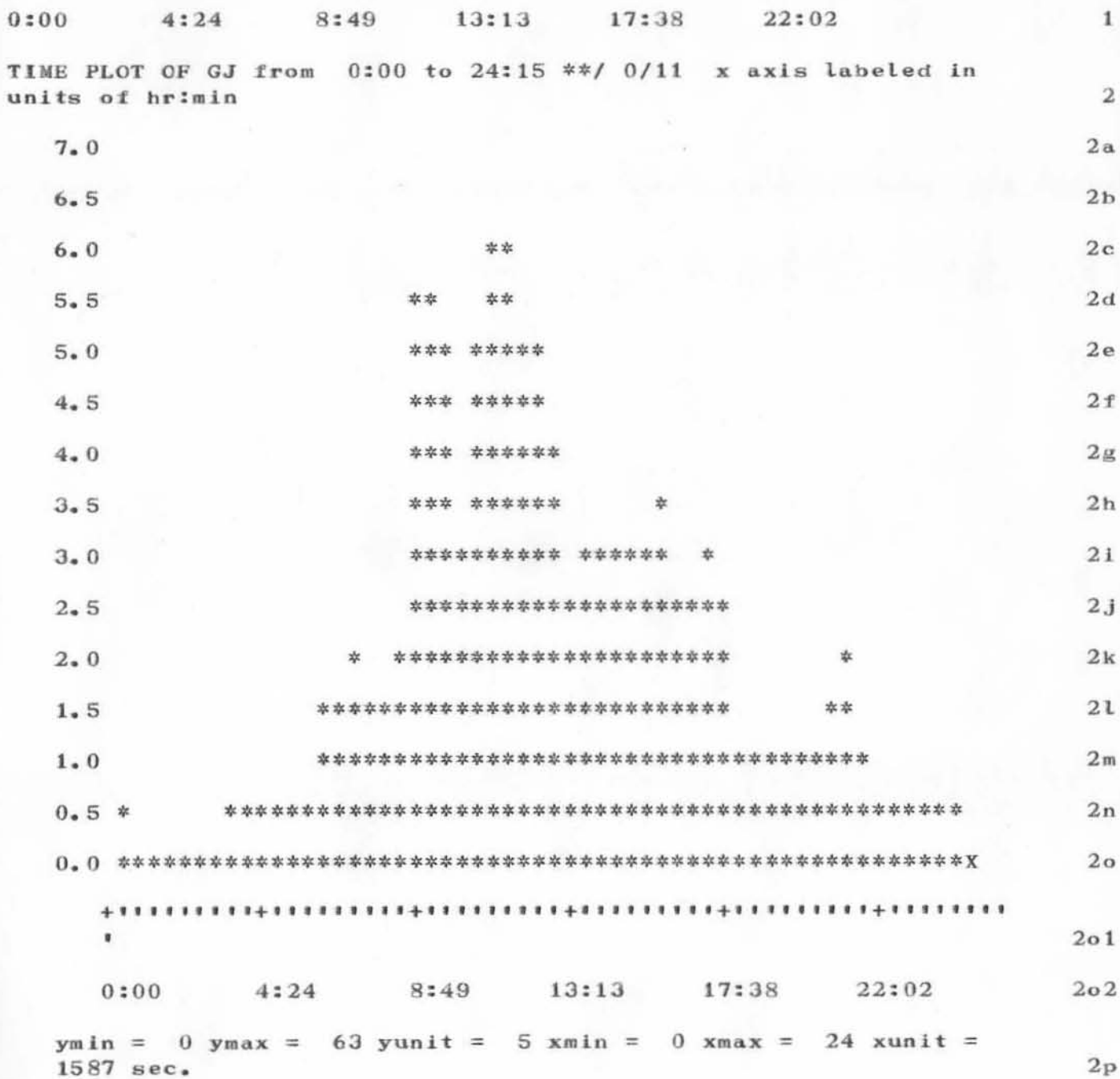
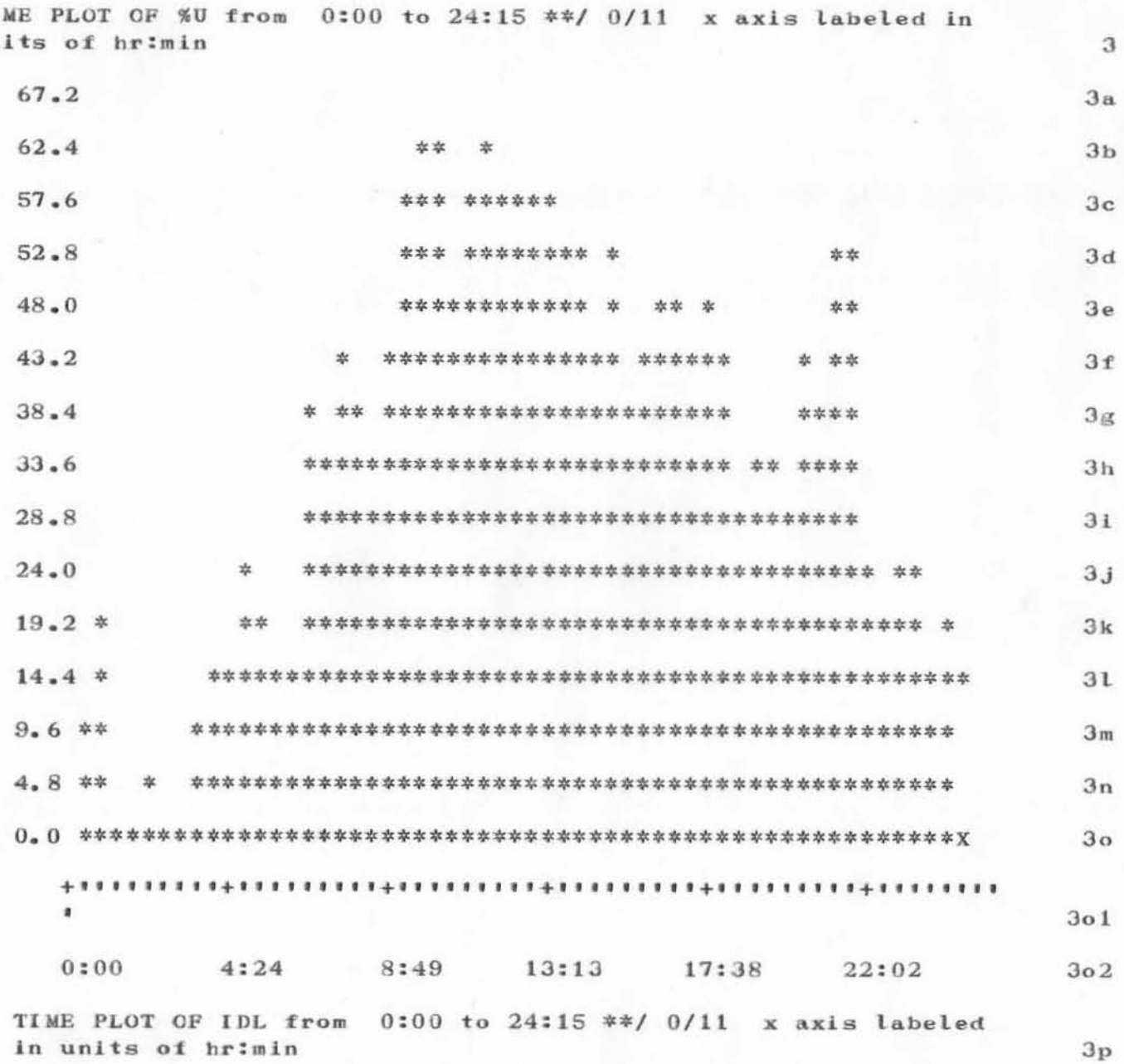
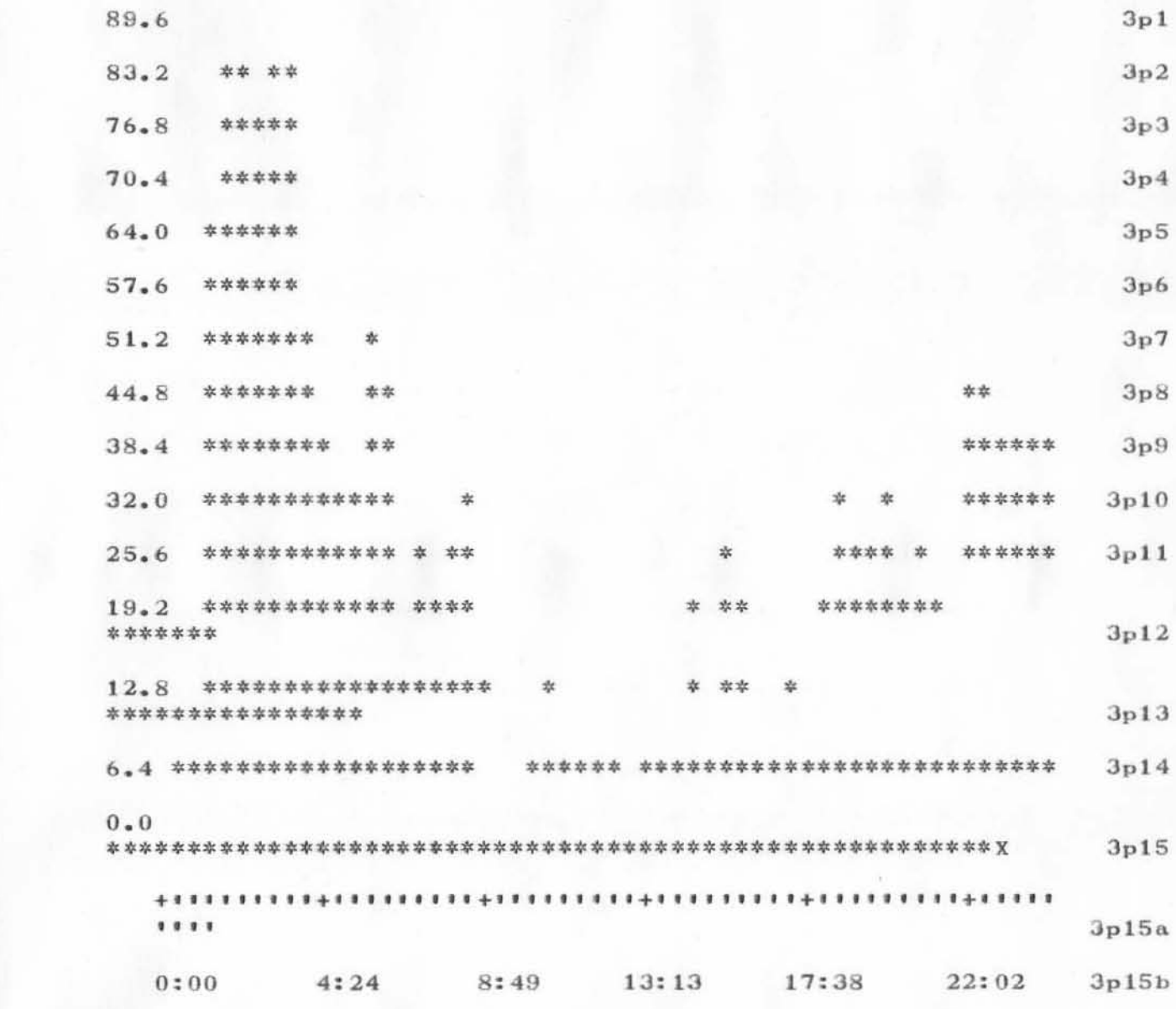
graphs of weekly averages 4/9 - 4/14



graphs of weekly averages 4/9 - 4/14



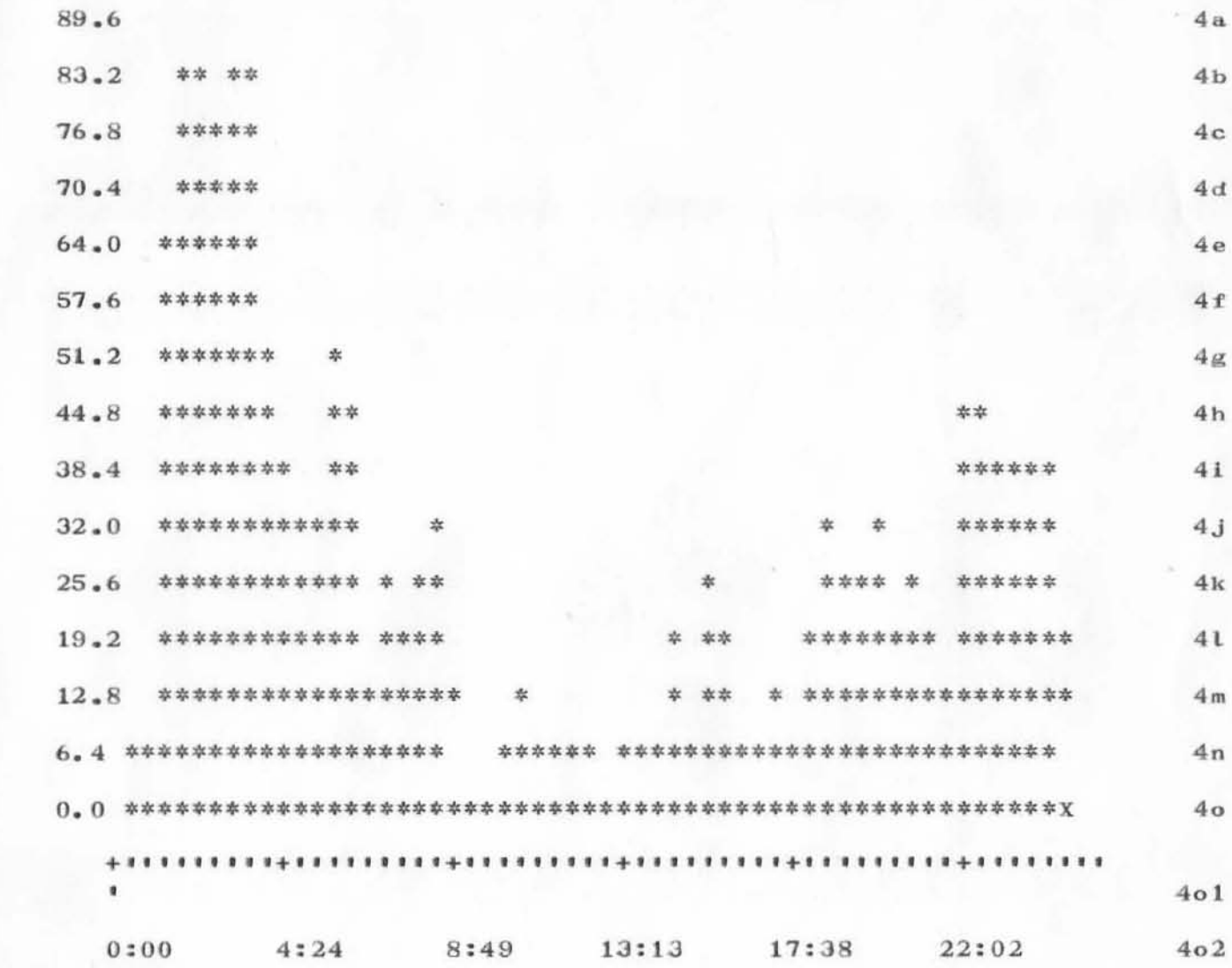
graphs of weekly averages 4/9 - 4/14



TIME PLOT OF IDL from 0:00 to 24:15 **/ 0/11 x axis labeled in units of hr:min

4

graphs of weekly averages 4/9 - 4/14



TIME PLOT OF #U from 0:00 to 24:15 **/ 0/11 x axis labeled in units of hr:min 5

graphs of weekly averages 4/9 - 4/14

TIME PLOT OF #NT from 0:00 to 24:15 **/ 0/11 x axis labeled in units of hr:min 6

graphs of weekly averages 4/9 - 4/14

TIME PLOT OF %SU from 0:00 to 24:15 **/ 0/11 7

graphs of weekly averages 4/9 - 4/14

(J16218) 26-APR-73 09:24; Title: Author(s): Lee, Susan R. /SRL;
Distribution: /SRL; Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>WEEK4/9GRAPHS.NLS;2, 26-APR-73 08:40 SRL ; ;

