INTRODUCTION 1

IN ALMOST EVERY ASPECT OF MULTIACCESS COMPUTING, THERE IS AT SOME TIME A NEED TO INPUT A REASONABLE QUANTITY OF RAW TEXT TO FILE STORE. THIS IS TRUE NOT ONLY FOR INPUT OF NEW PROGRAMS, BUT ALSO FOR INPUT OF DATA, DOCUMENTATION AND EVEN INPUT OF REASONABLE LENGTH TECHNICAL MESSAGES TO COLLABORATORS. 1A

ONCE THIS INFORMATION HAS BEEN PROCESSED, THERE IS OFTEN A NEED TO TRANSMIT THE NEW TEXT TO THE TERMINAL. THE REASON FOR THIS MAY SIMPLY BE FOR VIEWING, FOR PREPARATION OF PRINTING PLATES, OR, WHERE PAPER OR CASSETTE TAPE EXIST, FOR ARCHIVAL PURPOSES. 1B

WITH THE ADVENT OF MODERN HIGH SPEED TERMINALS SUCH AS THE GE TERMINET, THE USE OF SUCH TERMINALS FOR A VARIETY OF OFFICE AND DOCUMENTATION PURPOSES HAS BECOME REALITY. NOT ONLY DO SUCH DEVICES HAVE HIGH SPEED OUTPUT AND UPPER AND LOWER CASE CHARACTERS, BUT THE QUALITY OF THE OUTPUT IS SUITABLE FOR CERTAIN CLASSES OF DOCUMENTATION VIA OFFSET LITHO MASTERS, AND THE CASSETTE FACILITY ALLOWS THE TEXT TO BE ARCHIVED FOR LATER MODIFICATION SHOULD THIS BE NECESSARY. 1C

FOR INPUT, SUCH TERMINALS ARE EVERY BIT AS VERSATILE AS PAPER TAPE, WITH ONLY ONE EXCEPTION. THE CASSETTE TAPES HOLD WELL ABOVE 40,000 CHARACTERS, IE. APPROXIMATELY HALF A FULL REEL OF PAPER TAPE. LOCAL EDITING OF CASSETTE TAPE IS POSSIBLE WHILST THE DATA IS BEING TYPED, BUT ERRORS GENERALLY CANNOT BE CORRECTED ON A SECOND PASS (AS THEY CAN WITH PAPER TAPE) UNLESS DUAL CASSETTE DRIVES ARE FITTED TO THE TERMINAL. IN FACT, PROVIDED THE CORRECTION INVOLVES LESS CHARACTERS TO BE CHANGED THAN THE ORIGINAL ERRONEOUS TEXT, IT IS POSSIBLE TO CORRECT A TAPE WITH ONLY ONE CASSETTE DRIVE. 1D

WITH PURELY OFF-LINE PREPARATION AND MODIFICATION OF DOCUMENTS IT WOULD BE NECESSARY TO HAVE TWO CASSETTE UNITS. WITH THE AID OF A COMPUTER AND FILE STORE THIS RESTRICTION CAN BE OVERCOME, AND THE SYSTEM DESCRIBED BELOW PROVIDES AN EASY MEANS OF PREPARING TEXT OFF-LINE READY FOR USE ON-LINE, WITHOUT THE NEED TO BE ADEPT IN THE USE OF SPECIAL BUTTONS ON THE TAPE DRIVE. IN FACT, SINCE MUCH EDITING CAN BE DONE BY MEANS OF SHORT COMMANDS TYPED ALONG WITH THE MAIN TEXT, ALMOST PERFECT COPY CAN BE PRODUCED WITHOUT THE TYPISTS HANDS EVER LEAVING THE KEYBOARD. THE METHOD USED IS IN SOME RESPECTS SIMILAR TO THE DEX SYSTEM IN NLS, BUT IS SIMPLER, AND I MAINTAIN, MORE CONSISTENT. 1E

THE SYSTEM ALSO PROVIDES CRUDE ARCHIVAL FACILITIES, AT

PRESENT, AND PROPOSALS ARE PUT FORWARD FOR IMPROVEMENTS. FINALLY, THE NEED TO PREPARE "PAGED" OUTPUT FOR OFFSET LITHO MASTERS IS ALSO RECOGNISED AND THE PROGRAM WILL SUITABLY FORMAT TEXT FOR EITHER 11" OR 15" FORMS. 1F

EMPHASIS THROUGHOUT THE WHOLE PACKAGE IS PLACED ON STRAIGHTFORWARD USE BY NOVICE STAFF. IN AN ATTEMPT TO PROVE THE SIMPLICITY OF THE EDITING COMMANDS, THEY WERE TAUGHT TO ONE SECRETARY IN TEN MINUTES, AND THEREAFTER IN OVER 15000 CHARACTERS TYPED THEY WERE USED WITH 95% CORRECTNESS. A SECOND SECRETARY BEING TAUGHT FOR THE SAME TIME, TYPED A FOUR PAGE DRAFT WITH ONLY TWO MISUSES OF THE EDITING COMMANDS. 1G

THE REMAINDER OF THIS DOCUMENT DEALS WITH THE INPUT (PREPARATION) OF FILES, OUTPUT FOR PRINTING AND ARCHIVAL, SPEED CONSIDERATIONS IN THE TERMINET/ARPANET ENVIRONMENT, AND A CRITIQUE OF THE SYSTEM AT PRESENT. AN APPENDIX COMMENTS ON THE ARCHITECTURE OF THE TERMINET. 1H

FILE INPUT 2

GENERAL 2A

IN DEALING WITH INPUT TO COMPUTER FILE, THERE ARE AT LEAST TWO FORMATS IN WHICH INFORMATION OF A TEXTUAL NATURE MAY BE STORED, NAMELY AN "IMAGE" COPY FOR PROGRAM AND DATA INPUT, AND A "LINE FILL" FORMAT FOR DOCUMENTATION. A FURTHER FORMAT IS APPLICABLE TO TENEX USE FOR SPECIFIC PROCESSING, AND THAT IS TO PUT A BLOCK OF TEXT INTO A FILE AS A SINGLE TENEX "LINE". THESE THREE FORMATS ARE DEALT WITH VERY SIMILARLY AT DATA PREPARATION LEVEL, AND IN FACT THE EDITING COMMANDS WORK IN EXACTLY THE SAME WAY FOR ALL FORMS. 2A1

SINCE POSITIONING ON THE TAPE IS RELATIVELY CRUDE, IT WAS ORIGINALLY INTENDED TO PUT A FILE NAME AT THE BEGINNING OF A TAPE FILE AND VERIFY THIS AGAINST A NAME TYPED IN BY THE USER. THIS WAS LATER CONSIDERED TO BE CLUMSY, AND THE APPROACH NOW TAKEN IS TO PUT THE FILENAME AS THE FIRST WORD OF THE FIRST LINE ON THE TAPE, AND TO TYPE THIS OUT AS VERIFICATION WHEN THE TAPE IS READ. THE REMAINDER OF THE FIRST LINE AFTER THE FILENAME IS IGNORED, AND CAN BE USED FOR COMMENTS. 2A2

ON A TENEX, THE CONVENTIONAL SYMBOL FOR END-OF-FILE ON A TERMINAL IS CONTROL-Z. THIS ACTS AS A LOCAL CASSETTE TAPE BACKSPACE CODE ON THE TAPE, SO THAT THE SYMBOL "^ZZ" OR "^ZZ" ON A LINE BY ITSELF IS TAKEN AS THE END-OF-FILE.

LIKE DEX, IN THIS RESPECT, I FEEL THAT CONTROL AND INVISIBLE CHARACTERS SHOULD BE AVOIDED AS FAR AS ABSOLUTELY POSSIBLE, TO THE EXTENT THAT IF THE FILE LOOKS CORRECT ON PAPER AFTER DEALING WITH EDITING COMMANDS, THEN THERE CAN BE NOTHING WRONG WITH IT. 2A3

THUS A FILE CALLED FILENAME.EXT COULD BE TYPED UP AS: 2A4

```
FILENAME.EXT ANY OLD JUNK OR NOTHING

   MAIN BODY OF FILE

^ZZ
```

EDITING 2B

ALTHOUGH THERE ARE THREE CONVERSION FORMATS FROM TAPE TO FILE, ALL THE EDITING COMMANDS ACT UNIFORMLY ON THE TAPE IMAGE WITH ONLY ONE EXCEPTION. ON INPUT, TEXT IS DIVIDED UP INTO CHUNKS WHICH WE SHALL CALL PARAGRAPHS. FOR PROGRAM INPUT, (COPY EXACT FORMAT), A PARAGRAPH IS THE SAME AS A LINE, BUT FOR DOCUMENT INPUT EACH PARAGRAPH IS DELIMITED BY A DOUBLE NEWLINE. THE IMPORTANCE OF THE PARAGRAPH IS TWOFOLD, FIRST THAT PARAGRAPHS ARE LIMITED IN THE PRESENT IMPLEMENTATION TO 2000 CHARACTERS, AND SECONDLY EDITING ON INPUT IS LIMITED TO INTRA PARAGRAPH EDITING. THIS PREVENTS CONFUSED USE OF THE COMMANDS FROM WREAKING TOO MUCH HAVOC. 2B1

THREE EDITING COMMANDS EXIST AND EACH ARE PRECEDED BY THE UP-ARROW CHARACTER. HERE IS THE REAL DIVERGENCE FROM DEX, IN THAT A VARIETY OF SYMBOLS ARE USED FOR EDITING IN DEX, WHICH AT TIMES RESULTS IN CONFUSION OVER THE USE OF ESCAPES, IE. USING THE CHARACTERS AS THEMSELVES. WITH CASSET, THE THREE EDITING COMMANDS ARE DELETE CHARACTER, DELETE WORD, AND DELETE LINE, REPRESENTED BY ^DC, ^DW, AND ^DL RESPECTIVELY. ANY OTHER COMBINATION OF UP-ARROW AND CHARACTERS EXCEPT ^ZZ AT THE BEGINNING OF A LINE ARE LEFT INTACT, IE. UP-ARROW IS ONLY TREATED AS AN ESCAPE IN FOUR CASES. SHOULD IT BE NECESSARY TO INPUT ONE OF THESE COMBINATIONS, THEN ^^DC, ^^DW, ^^DL AND NEWLINE ^^ZZ WILL PERFORM THIS FUNCTION. 2B2

THE DELETE CHARACTER FUNCTION IS PERFORMED BY ^DC AND THIS WORKS ON ANY CHARACTER; SPACE, TAB AND NEWLINE ARE ALL TREATED AS SINGLE CHARACTERS. NOTE THAT ON INPUT, ALL CONTROL CHARACTERS ARE LOST, EXCEPT TAB AND LINEFEED (NEWLINE). CHARACTERS MAY BE DELETED RIGHT BACK TO THE BEGINNING OF THE CURRENT PARAGRAPH. SINCE EDITING IS DONE

SEQUENTIALLY FROM THE BEGINNING OF THE TEXT, IT IS NOT POSSIBLE TO CORRECT EDITING COMMANDS USING OTHER EDITING COMMANDS. THIS SORT OF FACILTITY EXISTS IN DEX BUT IS DIFFICULT TO COMPREHEND, AND I FEEL THAT IT WOULD THOROUGHLY CONFUSE SECRETARIES, OR NEVER BE USED BY THEM. 2B3

AN EXAMPLE MAY HELP: 2B4

```
THA^DCE DUK
^DCE AND DUCHESS WERE^DC^DCNT TO
SEE A^CD^DC^DC^DC^DCTHE KING.
```

WOULD BE INTERPRETED AS 2B5

```
THE DUKE AND DUCHESS WENT TO SEE THE KING.
```

NOTE THAT ^CD IS TREATED AS THREE CHARACTERS, AND SEQUENTIAL DELETES APPLY TO SUCCESSIVELY EARLIER CHARACTERS. 2B6

TO DELETE A WORD THE SEQUENCE ^DW IS USED. THIS COMMAND WAS ORIGINALLY DEFINED TO DELETE CHARACTERS UNTIL A WORD END WAS ENCOUNTERED. THIS MEANT THAT ON SOME OCCASIONS ONLY SPACES, TABS OR NEWLINES WERE DELETED. WHILST BEING EMINENTLY LOGICAL, DELETING NULL WORDS IS NOT SENSIBLE TO THE SECRETARY, AND THE DEFINITION HAS BEEN CHANGED SO THAT AT LEAST ONE REAL WORD IS DELETED BESIDES DELIMITERS. NOTE THAT THE DEFINITION OF A WORD IS VERY LOOSE, IE. A WORD IN THIS CONTEXT IS ANY SEQUENCE OF VISIBLE CHARACTERS. 2B7

AN EXAMPLE USING ^DW WOULD BE: 2B8

```
ONCE UPON THE ^DW A BRIDGE
OVER^DW^DW TIM THERE^DWE THERE LIVED ...
```

WOULD BE INTERPRETED AS: 2B9

```
ONCE UPON A TIME THERE LIVED ...
```

NOTE THAT SINCE THE DELIMITERS FOLLOWING A WORD ARE DELETED, THEN THESE MUST BE REINSERTED BEFORE THE NEW WORD. ALSO, THIS COMMAND IS AS VALUABLE FOR PROGRAM INPUT AS IT IS FOR NORMAL TEXT INPUT. 2B10

THE DELETE LINE COMMAND IS CONSISTENT WITH THE DELETE WORD COMMAND TO THE EXTENT THAT IT DELETES BACK TO THE LAST VISIBLE CHARACTER ON THE PREVIOUS LINE FOR TEXT INPUT, ALTHOUGH IT ONLY DELETES THE CURRENT LINE FOR PROGRAM

INPUT, IE. IT DOES NOT DELETE BACK BEYOND THE BEGINNIG OF A PARAGRAPH. FOR TEXT INPUT IT IS POSSIBLE TO DELETE SEVERAL LINES, BY REPEATED ^DL COMMANDS. AS WITH THE OTHER COMMANDS, THE LETTERS INDICATING DELETE CHARACTER, WORD OR LINE MAY BE IN EITHER UPPER OR LOWER CASE. 2B11

EXAMPLE: 2B12

```
^DL THAT WILL HAVE
DONE NOTHING AT ALL
BUT THE NEXT ^DL^DL LEFT JUST SEVEN WORDS
```

WOULD RESULT IN: 2B13

```
THAT WILL HAVE LEFT JUST SEVEN WORDS
```

PROVIDED THAT THE TAPE WAS READ AS TEXT. IF IT HAD BEEN READ IN AS PROGRAM, THE RESULT WOULD BE: 2B14

```
THAT WILL HAVE
DONE NOTHING AT ALL
LEFT JUST
SEVEN WORDS
```

FINALLY, LET US JUST LOOK AT A COMPLETE INPUT FILE AS IT WOULD BE TYPED ON THE CASSETTE TAPE. 2B15

```
TEXT.TXT   SHORT DOCUMENT
IT SHOULD ALSO^DW BE NOTED
THAT THE PROGRAM CAN BE USED
FOR INPUT OF PAPER TAPE.^DCS.

FOR TERMINALS WITH AUTOMATIC CONTROL
OF THE TAPE READER AND PUNCH, THE
PROGRAM WILL FUNCTION AUTOMATICALLY.
^ZZ
```

IGNORABLE CHARACTERS 2C

IN ORDER TO MINIMISE THE NUMBER OF ACCIDENTAL ERRORS AND TO REMAIN CONSISTENT WITH THE DICTUM "IF IT LOOKS CORRECT, IT IS CORRECT", ALL CONTROL CHARACTERS EXCEPT NEWLINE AND TAB ARE IGNORED ON INPUT, AS ARE NULL AND DELETE. 2C1