TO 26-APR-73 09:49 16219

kirstein

we welcome peter kirstein to the group. please add him to cbigmemlist. 1

TO 26-APR-73 09:49 16219

kirstein

(J16219) 26-APR-73 09:49; Title: Author(s): O'Sullivan, Thomas /TO;
Distribution: /MLK; Sub-Collections: NIC; Clerk: TO;

VGC 26-APR-73 09:18 16220

where to get data on network reliability

howard, could you give me a few references on network reliability 1

16220 Distribution
Frank, Howard ,

VGC 26-APR-73 09:18 16220

where to get data on network reliability

(J16220) 26-APR-73 09:18; Title: Author(s): Cerf, Dr. Vinton G. /VGC; Distribution: /HF; Sub-Collections: NIC; Clerk: VGC;

A Merging of Cataloging Codes Files

This formats nicely on 8 1/2 X 11 paper. The raw files in <documentation> were for some weird paper size. Thought you mike like a copy

A Merging of Cataloging Codes Files

Augmentation Research Center
Stanford Research Institute
Menlo Park, California 1a

GENERAL 1b

Abbreviations 1b1

Abbreviation is avoided except in copying any actually present in proper names and titles. 1b1a

Exceptions: 1b1b

Codes of ARPA network sites may be entered in *a1#2 and *b5#2, but only in citations for informal documents. 1b1b1

Code "org" may be entered in *a#2 when information is identical to *b2 or *b4. See *a1 for further information. 1b1b2

Added information 1b2

Information known or very probable and of importance to the reference, such as an unstated author, organization, date of publication, should be given in brackets [ ]. 1b2a

In general, only information actually in the document is to be recorded. Recording presumed information is risky, and is poor practice also because copies of the document don't carry the information thus supplied. 1b2b

Proper names 1b3

All proper names will be entered in direct order, omitting only "the", beginning corporate names, and any title in personal names. 1b3a

Document reference numbers 1b4

These numbers will be typed without parentheses; and if there are more than one, without commas between them, just a space. i.e., *n1 5891 5892 5893 1b4a

Distribution limitation 1b5

Notice of any limitation on distribution to foreign nationals, of client confidential, etc. will be entered as the first information in the abstract. The text [L] will be entered after the title. 1b5a

*a1 FIRST AUTHOR --
Author's name, as given, in direct order, omitting Dr., Ph.D., etc. (No limit to number of authors.) Put period and space between initials of names. 1c

#1 JOB TITLE --
If given in the document. 1c1

#2 CORPORATE AFFILIATION --
If the author's organization is the publisher of the document, enter the letters "org" in #2, as the same information can be retrieved from *b2 (see below for multiple authors). For ARPA Network nodes, this may be entered in the code: "ARC", "LINC", etc. If author's organization is not the publisher of the document, as in a periodical article, meeting proceedings, letter or memo, enter the the organization information as given. (Author's organization is not considered the publisher of his letter or memo.) When two or more consecutive authors of an article have the same org, enter the org after the last. When *b2 is used and two or more consecutive authors have the same org, type "org" in #2 after the last author of these. For other notes on organization names, see notes on *b2. 1c2

#3 SUBORGANIZATION --
If more than one subordinate level is given, select one. 1c3

#4 STREET ADDRESS --
Use this element for building name or number, suite number, or other specific of address when practicable, the intent being to allow construction of a mailing address from #1-#5. When an organization, e.g., Chemical Abstracts Service, is situated at another org, but is not a sub-org, use #4 for the site, e.g., Ohio State University. cf. *b2#2. 1c4

#5 CITY, STATE, ZIP --
Spell out, e.g.: Washington, D New York, New York 10036; Menlo Park, California 94025. 1c5

#7 IDENT --
Not used for manual input; supplied by journal. 1c6

*a2 SECOND AUTHOR --
No limit to number of authors. Use separate number for each author. 1d

*b1 EDITOR --
Use for editor or compiler. Use same subordinates #1, #2, etc. as for authors. For additional editors use *b11 and *b13 1e

*b2 FIRST ORGANIZATION --
Use for agency preparing or issuing a report, or other case of non-commercial publisher. For agencies, such as National Library of Medicine, which usually appear independently, enter these as *b2, not as subordinate to U.S. HEW. Ambiguous names, such as Office of Education, should be entered in #3, with U.S. HEW as *b2. 1f

#2 INTERMEDIATE ORGANIZATION --
Use when essential to completeness, as in some government organizations. Always use #3 for significant suborganization, inserting #2 when essential. 1f1

#3 SUBORGANIZATION --
Use for significant suborganization, skipping #2 unless an intermediate is important for clarity. Avoid using when an organization is a smaller unit, e.g., an Institute, but only based physically at the larger, such as a university. Place the Institute in *b2, and the university in *b2#4. 1f2

#4 and #5 --
Use street and city address, use zip code. 1f3

*b3 SECOND ORGANIZATION --
Use for a second agency (not a government sponsor) in case of joint effort resulting in a document bearing both names. 1g

*b4 PUBLISHER --
Use for commercial publishers, when documenting books, or noting periodicals as entities. Use only #5 city when well known. Abbreviate name when well known (McGraw-Hill; Wiley; etc). 1h

*b5 FIRST ADDRESSEE OF LETTER OR MEMO --
To be used, even when addressee list is so lengthy as to cause use of *b9. Can be a group or class, even when non-explicit, such as [ARPA Network Working Group]. Use ident, in *b10. Use form of address in #1, #2, etc. given in the document, do not try to standardize (NOTE: 1. No control over outside entries. 2. Retrieval may be by entry as given, as often as not). When a memo or letter but no addressee given: [unaddressed]. 1i

*b6 through *b8 additional addressees 1j

*b9 ARC DOCUMENT NUMBER OF ADDRESSEE LIST --
When an addressee list is attached, or when list of addressees exceeds 4, a separate document should be indicated or created, and referenced here. 1k

*b10 DISTRIBUTION LIST IN IDENT FORM --

For group ident, when addressed to Network Working Group or other recognized group whose membership is given in its ident file. Journal system uses this. 1l

*b11 SECOND EDITOR 1m

*b12 Used by journal for additional addressees, after *b10 1n

*b13 THIRD EDITOR 1o

*c1 TITLE OF ITEM --
Title of report, article, book or journal considered as a whole. When a memo contains the line "Subject: ..." or "Re: ..." this text, including "Subject:" or "Re:", is entered as the title. Title is essential; letters with no explicit title should have descriptive title in brackets. Example: [Transmittal Letter]. When the item referenced is a review or abstract of another work of the same title, add [Review] or [Abstract]. Limitation on use of a document should be indicated by [L] following the title, with an elaboration in *y1. 1p

#1 SUBTITLE --
Include any subordinate phrase in the title rather than as subtitle, as a rule.
Use subtitle only for lengthy title strings or for alternate titles, and for series notes.
Vol. 1 etc. of books goes into subtitle when subtitle is title of vol. only. 1p1

#6 PAGES --
Use for page data when *c2 is not present or when *c1 is independently paginated. Examples: 263p. [for book with 263 pages]. When document is not paged : [unpaged]. When document is numbered by sections: [separately paged]. 1p2

*c2 TITLE OF MORE INCLUSIVE DOCUMENT --
Use for name of journal when *c1 is an article from it.
Use for name of book when *c1 is a chapter from it.
Use for Proceedings when *c1 is a paper published in it.
Use for encyclopedic work or series when *c1 is a volume from it.
Use for functional document name when *c1 is a part or section of contents. Example: Section 3, Network User Guide. 1q

#1 SUBTITLE --
Use only when inclusion in *c2 is awkward. 1q1

Examples: *c2 MICRODOC #1 Journal of the Microfilm Association of Great Britain -or- *c2 Bulletin de Documentation

Bibliographique #1 Pt. 2 of Bulletin des Bibliotheques de France. 1q1a

#2 VOLUME --
Examples: Vol. 35, for volume of periodical. Vol. 35 for volume of encyclopedia or a series. Vol. 1, etc. of books goes into subtitle when subtitle is title of vol. only. 1q2

#3 NUMBER --
Use for issue number of periodical.
Examples: No. 10
No. 106 when no volume number exists. 1q3

#6 PAGES --
Use for articles or other parts of documents. Include p.
Example: p.256-275. When pages are not numbered, use [Unpaged]. When sections are separately paged, use [Separately paged]. 1q4

*c4 ALSO PUBLISHED IN: --
When such information is given. Use *d5 for date. 1r

*c5 ALSO PUBLISHED AS: --
When such information is given. Use *d5 for date. 1s

*c6 ALSO TO BE PRESENTED AT: --
For reports or articles which contain such a statement. Code as *f1 p after *f1 r or *f1 a. Use *d5 for date. 1t

*d1 DAY AND/OR MONTH AND/OR YEAR ISSUED --
Use for all types of items. Use for date of publication of published items, for date of letter or memo. If approximate date is known, use [Undated] and put info in *y1. Use *d2 if an earlier date of preparation is given. Use *d4 for a meeting date or dates whether the same as or different from *d1. Use form: 12 November 1969, [Spring 1970]. This field should never be left blank. 1u

*d2 DATE WRITTEN OR SUBMITTED --
Use in addition to *d1 when an earlier date of preparation or submission is shown. Use form: 12 November 1970. Use for patent filing date. 1v

*d3 PERIOD COVERED --
Use for progress reports, etc., when indicated by cover, title or abstract. Use forms: 1 July 1969 - 30 June 1970; 1 July - 30 September 1970. 1w

*d4 DATE OF CONFERENCE OR MEETING --

Use in addition to *d1 whether or not *d1 gives date of published proceedings. Use forms: 12-15 November 1970; 30 November - 2 December 1970. 1x

*d5 DATE OF *c4, *c5 or *c6 1y

*d6 DATE OF FILE REVISION -- (used by Journal system)
Example: 1/20/72 1z

*d7 TIME OF FILE REVISION -- (used by Journal system)
Example: 1920:32 1a@

*f1 FORM OF ITEM -- 1aa

NOTE: MULTIPLE CODES MAY BE USED, e.g., r p - numbered report to be given at a meeting; a tr - translation of an article. FIRST CODE DETERMINES FORMAT. This element has two uses: formatting for the printed catalog, and search keys for online retrieval. 1ab

a - ARTICLE --
article in journal 1ab1

ad - ADVERTISEMENT --
advertisement, from newspaper, periodical (compare br - brochure; pg - meeting program). 1ab2

b - BOOK --
for commercially published work, usually hardbound. 1ab3

bi - BIOGRAPHY --
a resume or a biographical note in a journal, program, etc. 1ab4

bl - BIBLIOGRAPHY --
may be a separate, or a part of a larger work primarily coded ch 1ab5

br - BROCHURE --
for separate promotional material, even 1 page. 1ab6

ch - CHAPTER --
chapter or portion of book not a proceedings volume. 1ab7

d - DRAFT --
use when stated or known to be a draft, not a finished product 1ab8

ds - DISSERTATION 1ab9

f - FILM --
Use for movie or sound. Not for microfiche 1ab10

g - PROCEEDINGS --
use when *c1 is a proceedings volume.
When a paper *c1 from a proceedings is indicated, use p. 1ab11

gr - GRAPH OR CHART -- 1ab12

i - ABSTRACT OR REVIEW --
Use when the item catalogued is an abstract or review, as well as bracketing the word following the title in *c1. 1ab13

j - ARC OR NIC JOURNAL ITEM 1ab14

k - PERIODICAL, NEWSPAPER --
periodical, newsletter, journal, use when journal, etc. in its entirety is meant. For an article use a, for a newsletter issue use n. 1ab15

l - LETTER --
Use for a personal letter or where the term appears.
For an unspecified letter to several addressees, usually use m. 1ab16

lt - TRANSMITTAL LETTER 1ab17

m - MEMO --
Use when the term appears, and when a group of addressees are indicated. 1ab18

ma - MAP 1ab19

mn - USER's GUIDE OR MANUAL 1ab20

n - NEWSLETTER ISSUE --
A newsletter as an entity, not a specific issue, should be indicated j. 1ab21

p - PAPER --
Use for an individually issued preprint or reprint of a presentation, as well as for a paper. 1ab22

pg - PROGRAM --
Program of meeting, including first announcements. When ARC member is speaker, etc., indicate in abstract, and note in keywords: e.g., DCE speaker. 1ab23

pi - PICTURE, PHOTO --

Use for references to photographs or pictures when separately cataloged in *c1. 1ab24

pr - PROPOSAL 1ab25

Use *b5 for addressee, and note "Proposal to ..." in *y1. 1ab25a

pt - PATENT 1ab26

qu - QUESTIONNAIRE 1ab27

r - REPORT --
Use for technical reports and short publications not known to be articles, papers, etc. Use for RFC's. 1ab28

re - PRESS RELEASE --
Intended for announcements so labelled, and other announcements not meeting programs, advertisements, or brochures. 1ab29

s - SLIDE 1ab30

sp - SPECIFICATION, STANDARD 1ab31

t - TALK --
Use for an oral presentation recorded on audio or video tape, and for a written version of an oral presentation not expected to be published. 1ab32

th - THESIS 1ab33

tr - TRANSLATION --
May be accompanied by original or original may be separately cataloged, e.g., an original in Japanese may be attached to a translation, rather than separated. 1ab34

u - FUNCTIONAL DOCUMENT --
Use when major content of the document is subject to addition, deletion or substitution, as in looseleaf changes. 1ab35

z - CONTENTS OF FUNCTIONAL DOC --
Use as primary code for any document made a part of a functional document. In conjunction, use *c2 to contain the name of the functional document. Examples: *c2 Part, ARPA Network Resource Notebook. *c2 Section 3, Network Information Center User Guide. 1ab36