THE ONLY REMAINING PROBLEM WITH REGARD TO USING THE PROGRAM ON ARPANET VIA A TIP IS THE USE OF THE COMMERCIAL AT SYMBOL. AS IS THE NORMAL CASE FOR TIP WORKING, IF ONE 'AT' IS NEEDED THEN TWO MUST BE TYPED. HOWEVER, THE PROBLEM

COMES IF A TYPIST ACCIDENTALLY TYPES THE CHARACTER. IF IT IS NOTICED IMMEDIATELY, THEN ANOTHER SHOULD BE TYPED AND ^DC USED TO DELETE IT; IF NOT, THE OFFENDING CHARACTER HAS TO BE MANUALLY EDITED FROM THE TAPE USING THE SINGLE STEP CONTROLS ON THE TAPE UNIT. 2C2

FILE OUTPUT 3

GENERAL 3A

THE EMBRYO OF THIS PROGRAM WAS A TECO MACRO TO PROVIDE PAGINATION FOR DOCUMENTATION SO THAT THEY COULD BE PUT ON OFFSET MASTERS VIA THE TERMINET. UNFORTUNATELY, TECO CANNOT SEND CONTROL CHARACTERS TO A TERMINAL, SO THAT RECORDING ONTO CASSETTE TAPE WAS SOMEWHAT MESSY USING THIS APPROACH. EVENTUALLY THE NEED GREW INTO A PROGRAM. 3A1

WE HAVE FOUND THAT MUSIC CASSETTES ARE ADMIRABLE FOR STORING DATA, AND AT A COST OF 50P PER 40000 CHARACTERS THEY ARE CERTAINLY COMPARABLE WITH CARTRIDGE DISC IN TERMS OF COST PER BYTE. OBVIOUSLY FOR RAPID ACCESS THEY ARE RELATIVELY POOR, BUT THEY DO PROVIDE ACCESS TO INFORMATION WITHIN MINUTES, EVEN WHEN HOST COMPUTERS ARE DEAD, WHICH EVEN THE BEST ON-LINE ARCHIVAL SYSTEMS CANNOT DO. THUS, THE USE OF THESE TAPES FOR ARCHIVE PURPOSES WAS ALSO CONSIDERED VITAL. 3A2

PRINT FILES 3B

IN PRODUCING PRINT FILES TO TAPE, NO TRANFORMATION IS DONE ON THE ORIGINAL FILE EXCEPT IN CONVERTING FORMFEEDS TO NEWLINES, OR INSERTING FORMFEEDS AT INTERVALS OF 63 LINES. TWO SIZES OF PAPER ARE CATERED FOR, BEING 11" PAPER FOR NORMAL USE AND 15" SPROCKET FED OFFSET MASTERS. THE DIFFERENCE IN OUTPUT FORMAT IS ONLY IN THE NUMBER OF LINES OUTPUT AT THE END OF EACH PAGE. 3B1

ARCHIVE FILES 3C

ONLY MINOR TRANSFORMATIONS ARE MADE TO FILES AS THEY ARE ARCHIVED. THESE CHANGES ARE ONLY SUFFICIENT TO ENSURE THAT THE FILE CAN BE RE-READ INTO THE MACHINE CORRECTLY IF EVER NEEDED. TO THIS END, WHEN AN 'AT' IS ENCOUNTERED IN THE FILE IT IS DOUBLED UP BEFORE OUTPUT TO CASSETTE. IN THE CONTEXT OF TIPS THIS IS NECESSARY; IT MAY NOT BE FOR LOCAL HOST USERS. FURTHERMORE, THE TERMINAL WIDTH IS SET TO INFINITY SO THAT LONG LINES ARE NOT WRAPPED AROUND, WHICH WOULD MAKE THE FILES UNREADABLE WITHOUT CONSIDERABLE

EDITING. FINALLY, THE CASSETTE UTILITY PROGRAM IS PUT INTO A REFUSE LINKS STATE TO ENSURE THAT ANOTHER USER LINKING IN DOES NOT CORRUPT THE DATA GOING TO TAPE. 3C1

BEFORE A FILE IS ARCHIVED TO TAPE, A HEADER CONSISTING OF ITS NAME AND THE CURRENT TIME AND DATE ARE OUTPUT. AT THE END OF FILE A NEWLINE AND ^ZZ ARE OUTPUT, TOGETHER WITH ANY CHARACTERS NECESSARY TO CONTROL THE TAPE UNIT. 3C2

SPEED CONSIDERATIONS 4

GENERAL 4A

TRANSMISSION RATES FOR USING THE CASSETTE UNIT ON-LINE ARE IMPORTANT IN TWO WAYS. FIRSTLY, IN TRANSMITTING TO AN ARPANET SITE VIA THE TIP, ONE HAS PROBLEMS OF BUFFER SIZE LIMITS, SINCE THE CASSETTE UNIT IS A FREE RUNNING DEVICE. SECONDLY, ON OUTPUT THE TERMINET HAS TWO FORMATS FOR RECORDING, AND THE FORMAT WHICH WE AT UCL USE FOR 1200 BAUD IS VERY WASTEFUL OF TAPE IF USED WITH INFORMATION COMING IN BURSTS. IN ORDER TO MAKE THE USER AWARE OF THE FACTORS INVOLVED, HE IS ASKED TO INDICATE THE SPEED AT WHICH HE IS USING THE TERMINET, WHEN HE ENTERS THE CASSETTE TAPE UTILITY. AT PRESENT NO MORE IS DONE THAN THAN TO INDICATE THE PROBLEMS THAT MAY BE ENCOUNTERED. 4A1

TIP PROBLEMS 4B

ALTHOUGH BBN DO NOT GUARANTEE FREE RUNNING INPUT TO A TIP AT ANY SPEED, WE HAVE ONE PORT WITH AN INPUT BUFFER SIZE OF 442 WORDS ON WHICH WE HAVE NO PROBLEMS WITH FREE RUNNING INPUT AT 110 BAUD. ON THIS PORT WE GENERALLY HAVE GOOD RESULTS AT 300 BAUD, PROVIDED THAT THE UK-US LINK IS NOT HEAVILY LOADED, IE. A PRINT JOB TO THE ODEC IS NOT RUNNING SIMULTANEOUSLY. HENCE, WHEN THE ANSWER TO THE SPEED QUESTION IS GIVEN AS 300 OR 1200 BAUD A WARNING MESSAGE IS OUTPUT. IF THE CORRECT SPEED IS NOT SELECTED THIS IS A GOOD POINT TO CHANGE SPEED. (@D R 373 FOR 300 BAUD, @D R 178 FOR 110 BAUD.) 4B1

FOR OUTPUT THERE ARE NO PROBLEMS PROVIDING THAT EXTRA PADDING (@D C E) AND TERMINAL TYPE TERMINET (TERM TERM ON A TENEX) ARE USED. IF THESE ARE NOT USED, THEN ALMOST CERTAINLY THE FIRST CHARACTER OF EVERY LINE SENT TO CASSETTE WILL BE LOST. 4B2

TERMINET PROBLEMS 4C

FOR CASSETTE TAPE, 1200 BAUD OUTPUT IS UNDESIRABLE, SINCE ON ONE OF THE 1200 BAUD BOARDS WHICH GE SUPPLY A "WAKE-UP" CHARACTER IS NEEDED FOR EACH BURST OF DATA. IN THE ARPANET ENVIRONMENT, PAUSES ARE INDUCED BY NET DELAYS AND SUCH WAKE-UP CHARACTERS WOULD NEED TO BE ADDED BY THE TIP, AND CAN NEVER BE PUT ON BY THE REMOTE HOST. 4C1

THE SECOND FORM OF BOARD PROVIDED IS THE ONE WHICH WE GENERALLY USE, AND THIS KEEPS THE TAPE MOVING ONCE WRITE MODE IS ENGAGED. THIS HAS A NUMBER OF DISADVANTAGES, BUT IS BETTER THAN THE OTHER BOARD. ON-LINE, NET PAUSES CAUSE A LARGE WASTAGE OF TAPE, AND BLANK TAPE LOOKS IN MOST RESPECTS LIKE INTERBLOCK GAPS. THUS, "BLOCK REWIND" WITH SUCH A FORMAT REWINDS AT BEST A FEW LINES OF THE TAPE FILE. 4C2

THE GREATEST DISADVANTAGE OF THE 1200 BAUD BOARD IS THAT IF ACCIDENTALLY SET TO 1200 BAUD AND WRITE WHILE EDITING TAPE MANUALLY, (IN WAYS NOT SPECIFIED HERE), THEN RATHER THAN OVERWRITING ONE CHARACTER, A LARGE AMOUNT OF DATA MAY BE ERASED. THUS, 1200 BAUD WORKING IS ONLY VALUABLE OFF-LINE FOR RAPID PLAYBACK OF CASSETTES. 4C3

ON-LINE USE OF THE PROGRAM 5

GENERAL 5A

JUST AS THE OFF-LINE EDITING COMMANDS AND FORMATS ARE KEPT SIMPLE TO AVOID CONFUSION, SO THE ON-LINE SYSTEM IS HELPFUL AND INFORMATIVE WHERE NECESSARY, AND 'HOUSE-TRAINED' TO THE EXTENT OF AVOIDING UNNECESSARY PRINTOUT WHILE TAPE IS BEING READ FROM OR WRITTEN TO CASSETTE. THUS, WHENEVER A COMMAND IS REQUESTED FROM THE USER, THE RESPONSE OF '?' WILL ELICIT THE POSSIBLE REPLIES. IN FACT, ONLY THE FIRST LETTER OF THESE REPLIES IS NEEDED, THE REMAINDER IS AUTOMATICALLY FILLED OUT. THE ONLY EXCEPTION TO THIS IS WHEN THE LINE WIDTH IS REQUESTED, TEXT IS BEING READ IN IN "FILL LINE" MODE, BUT AT THIS POINT I HOPE, IT IS OBVIOUS THAT A NUMBER IS REQUIRED. 5A1

WHILE THE TAPE IS BEING READ, ECHOING IS INHIBITED WHICH SAVES PAPER ON THE TERMINAL. THE MOTOR IS NOT TURNED OFF IN THIS INSTANCE, AS IF INPUT IS VIA A TIP, AN OVERFLOWED TIP BUFFER IS HERALDED BY THE BELL RINGING. THIS DOES NOT SOUND IF THE MOTOR IS OFF. BEWARE: SINCE THE KEYBOARD AND THE CASSETTE UNIT ARE IN PARALLEL, TYPE-AHEAD MUST NOT BE USED AT THIS POINT OR THE KEYBOARD INPUT WILL BE MERGED WITH THE TEXT INPUT. 5A2

APART FROM POSITIONING THE TAPE APPROPRIATELY BEFORE WRITING A PRINT OR ARCHIVE FILE TO TAPE, THERE ARE FEW PROBLEMS WITH OUTPUT. WHEN THE TAPE STARTS UP THE PRINT MOTOR IS TURNED OFF RESULTING IN A DEAFENING SILENCE UNTIL THE RECORDING IS FINISHED. ONE OF THE PROBLEMS WHICH OCCURS IS THAT THE AMOUNT OF TAPE LEFT ON A CASSETTE IS A MATTER OF GUESSWORK, AND A LAW STATES THAT "IF THERE APPEARS TO BE JUST ENOUGH TAPE, THERE WILL IN FACT BE INSUFFICIENT BY ABOUT 40 LINES". THE OTHER PROBLEM IS MORE DIFFICULT. SINCE THE PRINT MOTOR IS OFF DURING OUTPUT, THERE IS NO HOST DEAD, NET TROUBLE ETC, INDICATION SHOULD THESE EVER OCCUR. FURTHERMORE, MESSAGES SUCH AS TIP GOING DOWN WILL BE RECORDED AND CORRUPT THE FILE BEING ARCHIVED, THIS SHOULD RARELY OCCUR, AND I FEEL THAT THE BENEFITS ARE WELL WORTH THE RISK. 5A3

SCENARIO 5B

```
 TENEX 1,31,63, ARC EXEC 1,51,24
@LOGI UK-ICS
IDENT=  JOB 11 ON TTY50 29-MAR-74 00:52
TENEX WILL GO DOWN SUN 3-31-74 2000 TIL MON 4-1-74 0300
@CASSET

CASSETTE TAPE UTILITY (27 MAR 74)

WHAT RATE IS TERMINET SET TO? ?

ONE OF THE FOLLOWING:
A - 110 BAUD
B - 300 BAUD
C - 1200 BAUD

B - 300 BAUD [CONFIRM]

YOU MAY HAVE TROUBLE WITH INPUT

WHICH FUNCTION? ?

ONE OF THE FOLLOWING:
FILE TO TAPE
PRINTFILE TO TAPE
QUIT
READ FILE FROM TAPE

READ FILE FROM TAPE [CONFIRM]
FORMAT: ?
```

```
ONE OF THE FOLLOWING:
COPY EXACT
FILL LINES
LINE PER PARA

FILL LINES [CONFIRM]
LINE LENGTH: 60

INPUT COMPLETE


WHICH FUNCTION? FILE TO TAPE [CONFIRM]

INPUT FILE: TEST.TXT;2

OUTPUT COMPLETE


WHICH FUNCTION? QUIT [CONFIRM]

FINISHED
@LOGO
TERMINATED JOB 11, USER UK-ICS, ACCT 3, TTY 50, AT  3/29/74
0100
USED 0:0:17 IN 0:8:9
```

AVAILABILITY 6

THE PROGRAM IS AVAILABLE AS: 6A

```
<UK-ICS>CASSET.SAV AT ARC OR
<KIRSTEIN>CASSET.SAV AT BBN
```

THE SOURCE BCPL VERSION IS AVAILABLE AS: 6B

```
<KIRSTEIN>CASSET.BCP AT BBN
```

AND USES THE FOLLOWING LIBRARY ROUTINES: 6C

```
<KIRSTEIN>LIB1.BCP FOR READING USER REPLIES, AND
<KIRSTEIN>LIB3.BCP FOR EDITING AND INPUTTING TAPES
```

CRITIQUE 7

WHILE WRITING THIS NOTE IT WAS REALISED THAT INPUT OF LITERAL NEWLINES IN TEXT WOULD CATER FOR THE MAJORITY OF CASES NOT ALREADY DEALT WITH FOR INPUT OF NORMAL TEXT. THUS THE PROGRAM HAS BEEN EXTENDED TO HONOUR ANY NEWLINE WHICH IS FOLLOWED BY

AT LEAST ONE SPACE OR TAB, USING DIRECTIVES IN THIS CONTEXT WAS REJECTED AS THIS WOULD IMMEDIATELY MAKE THE SYSTEM TWO-PASS. 7A

USING TAPES FOR ARCHIVING PRESENTS ONE SERIOUS PROBLEM, WHICH IS THAT OF KNOWING IN ADVANCE WHETHER THE TAPE WILL HOLD THE INTENDED FILE. IT IS PROPOSED TO OVERCOME THIS PROBLEM BY WRITING AN END-OF-TAPE MARKER AFTER WRITING EACH FILE. THIS MARKER WOULD CONTAIN THE NAME OF THE TAPE, AND THE ESTIMATED SPACE LEFT ON THE TAPE. BY CHECKING THE FILE LENGTH AGAINST THIS, THE FILE COULD THEN BE SAFELY WRITTEN OR A WARNING MESSAGE ISSUED. 7B

SUCH A PHILOSOPHY WOULD INVOLVE THE WRITING OF A CALIBRATION PROGRAM TO FIND THE STORAGE CAPACITY OF TYPICAL CASSETTES, AND AN INITIALISATION ROUTINE TO PUT APPROPRIATE LABELS ON A NEW TAPE. ADOPTION OF THIS WOULD ALSO MEAN THAT CASSETTE AND PAPER TAPES WOULD HAVE TO BE DEALT WITH DIFFERENTLY, SINCE CASSETTE TAPE CAN BE BACKED UP AND OVERWRITTEN. 7C

FINALLY, IF SUCH A SYSTEM IS USED EXTENSIVELY FOR DOCUMENT PREPARATION AND ARCHIVAL IN AN OFFICE ENVIRONMENT, A MORE COORDINATED METHOD OF PRODUCING AN INDEX OF THE TAPES MUST BE USED, RATHER THAN THE MANUAL INDEX CARD METHOD. IT IS FOR THIS REASON THAT THE TAPE NAME IS INCLUDED IN THE END-OF-TAPE MARKER FORMAT PROPOSED. EACH TIME A FILE IS ARCHIVED IT IS ENVISAGED THAT A TAPE INDEX FILE IN THE HOST TENEX WOULD BE UPDATED WITH THE FILENAME, VERSION, TIME AND DATE, SIZE, TAPE NAME, SITE NAME AND BRIEF COMMENTS. OBVIOUSLY, THIS BRINGS BACK SOME DEPENDENCE ON HOST COMPUTERS, AND ALSO NEEDS SOME RSEXEC-LIKE FUNCTIONS TO MERGE SUCH INDECES BETWEEN A NUMBER OF SITES. 7D

THESE IDEAS ARE CURRENTLY BEING WORKED ON AND A NEW VERSION OF THE PROGRAM MAY APPEAR IN DUE COURSE. 7E

APPENDIX 1

COMMENTS ON THE GE TERMINET

8

UNFORTUNATELY, WHEN MAKING COMMENTS ABOUT PARTICULAR PIECES OF HARDWARE, ONE FINDS THAT THE COMMENTS ARE CRITICAL RATHER THAN LAUDATORY. TO OFFSET THIS TENDENCEY, LET ME FIRST SAY THAT THE TERMINET IS THE BEST ALL-ROUND HARDCOPY TERMINAL THAT I HAVE EVER USED. IT COMBINES MEDIUM SPEED OPERATION WITH GOOD QUALITY OUTPUT, AND WITH THE CASSETTE UNIT PROVIDES A VERY USEFUL ON-LINE AND OFF-LINE DEVICE. 8A

THE ADVERSE COMMENTS PRESENTED BELOW REALLY COME FROM HAVING A GOOD DEVICE AND WISHING THAT IT WERE EVEN BETTER. 8B

AS IT STANDS, THE TERMINET WILL PRODUCE REASONABLE QUALITY OFFSET LITHO MASTERS PROVIDED THAT A NEW RIBBON IS USED AND CARE IS TAKEN DURING DUPLICATION. IF THE PRINT MECHANISM OF THE TERMINET WERE MORE LIKE THAT OF A TYPEWRITER, EVEN BETTER RESULTS COULD BE OBTAINED. FIRSTLY, SPROCKET FED STATIONERY IS EXPENSIVE, SO THAT A ROLLER FEED PLATTEN WOULD ALLOW NORMAL STATIONERY TO BE USED OR ALLOW UNSPROCKETED CONTINUOUS PAPER TO BE USED. ALSO, SINCE A NUMBER OF DIFFERENT THICKNESSES OF PAPER ARE USED IN OUR TERMINET IT WOULD BE VERY NICE IF THE IMPACT PRESSURE COULD BE ADJUSTED SO THAT GOOD QUALITY OUTPUT IS ALWAYS OBTAINED. 8C

TWO OPTIONS WHICH I WOULD LIKE TO SEE ON THE PRINTER ARE A PRINTING DELETE CHARACTER AND THE ABILITY TO SET THE RIGHT MARGIN LIMIT FROM THE KEYBOARD. THE FORMER REQUIREMENT IS FOR ON-LINE USE SO AS TO PROVIDE AN UNAMBIGUOUS PRINTOUT AFTER EDITING HAS BEEN CARRIED OUT; THE LATTER IS NECESSARY IN THESE DAYS OF PAPER SHORTAGES SINCE WE USE 9" WIDE PAPER AND CURRENTLY HAVE TO SET IT TO THE RIGHT HAND END OF THE PLATTEN SO THAT THE MARGIN BELL SOUNDS BEFORE THE EDGE OF THE PAPER IS REACHED. 8D

FINALLY, ON THE PRINTING SIDE, IT WOULD BE USEFUL IF THE SIZE OF FORMS COULD BE ADJUSTED TO OTHER THAN 11". GE ARE NOT ALONE ON ASSUMING THAT NO ONE WANTS OTHER THAN 11" FORMS, BUT OFFSET LITHO MASTERS MUST BE LONGER THAN THIS IF THE FULL 11" ARE TO BE DUPLICATED. TO CORRECTLY FORMAT 15" MASTERS WE HAVE TO RESORT TO TEDIOUS SOFTWARE TECHNIQUES WHICH COST BOTH SOFTWARE EFFORT AND CASSETTE SPACE (DUE TO THE PADDING NECESSARY). 8E

ON THE SUBJECT OF CASSETTE TAPE, OF OVERRIDING ANNOYANCE ARE THE 1200 BAUD RECORDING FORMATS FOR CASSETTE TAPE. WE USE THE BOARD WHICH KEEPS THE TAPE MOVING ONCE WRITE IS ENGAGED, BUT THIS HAS THE VERY SERIOUS DRAWBACK WHEN ACCIDENTALLY USED FOR EDITING, OF ERASING LARGE PORTIONS OF VALUABLE MATERIAL. THE OTHER BOARD IS USELESS IN A BURSTY TELECOMMUNICATIONS ENVIRONMENT, SINCE IT NEEDS PAD CHARACTERS BEFORE EACH BURST OF CHARACTERS. THIS IS NOT ALWAYS VERY EASY TO ARRANGE. 8F

THE ONLY OTHER PROBLEM WITH THE CASSETTE TAPE IS THAT THE CORRECT PADDING (AFTER LINEFEEDS, ETC) MUST BE USED WHEN RECORDING FROM LINE, OTHERWISE THE FIRST CHARACTER OF EACH LINE DOES NOT APPEAR TO BE RECORDED. THIS EFFECT IS NOTED WHETHER THE PRINTER IS SWITCHED ON OR OFF WHILST RECORDING IS TAKING PLACE, BUT DOES NOT HAPPEN FOR RECORDINGS MADE OFF-LINE. THIS DISTINCTION IS SOMEWHAT ANNOYING, IN THAT IT SEVERELY RESTRICTS THE TAPE CAPACITY FOR ARCHIVING FILES FROM A COMPUTER SYSTEM. 8G

APPENDIX 2

MUSIC CASSETTES

9

BECAUSE OF THE COST AND DELIVERY TIMES OF DATA CASSETTES, WE INVESTIGATED THE USE OF COMMON MUSIC CASSETTES FOR USE WITH THE TERMINET CASSETTE UNIT. ON THE WHOLE THESE HAVE BEEN FOUND EXCELLENT WITH REGARD TO DATA QUALITY; THE PROBLEMS WHICH SOMETIMES ARISE ARE DUE TO EITHER LACK OF OR PERMANENT END OF TAPE DETECTION. 9A

THE FIRST TAPE TRIED WAS A PHILIPS C90 TAPE AND APART FROM END OF TAPE TROUBLES, RECORDING WAS PERFECT. THE END OF TAPE PROBLEMS EVENTUALLY LED TO THE TAPE BECOMING TANGLED INSIDE THE CASSETTE. SINCE THEN WE HAVE USED BASF TAPES BECAUSE THEY USE SCREWED RATHER THAN WELDED CASSETTES. THIS MAKES RECOVERY OF SUCH MESSES MUCH EASIER. BASF C60, C90 AND C120 TAPES HAVE ALL BEEN TRIED, AND C90 ARE NOW STANDARDISED UPON, SINCE OVERALL THEY GIVE THE BEST PERFORMANCE AND CAPACITY. BASF C120 DO NOT WORK AT ALL DUE TO THE END OF TAPE PROBLEM. 9B

THE END OF TAPE PROBLEM HAS NOT BEEN COMPLETELY SORTED OUT AT PRESENT BUT APPEARS TO BE DUE TO THE UNIT'S DETECTION CIRCUIT RECOGNISING AN END OF TAPE CONDITION EVEN WHEN THE TRANSPARENT LEADER HAS BEEN PASSED. IT IS NOT CLEAR WHETHER THIS IS DUE TO THE MUSIC CASSETTE TAPE BEING MORE TRANSPARENT OR MORE REFLECTIVE THAN THAT OF DATA CASSETTES, OR WHETHER THE COLOUR OF THE CASSETTE BODY HAS ANYTHING TO DO WITH THE PROBLEM. HOWEVER, WITH THE BASF GREEN C90 CASSETTES THERE APPEAR TO BE NO PROBLEMS WHICH A COUPLE OF MINUTES PERSEVERENCE CANNOT SORT OUT.

INDRA NOTE 356
NIC 22524

CASSET

A TENEX UTILITY PROGRAM

FOR THE

GE TERMINET

STEPHEN R WILBUR

ABSTRACT

THE PROGRAM DESCRIBED ENABLES FILES DESTINED FOR A TENEX TO BE PREPARED OFF-LINE ON TO A TERMINET CASSETTE UNIT. FACILITIES ARE PROVIDED FOR EDITING THE TEXT DURING PREPARATION AT A CHARACTER, WORD, AND LINE LEVEL. THE UTILITY ALSO PROVIDES A MEANS OF ARCHIVING FILES TO CASSETTE TAPE.

WHILST PRIMARILY INTENDED FOR TERMINALS USING CASSETTE TAPE, THE UTILITY IS ALSO USEFUL FOR PAPER TAPE ORIENTED TERMINALS.

CASSET: TERMINET UTILITY PROGRAM

(J22524) 10-APR-74 04:34; TITLE: AUTHOR(S): STEPHEN R. WILBUR/SRW;
DISTRIBUTION: /PK DCE; SUB-COLLECTIONS: NIC; CLERK: SRW;
ORIGIN: <UK-ICS>INDRA356.NLS;2, 10-APR-74 04:23 SRW ;

EKM 28-MAR-74 17:21 22525

visit log

Edward Schneider
Center for Political Studies
Institute for Social Research
P.O. Box 1248
Ann Arbor, Michigan 48106

1

Visti to SRI 27-Mar-74 2

Ed Schneider is exploring new technology that could aid the University of Michigan in fulfilling its contract to the Interuniversity Consortium for Political Research. 3

These committments include providing (to 150 member institutions) 4

Access to data bases containing the results of 100's of surveys stored in machine readable form at Michigan. 4a

Data processing if the member does not have it's own computer facility. 4b

Source code for Osiris - Integrated Statistical Package. 4c

The present method of providing these services involves writing letters, copying and mailing tapes and card decks, interfacing Osiris with the members system, etc. 5

His group has an NSF grant to explore the use of a 'distributed' system over a network in lieu of the current cumbersome procedures. 6

Schneider's own primary interest is in the area of interactive graphical analysis of survey and other social science data bases. 7

Schneider visited two SRI projects doing work in the interactive graphics area: Martin Gorfinkel and David Hall. 8

9

visit log

(J22525) 28-MAR-74 17:21; Title: Author(s): Elizabeth K. Michael/EKM; Distribution: /DCE RWW JCN DVN; Sub-Collections: SRI-ARC; Clerk: EKM;
Origin: <MICHAEL>VISIT.NLS;2, 28-MAR-74 17:17 EKM ;

WRF 28-MAR-74 21:37 22526

New Group Allocations

This is a proposed new allocation to be instituted early next week.
You should check to see that it seems reasonable to you.

New Group Allocations

Explanation of Philosophy of Changes 1

As you know, the RADC and NIC users have moved from our system to OFFICE-1, and we have added ADR users in the early morning. Becuase of this, it has been possible to add allocations to a number of groups who have been cramped. The following is a tentative scheme which Jim Norton and Dick Watson have agreed upon. 1a

In allocating these newly available slots, we have attempted to only allocate some, rather than all, of the slots. It has seemed a general consensus that limited access with a fast response is preferable to unlimited access with slow response. (A position with which I heartily agree.) Thus, the total users allocated in any time period has been reduced throughout the day. 1b

You should not construe this as an attempt to give any group the full allocation which they probably need. Our load has been reduced by the move of those users, but we stll have a finite resourse. So the following attempts to remedy the most congested situations, and hopefully does so. 1c

As mentioned, this is a tentative proposal. If there have been any major oversights, please contact me or Jim. However, if this meets with general approval, we will institute it early next week. 1d

1e

1f

Proposed and Old Group Allocations 2

; currently defined groups are: 2a

; 0 - Local People (the world default) 2a1

; 1 - System Jobs (autostartup jobs) 2a2

; 2 - Unused (formerly NIC Users) 2a3

; 3 - Unused (formerly RADC) 2a4

; 4 - Staff 2a5

; 5 - PSO 2a6

; 6 - NIC Staff 2a7

; 7 - Facility 2a8

New Group Allocations

```
;       8 - Programmers                                              2a9
;       9 - Xerox                                                    2a10
;       10 - Documentation                                           2a11
;       11 - ARPA (always allowed in)                                2a12
;       12 - Special (always allowed in)                             2a13
;       13 - ADR users                                               2a14
    8                                                                2a15
;           0 1 2 3 4 5 6 7 8 9 0 1 2 3                              2b
daily - proposed                                                     2c
   3:00     0,5,0,0,3,1,1,0,6,0,1,0,0,2      tot - 19                2c1
   5:00     0,5,0,0,3,1,1,0,4,0,1,0,0,8      tot - 23                2c2
   8:00     0,5,0,0,4,2,2,0,5,0,1,0,0,0      tot - 19                2c3
   10:00    0,5,0,0,3,2,2,0,5,0,1            tot - 18                2c4
   12:00    0,5,0,0,3,2,2,0,5,0,1            tot - 18                2c5
   15:00    0,5,0,0,4,2,2,0,5,0,1            tot - 19                2c6
   17:00    0,5,0,0,4,2,2,0,6,1,1            tot - 21                2c7
   18:00    0,5,0,0,3,2,2,0,6,1,1            tot - 20                2c8
daily - current                                                      2d
   5:00     0,5,6,5,0,0,1,0,4,0,0,0,0,8      tot - 29                2d1
   7:00     0,5,6,5,0,0,1,1,4,0,0,0,0,8      tot - 30                2d2
   8:00     0,5,3,2,2,1,1,1,5,0,1,0,0,0      tot - 21                2d3
   9:00     0,5,3,2,2,1,1,0,5,0,1            tot - 20                2d4
   14:00    0,5,2,0,2,2,2,0,5,0,1            tot - 19                2d5
   15:00    0,5,2,0,2,2,2,1,5,0,1            tot - 20                2d6
   17:00    0,5,2,0,2,2,2,1,6,1,1            tot - 22                2d7
```

New Group Allocations

18:00 0,5,2,0,2,2,2,0,6,1,1 tot = 21 2d8

Current Group Memberships 3

Group 1 = System Jobs 3a

SYSTEM 3a1

BACKGROUND 3a2

PRINTER 3a3

USERGUIDES 3a4

Group 4 = Staff 3b

ENGELBART 3b1

HARDY 3b2

NORTON 3b3

MEYER 3b4

WATSON 3b5

BAIR 3b6

RECH 3b7

LEE 3b8

ANALYSIS 3b9

LIEBERMAN 3b10

FEEDBACK 3b11

Group 5 = PSO 3c

JERNIGAN 3c1

HARDEMAN 3c2

KELLEY 3c3

LEAVITT 3c4

JOHNSON 3c5

New Group Allocations

Group 6 - NIC Staff	3d
NORTH	3d1
NIC-WORK	3d2
KUDLICK	3d3
FEINLER	3d4
COOKE	3d5
NEINFO	3d6
KEENEY	3d7
GUILBAULT	3d8
Group 7 - Facility	3e
VANDERIET	3e1
RATLIFF	3e2
BONDURANT	3e3
Group 8 - Progammers	3f
VICTOR	3f1
HOPPER	3f2
IRBY	3f3
ANDREWS	3f4
LDHTL@N	3f5
WHITE	3f6
WALLACE	3f7
FERGUSON	3f8
MICHAEL	3f9
Group 9 - Xerox	3g
PAXTON	3g1

New Group Allocations

DEUTSCH	3g2
MITCHELL	3g3
SATTERTHWAITE	3g4
SWEET	3g5
GESCHKE	3g6
Group 10 - Documentation	3h
VANOUHUYS	3h1
DOCUMENTATION	3h2
B@T	3h3
BECK	3h4
Group 11 - ARPA	3i
ARPA	3i1
MCLINDON	3i2
LUKASIK	3i3
TACH	3i4
Group 12 - Special	3j
PETERS	3j1
OPERATOR	3j2
HARDWARE	3j3
Group 13 - ADR Users	3k
IVTRAN	3k1
MILLSTEIN	3k2
WARSHALL	3k3
ANDREE	3k4
BOLDUC	3k5

New Group Allocations

ERICKSON	3k6
FANEUF	3k7
NJOHNSON	3k8
KARR	3k9
MUNTZ	3k10
MYSZEWSKI	3k11
PRESBERG	3k12
WOLFBERG	3k13

New Group Allocations

(J22526) 28-MAR-74 21:37; Title: Author(s): Ferg R. Ferguson/WRF;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: WRF;
Origin: <FERGUSON>GROUP-DATA.NLS;10, 28-MAR-74 21:34 WRF ;

NDM 29-MAR-74 07:39 22527

Terminette as printer in EPAC

Would it be possible to switch between Lineprocessor and Acoustic coupler?