*f2 MEDIA 1ac

a - CARBON COPY --
Use if copy in hand is a carbon copy. 1ac1

c - COPY, NOT ORIGINAL --
If photocopy received at ARC is obviously a copy made of an existing document such as a periodical article. 1ac2

f FILM --
Use for movie and/or sound film. Not for microfiche. 1ac3

l - MICROFILM --
Use for roll microform. 1ac4

m - MICROFICHE --
Use for items on sheet film. 1ac5

ma - MAGNETIC TAPE CASSETTE 1ac6

o - ORIGINAL --
Original as first issued. Use c if photocopy received at ARC is obviously a copy made of an existing document e.g., a periodical article. Use p if copy is a photocopy made at ARC. Use a if copy in hand is a carbon copy. 1ac7

p - PHOTOCOPY BY ARC --
Use for photocopy made at ARC. Compare pa. 1ac8

pa - PARTIAL PHOTOCOPY
Use for photocopy of cover, title page, etc. sometimes made to capture part of a document when the whole is not obtainable or retainable. 1ac9

r - MACHINE READABLE --
Use to indicate existence of item in machine readable form. May be used in addition to o, etc. 1ac10

s - SLIDE --
Use to indicate a chart, photograph etc, is in form of slide. 1ac11

t - PAPER TAPE --
Use to indicate existence on paper tape. 1ac12

v - VIDEOTAPE 1ac13

x - REFERENCE --
Used to indicate ARC has recorded the reference but does not have the full document. 1ac14

*f3 SOURCE FILE NAME -- (used by Journal system)
Use for name of machine file if document is machine-readable. 1ad

*m1 SPONSOR OF MEETING --
Name of sponsor of conference or meeting. Use for name of organization holding or sponsoring meeting. 1ae

#1 NAME OF MEETING --
examples: Conference On Image Transmission. Annual meeting. 1ae1

#5 CITY, STATE OF MEETING 1ae2

*n1 ITEM THAT INCLUDES THIS ITEM --
ARC number of item that includes this item. Use to record ARC number of book, Proceedings, etc., where item in hand is a part, or attachment. Example: 5606 1af

*n2 ITEMS(S) THIS ITEM INCLUDES --
ARC number(s) of item(s) this item includes. Use to record ARC numbers of subordinate parts or enclosures, etc. of item in hand. Example: 5603 5604 1ag

*n3 Not presently used. 1ah

*n4 DOC(S) TO WHICH THIS REFERS --
ARC number(s) of ARC document(s) to which this refers. Use to record explicit reference by document in hand to other ARC documents. 1ai

*n5 DOC THIS ABSTRACT DESCRIBES --
ARC number of document this abstract describes. Use to record number of complete document when a condensation is in hand. 1aj

*n6 DOC(S) THIS ONE ACCOMPANIES --
ARC number(s) of documents this one accompanies. Use to record transmittal letter for doc, and such. 1ak

*n7 DOC(S) TO WHICH THIS ONE IS RELATED --
Use for related documents not necessarily received or filed together. 1al

*p1 PROJECT NAME ASSIGNED BY ISSUER --
Use when explicit; use for code names. Examples: Project MAC; MEDLARS 1am

*p2 PROJECT NUMBER ASSIGNED BY ISSUER --
Use when organization assigns a project number, often in addition to a sponsoring agency's number. 1an

*r1 NUMBER(S) ASSIGNED BY ISSUER --
Serial or or code number(s) assigned by issuer. Use for serial or codes assigned to the individual title by the agency issuing it. Examples: TM 42; Report 17; SBN 13-165969-3 1ao

*r2 NUMBER(S) ASSIGNED BY GOVT AGENCY --
Serial or code number(s) assigned by government. Use for numbers assigned to individual report titles. Examples: AD 651 730; PB 117 190; LC 70-79429 1ap

*s1 SPONSORING AGENCY --
Use for funding agency, private or governmental. 1aq

#3 SUBORGANIZATION --
Use for most significant subdivision of relevant sponsor, skipping #2 unless an intermediate is important for clarity. 1aq1

#5 CITY, STATE, ZIP --
Use in full. 1aq2

#6 CONTRACT OR GRANT NUMBER --
Use as given, excluding "No." or "#". 1aq3

#7 PROJECT NUMBER --
Use for sponsor's project number if any 1aq4

#8 ORDER NUMBER --
Use for sponsor number so designated 1aq5

#9 OTHER NUMBER --
Use for any other number(s) attached by the sponsor 1aq6

*s2 SECOND SPONSORING AGENCY --
Use for second sponsor with same subelements as *s1 1ar

*w1 DATE RECEIVED AT ARC --
Use form: 12-27-70 1as

*w2 DATE CATALOGED AT ARC --
Use form: 12-28-70 1at

*w3 INITIALS OF CONTRIBUTOR --
Use for attribution to ARC source when desired. Use form: dce 1au

*w4 SOURCE IF NOT *a1, *b2, or *w3 --
Use as credit to donor or as indication of future source. Examples: John F. Bennett, IBM Los Gatos; CFSTI; ERIC CLIS; NTIS 1av

*w5 CLERK SUBMITTING FOR AUTHOR --
Ident of person creating online file for author 1aw

*w6 DATE LAST EDITED --
Use when changing a statement 1ax

*w7 IDENT OF PERSON CHANGING --
Used with *w6 when changing a statement 1ay

*y1 BRIEF ABSTRACT --
Use abstract in report, if brief and informative. Use modified abstract from copyrighted publication. Use for clarification when title is not informative. Use (with [L] in title) for statement of any limitation imposed on the contents or citation. Example: LIMITATION: This document not to be cited. Indicate valuable bibliographies. 1az

*y2 KEYWORDS FROM DOC OR AUTHOR --
Keys to subject content. For keywords assigned by report producer or NTIS, etc. Separate with semicolons and end with semicolon. 1b@

*y3 KEYWORDS ASSIGNED AT NIC --
Keys to subject content. For keywords assigned by NIC in absence of ones given in the document or index. Separeate with semicolons and end with semicolon. 1ba

*y4 KEYWORDS ASSIGNED AT NIC --
For use in special cases. 1bb

*y8 "UPDATED BY xxxx;" "UPDATES xxxx;" "OBSOLETES xxxx;" --
Documents updated or obsoleted. 1bc

*y9 "OBSOLETED BY xxxx" --
Notice of document which obsoletes 1bd

*z1 NIC HOLDINGS --
Use when transmission or general distribution is made. Examples: All; MAC, SDC, UCSB 1be

*z2 SUBCOLLECTION --
Use to indicate status of an item as a part of one or more subcollections. Examples: NIC, NAS, NIC SHE, NIC NWG, CBI, SUR, NMN, PODAC, 1bf

*z3 ARC CATALOG MANAGEMENT CODES --
ARC master catalog management descriptions. Use for notation of data management, such as form of entry. examples: old, Walt 1; new. Present coding uses: new 1bg

*z4 ARC HOLDINGS -- 1bh

*z5 LOCATION(S) OF COPY --
e.g., original DCE; partial photo ARC. 1bi

All statements terminate with: space * 1bj

*a1 First Author	*a1	1bk
#1 job title	#1	1bk1
#2 corporate affiliation	#2	1bk2
#3 suborganization	#3	1bk3
#4 street address	#4	1bk4
#5 city, state, zip	#5	1bk5
*a2 Second author	*a2	1bl
#1 job title	#1	1bl1
#2 corporate affiliation	#2	1bl2
#3 suborganization	#3	1bl3
#4 street address	#4	1bl4
#5 city, state, zip	#5	1bl5
*a3 Third author	*a3	1bm
#1 job title	#1	1bm1
#2 corporate affiliation	#2	1bm2
#3 suborganization	#3	1bm3
#4 street address	#4	1bm4
#5 city, state, zip	#5	1bm5
*a4 Fourth author	*a4	1bn
#1 job title	#1	1bn1
#2 corporate affiliation	#2	1bn2
[no limit to number of authors]		1bo
*b1 Editor	*b1	1bp
#1 job title	#1	1bp1
#2 corporate affiliation	#2	1bp2
#3 suborganization	#3	1bp3
#4 street address	#4	1bp4
#5 city, state, zip	#5	1bp5
*b2 First Organization	*b2	1bq
#2 intermediate organization	#2	1bq1
#3 suborganization	#3	1bq2
#4 street address	#4	1bq3
#5 city, state, zip	#5	1bq4
*b3 Second Organization	*b3	1br
*b4 Publisher	*b4	1bs
#3 suborganization	#3	1bs1
#4 street address	#4	1bs2
#5 city, state, zip	#5	1bs3
*b5 First addressee of letter or memo	*b5	1bt
#1 job title	#1	1bt1
#2 corporate affiliation	#2	1bt2
#3 suborganization	#3	1bt3
#4 street address	#4	1bt4
#5 city, state, zip	#5	1bt5
*b6 Second addressee	*b6	1bu
*b7 Third addressee	*b7	1bv
*b8 Fourth addressee	*b8	1bw
*b9 ARC number of addressee list	*b9	1bx
*b10 Distribution list in ident form	*b10	1by

*b11 Second, third editors		*b11, *b13	1bz
*c1 Title of item		*c1	1c@
#1 subtitle		#1	1c@1
#6 pages		#6	1c@2
*c2 Title of more inclusive document		*c2	1ca
#1 subtitle		#1	1ca1
#2 volume		#2	1ca2
#3 number		#3	1ca3
#6 pages		#6	1ca4
*c4 Also published in:		*c4	1cb
*c5 Also published as:		*c5	1cc
*c6 Also to be presented at:		*c6	1cd
*d1 Day and/or month and/or year issued		*d1	1ce
*d2 Date written or submitted		*d2	1cf
*d3 Period covered		*d3	1cg
*d4 Date of conference or meeting		*d4	1ch
*d5 Date of *c4, *c5 or *c6		*d5	1ci
*f1 Form of item			1cj
a article	ma map		1cj1
ad advertisement	mn users' guide or manual		1cj2
b book	n newsletter issue		1cj3
bi biography	p paper		1cj4
bl bibliography	pg program		1cj5
br brochure	pi picture, photo		1cj6
ch chapter	pr proposal		1cj7
d draft	pt patent		1cj8
ds dissertation	qu questionnaire		1cj9
f film	r report		1cj10
g proceedings	re press release		1cj11
gr graph or chart	s slide		1cj12
i abstract or review	sp specification, standard		1cj13
j ARC or NIC journal item	t talk		1cj14
k periodical, newspaper	th thesis		1cj15
l letter	tr translation		1cj16
lt transmittal letter	u functional doc		1cj17
m memo	z contents of functional doc		1cj18
			1cj19
*f2 Media			1ck
a carbon copy			1ck1
c copy, not original			1ck2
f film			1ck3
l microfilm			1ck4
m microfiche			1ck5
ma magnetic tape cassette			1ck6
o original			1ck7
p photocopy by ARC			1ck8
pa partial photocopy			1ck9

r	machine readable		1ck10
s	slide		1ck11
t	paper tape		1ck12
v	videotape		1ck13
x	reference only		1ck14
*f3	Source file name	*f3	1cl
*m1	Sponsor of meeting	*m1	1cm
#1	name of meeting	#1	1cm1
#5	city, state of meeting	#5	1cm2
*n1	Item that includes this item	*n1	1cn
*n2	Item(s) this item includes	*n2	1co
*n4	Doc(s) to which this refers	*n4	1cp
*n5	Doc this abstract describes	*n5	1cq
*n6	Doc(s) this one accompanies	*n6	1cr
*n7	Doc(s) this one is related to	*n7	1cs
*p1	Project name assigned by issuer	*p1	1ct
*p2	Project no. assigned by issuer	*p2	1cu
*r1	No.(s) assigned by issuer	*r1	1cv
*r2	No.(s) assigned by govt agency	*r2	1cw
*s1	Sponsoring agency	*s1	1cx
#3	suborganization	#3	1cx1
#5	city, state zip	#5	1cx2
#6	contract or grant number	#6	1cx3
#7	project number	#7	1cx4
#8	order number	#8	1cx5
#9	other number	#9	1cx6
*s2	Second sponsoring agency	*s2	1cy
#3	suborganization	#3	1cy1
#5	city, state zip	#5	1cy2
#6	contract or grant number	#6	1cy3
#7	project number	#7	1cy4
#8	order number	#8	1cy5
#9	other number	#9	1cy6
*s3	Third sponsor agency	*s3	1cz
*w1	Date received at ARC	*w1	1d@
*w2	Date cataloged at ARC	*w2	1da
*w3	Initials of contributor	*w3	1db
*w4	Source if not a1, b2, or w3	*w4	1dc
*y1	Brief abstract	*y1	1dd
*y2	Keywords from doc or author	*y2	1de
*y3	Keywords assigned at NIC	*y3	1df
*y8	"Updated by xxxx;" "Updates xxxx;" "Obsoletes xxxx;"	*y8	1dg
*y9	"Obsoleted by xxxx"	*y9	1dh
*z1	NIC holdings	*z1	1di
*z2	Subcollections	*z2	1dj
*z3	ARC catalog management codes	*z3	1dk
*z4	ARC holdings	*z4	1dl
*z5	Location(s) of copy	*z5	1dm

(A15060) *a1 Lawrence McDaniel #2 org *b2 University of Illinois at Urbana-Champaign #3 Center for Advanced Computation #5 Urbana, Illinois 61801 *c1 Mathematical Software and Computer Networks #6 22p. *d1 January 1973 *f1 r *f2 p *s1 Advanced Research Projects Agency #3 U. S. Army Research Office - Durham *w2 3-28-73 *y1 A discussion of the impact of computer networks relative to the portability and accessibility of mathematical software. Resource sharing is discussed, as is the integration of two resources on the ARPA Network: SPEAKEASY, an interactive system for researchers, and EISPACK, a library of eigensystem routines. *y3 SPEAKEASY; EISPACK; eigensystem routines; ARPANET; mathematical software; program network interface; resource sharing; *z1 all *z2 NIC *z3 new * 1dn

(A15058) *b2 [Advanced Research Projects Agency] #3 [Information Processing Techniques] #5 Arlington, Virginia *c1 The ARPA Network [Map] - February 1973 #6 1p. *c2 ARPA Network Resource Notebook *d1 February 1973 *f1 ma z *f2 p *n1 6740 *w2 3-20-73 *y1 A revised map of the ARPANET showing 33 major site locations (with some cases of more than one site at a location). *y3 ARPANET; maps; *y8 Updates 9859; *z1 all *z2 NIC *z3 new * 1do

(A14779) *b2 MITRE Corporation #5 Bedford, Massachusetts *c1 Quick Reference Guide to the SHOEBOX Text Processing System #6 2p. *d1 December 1972 *f1 r *f2 p *w2 3-23-73 *y1 A shirt pocket folder with a brief list of SHOEBOX command syntax. *y3 SHOEBOX; *z1 all *z2 NIC *z3 new * 1dp

(A14675) *a1 R. Healey #2 org *b2 National Physical Laboratory #3 Division of Computer Science #5 Teddington, Middlesex, England *c1 Computer Network Simulation Study (L) #6 67p. *d1 October 1970 *f1 r *f2 o *r1 Com.Sci. TM 45 *w2 4-12-73 *y1 Note: "Not for general release; not to be quoted as reference." A simplified description of the proposed National Data Communications Network, composed of a number of local networks. Information traverses the Network through a number of links, being stored in its entirety at the end of the link until it can be forwarded to another link. *y3 store-and-forward networks; common carrier data networks; NPL; English networks; links; packet switching; traffic analysis; *z2 NIC *z3 new * 1dq

(A14655) *a1 Donald E. Walker #2 org *b2 Stanford Research Institute #3 Artificial Intelligence Center *c1 Speech Understanding Research #1 Annual Technical Report #6 72p. *d1 February 1973 *d3 4 October 1971 - 2 October 1972 *f1 r *f2 o *n7 15198 *p2 SRI 1526 *s1 Advanced Research Projects Agency #6 DAHC 04-72-C-0009 #8 1943 #9 Program Code 61101D *w2 4-2-73 *y1 This report distributed to the ARPA Network SUR Group as an attachment to SUR Note 77, 15198. The domain chosen by SRI for

its initial efforts is Winograd's "blocks world". The procedures being developed are to provide capabilities of giving and modifying commands to a robot and giving additional information necessitated by performance. The capabilities integrate pragmatic, semantic, syntactic, lexical, phonological, phonetic, and acoustic analyses. Development has been carried to the point where syntactic, semantic, and acoustic data are used in processing sentences. *y2 natural language processing; speech understanding; speech recognition; computer understanding; syntax; semantics; *y3 sentence processing; artificial intelligence; robot instructions; SHAKEY; PINTLE; acoustic processing; word verifier routines; *z2 NIC SUR *z3 new * 1dr

(A14654) *a1 John McHale #1 Director #2 State University of New York #3 Center for Integrative Studies *b4 Conference Board #5 New York *c1 The Changing Information Environment: A Selective Topography *c2 Information Technology - Some Critical Implications for Decision Makers #6 p.183-238 *d1 1972 *f1 a *f2 p *n1 14652 *w2 4-2-73 *y1 The advent of information technology has been termed the Second Industrial Revolution; its later developments and widened applications in automated processes and controls have been called a Third Revolution. The core of these revolutionary transitions and its most visible component is electronic data processing via the computer. A selective cognitive mapping is made of some of the key topics in information technology, from different angles and perspectives to promote an interrelated assessment. *y3 man machine interface; man machine symbiosis; human information; information technologies; information processing; man machine interaction; futures; social impact; computer evolution; advanced societies; *z2 NIC *z3 new * 1ds

A Merging of Cataloging Codes Files

(J16222) 27-APR-73 20:51; Title: Author(s): Crocker, David H. , Coley, Anita L. /DHC ALC; Distribution: /MFA JBN; Sub-Collections: NIC; Clerk: DHC;

DLS 27-APR-73 08:42 16223

Utility Contractual Arangements

John McNamara and myself had a talk with Al Mario, boss of RADC procurement, 27 APR 73. He saw no problem in getting under contract by 1 SEP 73, if we received the ARPA order or even a TWX saying that one was comming, within the next month. One of his concerns was over the D&F, ie, there is one existing for FY-73 which would give him authority to start negotiations now. If we didn't get the ARPA Order until FY-74 or late 73, then there might not be a D&F around to allow him to start negotiations. You know more about this than I. I can start the necessary paperwork from my end...work statement draft, etc based on the SRI proposal to you; if you want. Otherwise I'll wait until the order is in RADC. Al Mario also suggested that we consider contracting for a two year period. Will leave this up to you. It looks like RADC could attach themselves to your procurement to avoid internal D&F proceedings. However, we will in no way jepordize your procurement if you choose to use RADC procurement. We have previously attached ourselves to one of your procurements with no ill effects, through an engineering change. 1

16223 Distribution

McNamara, John L. , Bethke, William P. , Perry, John S. , Dolan, Bruce A. , Roberts, Lawrence G. ,

DLS 27-APR-73 08:42 16223

Utility Contractual Arangements

(J16223) 27-APR-73 08:42; Title: Author(s): Stone, Duane L. /DLS; Distribution: /jlm wpb jsp bad lgr ; Sub-Collections: RADC; Clerk: DLS;

JAKE 27-APR-73 18:41 16224

Display bug

4-27-73; 6:40pm. There is another discrepancy between the dnls display screen and the tnls print-out at the terminal. See (netinfo,bbn-tenex,user-programs:wn). Jake 1

JAKE 27-APR-73 18:41 16224

Display bug

(J16224) 27-APR-73 18:41; Title: Author(s): Feinler, Elizabeth J. (Jake) /JAKE; Distribution: /bugs ; Sub-Collections: SRI-ARC BUGS; Clerk: JAKE;

JAKE 27-APR-73 19:32 16225

Receipt of reports

Susan, Thanks a million for sending me those reports, we really appreciate the prompt service. I have been working on an index of programs available on the Network and will send you a copy, sketchy as it is, as soon as I get some of the junk out of it. Thanks again for your help. JAKE, SRI-ARC 1

JAKE 27-APR-73 19:32 16225

Receipt of reports

(J16225) 27-APR-73 19:32; Title: Author(s): Feinler, Elizabeth J. (Jake) /JAKE; Distribution: /mitre-tip ; Sub-Collections: SRI-ARC MITRE-TIP; Clerk: JAKE;

KFB 27-APR-73 16:37 16226

ARC Xeroxing Policy

As of 4/30/73 there is a new policy in effect regarding ARC xeroxing. In J-2088 you will find an in-basket and Xerox Request Form. Any LARGE (jobs you feel you don't have time to do yourself) ARC xeroxing you need to have done should be placed in the basket with a filled-out form. The ARC xeroxing will be done twice a day -- at 11 a.m. and 3 p.m.

We hope that you will be aware of the two different in-baskets (typing and xeroxing) and use the correct one. 1

KFB 27-APR-73 16:37 16226

ARC Xeroxing Policy

(J16226) 27-APR-73 16:37; Title: Author(s): Byrd, Kay F. /KFB;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: KFB;

LPD 27-APR-73 13:32 16227

MHJS, meet DJ

reply to JEW's (16208,)

LPD 27-APR-73 13:32 16227

MHJS, meet DJ

I'm glad to see thought being given to the MHJS. I've written a piece from a slightly different viewpoint which is still in flux, but which you're welcome to read: (DEUTSCH,DJ,). More later. 1

LPD 27-APR-73 13:32 16227

MHJS, meet DJ

(J16227) 27-APR-73 13:32; Title: Author(s): Deutsch, L. Peter /LPD;
Distribution: /JEW JDH RWW DSK; Sub-Collections: NIC; Clerk: LPD;

NIC TNLS Class, MITRE, May 16, 17, 18, 1973

Following is a summary of arrangements made and to be made for the NIC TNLS Class, May 16, 17, and 18, 1973 at MITRE. 1

Susan Poh, MITRE, is the contact at MITRE and is making all arrangements for the Class there. She is locating a varied group of cap and lower case terminals. She has arranged that 5 temporary phones be installed in the room where the class will be held. She would prefer to use as many TI Terminals as possible, (a) because they can be direct wired into the computer and therefore relieves the traffic load on their phone entries into the computer, and (b) because she is as sold on the TI Terminals as we are and would like to "give the students the best available". 2

MITRE furnishes Network computer power to the Washington area through their phone ports into the computer, therefore, would like to keep the use of dial-in terminals as low as possible. Susan said they would be grateful for using only three acoustic coupler terminals...that would leave two phone ports available to the Washington area for those 3 days -- not as much as they are accustomed to giving, but the class has priority. 3

MITRE has a cafeteria where lunch can be had, but it is "nothing like SRI's International Dining Room". Susan said that she asked and was told that MITRE had no funds to furnish the lunch; therefore it is to be decided (Note to Dirk and Mike) who will pay for it...the students, or possibly us. The instructors could possibly take money from here and pay the cashier as the students get their lunches? Anyway -- the cafeteria has only one main dish and a fair variety of sandwiches, cold drinks, coffee, small deserts, etc. A full meal, main dish, sandwich, coffee, desert, will run about $1.50 or a little more. Susan can and will arrange with the cafeteria for a reserved table(s) so the group can sit together and get acquainted. 4

We discussed a picnic arrangement for one day. She said it has been cold and rainy. She will see about that one. There is a nice park where the group could have a picnic and see the "yellow Potomac" about 10 minutes from MITRE. You can express opinions Monday when Susan will call in with more information. 5

Susan now has the names of the 5 people we arranged to take the course. She is working with her security people to have everything cleared. 6

The three people from MITRE have not yet been decided on. Susan will have that for us Monday, when she calls. 7

Susan does not think there are 3 (or any) Execuports available there. Dirk said we would take these two Execuports we have. That leaves one Execuport to be scrounged up from somewhere -- rent one in Washington area? She will have more information on that also when she calls Monday. 8

Following are the five people we have arranged to take the class: 9

From U. S. Army War College: 9a

(1) Lt. Col. Frank E. Owens
Box 469
U. S. Army War College
Carlisle Barracks, Penn. 17013
Phone: (717) 245-4304 9a1

(2) Lt. Ronald G. Parker
Box 360
U. S. Army War College
Carlisle Barracks, Penn. 17013
Phone: (717) 245-3804 9a2

The people from the USA War College are part of the crew of Col. Louis F. Dixon, who had asked a couple of months ago to be told when the next TNLS class would be held. Col. Dixon is the Liaison/Station Agent. They are coming on line apparently, to be become more active. Col. Dixon is kind of turned on about the possible services of NIC. 9b

This group now has only Model 35s and 33s and apparently that is their foreseeable future. 9c

From USAF, The Pentagon: 9d

(1) Abraham (no middle initial) Balak
USAF AFDSC/GNF
The Pentagon
Washington, D.C. 20330
Phone (202) 695-7656 9d1

(2) John E. Kohl
USAF AFDSC/SFP
The Pentagon
Washington, D.C. 20330
Phone: (202) 697-2723 9d2

(3) John M. Punches
USAF AFDSC/GMM

The Pentagon
Washington, D.C. 20330
Phone: (202) 695-1221 9d3

All three are civilians. This group has been online (primitively) through the auspices of RADC, and the group we know as "Headquarters U. S. Air Force, AF/XOA, Washington, D.C., IDENT USAF", with Major Robert Logan as their Liaison/Station Agent. 9e

The three above and the XOA group have been using borrowed Execuports from RADC. Rome took their Execuports back and at the moment they don't have anything, but they have Execuports on order but will not get them before the class. (This is the reason for Susan and us scrounging up 3 Execuports.) 9f

The three listed are part of the crew of Lt. Col. Bruce Fowler, an old friend of Dean Brown, and Doug Engelbart. Col. Fowler made the arrangements and passes his regards on to his friends here -- he will be out soon with a couple of people to talk to Doug and others and see how things are going. He was vastly intrigued here a while back about our plans to install the video tape/camera set up and asked how it was going. I told him great. 9g

I told each of the people I made arrangements with (Col. Fowler and Col. Dixon and his secretary) that it would be helpful if the ARPA Network NIC User Guide (TNLS portion) could be referred to the students-to-be, and that personal copies of these current guides would be furnished the students as part of the Class. They promised to spread the word about the Guide and about the functional documents and NIC facilities in general. 10

I also suggested that the word be spread that if the attendants (or their groups) have any special interests appropriate to the Network/NIC, that they see Dirk immediately on checking in the first day and discuss them with him and they could make whatever arrangements seem applicable. Also suggested that the NIC Catalog be scanned, particularly the group indexes and Station Agent collection of group notes, for any possible activities on or around the Network that would be of interest to them for their coming participation on the Network. Briefly discussed that the Network opperates somewhat as a community and finds online dialog very useful and productive of keeping up with what is happening. 11