NDM 29-MAR-74 07:39 22527

Terminette as printer in EPAC

We will use the Terminnett terminal as a printer off the Lineprocessor. Can we put an extension cord between the Lineprocessor and the terminal? How long? Can it be a 20' cord? If yes, can we fabricate for me to carry back next Wednesday? 1

NDM 29-MAR-74 07:39 22527

Terminette as printer in EPAC

(J22527) 29-MAR-74 07:39; Title: Author(s): N. Dean Meyer/NDM;
Distribution: /MEH RAB EKV JCN CHI; Sub-Collections: SRI-ARC DEIS;
Clerk: NDM;

Date: 29-MAR-74 07:56:15

From: Jean N. Iseli

Subject: TEST FROM MODIFIED DELTA-DATA

type of comment: Suggestion or unknown

Network online address: ISELI AT ISI

Phone: (703) 893-3500

Degree of urgency: High priority

Type of response desired: No response needed

Text:

TEST

(J22528) 29-MAR-74 07:57; Title: Author(s): NET COMMENT/NCMT ;
Distribution: / NCMT; Sub-Collections: NIC; Clerk: NCMT;

MDK 29-MAR-74 08:30 22529

farewell note from abhay bhushan

thought you might be interested in this note abhay sent around the network. ... mike

MDK 29-MAR-74 08:30 22529

farewell note from abhay bhushan

(J30322) 28-MAR-74 14:03; Title: Author(s): Abhay K. Bhushan/AKB;
Distribution: /NLG FTPIG INWG NMG USING USERS PI TU NICSTA;
Sub-Collections: NIC NLG FTPIG INWG NMG USING USERS TU NICSTA; Clerk:
AKB;

A Farewell Note

Goodbye

MDK 29-MAR-74 08:30 22529

A Farewell Note

The purpose of this message is to bid goodbye to the ARPANET community and to announce a change in Liaison for MIT-DMS. I am leaving MIT Project MAC at the end of March to join Xerox (in Rochester and not XPARC). Stu Galley (no NIC ident yet) will be the new Liaison for MIT-DMS. His address is:
Stuart W. Galley, Rm 205 545 tech Square, Cambridge, Ma 02139
Tel. 253-1418 (area code 617)

It has been a great pleasure interacting with so many of you. I am certain that our paths will cross again some times in the future. Let me take this opportunity to wish you all and the ARPANET, good luck and sucess.

Abhay Bhushan

1a

MDK 29-MAR-74 08:30 22529

farewell note from abhay bhushan

(J22529) 29-MAR-74 08:30; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /NIC JBN; Sub-Collections: SRI-ARC NIC; Clerk: MDK;

MDK 29-MAR-74 09:46 22530

draft of a note to NJN on dual-journal problems.

Jim ... would you please read my file (kudlick,nancy,1:hwy) and comment on its accuracy and completeness? I'd like to send it to Nancy Neigus. ... Thanks, Mike 1

MDK 29-MAR-74 09:46 22530

draft of a note to NJN on dual-journal problems.

(J22530) 29-MAR-74 09:46; Title: Author(s): Michael D. Kudlick/MDK; Distribution: /JEW; Sub-Collections: SRI-ARC; Clerk: MDK;

DIA 29-MAR-74 10:07 22531

Comment on new group allocations

I have been feeling that the system response has really been pretty fair lately, so I was interested to see the new group allocations. Looks like just an increase of one slot here and there -- not too bad. But wait!!! If you look at the "current" allocations and subtract the NIC and RADC slots (not now used) you will see that there is an increase of about 3 slots most of the day! I would like to strongly protest this. I would like to see never more than 16 slots allocated. It has been demonstrated at Xerox that less gets done when the load is high! Also people get frustrated. Is there anything we can do to encourage a reasonable allocation now that the long promised time (of no NIC and RACD people) is here???? It looks to me as though we are headed right back to an overloaded system again. Shit.

1

DIA 29-MAR-74 10:07 22531

Comment on new group allocations

(J22531) 29-MAR-74 10:07; Title: Author(s): Don I. Andrews/DIA;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: DIA;

DCW 29-MAR-74 09:12 22532

Some Points on the Proposed Group Allocation

Three comments on the proposed group allocation:

1) Peters and Operator are now in the SPECIAL group meaning that the real allocation is "N+1" or N+2" accross the board!
2) ARPA is now a special group (no login restriction) and as such makes the allocation figues totally invalid if and when they decided to use our system.
3) If you remember the original flap was about 21 vs 18 allocation slots. The maddness of the current "allocations" speak for themselves. Given items 1) and 2) above it is rather obvious to me we are still up to our usual fun and games. The apparent reduction in allocations is mearly an illusion. 1

DCW 29-MAR-74 09:12 22532

Some Points on the Proposed Group Allocation

(J22532) 29-MAR-74 09:12; Title: Author(s): Donald C. (Smokey) Wallace/DCW; Distribution: /SRI-ARC(* info-only *) ; Sub-Collections: SRI-ARC; Clerk: DCW;

(J22533) 27-APR-74 11:18; Title: Author(s): Jean Iseli/JI; Keywords:
ARPANET News; Sub-Collections: NIC SRI-ARC NEWS; Clerk: MEJ;
Origin: <HELP>ARPANEWS.NLS;14, 5-APR-74 18:49 MEJ ;
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ARPANET News

April 1974

Issue 14

NIC 22533

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(contents) ARPANET News April 1974 Issue 14 22533

1

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1a

: The ARPANET vehicle for world understanding, for forming :
: a meeting ground of the world networking community to :
: express their ideas and share their evolving will :
: toward a universal sharing and cooperative work :
: environment for world good :

1b

For Online viewing instructions, type:
-s[how]information<CR>
where letters shown in [] are echoed by the system,
and <CR> indicates a carriage return.

1c

(boxscores) NETED, ARPANET News, FEEDBACK System Sites

```
                    ------------------------------------
                    :          NETED BOXSCORE          :
                    ------------------------------------

                     CASE-10  - RUnning a version which attempts
                                to implement the new spec;
                                call as a subsystem.

                     Multics  - RUnning a version which attempts
                                to implement the new spec,

                     UCSD     - New version being debugged

                     AMES-67  - Running a version which attempts
                                to implement the new spec,

                     MIT-ITS  - Rumors of own version

                     SDC      - Will pick up CCN version

                     UCLA-CCN - New version being debugged

                     LBL      - Will be implementing a version

                     OFFICE-1 - Obsolete version, not debugged

                     BBN      - NETED will be incorporated into
                                new SNDMSG package

                     SRI-ARC  - Obsolete version, not debugged
```

NOTE: See (neted) in this issue.

NOTE: All TENEX Systems may run NETED by FTPing a copy and installing in their subsystems. Contact Jim Calvin or A. J. Rosenfeld at CASE-10.

```
                        ***          **          ***

                    ------------------------------------
                    :        ARPANews BOXSCORE         :
                    ------------------------------------

                     CASE-10  - ARPANews up and running;
                                   call as:
                                <arpanews>news<cr>

                     I4-TENEX - Same as above
```

PARC-MAXC- Same as above, 2w

UTAH-10 - Same as above, 2x

SRI-AI - Same as above, 2y

SRI-ARC - Call through NIC Query as before, 2z

OFFICE-1 - Call thru NIC Query 2a0

BBN - Call as: <poh>news<cr> 2aa

ISI - Call as: <iseli>news<cr> 2ab

UCSB - Call as: news<CR> 2ac

RSEXEC - Special viewing for TIP-users
To be in the next RSEXEC release 2ad

NOTE: Interested sites who would like to carry the ARPANET News as a local feature should contact Jean Iseli, SNDMSG address ISELI@ISI, HELP@SRI-ARC, or HELP@OFFICE-1, 2ae

*** ** *** 2af

```
        ------------------------------------                    2ag
        :         FEEDBACK BOXSCORE          :                  2ah
        ------------------------------------                    2ai
        CASE-10    - Call as: <arpanews>feedback<CR>            2aj
        SRI-AI     - Same as above                              2ak
        UTAH-10    - Same as above                              2al
        PARC-MAXC  - Same as above                              2am
        I4-TENEX   - Same as above                              2an
        ISI        - Call as: <iseli>feedback                   2ao
        BBN        - Call as: <poh>feedback
                                                                2ap
NOTE: See (feedback) in this issue.
                                                                2aq
```

ARPANET News, April 1974, Issue 14, NIC 22533

(information) Information About the Publication 3

Sponsored by ARPA/IPI.
Editorial Staff:
Headed by Jean Iseli with volunteers who lend their
welcome and appreciated assistance, as occasion arises:
Mil Jernigan (SRI-ARC) Mike A. Padlipsky (MIT-Multics)
NIC Office personnel who handle mail distribution:
Marcia Keeney, Judy Cooke, Carol Guilbault

3a

New online version available on the first of the month at:

3b

SRI-ARC and OFFICE-1:
Login, then type: nic<CR>. Then type: help<CR> for available commands.

CASE-10, SRI-AI, UTAH-10, PARC-MAXC, (Ames) I-4 TENEX:
Login, then type: <arpanews>news<CR>; then a ? for available commands.

ISI:
Login, then type: <iseli>news<CR>, then ? for available commands.

BBN:
Login, then type: <poh>news<CR>, then ? for available commands.

UCSB:
Login, then type: arpanews<CR>, then ? or help for available commands.

3c

Online version contains month's basic issue plus weekly updates. To obtain
file, login to SRI-ARC or OFFICE-1, enter NLS, load file <help>arpanews.nls
printing device or teletype. Viewspecs are already set.

3d

Hardcopy printed at SRI, mailed from SRI-ARC on the 5th of the month to: ea
Investigator, Station Agent, Network Associate, and certain other Network r
reproduction of multiple copies is encouraged.

3e

Contributions to the NEWS may be forwarded to JI at NIC through the NIC Jou
ISELI@USC-ISI, HELP@SRI-ARC, or to HELP@OFFICE-1; or by U. S. Mail to Jean
Drive, Alexandria, Va. 22308. News may also be forwarded to MEJ through the
SNDMSG to JERNIGAN@SRI-ARC, or mailed to Mil Jernigan, Stanford Research In
Research Center, 333 Ravenswood Ave., Menlo Park, California. 94025.

3f

(neted) NETED Status

4

..... Mike Padlipsky

4a

If April really is the cruelest month, then it might well have come in Marc
somewhat cryptic way of saying that, although I had high hopes as of the be
being able to report on the final resolution of the NETED project by now, t
foundered by the end of March.

4b

First, the reasons for being hopeful: Early in the month the NETED implemer
high enough degree of consensus of the specifications that it looked as if
cross-checking each others' implementations well before the month was over.
got to the point of inviting the others to have at it.

4c

But then came The Snag: It seems as how the copy of the usage draft which
implicit spec to a site which was using my PL/1 listing as a model to imple
reproduced widely enough to fall into the hands of some USING members who
the implementers had been charged with finalizing the spec at the January
hadn't been following these reports, and were surprised that the spec had c
wanted to re-open the phase of arguing about the spec. Naturally, I'm resis
take at least until the next issue of the News to see if I'm successful.

4d

Another word or two on distributed specification writing: although (as I ob
when you start off -- on matters of desirable features and functions -- it'
to be able to draw on many peoples' experience, the real problem is that wh
matters of taste and preconceptions the wide variety of experience in the N
turn into a hindrance. The major difficulty is finding ways of "breaking ti
taste. And despite the fact that "everybody" agrees in the abstract that th
NETED will be to offer users a timely common editor -- not THE ("ideal") ed
lose sight of the goal of timeliness when one focuses too sharply on what c
it right.

4e

Now in view of the fact that it should be clear that after NETED is release
will be -- and ought to be -- inescapable that there will be some user feed
that we'll be able to re-focus on the timeliness goal and get NETED out int
while before reassessing the specifications. But, then, as I said before, I
beginning of March that there'd be a final report at the end of March....

4f

To end on a cheerier note, it's been pointed out that there was a goofup (n
month's report: what it should have said is that the NETED at LBL will offe
really big number-cruncher. It said "a", though, and I certainly didn't mea
don't think the 91 at UCLA isn't a biggy too.

4g

(utah) University of Utah, Computer Science

5

... by Carl M. Ellison

5a

The Computer Science Division of the University of Utah supplies the manpo
research contract. The facilities here at Utah include two network sites, U
but the bulk of our research is performed on other machines. That research
three areas: Sensory Information Processing, Symbolic Computation, and Grap
described separately, below.

5b

The UTAH-TIP is a standard TIP but with only two dial-up lines (more on or
and a number of hard-wired lines. In cooperation with Don Malpass at BBN, w
number of high speed terminals to the TIP via "modem substitutes" and a pri
I defer to Don for details on that experiment.

5c

The UTAH-10 is an almost standard TENEX system. It has no mag tapes and in
number of DEC-TAPES with a system modification which allows a program to di
operator to mount, dismount, and protect those tapes. This machine is open
experimental network usage but it is not a true server. It serves differen
of the different research efforts, as detailed below. UTAH-10 also operates
modified scheduler which allows us to schedule on core demand when that bec
as CPU demand. Our system programmers, Mike (Dervage@UTAH-10) and Dennis (T
contacted by any TENEX wishing to consider either of those system modificat

5d

SENSORY INFORMATION PROCESSING: This group is headed by our P I, Dr. Thomas
research is centered around the processing of both auditory and visual sign
pictures) and the modelling of the human eye, ear, and vocal tract. Our pro
based strongly upon those models and non-linear filtering techniques which
PhD thesis of Alan V. Oppenheim (now the PI for an ARPA contract at MIT). B
Caruso restoration work and strong efforts in vocoder techniques, this grou
interesting results in image deblurring and modelling of human vision, amon

5e

This group uses our other PDP-10, stand alone, for most of its processing,
primarily for editing, assembly, compilation, loading and documentation. As
support function, this group has an excellant editor for TENEX and a softwa
includes plotting routines for Tektronix 4012 terminals. Contact George (RA
details.