A copy of this note is being sent to: JCN, RWW, MDK, DVN, DCE, JBN, and MLK. Will Marcia please see that the idents of the above

5 are in the system and operable before the class convenes?
Thanks much. 12

NIC TNLS Class, MITRE, May 16, 17, 18, 1973

(J16228) 27-APR-73 13:55; Title: Author(s): Jernigan, Mil E. /MEJ;
Distribution: /JCN RWW MDK DVN DCE JBN MLK MFA; Sub-Collections:
SRI-ARC; Clerk: MEJ;
Origin: <JERNIGAN>NICTNLS.NLS;1, 27-APR-73 13:52 MEJ ;

NJN 27-APR-73 07:46 16229

ftpig list

Jim-- Sorry this took so long, but ... the usual excuses. The list of participants at the ftp meeting is located in (bbn-net, ftplst, 1: w). How is the mail document coming along? Some people have asked me about it and I referred them to you. I have also mentioned to several people who sent me comments on ftp that i would make this list available to you and thus to them via FTPIG, so they may come asking for it. Thanks and ciao
--Nancy

1

NJN 27-APR-73 07:46 16229

ftpig list

(J16229) 27-APR-73 07:46; Title: Author(s): Neigus, Nancy J. /NJN;
Distribution: /JEW; Sub-Collections: NIC; Clerk: NJN;

TO 27-APR-73 08:37 16230

help

hope you can give me some toutoring on nls when i'm out thr ere
on thursday. 1

TO 27-APR-73 08:37 16230

help

(J16230) 27-APR-73 08:37; Title: Author(s): O'Sullivan, Thomas /TO;
Distribution: /JCN; Sub-Collections: NIC; Clerk: TO;

Last Call for Dialog on Journal Headers

A week ago I asked for feedback on the subject of the Journal Header used for marking hardcopy of Journal documents (mjournal, 16023, 1:w). In this note I have collected all the dialog I have recieved so far on this subject. Unless anyone has something further to add, Dirk, Dean, and I will get together with Dick to make a final decision. 1

Here is a copy of the four alternatives referenced by number in the subsequent dialog: 2

(1) Leave things the way they are now -- the Journal specifies a default header which can be overridden by the user. 2a

Advantages: 2a1

Gives user complete aesthetic control. 2a1a

Disadvantages: 2a2

No guarantee that info now in Journal Header will appear anywhere in document. 2a2a

No way for user to get Journal Number into document without pre-assignment or to get date/time of Journalization by any means. 2a2b

(2) Change back to the original convention -- Journal Headers cannot be modified or eliminated by user directives. 2b

Advantages: 2b1

Guarantees that info in Journal Header will appear. 2b1a

Disadvantages: 2b2

Gives user no aesthetic control over Journal Header. 2b2a

(3) Change back, but allow user some control over the format of the Journal header -- full author name / ident, spell out / abbreviate month, use spaces for hyphens in date, etc. 2c

Advantages: 2c1

Guarantees that info in Journal Header will appear and gives user some aesthetic control. 2c1a

Disadvantages: 2c2

Aesthetic control is parameterized rather than absolute. 2c2a

(4) Keep current convention and also provide directives for printing date/time of Journalizaition, author's name or ident, and Journal Number. 2d

Advantages: 2d1

Gives user complete aesthetic control as well as access to all information now in Journal Header. 2d1a

Disadvantages: 2d2

Difficult to guarantee that standard information is printed. 2d2a

RWW 20-APR-73 08:25 16038 Reply to WLB on Journal Header 3

Message: Walt, with respect to the Journal Header question, I think we want to be able to quarantee that Journal items are printed with the appropriate information; therefore I favor alternative 3 in your discussion. If there is a really strong reason why someone must have it really different he can always make a copy and set the directives as he pleases. 3a

DVN 20-APR-73 09:50 16029 For Freedom of the Press...Replly to 16023 4

Message: In gneral I agree that the author ought to be able to control what goes out over his name atleast my ammending defaults. In particular I like alternative 4 best. 4a

NDM 23-APR-73 20:23 16113 Re: (16023,) Journal Header treatment (MJOURNAL, 16113, 1:w) . . . copied below: 5

An additional consideration in designing the treatment of journal headers: one should be able to set up a document that before journalization looks very much like the journal file will look (for proofing). To do so, I was including a HJournal directive, expecting it to be overridden by the HJournal directive inserted at journalization. This could be accomplished by any of the last three alternatives in (16023,). Alternative four would work well if the directives produced a reasonable default if the journal information were not known: 5a

the author could be taken as the last to change the file, 5a1

the date should be the current date, 5a2

the number could be something like "xxxxx" or whatever, just so the format resembled the final copy. 5a3

I have found that, in what little publishing I have done, I have not used journal headers in anticipation of back-to-back printing. Perhaps journal header position should be specifiable. 5b

[WLB note: It is now (with the HJP directive) -- I added this directive when I made the Journal Header user-redefinable.] 5b1

When publishing on COM, it may be wise to publish before journalization, then use DELDIR to delete all print directives in the journalized version. Theoretically, if more copies are desired, we can just call DDSI and ask them to reprint a past film. Print directives are annoying for on-line viewing, and there may be no call for them in once-published files. If one doesn't trust DDSI's microfilm archival system, the publishing version could be archived here. 5c

[WLB note: this opens another good area for dialog: if there were no shortage of space it would be ideal to have four versions of each major Journal document around -- NLS version with directives, NLS version without directives, Output Processed text file for listing on line printer, Output Processed file for printing via COM. Most Journal items would probably need to exist in only two versions -- NLS with directives (as long as it's not formatted for COM, directives usually aren't too distracting) and line printer file -- we could have a convention that said that the output processed versions got automatically archived 2, 3, 7 days or whatever after publication, while the NLS version was handled normally by the Archive system. Any other suggestions?] 5c1

WLB 27-APR-73 11:08 16231

Last Call for Dialog on Journal Headers

(J16231) 27-APR-73 11:08; Title: Author(s): Bass, Walt /WLB;
Distribution: /sri-arc ; Sub-Collections: OPIG COM SRI-ARC; Clerk:
WLB;
Origin: <XPORGEN>HJ.NLS;1, 27-APR-73 11:06 WLB ;

WLB 27-APR-73 11:50 16232

Invitation to Help Create an All-ARC Trip to Alderness

The Easter "open house" at Alderness was a success, Kirk and Susan and their guests joined 50-60 of our other friends and neighbors, and a good time was had by all. Before our Wilderness Workshops begin in July, I would like to create space for an all-ARC trip to Alderness if there is sufficient interest. This could either be a one-day excursion and picnic or a weekend encampment lasting two or three days (May 26-8 is Memorial Day weekend) or some combination of activities. I would appreciate hearing from everyone who thinks his or her family might like to participate -- please let me know what kind of trip would be most desirable as well as what weekends will be best and worst for you. The possible weekends, allowing at least two weeks for making arrangements, are: May 19-20, May 26-8, June 2-3, June 9-10, and June 16-17. Thursday, I will analyse all the dialog I have received up to that time and either make an announcement or submit the most popular options to a "vote." I'm really looking forward to entertaining you. -- Walt 1

WLB 27-APR-73 11:50 16232

Invitation to Help Create an All-ARC Trip to Alderness

(J16232) 27-APR-73 11:50; Title: Author(s): Bass, Walt /WLB;
Distribution: /sri-arc ; Sub-Collections: SRI-ARC; Clerk: WLB;

DCE 28-APR-73 10:03 16233

On Journal Headers, response to (16231,)

On Journal Headers, response to (16231,)

REgarding the JHEADER, showing author, publication date, and Journal number: I favor it's being in a standard place (with the Jnumber being right justified to same as SNF and Footoer RM Page NUmber -- these location referencing numbers should always be in the same place,a nd I feel that they shoud line up as a stylistic way of reinforcing their common characteristic of being part of that referencing data. (I like putting "Page" befor the right-justfied page number in thefooter, but any other way to set that integer apart from a possibily duplicated first-level statement number is o.k.). 1

I think having all of these reference data in a standard position on the page is an important feature. If we want some aesthetic variation available to the person who submits the JOurnal item (in modifying these reference data, I'd favor: 1a

Giving him some directives that say what form the JHEADER authorname or publish-date items might be printed (from some pre-defined alternatives; also letting him choose from some alernatives regarding the idenfitying of right-justified page numbers -- but not let him move the Jhedader or page number. 1a1

Then, if he really wanted different style, let him copy the JOurnal file into his own directory and modify to suit himself. 1a2

On the problem of printout directives being in the way of on-line studying: 2

There has long been an alternative (in the NP pushdown stack) for consideration as to specifying outputting formats -- besides embedding directives in the file at the point where they are to take effaffect: 2a

Have formatting directions be independent, as a branch in another file. One could use the same set of directives as in our current system, and for each location in the text tile where a directive or a set of directives (from one to n) was needed, these directives in the specification branch would be associated with a link that defines the place in the target file where they were to become effective. 2a1

THis waits for two small developments that have (in my mind, at least) been near the top of our push-down stack for quite a few years: 2a2

Extending the syntax and link-handling machinery to

enable a link to specify any information entity in an NLS file, so that in particular it could specify the exact between-character point at which a directive (or set of them) was to take effect. [There are a number of other application expectations also waiting for this link-specification extension.] 2a2a

Having the back-link capability in NLS; which here would enable the sequence-generator statement-outputting machinery to send to the display or to the output processor a statement that is modified in some desired way according to the links that cite it (or that cite some internal entity). 2a2b

In displaying the NLS file that is thus having its output format specified, the directives could optionally be chosen (via VSPEC) to be indicated in several ways: like embedded where their links indicate, or shown in a betwen-statement area with arrows showing the exact interstitial target point, or merely with some little annunciator type visual signals indicating that there are directives (of prhaps a specified type) aimed at this statement. 2a2b1

In outputting, this back-link machinerey could obviate the need for the detailed search for embedded directives -- handing the directive information across to the Output Processor at the right point in a special way so as to differentiate it from the printout file's literal text. 2a2b2

ANother alternative can easily stem from another expected feature (from the NP Stack): There are a number of types of information often embedded in text that we would like to have explicitly tagged so that their unique handling in certain processes could be facilitated. Besides the printout directives, we'd like for instance to have every link be unequivocably and explicitly known about. (We want processes that can unambiguously locate every link in a file, for instance). Comments in source code, too -- and if we keep thinkin about it we'd consider all proper nouns, or all variales of a given type, or etc. 2b

I assume that the next stage of NLS file structure design will allow us to implement the desired bookeeping in several ways; but for the printout directive issue we need merely say that when such provisions are established, the directives could be installable, viewable, editable,

communicated to the output processor, etc., in ways to keep them from interfering with NLS studying when we wished, while still being safely embedded within the file. 2b1

About keeping printout-file versions around: I assume that there is an analytic way of evaluating the payoff for keeping print-formatted versions of a JOurnal file around, for a given period; and I assume that it would payoff to keep it for some period. 2c

I would like to see this pursued one of these days, depending upon the nature of the changes required in NLS command processes, and in the people procedures for the Journal-support operational staff -- and for the on-line file space thus required. It would ease the conscious of many of us in doing individualized printouts if we knew that we weren't paying for the OUtput Processor every time -- and I really do like to see most Jounal items in the full-format form via the Output PRocesor. 2c1

There is another potential value to be obtained by keeping the print-format copy of Journal files (or at least some sort of "print map" of which full print copy could be one kind): 2c2

Dialogue via Journal will be very useful for people who, at their terminal, have hard copy to refer to when they want to cite some previous item. Also, if they want to copy hunks of other-file material and merge them into a document they are developing. For some years, it will be very effective (to my mind) for some of these people to be working from micro-fiche records, and I believe that many of them will work from micro-fiche readers that are on line and whose frame positioning will be computer controlled. I believe that they also will be able to point with a device that will tell the computer the frame coordinates of a select action. 2c2a

IT will add greatly to the support they can get from the computer if it can map back from these "printout-page frame coordinates" to the contents, and to a map that allows both-way correlation: the computrer should be able to find the source-file point corresponding to the projected-frame entity thus "bugged", and it should corresponsingly (as for instance if it then follows a link) be able to find out out which fiche and frame (and perhaps what coordinates on the frame) frame holds the cited entity, so that it can find and position the

appropriate fiche to give the user the "jumped-to" view (and even possibly bive him some indication, perhaps via controlled cross-hair positioning, as to where the cited entity is on the projected frame). 2c2b

I think of this fiche-usage as very real in the "probable" future, and therefore the necessary associated features in file handling and NLS processes are also "expected" in my mind. Therefore, for other types of issues, such as being discussed here about Journal printout practices, I tend to favor solution aaproaches that anticipate and indeed help along these expected future states of things. 2c2c

DCE 28-APR-73 10:03 16233

On Journal Headers, response to (16231,)

(J16233) 28-APR-73 10:03; Title: Author(s): Engelbart, Douglas C. /DCE ; Distribution: /rww jcn dvn ndm wlb mdk ; Sub-Collections: SRI-ARC; Clerk: DCE ;

JCN 28-APR-73 12:48 16234

Note to TO

Sure, Tom. I and others plan to be here Thursday and will look forward to your visit. I'm trying to get a visit to the IPT and neighboring offices lined up...L. Roberts office schedules are hard to get in sync with. I was hoping to meet with you then also. We can discuss the timing when I find out about Larry's availability..perhaps the last week in May. See you Thursday. Jim 1

JCN 28-APR-73 12:48 16234

Note to TO

(J16234) 28-APR-73 12:48; Title: Author(s): Norton, James C. /JCN;
Distribution: /TO DVN DCE; Sub-Collections: SRI-ARC; Clerk: JCN;

KIRK 28-APR-73 10:02 16235

Walt -- Any time you invite me to Alderness, I can come. -- Kirk 1

(J16235) 28-APR-73 10:02; Author(s): Kelley, Kirk E. /KIRK;
Distribution: /wlb ; Sub-Collections: SRI-ARC; Clerk: KIRK;

LPD 29-APR-73 23:45 16236

GP semi-design

I will complete this before our next meeting (to be held this week, hopefully)

DRAFT DESIGN FOR A TEXT/GRAPHICS PROTOCOL 1

This document is an attempt to unify Elaine Thomas' memo on graphics protocol design, Bill Duvall's memos on NLS/VTS protocol, and many discussions involving people from PARC, ARC, and BBN. 1a

There is no way that such a document can please everyone. I only hope to produce a design that we can agree is good enough not to be worth throwing out and starting over. 1b

I submit that the designs (or non-designs) produced so far do not have this desirable property. 1c

Environment 2

We are trying to design a "virtual display" to operate at the other end of a wire (ARPANET connection, Nova MCA, ...) from a "host" which is running some kind of display application program. 2a

As far as the application program is concerned, it is the "user" and the display is the "server"; however, the human user is sitting at the display and thinks of himself as the "user" and the application program as the "server". We will adopt the former terminology. 2a1

In practice, this produces the following configurations: 2b

1. "Local display". Some kind of display device (perhaps an IMLAC or E&S, perhaps something simpler) connected directly to a "big" machine (16K Nova or fast PDP-11, or bigger). The "big" machine interprets the virtual display data to produce hardware commands. 2b1

2. "Remote terminal". A simple display device like a ARDS or small IMLAC (or even a character display like an Infoton) attached to a TIP. Some big machine must produce the hardware commands, but it need not be the one on which the application program is running. 2b2

3. "Remote processor". A big IMLAC or the PARC VTS, which can interpret the virtual display data itself. 2b3

Constraints 3

The NLS constraint: 3a

The protocol must efficiently encompass those facilities currently provided in the adhoc IMLAC protocol, in such a form as not to require substantial modification to NLS. 3a1

The VTS constraint: 3b

The protocol must provide for reasonable access to the full flexibility of the PARC video terminals, yet not require special knowledge on the part of hosts that do not need this flexibiliy. 3b1

The graphics constraint: 3c

The protocol must provide for convenient manipulation of complex graphics, to satisfy the needs of the PARC and BBN graphics efforts. This probably implies that most of the protocol must be interpretable by an IMLAC. 3c1

The ARPANET constraint: 3d

The protocol must be usable through the ARPANET, preferably by embedding in the new TELNET protocol. 3d1

Basic concepts 4

Areas 4a

The concept of an "area" unifies Thomas' "figure" and Duvall's "display area". 4a1

An area has a name, an extent, and zero or more units. 4a2

Area names are arbitrary, globally unique, fixed-length identifiers. 4a2a

The extent defines a rectangle in the coordinate space into which all the data in the area fall: the origin is in the lower left-hand corner. 4a2b

Each unit (displayable component) has a name, which is local to the area. 4a2c

A unit may be a "primitive unit", such as a string or a vector, or a "call unit", which implies displaying a (possibly transformed) copy of another area. 4a3

The display data are organized into a re-entrant tree (acyclic graph) by the call units. 4a3a

An area may be "on" or "off". 4a4

A particular instance of an area appears on the screen precisely if it and all areas on the logical path from it to the root of the tree are "on". 4a4a

An area may be "captive", meaning that its existence is tied to the existence of precisely one call to it from another area, or "free", meaning that it exists independently of any calls elsewhere in the display data structure. 4a5

Captive areas correspond to the old NLS idea of display areas and are meant to provide an indication to the display server that a more efficient implementation may be possible for a given area. 4a5a

Primitive units 4b

Strings 4b1

A string unit is a horizontal line of characters with its own X,Y origin relative to the origin of the area. 4b1a

Font and mode (e.g. blinking, overlaying) information logically accompanies each character. 4b1b

The question of determining the space occupied on the screen by a string will be deferred to the discussion of fonts and queries. 4b1c

Lines 4b2

A line unit is a series of (X0,Y0;X1,Y1) pairs which describe straight lines. 4b2a

Each line logically carries mode information. 4b2b

Other kinds of lines, such as conic sections, may belong in the primitive set. 4b2c

Special points 4b3

As per discussion at PARC, this primitive unit consists of a series of points, which will be displayed joined by lines in the best available manner. 4b3a

The intent is to use Flegal's algorithms to produce a smooth curve. 4b3b

Call units 4c

In addition to the name of the referenced area, a call unit may include the following transformations: 4c1

Master/instance rectangle: a rectangle in the caller's space into which the callee is to be imaged. This accomplishes scaling in each coordinate independently as well as translation and clipping. 4c1a

Rotation. It may be desirable to combine this with scaling using the familiar idea of homogenous transformation. 4c1b

Intensity and color control. -- Not clear. 4c1c

Display primitives 5

CREATE-FREE-AREA(Area) 5a

Creates a new free area with name Area. Since the default extent is (0,0), no units may be created in this area until a larger extent is specified. 5a1

CREATE-CAPTIVE-AREA(Caller-Area,Unit,Area,Parameters) 5b

Creates a new captive area with name Area, and inserts its call as unit Unit in area Caller-Area. 5b1

DESTROY-AREA(Area) 5c

Destroys the area named Area. Call units referring to Area are also deleted. 5c1

CLEAR-AREA(Area) 5d

Deletes all units of the area Area, but does not destroy the area. 5d1

EXTENT-OF-AREA(Area,X-Size,Y-Size) 5e

Specifies the extent of an area. If the new extent is smaller and some existing units overflow the new boundaries, an error message will result. 5e1

TURN-ON-OR-OFF(Area,Flag) 5f

Turns the area Area on or off as specified by Flag. 5f1

PRIMITIVE-UNIT(Area,Unit,Type,Parameters) 5g

Replaces unit Unit of area Area by a primitive unit of the appropriate type and parameters. If Unit did not exist, it is created. If Unit did exist, it is deleted first. 5g1

CALL-UNIT(Caller-Area,Unit,Called-Area,Parameters) 5h

Replaces the unit by a call unit. If the Called-Area is a captive area, the old call unit is deleted first, wherever it may be. 5h1

DELETE-UNIT(Area,Unit) 5i

Deletes a unit. If Unit is the call unit for a captive area, an error message results (a captive area, and its call, may be destroyed with DESTROY-AREA). 5i1

Interaction primitives 6

Querying 6a

Character input 6b

Button input 6c

Coordinate input 6d

Time input 6e

Higher level facilities 7

String editing 7a

Scrolling 7b

Teletype simulation 7c

Encoding 8

As agreed at various meetings, we will take advantage of the 8-bit transparent mode in the new TELNET and assume we have a transparent 8-bit communication channel. This fits in well with the VTS. 8a

Area names - shall be 16-bit quantities, assigned by the host. 8b

Unit names - shall be 8-bit quantities, assigned by the host. 8c

This limits the number of units per area. This limit seems acceptable on the grounds that any area with more than 256 units probably has enough internal structure to warrant splitting it up. 8c1

Strings - shall be ASCII characters, with an escape convention to represent changes of font and mode. 8d

Since the channel is 8 bits wide, there is room for many more than 128 displayable characters. However, the interpretation of codes 200B and above is not standardized 8d1

Coordinates - shall be 16-bit non-negative integers. 8e

It is the responsibility of the host to determine the size of the screen. By submerging all displayed areas one level under a call unit which performs the appropriate scaling, the host can make the display system do all the worrying. 8e1

GP semi-design

(J16236) 29-APR-73 23:45; Title: Author(s): Deutsch, L. Peter /LPD
; Distribution: /chi kev ; Sub-Collections: NIC; Clerk: LPD ;
Origin: <DEUTSCH>GP.NLS;3, 29-APR-73 23:42 LPD ;

TELNET TIMING MARK OPTION

1. Command name and code.

TIMING-MARK 6

2. Command meanings.

IAC DO TIMING-MARK

The sender of this command REQUESTS that the receiver of this command return a WILL TIMING-MARK in the data stream at the "appropriate place" as defined in section 4 below.

IAC WILL TIMING-MARK

The sender of this command ASSURES the receiver of this command that it is inserted in the data stream at the "appropriate place" to insure synchronization with a DO TIMING-MARK transmitted by the receiver of this command.

IAC WON'T TIMING-MARK

The sender of this command REFUSES to insure that this command is inserted in the data stream at the "appropriate place" to insure synchronization.

IAC DON'T TIMING-MARK

The sender of this command notifies the receiver of this command that a WILL TIMING-MARK (previously transmitted by the receiver of this command) has been IGNORED.

3. Default

WON'T TIMING-MARK, DON'T TIMING-MARK

i.e., No explicit attempt is made to synchronize the activities at the two ends of the TELNET connection.

4. Motivation for the option

It is sometimes useful for a user or process at one end of a TELNET connection to be sure that previously transmitted data has been completely processed, printed, discarded, or otherwise disposed of. This option provides a mechanism for doing this. In addition, even

if the option request (DO TIMING-MARK) is refused (by WON'T TIMING-MARK) the requester is at least assured that the refuser has received (if not processed) all previous data.

As an example of a particular application, imagine a TELNET connection between a physically full duplex terminal and a "full duplex" server system which permits the user to "type ahead" while the server is processing previous user input. Suppose that both sides have agreed to Suppress GA and that the server has agreed to provide echoes. The server now discovers a command which it cannot parse, perhaps because of a user typing error. It would like to throw away all of the user's "type-ahead" (since failure of the parsing of one command is likely to lead to incorrect results if subsequent commands are executed), send the user an error message, and resume interpretation of commands which the user typed after seeing the error message. If the user were local, the system would be able to discard buffered input; but input may be buffered in the user's Host or elsewhere. Therefore, the server might send a DO TIMING-MARK and hope to receive a WILL TIMING-MARK from the user at the "appropriate place" in the data stream.

The "appropriate place", therefore (in absence of other information) is clearly just before the first character which the user typed after seeing the error message. That is, it should appear that the timing mark was "printed" on the user's terminal and that, in response, the user typed an answering timing mark.

Next, suppose that the user in the example above realized that he had misspelled a command, realized that the server would send a DO TIMING-MARK, and wanted to start "typing ahead" again without waiting for this to occur. He might then instruct his own system to send a WILL TIMING-MARK to the server and then begin "typing ahead" again. (Implementers should remember that the user's own system must remember that it sent the WILL TIMING-MARK so as to discard the DO/DON'T TIMING-MARK when it eventually arrives.) Thus, in this case the "appropriate place" for the insertion of the WILL TIMING-MARK is the place defined by the user.

It should be noted, in both of the examples above, that it is the responsibility of the system which transmits the DO TIMING-MARK to discard any unwanted characters; the WILL TIMING-MARK only provides help in deciding which characters are "unwanted".

5. Description of the option

Suppose that Process A of Figure 1 wishes to synchronize with B. The DO TIMING-MARK is sent from A to B. B can refuse by replying WON'T

TIMING-MARK, or agree by permitting the timing mark to flow through his "outgoing" buffer, BUF2. Then, instead of delivering it to the terminal, B will enter the mark into his "incoming" buffer BUF1, to flow through toward A. When the mark has propagated through B's incoming buffer, B returns the WILL TIMING-MARK over the TELNET connection to A.

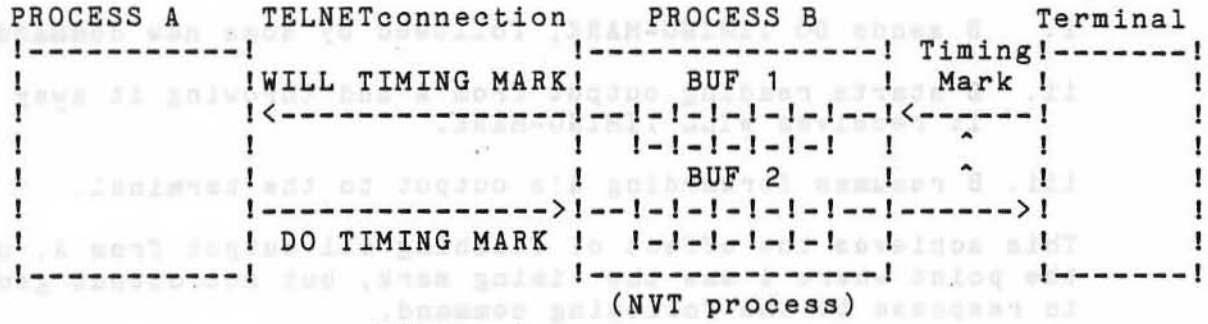


Figure 1

When A receives the WILL TIMING-MARK, he knows that all the information he sent to B before sending the timing markers been delivered, and all the information sent from B to A before turnaround of the timing mark has been delivered.

Three typical applications are:

A. Measure round-trip delay between a process and a terminal or another process

B. Resynchronizing an interaction as described in section 4 above. A is a process interpreting commands forwarded from a terminal by B. When A sees an illegal command it:

   i. Sends <carriage return>, <line feed>, <question mark>

   ii. Sends DO TIMING-MARK

   iii. Sends an error message

   iv. Starts reading input and throwing it away until it receives a WILL TIMING-MARK

   v. Resumes interpretation of input.

This achieves the effect of flushing all "type ahead" after the erroneous command, up to the point when the user actually saw the question mark.

C. The dual of B above. The terminal user wants to throw away unwanted output from A.

i. B sends DO TIMING-MARK, followed by some new command.

ii. B starts reading output from A and throwing it away until it receives WILL TIMING-MARK.

iii. B resumes forwarding A's output to the terminal.

This achieves the effect of flushing all output from A, up to the point where A saw the timing mark, but not output generated in response to the following command.

TELNET Extended-Options - List option

1. Command name and code.

EXTENDED-OPTIONS-LIST (EXOPL) 255

2. Command meanings.

IAC DO EXOPL

The sender of this command REQUESTS that the receiver of this command begin negotiating, or confirms that the receiver of this command is expected to begin negotiating, TELNET options which are on the "Extended Options List."

IAC WILL EXOPL

The sender of this command requests permission to begin negotiating, or confirms that it will begin negotiating, TELNET options which are on the "Extended Options List."

IAC WON'T EXOPL

The sender of this command REFUSES to negotiate, or to continue negotiating, options on the "Extended Options List."

IAC DON'T EXOPL

The sender of this command DEMANDS that the receiver conduct no further negotiation of options on the "Extended Options List."

IAC SB EXOPL <subcommand>

The subcommand contains information required for the negotiation of an option of the "Extended Options List." The format of the subcommand is discussed in section 5 below.