5f

SYMBOLIC COMPUTATION: This group is headed by Dr. Anthony C. Hearn who is a
Physics and the chairman of the Computer Science Division. It uses UTAH-10
and testing the REDUCE system, which has been distributed to a number of ne
very close to being machine independent. The REDUCE system is an algebraic
designed to aid physicists in their work, but also suitable for a number of
manipulation problems (eg. theorem proving) since it includes LISP as a sub

5g

GRAPHICS: This group is headed by Mr. Martin E. Newell who recently took it
C. Evans. It is concerned primarily with the generation of continuous tone
dimensional objects. The original research was performed on our other PDP-1
phase of our graphics research calls for the development of a special graph
Picture System, based on a PDP-11 which is intended to be a network server
hence. As a network server, one of its functions will be to accept descript

dimensional scenes, over the network, and render those on film.

ARPANET News, April 1974, Issue 14, NIC 22533

(reduce) REDUCE Scenario 6

Network users interested in algebraic computations may find the following s
REDUCE is available on ISI, SU, UTAH-10, BBN-TENEX, and UCLA-CCN. The scena
Tony Hearn of UTAH-10. 6a

6b

REDUCE === HOSTS 4,69,86 (and 11 and 65) 6c

REDUCE is a language and system for the evaluation of algebraic expressior
interactively on hosts 4,11,69 and 86 and in batch mode on host 65. 6d

This scenario describes the use of the program under the TENEX time-sharinc
sites 11 and 65 are also available on request. 6e

The syntax of REDUCE resembles ALGOL 60. Therefore anyone with a knowledge
algorithmic language should have no trouble learning REDUCE. The capabiliti
include manipulation of polynomials, rational functions, user-introduced c
expressions. Extensive pattern matching and procedural facilities are also 6f

A limited subset of the system's capabilities are described here; users int
details are referred to the User's Manual. This document is available as
UTAH-10:<REDUCE>REDUCE.MAN. However, it is hoped that this brief demonstrat
of the power of the system. 6g

This scenario is described explicitly for host 86, but, apart from a differ
the dialog would be identical for hosts 4 and 69. 6h

1. To connect a TIP to USC-ISI Tenex, type:

```
@L <sp> 86 <lf>
USC-ISI TENEX 1.29.5.9 EXEC 1.46.1
```
6i

2. To login to Tenex at USC-ISI, type:

```
@LOGIN <sp> REDUCE <cr>
(PASSWORD) <password> <cr>
(ACCOUNT #) <account number> <cr>
JOB 1 ON TTY103 22-OCT-72 10.04
```
6j

3. To send a message concerning problems in REDUCE, type:

```
@sndmsg <cr>
Type ? for help
Users: HEARN <cr>
Subject: <suitable subject>
```

Message (? for help):
<now type your message>
^Z

6k

4. To use REDUCE, type:

@REDUCE <cr>

61

In the following examples, the program will print an asterisk after each li
indicate that it is ready for more input. This asterisk is not indicated ir

6m

To calculate the factorial of 50, type:

FOR I:=1:50 PRODUCT I; <cr>

6n

Notice the following general characteristics of a REDUCE command:

6o

1) Commands end with a semi-colon. However, if you wish to suppress output
instead.

6p

2) All integer arithmetic is done with arbitrary precision, so you can get
if you try!

6q

3) REDUCE has some nice extensions of ALGOL 60 (mainly taken from other lan
PRODUCT expression above, A similar SUM construction is illustrated by typi

```
FOR I:=1:50 SUM I**2; <cr>
```

which sums the squares of all integers between 1 and 50 inclusive,

6r

To expand the expression (X+Y+Z)**4 and collect like terms, you can write:

```
(X+Y+Z)**4; <cr>
```

6s

If you wish to save this result for later use, you can now type

```
SAVEAS W; <cr>
```

6t

or, alternatively, you could have said initially:

```
W:=(X+Y+Z)**4; <cr>
```

6u

To suppress the printout, one would have typed:

```
W:=(X+Y+Z)**4$ <cr>
```

6v

If you wish to correct mistakes in the input line, the easiest thing for th
^A to delete the previous character or ^X to delete a whole line, A systen
available for more extensive input editing.

6w

Once we have stored our result in W, we can use this in other expressions.

```
DF(W,X); <cr>
```

will differentiate (X+Y+Z)**4 with respect to X.

6x

One very useful feature of REDUCE is its simple matrix syntax. For example

6y

```
A B
C D
```

6z

one types:

```
MATRIX M; <cr>
M:=MAT((A,B),(C,D)); <cr>
```

6a@

We can now use M in any context where a matrix is allowed. For example, yo

```
M**(-1); <cr>
```

to get the inverse,

TP M; <cr>

to get the transpose,
and

DET M; <cr>

to get the determinant,

Other constructions such as

2*M**2-M**(-1); <cr>

can now be tried,

M*M**(-1); <cr>

is also worth doing,

6aa

REDUCE also has a wide range of substitution capabilities which the user sh

6ab

For example, the sequence of declarations:

```
OPERATOR INT; <cr>
LINEAR INT; <cr>
FOR ALL N,X LET INT(X**N,X)=X**(N+1)/(N+1); <cr>
FOR ALL X LET INT(1,X)=X,INT(X,X)=X**2/2; <cr>
```

is sufficient to enable the system to integrate any polynomial with respect
variable. Thus

```
INT(W,Y); <cr>
```

will give the integral of (X+Y+Z)**4 with respect to Y if W has been set as
6ac

After these simple calculations, you are now ready to try your hand at more
For further details the REDUCE User's Manual should be consulted.
6ad

If you prefer to consider this as a demonstration of the capabilities of R
environment, you can run all the above examples by the following alternativ

```
@REDUCE <cr>
IN DEMO;
```

6ae

The program will now read commands from the disk file DEMO, which contains
this scenario.
6af

When you have finished with REDUCE, you can return to the exec by typing "C
the following sequence of commands should be typed:

```
@LOGO <cr>
@C <lf>
```

6ag

Any questions regarding REDUCE should be directed to:
6ah

Anthony C. Hearn
Computer Science Department
University of Utah
Salt Lake City
Utah 84112

Telephone: (801) 581-8502
Net address: HEARN@UTAH-10
6ai

(symposium) NBS/IEEE Trends and Applications Symposium 7

.....by Ira Cotton [NBS] 7a

Computer Networks - Trends and Applications, a symposium by the U. S. Depar
(National Bureau of Standards) and the IEEE Computer Society (Washington Ch
in Gaithersburg, Maryland, at the NBS site on May 23, 1974. 7b

Registration fees are $10 for IEEE members registering before May 12, $13 a
the fee is $13 before May 12, $16 after. A tutorial on computer networks wi
connection with this symposium on May 22. The cost of this tutorial is $35
thereafter. 7c

Registration checks and/or requests for additional information may be sent
P. O. Box 639, Silver Springs, Maryland 20901. 7d

Also see information in entry under (calendar) in this issue. 7e

ARPANET News, April 1974, Issue 14, NIC 22533

(arpa) ARPA Front-End Meeting Report 8

.....Jack Benoit [MITRE]

8a

On March 14-15, 1974, a meeting on Terminal Oriented Front End Computers wa
office in Rosslyn, Virginia. The meeting was chaired by Dr. Craig Fields of
the meeting was to collect and compare information on the philosophy and im
Terminal Oriented Front Ends currently existing or in development on the AR
also shown to gather information and suggestions concerning what Front End
supported in the immediate and long term future. A substantial dialog betwe
implementations and prospective non-ARPA, Department of Defense, users prov
major value for the meeting.

8b

The two day meeting was organized into four logical sessions of roughly one
were:

8c

The Current Scene
The Immediate Future
Utopia
Other Topics

8c1

The Current Scene was a reporting session by the ARPA contractor Front End
systems reported on were the ANTS system from the University of Illinois, t
Speech Communication Research Laboratory at Santa Barbara, and the TIP syst
and Newman. Position papers were prepared by each presenter (and a few othe

8d

The session on the Immediate Future consisted mainly of a comparison of phi
systems. Basically, two types of services were envisioned. One consisted of
limited number of types of terminals in a standard way. The front end would
additional service. Services such as FTP and access control would be provid
size hosts. The other type of front end service is intended to support all
to provide FTP, access control, RJE, etc. services. The reliability and ava
approaches were discussed. There was no agreement as to whether one or both
supported. It was agreed that RSEXEC was a very promising approach for supp

8e

The Utopia session was concerned with two issues. The first issue was the m
user should see the Network. There seemed to be general agreement that the
the Network but that he should see only a collection of resources [tools] a
problem. From this general agreement the second issue was developed. What a
required to support this view of the Network and where should these functio
rather large number of functions were suggested. Most of them fell into the

8f

Resource Access
Help Facilities
Device Control

8f1

It was recognized that technology changes in the next five years would have
on the implementations of these functions. The expected decrease in cost of
would make available many options in this implementation. It was suggested

of intelligent terminals would reduce the need for many functions in front

8g

The Other Topics session included discussion of DoD uses of computer networ requirements anticipated, Additional discussion of current system capabilit a discussion of the idea to use the Network as a framework for the market p systems and software suppliers ensued, This framework would supply resource and security, and, would be extendable and reliable,

8h

(feedback) A Trial Feedback Mechanism

9

Pursuant to the recommendations of the Feedback USING Committee [USING Note
trial network feedback mechanism has been developed and is being made avail
reflected in the Boxscore section of this issue: CASE-10, SRI-AI, UTAH-10,
ISI, and BBN.

9a

The program was written by Jim Calvin and Alan Rosenfeld of Case-10 to furt
of the Feedback Committee. The program submits user input to two files main
directory at OFFICE-1. It is hoped that non-TENEX sites will develop their
program to further support the effort. Inquiries for such development may b
the chairman of the Feedback Committee at help@office-1, or to the implemen
version; rosy@case-10 or Calvin@case-10.

9b

The purpose of the program is to enable network users to submit gripes, com
whatever, for the attention of the appropriate person or organization. The
users for sufficient information to allow a response to be formulated and r

9c

The purpose for the trial distribution is to allow experimental use of the

9d

Evaluate its user interface

9e

Evaluate the effectiveness of the trial mechanism

9f

Enable the development of design specificity for a network user feedba

9g

Provide an operational testbed for the further evolution of a network
facility.

9h

The following scenario illustrating the use of the program is provided to i
approach employed.

9i

TELNET typescript file started at SAT 30 MAR 74 1028:41

#isi is complete.#

```
 ISI-KA-TENEX 1.31.67, ISI-TENEX EXEC 1.51.5
@LOG ISELI  1
 JOB 21 ON TTY44 30-MAR-74 10:30
```

9j

```
@feedback

 Feedback  v.0.2  20-Mar-74
 Last name: User
 First name: Trial
 Middle initial: nmi
 Mailbox: trial-user at trial-site
 Phone number: (703) 893-3500
```

Is this a gripe ? (N if suggestion or other): no.

Subject: Trial Feedback Capability Announcement

Enter text of feedback (terminate with ^Z):
Type "?" for help.

This is a trial message to demonstrate the trial Feedback capability develo
Al Rosenfeld of CASE-10 for the USING Feedback Committee, Interested sites
the Feedback Committee report: <using>feedback.txt at Office-1 and develop
TENEX version.

9k

Enter Priorty level: (TYPE ? FOR HELP) ?
Type one of the following characters:
H - High priority, indicates critical need
I - Intermediate priority, indicates situation
not yet critical
L - Low, no immediate need for attention

91

Enter Priorty level: (TYPE ? FOR HELP) i
Return response requested (Y or n): no.

Message being sent, please wait ...
Your comments has been processed, Thank you

9m

Network users are encouraged to use the facility. User comments will be for
program to two "collection" files at OFFICE-1 where processing procedures w
cooperation in this endeavor is appreciated.

9n

(consistent) The Cambridge Project Consistent System

10

The Consistent System is intended for scientists who are not computer sophi
programs, models and data, resides in the M.I.T. Multics time-sharing syste
run interactively, and allows jobs to be submitted for background executior

10a

It is part of the design of the system that any program component can be us
any other.

10b

This article, extracted from User Notes for the Consistent System, is envis
article on this development and is intended to describe the capabilities of
programs currently included within the system.

10c

(janus) Data Manipulation Capability

10d

JANUS is a data manipulation facility which allows for reading, reformat
combining sets of data for statistical analysis. JANUS also contains som
part of its capabilities.

10d1

JANUS is oriented toward subsets in which there are "entities" (e.g., pe
has many "attributes" (e.g., height, weight, age, sex, occupation, etc.)
its power from its ability to handle relationships between these subsets

10d2

The present prototype version of JANUS can:

10d3

[a] Read nominal, integer, floating point, and alphanumeric attributes f

10d4

[b] Recode data: i.e., create new attributes that are algebraic and logi
old ones.

10d5

[c] Type out a variety of statistics:

median of an attribute (with quartiles, maximum, minimum, and numb

mean of an attribute (with standard deviation, maximum, minimum, a

distribution of values of an attribute;

a few of Tukey's exploratory statistics;

crosstabs (nominal or integer attributes only);

correlation between two attributes;

t-test: do subpopulations differ on a given attribute;

10d6

[d] Establish relationships (one-one, many-one, or many-many) between en
datasets, and perform operations (sum, count, etc.) via these relations

dataset in which the entities are people, and another in which the ent
many-one relation between people and towns in which they live to compute
people in a town).

10d7

[e] Derive new data sets from old ones (e.g., from a dataset in which th
and one of the attributes is home town, derive a dataset of home town. R
used as explained above to obtain, say, the mean income for each town.)

10d8

[f] "Export" specified attributes (i.e. make them available to other pro
Consistent System) as files with DSC "mnarray" , and accept values of at
files.

10d9

[g] In the recording, statistical, relational, and export functions, sel
consisting of entities that have certain values of certain attributes.

10d10

A new version of JANUS, to be installed late this Spring, will have some
capabilities.

10d11

(discourse) Geographic Plotting Capability

10e

Like JANUS, DISCOURSE deals with entities that have attributes, but amor
entity are its location on a rectangular grid, DISCOURSE can find locati
attribute has a certain value, and (much more importantly) can deal with
locations: e.g., find the average value of an attribute at neighboring p
reciprocals of their distances, It can also display results in the form
data management and data transformation facilities of its own.

10e1

(tsp-csp) Time Series Processor - Cross Sectional Processor

10f

TSP-CSP is a large system for econometricians that runs on a number of c
This version is an interactive adaptation of the one developed for the I
the following parts:

10f1

ordinary and weighted least squares
Least squares with instrumental variables
residual analysis
extrapolation or forecast analysis
Bayesian regression
spectral analysis
polynomial distribution lag estimation
factor analysis
principle components
correlation analysis
non-linear least squares
algebraic operations on vectors and scalers
matrix arithmetic
scatterplots and plots of time-series

10f2

A special strength of TSP-CSP is the ease with which the user can speci
which a statistical analysis is to be performed, For instance, in analys
easily change the time period or periods to which the analysis is to app

10f3

(statistics) Statistical Programs

10g

This subsystem contains a rich assortment of programs for statistical an
shortly contain the much of the IMSL Library and is well on its way towa
"superset" of the SPSS, already containing some tests and features not c
BMD.

10g1

(graphs) Graphics Subsystem

10h

This subsystem provides facilities for graphics on CRT and display termi
The capabilities of this subsystem for Network users depends on the type
and will be limited by the implementation of Network graphics protocols.

10h1

(reckoner) The Reckoner

10i

The Reckoner is a loose collection of programs that produce and accept f
provide capabilities to:

print an array on, or read an array from a terminal;

take the sum of rows or columns or planes;

extract or replace a subarray;

do matrix arithmetic;

create a new array whose elements are a specified algebraic functi
corresponding elements of existing arrays (the function may include scal
it may also include trigonometric, logarithmic, and discrete operators);

create an array of random numbers.

10i2

The system contains a set of tools for the automatic analysis of files c
tools, as part of the DIANA subsystem, are oriented toward automatic ide
"themes" in documents about political topics (for example, it has been a
Times editorials), but contain a variety of desuffixing routines, concep
and dictionary and thesaurus management routines that can be used for ot

10i3

(doorways) Escapes to other Systems

10j

The Consistent System provides "doorways" which permit a user to invoke, system, other systems that run on Multics. These doorways provide for fi the system and the external system being used. Examples of systems to wh supported include APL and the text-editors EDM and QEDX.

10j1

(service) Service Programs

10k

This subsystem provides programs of general utility to users and include describing available programs and instructions for their use. Examples o a file, establish references to other users' directory, and leave the sy

10k1

(runners) Programs for running other Programs

10l

A series of facilities are provided for combining groups of commands int commands. These facilities extend beyond the usual "RUNCOM" or "EXEC" fa sharing systems and include flexible error handling, control of flow and techniques that can be used as needed.

10l1

(calendar) Events of Network Interest

11

(short-list) Short List of Conferences

11a

4/15-17 74	Nonlinear Programming Symp, U Wisconsin	11a1
4/22-23 74	Workshop on Machine-Independent Graphics	11a2
5/6-10 74	NCC 1974 National Computer Conference	11a3
5/22-23 74	(trends) NBS/IEEE Networking Tutor/Symposium	11a4
6/17-19 74	IEEE Intl Conf on Communications ICC74	11a5
6/24-26 74	(undrgr)Conf, Computers in Undergrad Curric	11a6
7/15-17 74	(graph) Conf on Comp Graphics	11a7
7/29-8/1 74	(jerusalem)2nd Jerusalem Conf,Info Tech	11a8
8/5-10 74	(ifip) IFIP Congress '74, Stockholm	

* Meeting sponsored by an ARPANET interest group,
Details of some meetings are given below, To view, type the "-show" requ

-show (meetingname), where
the "(meetingname)" is the parenthesized
entry in the above list,

Additional information on the above meetings may be obtained from the pr
literature as given below:
Computer
Communications of the ACM
Computerworld

11a9

(trends) NBS/IEEE Computer Society, Trends and Applications Symposium and t
Md,, 22-23 May 1974,

11b

A symposium in Trends and Applications in Computer Networks, sponsored b
Society Eastern Area Committee (Washington Chapter) and NBS, A Tutorial
designed for the novice Network user, is planned for 22 May, The tutoria
will be held in the NBS Main Auditorium, National Bureau of Standards, G
Keynote speaker is Dr, Bernard Strassburg (slated to be the new FCC Comm
dozen invited papers of very high quality, Symposium starts at 9 AM; pre
desirable to save time; see story in this issue, (symposium), To attend
NBS, ARPANET SNDMSG address: NBS-TIP@OFFICE-1, or NBS-TIP@SRI-ARC, or wr
P, O, Box 639, Silver Spring, Maryland 20901, Users and those interested
especially invited,

11b1

(undrgr) Conference on Computers in the Undergraduate Curriculum, Washingto
Pullman, Washington, 24-26 June 1974,

11c

National conference on multi-disciplinary forum for disseminating inform
educational uses of computers. Sessions: refereed submitted papers; pane
demonstrations, exhibits. Inquiries to: Ottis W. Rechard, Computer Scien
State University, Pullman, Wn., 99163.

11c1

(graph) conference on Computer Graphics and Interactive Techniques, July 15
of Colorado.

11d

This will be a formal conference with papers later published in the Jour
Graphics or in the proceedings. Ira Cotton will chair a session on Graph
George of Colorado State University will chair a session on Standards, a
Brown University is planning one on Division of Labor between Central an
Robert Schiffman of the University of Colorado, Boulder, Colorado 80302,
General Chairman, and Jon Meads of Tektronix, Delivery Station 81-872, P
Oregon 97005, is the Program Chairman. Contact any of these if you have
submit a paper.

11d1

(jerusalem) The Second Jerusalem Conference on Information Technology, 29 J
Jerusalem, Israel.

11e

Papers are sought on: operational environment of computers, including, r
personnel systems, management information systems, health care delivery
process control, manufacturing, and a number of other subjects. Original
computer applications, or state of the art reports are requested. Mms. c
Contact Dr. Herbert Maisel, Director, Academic Computation Center, Georg
Washington, D.C. 20007.

11e1

(ifip) IFIP Congress '74, Stockholm, Sweden, 5-10 August 1974.

11f

To cover the whole range of information processing, including computer h
architecture, software, mathematical aspects of information processing,
scientific applications, applications in the social sciences and the hum
management and administration and social implications of computers. Dr.
Chairman, Programme Committee IFIP Congress '74, c/o AFIPS, 210 Summit A
07645.

11f1

(abstracts) Abstracts of Recent Documents of Interest

12

Last month the abstracts listed in the ARPANET News were thematic: A discus
teleconferencing, interactive communication via computer networks, and alte
month the theme is somewhat dual, but in the light of the transitional stat
the apparent direction in which it is going, they are related. The first tw
Notes 9 and 10, describe the recent outcome of two of the USING Group Commi
Server Definition Committee and the Feedback Committee. The remainder of th
the potentials of minicomputers, LSI and related hardware-software configur
to have a great impact on the configuration and character of the ARPANET wi
future.

12a

These documents are announced for the interest of the ARPANET community; hc
able to supply copies. The articles abstracted from the professional journa
local Technical Library; NIC Journal documents may be obtained at SRI-ARC c
accessing the NIC Journal.

12b

David Crocker (UCLA-NMC), John Day (ILL-ANTS), Alan R. Hill (SDAC-TIP), Mik
(SRI-ARC). Considerations in Defining and Evaluating a Network Service, USI
1974. 9p. NIC Journal 20804.

> Report of the USING Service Center Definition Committee:
> an attempt is made to list the parameters that are
> important in defining performance criteria for Network
> service. Suggests that a group such as the Performance
> Measurements Laboratory (Consumer's Union) should
> develop a service rating system that would give an
> individual rating for each type of service offered.
> Categories for discussion are: context of service,
> predictability, availability of individual services,
> stability, reliability, accountability of service
> and personnel, required services, optional services,
> security, convenience, helpfulness.

12c

James O. Calvin (CASE-10), David H. Crocker (UCLA-NMC), Jean Iseli (MITRE),
(CASE-10). Recommendations for a Network User Feedback System, USING Note 1
10p. NIC Journal 21683.

> For a Network (or any other) service to be viable, its
> users must have a reasonable degree of satisfaction with
> the service being provided. A major factor in having a
> broad base of satisfied users is having a responsive
> mechanism through which those users can communicate
> their ideas and complaints to the servers. A mechanism,
> called a Network User Feedback System, is proposed,
> intended as an initial stimulus to the development of a
> Network user feedback mechanism. Outlined is a generic
> structure, highlighting several critical human
> factors, and suggesting interim measures involving
> minimum implementation effort. Preliminary effort
> should be with a simple feedback mechanism, in order
> better to evaluate, test, and formulate design concepts
> and implementation strategies for the evolution of the
> general Network mechanism.

12d

Howard Falk, Associate Editor, IEEE Spectrum, Computer Report I - Hard-Soft
Spectrum, Vol. 11, No. 2, February 1974, p.34-39

Large-scale integrated gates and read-only memories are displacing software from many of its traditional roles. Today, the hardware portion of a system is substantially below 50 percent of total cost and rapidly declining. LSI circuits can economically provide computer functions that would otherwise be performed by software. Such traditionally software functions are being implemented in hardware, as: floating point arithmetic; FFT analysis; memory management; stack operations; indexing; storage protection; sorting; program linking and binding; program and data relocation; data structuring; format checking; character string manipulation; data-type conversion; automatic diagnostics; queues; links; compilation; symbolic addressing; next software instruction fetch -- and many more.

12e

C. Gordon Bell (Digital Equipment Corporation), Computer Report II - More P
In: IEEE Spectrum, Vol. 11, No. 2, February 1974, p.40-45, NIC 22244.

A discussion of network design and, in particular, three representative networks: The DEC LIPS (Laboratory Interconnection Programming System), the OCTOPUS Network at Lawrence Livermore Laboratory, and the ARPANET. Discussed is the use of minicomputers to front-end larger machines and handle many simple data processing tasks on a more cost-effective basis than is possible with a large machine. Network configurations (tree, one-level hierarchy, star, ring, store-and-forward switching, hybrid) are compared.

12f

Lawrence G. Roberts (Telenet Communications Corporation), Computer Report I
Packet. In: IEEE Spectrum, Vol. 11, No. 2, February 1974, p.46-51, NIC 2224

The electronics revolution and steadily decreasing cost of hardware has made possible the radically new concept of data communications called packet switching. This concept is strongly dependent on the cost of computing since it uses computers to correct transmission errors, to provide high reliability through alternate routing, and to allocate communication bandwidth dynamically on a demand basis, rather than as a preassigned bandwidth. With data communications priced on a distance-independent basis, it should become economically feasible for terminals and computers throughout the country to access efficiently, on demand, a wide variety of computer services.

12g

Howard Falk, Associate Editor, IEEE Spectrum. Computer Report IV: A Checkup
Software. In: IEEE Spectrum, Vol. 11, No. 2, February 1974, p.52-56.

Recently the hardware dollar buys much more, mainly because of the maturing large scale integration technology. The gap is closing between minicomputer and large computer hardware capabilities, distinction resting more heavily on software differences. Major trends in minis have been toward more sophisticated systems software; increased compatibility between software-software and software-hardware; greater accuracy of software; replacement of many former software functions by built-in machine hardware (temporarily more costly, but better in long-term economy); and in pricing advantages moving toward the minicomputer because of their rapidly increasing capabilities.

12h

Don Mennie, Associate Editor, IEEE Spectrum, Computer Report V: Power Suppl
Budget. In: IEEE Spectrum, Vol. 11, No. 2, February 1974, p.57-61.

Computer systems don't require great amounts of power, but they do have very particular appetites that must be met if meaningful operation is to be maintained. With only a brief interruption or fluctuation, operation is curtailed. The design of computer power supplies is an area ripe for further economy and cost reduction.

Spectrum's survey of vendors, users, and computer manufacturers doing their own power engineering, disclosed strong opinions on overpriced hardware and underutilized low-cost designs. These factors are significant because power supply investments often total 25 percent of a computer system's cost while the engineering effort expended to achieve improved design can be comparatively small.

A. A. J. Hoffman (Director, Computer Science Program, Texas Christian Unive
French (Vice President, R&D and Engineering, Avcon, Inc.), Guy M. Long (Cor
Dallas, Texas), Computer Report VI: Minicomputer Interfaces: Know More, Sav
Spectrum, Vol. 11, No. 2, February 1974, p.64-68.

> Attractive price/performance ratios for minicomputers lose some appeal when a potential user learns that individual peripherals required to complete a useful system - I/O devices, mass storage units, etc, - may cost as much or more than the mini itself, and that peripherals may be useless without special interface devices. To understand the interface problem, it is important to note the clear distinction between interface and controllers. The controller is that portion of the electronics which is dedicated to controlling the peripheral device itself. If standard peripherals do not meet specifications or are too costly, the user may: after selecting the appropriate peripheral, obtain a custom interface from the computer manufacturer (usually most costly), from a third party source such as a systems house, or he may select to design the interface himself. If a large number of these units are to be used, the cost savings of the user-designed units may exceed the cost of the one-time engineering effort.

(extra) ARPANET News Supplement 13

The "EXTRA", ARPANET News Supplement, is designed to:

. Provide an online repository for past ARPANET News articles deemed of informational value,

. Provide a forum for articles not directly aligned with the regular art News, either because of length or peripheral subject matter, directed towa readers,

13a

The "EXTRA" Supplement will not be distributed in hardcopy, and is availab SRI-ARC and at OFFICE-1, To view online, when in NIC Query language, type:

b[ring]<help>extra<CR>, or for viewing and/or printing in NLS, L[oad] F[i

13b

(extra-cont) Contents of ARPANET News Supplement

13c

(networks)	Implications of Multi-Access Computer Networks
(rutgers)	Rutgers University Computer Science Department
(bryan-ucsb)	Interview With Roland Bryan, UCSB CSL
(alex)	Interview With Alex McKenzie, BBN-NET
(office-1)	A New ARPANET Subscription Service
(illiac-iv)	Description of ILLIAC-IV, NASA-AMES
(London-TIP)	ARPANET -- A British way of life?
(norsar-tip)	Norwegian Site - An Introduction
(tenex)	New Tenex Release
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(bbn)	Featured Site: BBN-TENEX
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(kuo)	An Online Interview with Dr Frank Kuo 13c1

Date: 30-MAR-74 10:39:10

From: Trial N, User

Subject: Trial Feedback Capability Announcement

type of comment: Suggestion or unknown

Network online address: trial-user at trial-site

Phone: (703) 893-3500

Degree of urgency: Intermediate priority

Type of response desired: No response needed

Text:

This is a trial message to demonstrate the trial Feedback capability developed by Jim Calvin and Al Rosenfeld of CASE-10 for the USING Feedback Committee, Interested sites are invited to read the Feedback Committee report: <using>feedback.txt at Office-1 and develop counterparts to this TENEX version.

(J22534) 30-MAR-74 10:40; Title: Author(s): NET COMMENT/NCMT ;
Distribution: / NCMT; Sub-Collections: NIC; Clerk: NCMT;

JHB 30-MAR-74 19:38 22535

User Development Trip to RADC, 19 Nov 73

Historical

JHB 30-MAR-74 19:38 22535

User Development Trip to RADC, 19 Nov 73

(Trip) to RADC, 19 & 20 Nov. 73, AGENDA and accomplished items (approved by JCN 12 Dec 73) [see also -- ijournal,20430,1) for Stone's summary] 1

Discussed planned access to Utility, new users, and the kind of application/trainning for the planned population. 1a

RADC still plans to add approximately 20 users when the Utility is available and reliable. The intensity of use is not clear, but at any rate, the addition of that many people is problematic. The augmentation of the larger organizational structure is planned primarily to explore the effects of having parallel organizational units under commom management use the system for all communication. 1a1

Meet managers: 1b

Thayer: During a half hour discussion, we were given some perspective on where we stand relative to other expenditure requirements. The picture was filled with uncertainty, but was concluded with an indicator that our program would continue to be persued. Our visit definitely seemed to have a positive effect, at least in terms of demonstrating our concern and interest in providing support. Specific conclusions were that training the Col. should be defferred by us; that a clerical type in the Division office and/or the Col's secretary should be trained and that equipment should be provided that renders the process of logging in as easy as possible (eg. a direct write from the Col's office to the TIP. (The fact that RADC did come through with the money for the Utility should be noted.) 1b1

Tomaini: Meeting with the Branch chief was deferred to a later visit. We should still attempt to show him the kind of data management system we have (Query) an as indication of the nature of the future system during the next visit. 1b2

RADC MIS 1c

RADC Host = IDS or some equiv MIS, date? Still uncertain about the date. 1c1

Current interface or planned use of NLS = ? 1c2

Still need L-10 teacher or representative particularly for the development of other programs for specific applications. 1d

Trouble shooting, minor things 1e

User Development Trip to RADC, 19 Nov 73

--Gave Bobbie a Directory, showed her how to connect and make corrections to others files from her dir. This had a very positive effect. Bobbie is enthusiastic and skilled. 1e1

--Check out DEX use, how its working: it is! 1e2

--IMLAC functioning -- TAKE a mouse; Our mouse was not compatible with their Imlacs. The problem remains serious for DNLS and unsolved; they are working on building their own mouse with adequate components. We should encourage this to happen. The other problems with the Imlac require a new program which has not been updated since may: Crashes whenever m viewspec is used; screen flicker; top line appears on the bottom of the display in exec. 1e3