3. Default

WON'T EXOPL, DON'T EXOPL

i.e., negotiation of options on the "Extended Options List" is not permitted.

4. Motivation for the option

Eventually, a 257th TELNET option will be needed and there is currently no way to support it. The propsed option will extend the option list for another 256 options in a manner which is easy to implement. The option is proposed now, rather than later (probably much later), in order to reserve the option number (255).

5. An abstract description of the option.

The EXOPL option has five subcommand codes: WILL, WON'T, DO, DON'T, and SB. They have exactly the same meanings as the TELNET commands with the same names, and are used in exactly the same way. For consistency, these subcommand codes will have the same values as the TELNET command codes (250-254). Thus, the format for negotiating a specific option on the "Extended Options List" (once both parties have agreed to use it) is:

IAC SB EXOPL DO/DON'T/WILL/WON'T/<option code>

Once both sides have agreed to use the specific option specified by <option code>, subnegotiation may be required. In this case the format to be used is:

IAC SB EXOPL SB <option code> <parameters>

RS2 30-APR-73 12:58 16240

info on nic 15711 & 16073.

marcia,

nic 15711, dated 23 apr. informed me that you are going to send me a copy of nic 10159. i did receive this copy from you and wish to thank you for your time and effort. today, i received nic 16073, dated 25 apr. informing me that you lost your file copy of nic 10159, etc. let me know if you might have sent me your file copy and if so i'll be very happy to make a copy for you asap.

thanks again for such quick response.

bob 1

RS2 30-APR-73 12:58 16240

info on nic 15711 & 16073.

(J16240) 30-APR-73 12:58; Title: Author(s): Silberski, Robert /RS2;
Distribution: /MLK; Sub-Collections: NIC; Clerk: RS2;

ADO 30-APR-73 20:09 16241

Thanks for the ident changes. Buz
**1

(J16241) 30-APR-73 20:09; Author(s): Owen, A. D. (Buz) /ADO;
Distribution: /MLK; Sub-Collections: NIC; Clerk: ADO;

APR 15-21, 1973, A WEEK IN REVIEW

WEEKLY ANALYSIS REPORT: 1

2

WEEK: APR 15-21, 1973 (24 HOURS/DAY) 3

4

TOTAL SYSTEM CPU: 26.894 5

6

(AEC) 6a

IDENT	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	
						6a1
						6a2
(STAFF)						6a3
(MFA)	.001	.107	.009	.004	111:1	6a3a
(DCE)	.443	21.529	.021	1.647	48:1	6a3b
(BAH)	1.198	37.602	.032	4.455	31:1	6a3c
(SRL)	.288	12.670	.023	1.071	43:1	6a3d
(JCN)	.232	4.207	.055	.863	18:1	6a3e
(DVN)	.376	11.421	.033	1.398	30:1	6a3f
(PR)	.120	5.381	.022	.446	45:1	6a3g
(RWW)	.081	2.747	.029	.301	34:1	6a3h
	-----	-----		-----		6a3i
(TOTAL)	2.739	95.664		10.185		6a3j
						6a3k
(PSO)						6a4
(KFB)	.145	10.798	.013	.539	77:1	6a4a
(MEJ)	.373	18.629	.020	1.387	50:1	6a4b

(KIRK)	.979	28.668	.034	3.640	29:1	6a4c
(LLL)	.168	8.028	.021	.625	48:1	6a4d
(NDM)	.978	21.826	.045	3.636	22:1	6a4e
	-----	-----		-----		6a4f
(TOTAL)	2.643	87.949		9.827		6a4g
						6a4h
(NIC)						6a5
(EJF)	.206	7.808	.026	.766	38:1	6a5a
(MLK)	.198	12.778	.015	.736	67:1	6a5b
(MDK)	.416	12.039	.035	1.547	29:1	6a5c
(JBN)	.704	32.514	.022	2.618	45:1	6a5d
	-----	-----		-----		6a5e
(TOTAL)	1.524	65.139		5.667		6a5f
						6a5g
(HARDWARE)						6a6
(MEH)	.131	4.535	.029	.487	34:1	6a6a
(JR)	.014	.239	.059	.052	17:1	6a6b
(EKV)	.010	3.542	.003	.037	333:1	6a6c
	-----	-----		-----		6a6d
(TOTAL)	.155	8.316		.576		6a6e
						6a6f
(TENEX)						6a7
(DIA)	.485	15.276	.032	1.803	31:1	6a7a
(KEV)	.796	16.876	.047	2.960	21:1	6a7b

(DCW)	.361	13.329	.027	1.342	37:1	6a7c
	-----	-----		-----		6a7d
(TOTAL)	1.642	45.481		6.105		6a7e
						6a7f
(NLS)						6a8
(WLB)	.257	9.329	.028	.956	36:1	6a8a
(CFD)	.772	19.985	.039	2.871	26:1	6a8b
(JDH)	.145	12.736	.011	.539	91:1	6a8c
(CHI)	.228	13.918	.016	.848	62:1	6a8d
(DSK)	.642	16.876	.038	2.387	26:1	6a8e
(HGL)	.296	9.388	.032	1.101	31:1	6a8f
(EKM)	.673	24.065	.028	2.502	36:1	6a8g
(JFV)	.082	2.646	.031	.305	32:1	6a8h
(JEW)	.163	6.597	.025	.606	40:1	6a8i
	-----	-----		-----		6a8j
(TOTAL)	3.258	115.540		12.115		6a8k

6a8l

6a9

HIGHEST CPU: JCP 1.848 hrs LOWEST CPU: xxx
0.000 hrs 6a10

HIGHEST CON: BAH 37.642 hrs LOWEST CON: xxx
0.000 hrs 6a11

HIGHEST CPU/CON: xxx 0.000 HIGHEST CON/CPU: xxx
00:1 6a12

(GROUP) TOTALS 6a13

GROUP CPU HRS CON HRS % SYS 6a13a

-----	-------	-------	-----	6a13b
(STAFF)	2.739	95.664	10.185	6a13c
(PSO)	2.643	87.949	9.827	6a13d
(NIC)	1.524	65.139	5.667	6a13e
(HARDWARE)	.155	8.316	.576	6a13f
(TENEX)	1.642	45.481	6.105	6a13g
(NLS)	3.258	115.540	12.115	6a13h
	-----	-------	------	6a13i
(TOT)	11.961	418.089	44.475	6a13j

6a14

(RADC) 6b

6b1

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	DIR	6b2
							6b3
BAIR	.749	34.471	.022	2.785	45:1	217	6b4
BERGSTRM	.229	10.899	.021	.851	48:1	73	6b5
BETHKE	.021	1.252	.017	.078	59:1	14	6b6
CAVANO	.030	1.676	.018	.112	56:1	80	6b7
IUORNO	.023	.704	.033	.086	30:1	28	6b8
KENNEDY	.150	9.072	.017	.558	59:1	40	6b9
LAMONICA	.252	13.857	.018	.937	56:1	61	6b10
LAWRENCE	.210	4.141	.051	.781	20:1	150	6b11
MCNAMARA	.106	6.115	.017	.394	59:1	121	6b12
RADC	.243	20.557	.012	.904	83:1	92	6b13

RZEPKA	.001	.030	.033	.004	30:1	73	6b14
SLIWA	.008	.238	.034	.030	29:1	38	6b15
STONE	.519	18.835	.028	1.930	36:1	221	6b16
	-----	------		-----		----	6b17
(TOTAL)	2.541	121.847		9.450		1208	6b18
(PER CENT TOTAL DISK CAPACITY)						2.48%	6b19

6b20
(XEROX) 6c

6c1

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	
						6c2
						6c3
(LPD)DEUTSCH	.112	3.573	.031	.416	32:1	6c4
(CMG)GESCHKE	.004	.411	.010	.015	100:1	6c5
(JGM)MITCHELL	.072	3.324	.022	.268	45:1	6c6
(EHS)SAT-WTE	.581	6.285	.092	2.160	11:1	6c7
(RES)SWEET	.613	12.239	.050	2.279	20:1	6c8
	-----	-----		-----		6c9
(TOTAL)	1.382	25.832		5.138		6c10

6c11
(NETUSERS) TOP FIVE 6d

6d1

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	
						6d2
						6d3
MITRE-TIP	.893	25.490	.035	3.320	29:1	6d4

UCLA-NMC	.814	37.796	.022	3.027	45:1	6d5
UCSB	.461	12.203	.038	1.714	26:1	6d6
NSRDC	.402	16.479	.024	1.495	42:1	6d7
BBN-TENEX	.232	13.607	.017	.863	59:1	6d8
REST OF NET	.537	23.626	.023	2.273	43:1	6d9
	-----	-----		-----		6d10
(TOTAL)	3.339	129.201		12.692		6d11
						6d12
(OVERHEAD)						6e
(JCP)	1.848	20.386	.091	6.871	11:1	6e1
CAT	1.876	11.324	.166	6.976	6:1	6e2
DOCUMENTATION	.921	3.495	.264	3.425	4:1	6e3
OPERATOR	1.278	9.382	.136	4.752	7:1	6e4
PRINTER	.260	15.202	.017	.967	59:1	6e5
SYSTEM	.553	3.654	.151	2.056	7:1	6e6
BACKGROUND	.588	22.344	.026	2.186	38:1	6e7
220100	1.379	58.294	.024	5.128	42:1	6e8
	-----	-----		-----		6e9
(TOTAL)	8.703	144.081		32.361		6e10

7

BAH 30-APR-73 20:01 16242

APR 15-21, 1973, A WEEK IN REVIEW

(J16242) 30-APR-73 20:01; Title: Author(s): Hardeman, Beauregard A. /BAH ; Sub-Collections: SRI-ARC; Clerk: BAH;

DVN 30-APR-73 09:06 16243

Test of RADC Ident.

I will call later in th week to ssee if this test worked.

Test of RADC Ident.

this is a test to see if RADC works as a group ident. 1

16243 Distribution
Rome Air Development Center (ISIM) ,

DVN 30-APR-73 09:06 16243

Test of RADC Ident.

(J16243) 30-APR-73 09:06; Title: Author(s): Van Nouhuys, Dirk H. /DVN; Distribution: /RADC; Sub-Collections: SRI-ARC RADC; Clerk: DVN;

Journal Plans and Operation, Editing Measurement.

Journal: 1

In general the man to talk about future journal plans is Jim White. (journal,15986) 1a

The target date for an initial version of Network-wide mail delivery is six weeks. 1b

As far as I can see RADC works as a group ident. I sent a test journal item 4/30. If anyone fails to get it, let me know. 1c

There is an awkward and an automated way to make hard copy available of the previous day's RADC journal messages. The awkward way is as follows: 1d

Each RADC user addresses his item to some pseudo ident, say PRINT, and the next morning some one executes the print journal command on the contents of the initial file PRINT. We will be glad to create the ident if you like. 1d1

A similar process could be automated internally to the journal, but it would be quite expensive in CPU time with the present journal system. Future user communities will need the service you describe and we will try to incorporate it in the journal redesign now going on. 1e

Beau Hardeman plans to start sending you indices of RADC journal items. First time out he will send you a full sample of what is available and ask for comment. You may not want all the options. 1f

To reply to your SNDMSSG, we try to update the catalogs about every two weeks. Before update the items may be found in (journal,tjcat,1:xbbrr) which may be search by content. 1g

In (MJournal, 16050, 1d) first line I assume by FTP you meant SEND MESSAGE. The @ is a feature of TENEX SNDMESSAGE. Since the TIP must be transparent when you are running an Imlac, @ should give you no trouble then. TNLS users do have to give a double @, and you're right, it is a drag. 1h

Measurement [replies to (mjournal,16203,)] 2

Jaque Valle has left ARC. The man in charge of the measuremnt program now is Paul Rech. I have brought your note to his attention. In general he found your comments interesting and

wants to help youmake measurements. He will get in touch with you. 2a

DVN 30-APR-73 15:23 16244

Journal Plans and Operation, Editing Measurement.

(J16244) 30-APR-73 15:23; Title: Author(s): Van Nouhuys, Dirk H. /DVN; Distribution: /DLS PR BAH SL SRL JCN EKM; Sub-Collections: RADC; Clerk: DVN;
Origin: <VANNOUHUYS>FORDUANE.NLS;2, 30-APR-73 15:20 DVN ;

JEW 30-APR-73 09:42 16246

Extending the Substitute Command to Lists of Files

This is a request to Dean Meyer for an addition to the newly-created NLS User Program Library

Extending the Substitute Command to Lists of Files

PROBLEM 1

Jake has the following problem with the Resource Notebook. 1a

There are times when it's necessary to do global edits over the whole RNB (a la the 'Substitute' command). The RNB is so large that it must be implemented as several (rather than one) TENEX files, and hence an explicit 'Substitute' is required for each file. It would be extremely helpful if this process could be automated. 1b

REQUEST 2

The following solution is proposed, and its implementaton as a user program (and addition to the newly-created program library) requested. 2a

Provide a user program -- which can be run in DNLS -- which is logically an extension of the current 'Substitute' command. It should accept as arguments from the user: 2b

(1) the character string whose occurences are to be replaced 2b1

(2) the string that is to replace them, and 2b2

(3) a bug to a branch in the currently loaded file. 2b3

The program assumes that each statement one level below the bugged statement and within that branch contains a link (to one of the files to be operated upon). The program takes each link in turn, and performs the requested Substitute operation on the branch (usually branch zero, i.e., the whole file) to which the link takes it. When the entire list of files has been processed, the program displays for the user the total number of substitutions made. 2c

JEW 30-APR-73 09:42 16246

Extending the Substitute Command to Lists of Files

(J16246) 30-APR-73 09:42; Title: Author(s): White, James E. (Jim) /JEW; Distribution: /ndm jake ; Sub-Collections: SRI-ARC; Clerk: JEW; Origin: <WHITE>NDMMSG.NLS;2, 30-APR-73 09:36 JEW ;

JHB 30-APR-73 14:14 16247

ICA DEMO & other things

Letter to J. Norton
Subject: AHI Demo at ICA Conference, Bell Canada Contact & Text Ed Comparison 1

Dear Jim:
The discussion of RADC's experiences went as programmed, followed by the demo. A number of people stayed on even though the demo was cutting into dinner time. There was a scheduling conflict that reduced attendence from what I expected: a board of directors business meeting discussing a very hot issue, the future of our Journal. 1a