(Atherton access to the NET via Rome -- this remains an important topic than can be dealt with once we have a contract.) 1f

Forms generator: This is still a high priority item. The data base will ultimately be all of RADC's documentation (funding, personnel, etc.). In the interim, they want to have the b'p'bhlhtx fnr thnrd vhn are augmented to fill out and print forms automatially. 1g

RWW wanted a list of expectations/needs by priority: 1h

Forms = high 1h1

Training = high 1h2

MIS = medium high 1h3

Trouble shooting = medium high 1h4

Suggest visits to SRI -- Duane is still planning to come out in Jan. to the architect course. 1h5

Re-emphasized the need for a someone to learn L10, but still do not have a programmer available. We are willing to train someone, particularly if they come out here. 1h6

Develop the Architect concept with management.... This was done with Duane who seems to have more control to exercise before he needs our assistance. (Note that RADC will be the first to transfer). 1i

Itemize the status of each user at RADC: to be done on the next visit in Dec. Talked to and helped a few. 1j

User Development Trip to RADC, 19 Nov 73

1k

(actionradc)

New software for the Imlac. Present crashes with the m viewspec and certain special characters such as control G. Bottom line at Exec display is actually the top line. Screen flicker is a program, mouse prob is hardware. Last release was in May 73. 1k1

Journal features desired: Modifiable, forwardable, signature acceptable, with restricted access to Journal store documentation. 1k2

11

JHB 30-MAR-74 19:38 22535

User Development Trip to RADC, 19 Nov 73

(J22535) 30-MAR-74 19:38; Title: Author(s): James H. Bair/JHB;
Distribution: /FEED; Sub-Collections: RADC SRI-ARC; Clerk: JHB;

JMB 30-MAR-74 23:06 22537

Question about detail in Allocation document

In--JJOURNAL,22526,3a4) - Would you please explain what kind of a system job USERGUIDES is? Is it a Username? 1

JMB 30-MAR-74 23:06 22537

Question about detail in Allocation document

(J22537) 30-MAR-74 23:06; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /WRF; Sub-Collections: SRI-ARC; Clerk: JMB;

JMB 30-MAR-74 23:07 22538

I just now found a sndmsg you sent me 2 weeks ago about transferring files to office-1. I still have not successfully done a complete file-transfer of the <USERGUIDES> directory from ARC to Office-1 because none of the methods available so far will work satisfactorily on <USERGUIDES> for various frustrating reasons I won't go into here. But White and Hopper promise better tools soon, so I'm still working at it--most of the files have been transferred however, and I'll be taking care of the nls and print versions of TENEX soon. 1

(J22538) 30-MAR-74 23:07; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /NDM; Sub-Collections: SRI-ARC; Clerk: JMB;

JMB 30-MAR-74 23:08 22539

Re--JJOURNAL,22523,>

Yes, I am still interested in file transfer, but haven't tried it lately--still hurting from the last frustrating experience. But, I'm sure the only solution is to keep experimenting. Dean Meyer has told me that .print files compiled at ARC don't work at Office-1 unless one SENDPRINTs (How do you do that?), so I guess I now have only NLS files to worry about sending to USERGUIDES over there. 1

P.S. I assumed the Journal-netsub file you updated is located at ARC. 2

JMB 30-MAR-74 23:08 22539

Re--JJOURNAL,22523,>

(J22539) 30-MAR-74 23:08; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /KIRK; Sub-Collections: SRI-ARC; Clerk: JMB;

JMB 30-MAR-74 23:09 22540

Userguides files

I just found a 2-week-old message from NDMeyer that .print files compiled at ARC don't work at Office-1, so it's pointless to transfer those in USERGUIDES from here to there with FTP. 1

Do you think I should provide .print files of Users' Guides at Office-1, considering that I could (1) SENDPRIINT them, or (2) re-compile them at Office-1 (tho there's so many)? 2

JMB 30-MAR-74 23:09 22540

Userguides files

(J22540) 30-MAR-74 23:09; Title: Author(s): Jeanne M. Beck/JMB;
Distribution: /DVN; Sub-Collections: SRI-ARC; Clerk: JMB;

NDM 29-MAR-74 14:48 22541

Comments on SENDMAIL

Re your comments on SENDMAIL: 1) There is a maximum size to local messages, 2) it adds to your MESSAGE.TXT file, not your initial, 3) i will not avoid developing powerful tools simply because they provide the opportunity for misuse, instead I will build in what protections seem reasonable, and 4) you should have the sense to use the journal when you want things to happen like they do with the journal. The point of this is not to rewrite the journal, but to provide SNDMSG capabilites in NLS and to allow the round trip from NLS through MESSAGE.TXT and back into NLS. I hope you take this answer constructively, as your initial reactions and your interest was taken (you're the! only one who responded in any way to that glorious announcement). Does! this clear things up? See you soon...Dean 1

NDM 29-MAR-74 14:48 22541

Comments on SENDMAIL

(J22541) 29-MAR-74 14:48; Title: Author(s): N. Dean Meyer/NDM;
Distribution: /JHB; Sub-Collections: SRI-ARC; Clerk: NDM;

DCE 31-MAR-74 12:57 22543

Welcoming Lederberg's interest in ARC's products

SNDMSG version sent to Lederberg@USC-ISI

DCE 31-MAR-74 12:57 22543

Welcoming Lederberg's interest in ARC's products

Josh: Jim and I appreciate your SNDMSG of Friday. At ARC, we've divided our activities into two main departments: "Development & Analysis" headed by Dick Watson, and "Applications" headed by Jim Norton. Jim is the logical one to handle your information needs, I'd guess; but he's in Washington until mid week. I'll be most happy to help you in Jim's absence. I'll try to reach you by phone early in the week; or, plese feel free to call me: 326-6200, X2220. 1

The development of a capability to support external application of our products, largly emergent since Jim's 25 Apr 73 letter to you (15950,), is really an excitng and long-awaited stage in our evolution. That we can finally support a reasonble transfer process, toward having these products become usefully applied in socially important activities, is really one of the carrots we've been following for so long. We would really be delighted if you found value in applying them within your domain of activity, and are ready to cooperate in any reasonable manner. 2

Meanwhile, I'll send you the following documents, to add to those accompanying Jim's letter (cf. -- 15950,6): 3

D. C. Engelbart and W. K. English, "A Research Center for Augmenting Human Intellect", AFIPS Proceedings, Fall Joint Computer Conference, 1968, Washington, D.C. (3954,) 3a

D. C. Engelbart, "Intellectual Implications of MULTI-ACCESS COMPUTER NETWORKS", A paper for the Proceedings of The Interdisciplinary Conference on Multi-Access Computer Networks in Austin, Texas, April 1970. (5255,) 3b

J. B. North, EXPERIMENTAL DEVELOPMENT OF A SMALL COMPUTER-AUGMENTED INFORMATION SYSTEM, Annual Report on ONR project N00014-70-C-0302, April 1973 (16508,) 3c

J. C. Norton, R. W. Watson, WORKSHOP UTILITY SERVICE FOR THE USE OF KNOWLEDGE WORKSHOP TECHNOLOGY, Technical Proposal to Bell Canada, SRI No. ISC 73-147, October 8, 1973 (19250,) 3d

Augmentation Research Center, "Output Processor Users' Guide," 23 Aug 73, (Journal -- 12209,) 3e

This guide was published using the automatic formatting-typesetting services that it describes, Availability of high-quality publication facility as final product of some of the "augmented knowledge work" is a standard part of NLS services. 3e1

Note that only specialists would master the whole repertoire of Output Processor capabilities; one of the uses of NLS's

Welcoming Lederberg's interest in ARC's products

close-coupled dialogue support is to put various specialists such as these into easy collaborative reach of a knowledge-workshop community. 3e2

DCE 31-MAR-74 12:57 22543

Welcoming Lederberg's interest in ARC's products

(J22543) 31-MAR-74 12:57; Title: Author(s): Douglas C. Engelbart/DCE ; Distribution: /jcn rww bc ; Sub-Collections: SRI-ARC; Clerk: DCE ;

DCE 31-MAR-74 17:05 22544

SNDMSGs from HART and DCE to ARPA re SRI IMP/TIP Requirements

This interchange seems worth recording. 1

31-MAR-74 1559-PDT HART at SRI-AI: SPELLING
Distribution: ENGELBART
Received at: 31-MAR-74 15:55:16 2

DOUG: SORRY I SPELLED YOUR NAME WRONG. HERE IS THE DISTRIBUTION LIST THAT WENT OUT WITH THIS MESSAGE TO ARPA.
KAHN@ISI,KAHN@BBN,LICKLIDER@ISI,LICKLIDER@BBN,CROCKER@ISI,CROCKER@BBN,FIELDS@ISI,FIELDS@BBN,SCHELONKA@ISI,BLUE@ISI,ENGLEBART@SRI-ARC,BRANDIN@SRI-AI,HART@SRI-AI,MAGILL@SRI-AI,NILSSON@SRI-AI,ROSEN@SRI-AI,LYNCH@SRI-AI,CRAIGHILL@SRI-AI 2a

Dear Bob, This is being sent to you and everyone else we could think of so that all who need to know what is going on here at SRI would be informed. It is a joint memo from Englebart, Fralick, Hart, Magill, Nilsson, and Rosen. 2b

The current IMP at SRI has three hosts placed on it:
1) SRI-ARC PDP-10 local host
2) SRI-AI PDP-10 distant host
3) SU-ERL PDP-11 very distant host 2c

The projected needs for IMP ports at SRI for the current calendar year are summarized as follows: 2d

TIME	TYPE	PROJECT LEADER	PURPOSE
Spring	PDP-11 distant	Magill	Net speech compression
Spring	PDP-11 distant	Rosen	Industrial automation
Summer	PDP-11 local	Englebart	Terminal front-end
Fall	PDP-11 distant	Nilsson	Computer based consult.
Fall	PDP-11 ?	Fralick	Packet radio

2e 2f

The current IMP is being modified by BBN to accomodate another distant host hopefully by the first of May. Simply put, there is an urgent need for another IMP at SRI now. Could you please coordinate the activities at ARPA to resolve this pressing need? 2g

My best,
Peter Hart (representing all of us at SRI) 2h

31-MAR-74 1656-PDT ENGELBART: SRI IMP/TIP Needs: ARC Reconsidering
Distribution: ENGELBART, kahn at ISI, licklider at ISI, crocker at ISI, fields at ISI, schelonka at ISI, blue at ISI, brandin at SRI-AI, hart at SRI-AI, magill at SRI-AI, nilsson at SRI-AI, rosen at SRI-AI, lynch at SRI-AI, craighill at SRI-AI
Received at: 31-MAR-74 16:56:11 3

The NET-interfacing prospects at ARC have changed radically in the past two days -- not sure now that HART's recent SNDMSG represents our need. There is a fair chance that ARC will soon be entirely dependent upon service through the NET (i.e. not using local TENEX). If this occurs, we may opt rather strongly for having a TIP here, or several IMP ports, and our needs may become more urgent than before. But in any event, please wait until the issue of how we get our TENEX service is settled before tallying SRI's needs and desires. (Settlement of our plans now in process between Fields, Norton, Watson, and me).

Regards to all -- Doug Engelbart, for SRI-ARC 3a

DCE 31-MAR-74 17:05 22544
SNDMSGs from HART and DCE to ARPA re SRI IMP/TIP Requirements

(J22544) 31-MAR-74 17:05; Title: Author(s): Douglas C. Engelbart/DCE ; Distribution: /rww jcn chi meh ; Sub-Collections: SRI-ARC; Clerk: DCE ;

DCE 31-MAR-74 17:40 22546

Journalizing other's material, authorship integrity, etc

For Jim, Dean, Dirk especially: I suddenly find myself "the author" of a Journal item (JJOURNAL, 30336,) that a) I didn't submit, as author, that b) I didn't give my permission for the "Clerk" to publish, and that c) I didn't even know was going to be published (even though it seems genuinely enough to have been material authored by me, and sent via SNDMSG). 1

Something seems amiss here. I don't happen to have any objections at all to this particular material being published in the Journal; but somehow it seems objectionable for it to be done without my knowledge (much less permission), AND as though I authored that particular submission. 2

The question becomes complicated a bit for "private" Journal collections. Inspecting the Journal-file header for this particular item shows me no privacy stamp, but I'm not yet familiar with what would show there with the new privacy features coming up for the Journal, and I presume that this item doesn't belong to a private collection. 2a

I happen to have a lot of trust in the person who "Clerked" this particlar Journal entry, and would generally have confidence in his discretion -- but I'm sure that it could make me immensely bothered to have this happen with some communiques that I've sent via SNDMSG just so they would be private (and it isn't clear to me that anyone could as a general practice judge for me what items I'd o.k. for publication). 3

I'm sure that some other people would object sooner and more strenously than I. Here will be a rather general problem, no doubt, with this new publishing system, as it gets used more widely. 4

I think that Application must provide some sort of policy statement in this regard, to ALL USERS OF PUBLIC Journal. Be happy to discuss such with; meanwhile, I'd like for the DEIS people who are Journalizing old records, unbeknownst to the authors, to hold back. 5

DCE 31-MAR-74 17:40 22546

Journalizing other's material, authorship integrity, etc

(J22546) 31-MAR-74 17:40; Title: Author(s): Douglas C. Engelbart/DCE ; Distribution: /SRI-ARC kwac ; Sub-Collections: SRI-ARC KWAC; Clerk: DCE ;

ASSORTED JOURNAL STATISTICS 1

INTRODUCTION 2

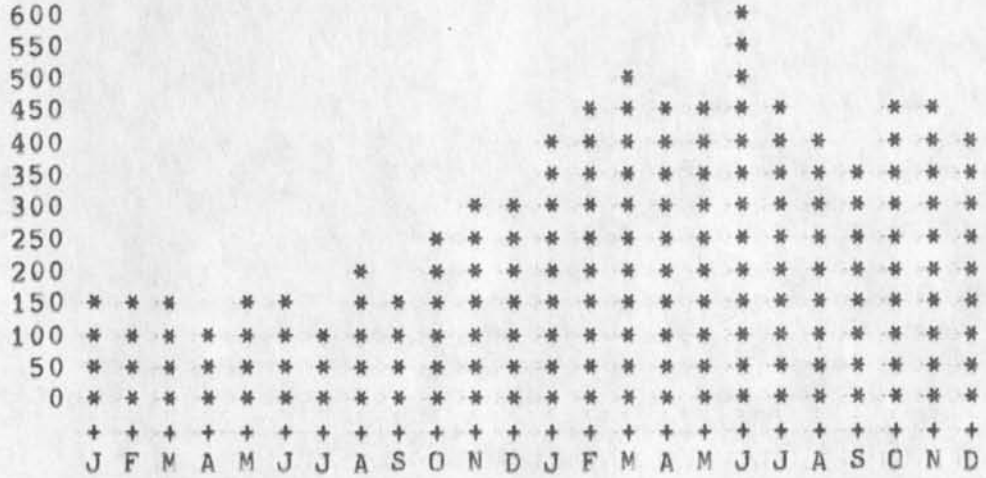
The following is a summary of journal usage for 1972 and 1973 with a more detailed breakdown of data for 1973. This paper is intended to supply basic information for future analyses of the journal system. 2a

DATA 3

Monthly totals for 1972 and 1973 3a

	'72	'73	
			3a1
January	127	404	
February	156	432	
March	131	505	
April	118	474	
May	174	437	
June	129	608	
July	105	461	
August	185	405	
September	164	355	
October	251	448	
November	297	473	
December	315	385	3a2
TOTAL	2152	5387	3a3