Sorry to interupt your send mess. by linking to you but it was the only alternative...there were no other phones around and I was on my 4th go around to get the exec's attention. I'm glad you were there 1b

The difficulties of making international connections through a hotel switchboard not withstanding, I think Don Atkinson was favorably impressed. After the discussion and demo we talked at a cocktail party. I met some other Bell types (Bell Northern Research) who just happened to include an old acquaintance of mine, Paul Halely (U. of Pa...) Small world Don invited me over to his office on Fri. where I met Tony Ryan (?) and Mike Bedford. Mike ("supervisor-business planning") wants to come here to see our set up and further discuss our experiences. No problem if I can get Mac's approval -- he's a USA citizen so security is no hassle. They want copies of my AHI--Texted comparison, which may help them understand what AHI offers beyond things like their GCOS Text Editor. (Honeywell 635) 1c

My study is not complete -- I haven't been working on it for some time due to other priorities.... I contacted Peter Deutch -- I heard he was into this stuff-- and he responded with some interesting ideas, critique, etc. (mjournal,15645,). My study (bair,texted,) is not ready to be proofread, but please feel free to look at it for conceptual content if you wish. (Try to overlook those typos, there probably are multitudes of them...ha ha) 1d

I think I should collaborate with your people on Texted before it goes out; are Vallee, et. al. still involved, or do you suggest some others? 1e

Looking forward to your visit; how are things? 1f

Best regards, Jim 1f1

JHB 30-APR-73 14:14 16247

ICA DEMO & other things

(J16247) 30-APR-73 14:14; Title: Author(s): Bair, James H. /JHB;
Distribution: /JCN DLS LPD; Sub-Collections: RADC; Clerk: JHB;

How do you feel about a display protocol meeting at PARC Thursday afternoon? Like at 1 PM? Let me know if you can't make that. Thursday is the best day for me. 1

(J16248) 30-APR-73 22:16; Title: Author(s): Deutsch, L. Peter /LPD; Distribution: /CHI KEV; Sub-Collections: NIC; Clerk: LPD;

Jim--

Someone at ARC, apparently Elizabeth Michael, has been trying to use RJS here and has run into a problem. The problem being that the scenario about RJS that you wrote, which otherwise was excellent of course, had a lie in it. You said that one could create one's source file in NLS and do an Output Sequential to convert to sequential form. That command inserts unit separators (X'17') in between records, rather than CR-LF. I need to see CR-LF, and that is what the protocol says should be there. I thought you might like to straighten your user out. 1

You also lied, by the way, when you said that I would periodically retry to deliver output if I found the destination host down; that would be a reasonable assumption, by I don't. Regrettably, if the first time I try, I find you down, I give up and through away the output (sorry about that, Chief). When I re-write RJS in about 6-8 months, I may well fix that. 2

I got your memo about SMFS's directory command, and a call from Dave asking for it. All that I need to write that command is a way to open a dcb (input only) for the VTOC. I plan to look into it, and if that can be done, maybe either I or Ed will write the darn thing. Now that we have a real live user itching for it, it makes for somewhat better motivation than just us programmer types knowing that it would be a neat thing to have. 3

That's it for now -- take it easy.

-- Mark 4

(J16249) 30-APR-73 14:44; Title: Author(s): Krilanovich, Mark C. /MCK; Distribution: /JEW; Sub-Collections: NIC; Clerk: MCK; Origin: <UCSB>JEWTEST.NLS;2, 30-APR-73 14:22 MCK ;

Trip to Alderness

Walt, I think your second invitation to Alderness is quite hospitable. I would enjoy either of your alternatives (day-long picnic or weekend encampment -- although I think maybe I prefer the picnic). I vote for any weekend except May 26-8 and June 16-17. Marcia. 1

Trip to Alderness

(J16250) 30-APR-73 14:27; Title: Author(s): Keeney, Marcia Lynn /MLK; Distribution: /WLB; Sub-Collections: SRI-ARC; Clerk: MLK;

WLB 30-APR-73 09:27 16251

Acknowledgement of 16233 on Journal and Output Processor Development

Before any implementation in this area takes place, all interested parties will be notified of planned changes so that they will have another chance to express their wishes.

WLB 30-APR-73 09:27 16251

Acknowledgement of 16233 on Journal and Output Processor Development

Doug,
This message is to acknowledge that I have gotten your note on Journal Headers and print files. Your comments are very useful at this time, and I will coordinate with Dick what implementation steps to undertake in the near future. -- Walt 1

WLB 30-APR-73 09:27 16251

Acknowledgement of 16233 on Journal and Output Processor Development

(J16251) 30-APR-73 09:27; Title: Author(s): Bass, Walt /WLB; Distribution: /dce rww jcn dvn ndm mdk ; Sub-Collections: SRI-ARC; Clerk: WLB;

WLB 30-APR-73 10:20 16252

A Personal View of the Problem Environment for NLS Development

This is a short (4 printed pages) thinkpiece which I wrote for Dick about a month ago. Due to my current implementation and documentaton commitments I won't be able to follow up on most of the issues raised in this paper in the near future; therefore, I am offering it to anyone who is interested as food-for-thought, with no guarantee of its digestibility, expressed or implied. -- Walt

A Personal View of the Problem Environment for NLS Development

In this paper I will attempt to outline the problem environment in which I am working and indicate the directions in which I am moving in trying to understand this problem environment and generate a framework for future work. 1

My general approach is to look at ARC's development program as an integral part of a larger evolutionary process involving technical developments by many (currently) more or less disconnected R&D groups and emerging usage patterns by many problem-, goal-, or mission-oriented applications groups. 2

I am trying to reach a personal understanding of as much of the related development work as possible; hoping to find useful mappings between ARC terminology and methodology and those of other groups; looking for ways in which ARC can potentially interface to these other development "thrusts" in the future for mutual benefit; asking which elements of ARC's possible development programs offer the highest potential for unique contribution; etc. 2a

I am also trying to arrive at a good mental picture of the user communities which will be most likely to benefit from current and future ARC technology and methodology; seeking to characterize the common underlying elements of their work and to find principles which can be used to orient our development program towards augmenting these basic common activities. 2b

The methodology which I seem to be using is a hybrid between "top-down" and "bottom-up" strategies: I see a multitude of possible ways of building on what we now have (I.e. NLS) and a similar multitude of possible general approaches to defining user-oriented systems -- what I seek to do is to find a development path that will simultaneously give structure to subsequent elaboration of NLS while opening the doors for easy experimentation with a wide variety of user systems. 2c

It would be premature to choose a path which unduly restricted future developments -- which forces too narrow a definition of what a user system is or how interaction should take place. At the same time it is critical that we create and support certain basic elements of a design philosophy and methodology for a broad class of such systems so as to provide an environment in which user system research and development can flourish. 2c1

What I envision as being the next substantial development within the NLS framework is the creation of a true user-systems laboratory in which the design and testing of

really significant user systems can be done by "average" system developers in a time frame which makes it possible to inexpensively build special-purpose systems -- even single-user systems -- and to effectively explore many alternative strategies, features, and interaction modes for more general systems. 2c2

By "laboratory" I mean a system in which experimental development can take place -- with tools designed to make easy the exploration of the possible -- even if the resulting experimental systems have to be optimized and recoded to provide economical operational systems. [I would expect that there will soon be powerful tools for automatically performing such optimization and recoding, once the original design and testing has been done, and believe that we (ARC) should concentrate on building tools for aiding in the initial, formative stages of user-system development, with emphasis on the user/system interface, realizing that there are parallel developments taking place outside ARC that will complement our own work.] 2c3

An important specific aspect of my current approach is to look at the existing NLS as a monolithic system for (mostly) performing a single kind of interaction -- text-editing -- on a specific data base -- NLS structured text files -- and to ask myself what are the good elements of this system and how can they be generalized and made available in the form of tools and associated methodologies for implementing other user systems through extension of basic NLS. 3

The new NLS file system is a move in the direction of generalizing the kinds of information (data bases) which can be handled within the NLS environment. This generalized file system will be virtually useless without an equally powerful generalized command language -- and the command language must be generalized in a non-trivial way because the new file system will effectively destroy the simplicity which our current single-representation file system now possesses. 3a

If you consider the huge repertory of commands which NLS has just to allow editing of structured text and then realize that the new file system will permit the creation of arbitrary structures of mixed text, graphics, numbers, pointers, etc., you begin to realize that the repertory of reasonable, permissable commands for manipulating this more generalized data structure will be very large -- far larger, I would venture, than anyone would ever want to implement. 3a1

At the same time it is clear that the repertory of primitive operations (creation, deletion, replacement, modification, etc.) which forms the base on which to build all the potential commands is rather small -- but these operations are correspondingly rather useless themselves as user-system commands. 3a2

What we will need is a way of making it possible for the sophisticated user (or average user-system builder) to create his own subsystems with commands built up from system primitives to provide the specific higher-level operations that specific applications require. 3a3

This requires that the SAME tools which are available to NLS system programmers for defining commands (input, feedback, execution, backup (undoing)) be made available to applications programmers for defining extensions to the base NLS command repertory. It also requires (to promote collaborative system development) that such extended command repertories exist as modules in such a form that they can be easily transported, shared, and used as components of other subsystems. 3a3a

There needs to be a general methodology for moving from one such subsystem to another (at the user level) and for interfacing subsystems (at the programming level) such that users see a single, unified system environment and such that subsystems can communicate with each other so as to enable a cascading of capabilities. 3a3b

Or, looking at the problem from a different perspective: NLS is now (again basically) a system for allowing users to manipulate information in a single, fixed form -- structured text. I think that we should move in the direction of also allowing users to INTERACT WITH information with little concern for the actual details of its storage mechanisms. 3b

An elementary example of this kind of interaction is provided by our current Ident system in which users do not actually manipulate the Ident file but rather interact with a special-purpose subsystem which performs the actual accessing and modification of the Ident file. 3b1

I see the Ident system as being the archetype for a potentially large and valuable class of NLS subsystems, each consisting of a specially-structured data base (or class of data bases), a set of programs for interrogating,

portraying, and modifying this data base, and a user command language for operating these programs. 3b2

I believe that there is great benefit to be gained from attempting to provide a general set of tools for building this kind of subsystem both for integration into a general purpose on-line system (NLS) and for packaging as stand-alone special purpose systems. This goal has implications for decisions which must be made in regard to the architecture of basic NLS itself in that the existing text-manipulation features (as well as other existing subsytems) should be implemented in a modular way that makes them compatible with special-purpose subsystems that can either supplement or replace them. 3b3

Another basic assumption that is part of my "working set," although far less clear in its implications to the problems I am addressing, is that we have passed the day in which it is useful to think of NLS as a system for augmenting individuals and that future versions of NLS should be designed from top to bottom as systems for augmenting communities of collaborating users. 4

The area in which this seems to have the strongest implications (from my current viewpoint) is in the design of tools and methodologies for integrating the work of a community of collaborators. 4a

The object of this collaboration may be mostly ephemeral -- the exchange of communications with little interest in the past history of the dialog -- but is more likely to be oriented towards the creation of some kind of enduring product -- a new subsystem (or major system), a community handbook or encyclopedia, a resource data base, or whatever. 4b

The basic relevent problem (aside from the coordination of the dialog itself) lies in how to enable collaborators to build on each others work, partition a task into parallel sub-tasks, and integrate product efforts at more than a trivial level. 4c

For example, once a data-base interaction system has been set up, it is clear that many people can cooperate in using and adding to the data base; but how can a group collaborate in the initial design and implementation of the system, with individuals working on putting capabilities into the system that exibit a variety of mutual dependencies and conflicting requirements. 4c1

I mention this, not as a problem area in which I have grand

ideas for a solution, but as one which is active in my conciousness. 4c2

One final and very important principle which I have adopted (it relates in some subtle way to the assumption about collaboration) is that programming as we know it now will be an almost negligable part the the total system development process which NLS will be augmenting in a few years. 5

The environment which I envision is one in which only the very basic parts of a system -- the primitives as it were -- are ever thought of and provided as traditional programs and that most of the system development process is concerned with building descriptive data bases -- documentation (design, dialog, user guides), data-base description tables, command-language description tables, etc. These data bases will become increasingly free form and interactive as Automatic Programming becomes a reality, but even in early years we should see an increasing use of "table-driven" systems in which whole subsystems can be created through data-base manipulation rather than programming. 5a

I can begin to see the possibility for an essentially boot-strapping process to take place in which data bases are built up to describe elaborate data-base manipulation systems which are in turn used to build up even more sophisticated data-base driven interactive systems. As the bootstrapping progresses, users would be dealing less and less with data bases themselves and more with interactive systems for manipulating "hidden" data bases -- the interactive system itself consisting mainly of tables for driving some base system (which may itself be table driven . . .). 5b

This line of reasoning brings up some interesting questions in the area we call "Portrayal Generation:" in the current NLS environment, we are reasonabley comfortable with the parametric approach to portrayal generation provided by VIEWSPECS. However (even disregarding the fact that VIEWSPECS alone don't give us the full power we need for handling structured text), when we move into a realm of almost arbitrary data structures as provided in the new NLS file system, it is clear that there is no simple (comprehendable) way to parameterize the portrayal generation process, and we need to develop a new conceptual framework for portrayal generation. 5c

Similarly, although Output Processor directives have never been popular, they were bearable as long as we were living

in the simple line-printer/teletype world. Now with the additional flexibility and complications provided by multiple columns and fonts on Output Device COM -- even without the added complications of tables, line drawings, and half-tone graphics -- the embedded directive system of specifying hard-copy portrayals has been dealt the coup-de-grace as a satisfactory user system. 5c1

I have a few ideas on directions to take in the definition of a unified framework for portrayal generation, but they are too fuzzy to put forth yet. 5c2

WLB 30-APR-73 10:20 16252

A Personal View of the Problem Environment for NLS Development

(J16252) 30-APR-73 10:20; Title: Author(s): Bass, Walt /WLB;
Distribution: /dce rww jcn mdk chi cfd pr ; Sub-Collections:
SRI-ARC; Clerk: WLB;
Origin: <BASS>PLANS.NLS;2, 31-MAR-73 22:16 WLB ;