Graph of journal usage for 1972 and 1973 3b



3b1

Detailed breakdown for 1973 data 3c

Assorted Journal Statistics

Number of messages sent vs. number of files 3c1

The number of messages sent includes messages, statements, branches, etc. (everything but files) which are submitted. 3c1a

	Messages	Files	Total	3c1a1
January	295	109	404	
February	333	99	432	
March	368	137	505	
April	340	134	474	
May	291	146	437	
June	453	155	608	
July	353	108	461	
August	285	120	405	
September	259	96	355	
October	329	119	448	
November	348	125	473	
December	288	97	385	3c1a2
TOTAL	3942	1445	5387	3c1a3

Breakdown by groups for 1973 3c2

	STAFF	PROG	PSO	NIC	HARD	FAC	RADC	PARC	NET	TOTAL	
January	72	83	42	26	6	0	14	5	156	404	
February	81	75	43	25	7	0	12	11	178	432	
March	111	60	94	56	9	0	23	5	147	505	
April	107	81	71	34	6	0	25	15	135	474	
May	102	72	68	26	3	0	19	7	140	437	
June	84	91	162	38	3	0	19	4	207	608	
July	90	67	59	47	3	0	39	1	155	461	
August	99	47	31	15	0	1	69	2	141	405	
September	96	39	6	30	2	1	57	2	122	355	
October	150	57	26	20	3	0	46	2	144	448	
November	124	35	35	28	1	0	52	7	191	473	
December	133	49	42	16	0	1	51	3	90	385	3c2b
TOTAL	1249	756	679	361	43	3	426	64	1806	5387	3c2c

Group composition is as follows: 3c2d

STAFF - DCE JCN PR MFA DVN BAH NDM SRL JHB
PROG - DSK HGL CHI WLB CFD JDH JFV EKM JEW KEV DCW WRF DIA
PSO - MEJ KIRK LLL KFB MLK JML JDC CBG
NIC - MDK JBN EJF

Assorted Journal Statistics

HARD - MEH (no items were submitted by EKV JR RAB)
FAC - JCP (no items were submitted by MAB) 3c2d1

Further Breakdown of PSO group 3c3

The number of items submitted by the PSO group is highly variable due primarily to the number of transmittal letters submitted. Following is a further breakdown of the items submitted by this group which shows that over half are transmittal letters. 3c3a

	TRANSMITTALS	OTHERS	TOTAL
January '73	28	14	42
February	32	11	43
March	56	38	94
April	42	29	71
May	28	40	68
June	126	36	162
July	27	32	59
August	20	11	31
September	--*	6	6
October	--	26	26
November	--	35	35
December	--	42	42
TOTAL	359	320	679

3c3b 3c3c 3c3d

*Beginning in September, transmittal letters were no longer journalized individually. 3c3d1

Average Length of Journal Items 3d

Several journal directories have been checked for number of files and pages in use. Of two current directories, one contained 166 journal files with 867 pages in use and the other contained 188 files with 1001 pages in use for an average of 5 pages per journal file. Messages are stored in separate files. 3d1

Distribution Profile 3e

The distribution was checked for 3570 items, most from 1972. The following shows the distribution profile. 3e1

Type of Distribution Number percent Cumulative 3e2

Individual idents 3e3

Assorted Journal Statistics

0 individuals (test or for the record)	174	5%	5%	3e3a
1 individual	1418	40%	45%	3e3b
2 individuals	373	10%	55%	3e3c
3 individuals	224	6%	61%	3e3d
4 individuals	174	5%	66%	3e3e
5 individuals	124	4%	70%	3e3f
6-10 individuals	211	6%	76%	3e3g
More than 10 individuals	98	3%	79%	3e3h
Group idents				3e4
SRI-ARC	445	12%	12%	3e4a
One group	216	6%	18%	3e4b
One group plus 1-5 individuals	113	3%	21%	3e4c
TOTAL	3570	100%		3e5

Access Rates 3f

Mjournal accesses 3f1

As a first look at the access rate, Mjournal was checked for the access rate as of January 10. 3f1a

There were a total of 185 files in this directory, with a total distribution to 2241 people. These files were accessed 2120 times for a 95% access rate. 3f1b

Of these files 45 were distributed to group idents and the access rate was considerably lower, as might be expected. 3f1c

These files were distributed to a total of 1633 people and there were 1038 accesses for a rate of 64%. 3f1c1

Access rates over time 3f2

Data 3f2a

Assorted Journal Statistics

Using the new Copy Directory command 20 files have been checked for the number of accesses on 7 to 20 consecutive working days beginning the day they appeared in the journal. 3f2a1

Fifteen of these files were distributed to SRI-ARC and all but one were distributed to 15 or more people. 3f2a2

On the average there were no accesses for the first time on the sixth working day after the citation appeared. The average profile is as follows: 3f2a3

Day 1 - 9 accesses
Day 2 - 7
Day 3 - 3
Day 4 - 1
Day 5 - 1
Day 6 - 1
Day 7 to Day 20 - 0 3f2a3a

Observations 3f2b

Most files followed this pattern of high read rate during the first few days and tapering off the remaining time. But, for example, there was one read by 16 the first day, 1 the second and never again, and with others the read rate continued to hold steady at 2-3 a day for two weeks. 3f2b1

On one day, four weekly reports of system use appeared. The one appearing first in the initial file was read by 11 people the first day, while each of the other three was read by 3 people. The gap in read rate was never narrowed. 3f2b2

DISCUSSION 4

Total journal usage increased steadily throughout 1972 from an average usage of 150 items per month to around 400 by the beginning of 1973. 4a

The peak month was in June of 1973 when 608 journal items were sent. 4b

There were a couple of factors resulting in this peak. First, 126 NIC transmittal letters were journalized and Jim White sent approximately 39 test messages while bringing up Network Journal Submission. 4b1

Assorted Journal Statistics

It appears that a plateau has been reached with regards to journal usage at about 450 items a month. The average for 1973 was 449. 4c

Net use was stable throughout 1973 with an average usage of 151 items a month. 4d

In trying to make a statement about how the journal is used, it seems significant that 40% of all items are sent to one person and that 73% of all items are either messages or some other relatively short message (statement, branch, etc.). 4e

This indicates to me that the journal is used predominantly for short communications between a small number of people. 4e1

Assorted Journal Statistics

(J22547) 1-APR-74 09:27; Title: Author(s): Susan R. Lee/SRL;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>JOUVOL.NLS;13, 1-APR-74 09:26 SRL ;

SRL 1-APR-74 09:33 22548

New Feedback Ident

This is short, Please read.

SRL 1-APR-74 09:33 22548

New Feedback Ident

To facilitate the feedback process at ARC, a new directory and ident have been created, directory=FEEDBACK and ident=FDBK. All comments, complaints, etc. should be sent via the journal to FDBK or via sndmsg to FEEDBACK. 1

BUGS, NP and NEWNLS are still in existence, and should they be used items sent to them will be routed to the FDBK file. 1a

For a description of the feedback process and a collection of feedback to date see (feedback,fdbk,). 2

SRL 1-APR-74 09:33 22548

New Feedback Ident

(J22548) 1-APR-74 09:33; Title: Author(s): Susan R. Lee/SRL;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: SRL;

PRELIMINARY MAPPING OF JOURNAL USE FOR ONE SUBJECT 1

INTRODUCTION 2

The following is a compilation of journal citations from July through December, 1973, on the general subject of the journal. It is intended to give an indication how the journal is used as well as how and in what ways communication is accomplished. 2a

Each item has been assigned a value, either short, medium, or long. 2b

Short encompasses both items which do not need to be recorded at all and those which should be available for a couple of weeks. Medium value items should be available for a couple of months, and long value items should be available for a year or longer. 2b1

Value judgments are arbitrary, at least to a degree, but it is interesting how similar the proposed length of availability was within each category. 2b2

The distribution for each item is also indicated, either internal(int), external(ext), both, or originating elsewhere(-). 2c

NEEDS AND POSSIBILITIES 3

FORMAT 3a

(JOURNAL)Suggestion for Change in Journal Hardcopy Format
25 Nov 73 20492 med int 3a1

(JOURNAL)Request for Journal Feedback Line to Show Lack of Title 3 Aug 73 18200 med int 3a2

(JOURNAL)Request for proper RFC journal format.
6 Jul 73 17694 med int 3a3

PRIVACY 3b

(PRIVACY)Proposed Design for Initial Privacy Features
10 Sep 73 18976 med int 3b1

(JOURNAL)Questions About Private-Journal Catalogs and Speed of Proposed Implementation 11 Sep 73 18982 3b1a

(PRIVACY)On Initial Privacy Features (18976,)
12 Sep 73 19001 med int 3b1b

Preliminary Mapping of Journal Use for One Subject

(JOURNAL)A Comment on Journal Privacy
13 Sep 73 19053 med int 3b1c

(PRIVACY)On Proposed Initial Privacy Features
13 Sep 73 19055 med int 3b1d

(PRIVACY)Another Look at Privacy %Alternative to (18976,)%
11 Oct 73 19619 med int 3b2

(JOURNAL)A Just-About-Final Journal Privacy Proposal
26 Nov 73 20543 med int 3b3

(PRIVACY)Comment on Jim White's Privacy Proposal-- (20543,):
Some Questions 27 Nov 73 20575 med int 3b3a

(JOURNAL)Reply to Jim White's Private Journal Dialog
Proposal 28 Nov 73 20601 med
int 3b3b

(JOURNAL)Additional Comment on Your Proposal for Private
Journal Dialog 29 Nov 73 20624 med int 3b3c

(JOURNAL)re JEW's 20543 Journal Privacy Proposal
6 Dec 73 20750 med int 3b3d

NUMBER SYSTEM 3c

(JOURNAL)How about 'RFC-524' Instead of '17140'?
25 Jul 73 18011 med int 3c1

(JOURNAL)On Changing Journal File Naming Convention
27 Jul 73 18036 med int 3c1a

(JOURNAL)Reply to JEW (18011,) Re: Use of RFC Numbers in
Cataloging 30 Jul 73 18063 med int 3c1b

(JOURNAL)On Journal-item Citation Naming; cf. (18011,),
(18036,) and (18063,) 31 Jul 73 18132 med int 3c1c

NETWORK JOURNAL SUBMISSION AND DELIVERY 3d

(JOURNAL)NWG/RFC 543: Network Journal Submission and Delivery
16 Jul 73 17777 long both 3d1

(JOURNAL)Answers to Questions About Net Journal Submission &
Delivery 20 Jul 73 17964 med ext 3d1a

(JOURNAL)Network Journal Delivery Problems
24 Jul 73 17991 short ext 3d1b

Preliminary Mapping of Journal Use for One Subject

MISCELLANEOUS 3e

(JOURNAL)DSS: New Journal Features under Consideration
27 Dec 73 21224 med int 3e1

(JOURNAL)Meeting on Changes in the New Command Language, Prompts and Journal 23 Nov 73 20453 long int 3e2

(JOURNAL)Agreement that SNDMSG and Journal Should be more Closely Coupled 20 Nov 73 20392 short both 3e3

(JOURNAL)Journal Distribution: Two Additions to be Implemented
19 Nov 73 20380 med int 3e4

(JOURNAL)Suggestion for Initial File Journal Item Indexing
4 Nov 73 20037 med int 3e5

(JOURNAL)Interim Dual-site Journal and Ident systems preliminary design 17 Aug 73 18489 long int 3e6

(JOURNAL)Thoughts on Possible Exec-Level Journal Commands
31 Jan 73 20933 med int 3e7

BUGS AND QUESTIONS (in general, answers to questions are placed down a level) 4

(JOURNAL)Regarding your Ident system and Journal Subcollection questions 12 Nov 73 20178 short ext 4a

(JOURNAL)Some Journal Queries
18 Nov 73 20362 medium - 4b

(JOURNAL)Some answers to queries about the journal (20362,)
19 Nov 73 20371 med ext 4b1

(JOURNAL)Catalog Bug?
1 Nov 73 20004 short - 4c

(JOURNAL)What to do When Interogate Tells you a Journal File is Not On Line (reply to 2 Nov 73 20013 short ext 4c1

(JOURNAL)BUG in Journal system on SRW (19973,) message and (19987,) 1 Nov 73 20006 med int 4d

(JOURNAL)<space> in Journal
4 Oct 73 19508 short int 4e

Preliminary Mapping of Journal Use for One Subject

(JOURNAL)Output Journal Mail Command
1 Oct 73 19401 short ext 4f

(JOURNAL)Journal Trouble? Jean Iseli Problem Tonight
20 Sep 73 19172 short int 4g

(JOURNAL)re Your Journal Problem
21 Sep 73 19189 short ext 4g1

(JOURNAL)Attaching comments to a journal item
30 Jul 73 18069 short - 4h

(JOURNAL)Response to 18069: Attaching Comments to a Journal Item 31 Jul 73 18145 short ext 4h1

(JOURNAL)TNLS Bug, Journal, File Locking Conflict
27 Jul 73 18041 med both 4i

(JOURNAL)Network Journal Mail
3 Jul 73 17628 short ext 4j

(JOURNAL)Reply to DHC on some Journal Suggestions
2 Jul 73 17596 short ext 4k

(JOURNAL)mail problem
29 Jun 73 17572 short - 4l

(JOURNAL)What to do If Your Journal Branch Is Destroyed
2 Jul 73 17613 short ext 4l1

TEST AND MISCELLANEOUS 5

TESTS value distribution 5a

(JOURNAL)DLD2 Problem rec, Journal estf Mail
2 Dec 73 20671 short int 5a1

(JOURNAL)test journal message (testing 20671)
4 Dec 73 20711 short - 5a1a

(JOURNAL)Journal mail to Daughtry (way to get around 20671)
4 Dec 73 20699 short - 5a1b

(JOURNAL)Test of Sndmsg vs. the Journal
26 Sep 73 19309 short int 5a2

(JOURNAL)Empty File Sent to Test Journal
20 Sep 73 19134 short int 5a3

Preliminary Mapping of Journal Use for One Subject

(JOURNAL)Journal Delivery Test
31 Jul 73 18154 short ext 5a4

(JOURNAL)a sample journal message
18 Jul 73 17857 short 5a5

(JOURNAL)a sample journal session
18 Jul 73 17856 short 5a6

(JOURNAL)my first journal - the cherry is busted
6 Jul 73 17687 short ext 5a7

JOURNALIZED JOURNAL BRANCHES 5b

(JOURNAL)Journal Documents Received and READ to early Nov, 73
12 Dec 73 20870 long none 5b1

(JOURNAL)Journal Items received from Oct 72-Jul 73
8 Nov 73 20118 long none 5b2

ENCOURAGEMENT TO USE JOURNAL 5c

(JOURNAL)An Invitation to Use The Journal
26 Oct 73 19881 short ext 5c1

(JOURNAL)Iseli: Keep up collaborative dialogue, but please use Journal 18 Oct 73 19751 short ext 5c2

(JOURNAL)Is The Journal Working for You?
26 Sep 73 19308 5c3

MISCELLANEOUS 5d

(JOURNAL)Multi-Site Journal Meeting Announcement
24 Jul 73 17996 5d1

(JOURNAL)L10 Program to Tabulate Modes of Journal Delivery
11 Jul 73 17746 long int 5d2

SRL 1-APR-74 09:43 22549

Preliminary Mapping of Journal Use for One Subject

(J22549) 1-APR-74 09:43; Title: Author(s): Susan R. Lee/SRL;
Distribution: /PR; Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>JOUMAP.NLS;6, 1-APR-74 09:42 SRL ;

HGL 1-APR-74 10:07 22550

Baroque's OK, But Rococco?

Is a programmer's meeting in order for this week???

HGL 1-APR-74 10:07 22550

Baroque's OK, But Rococco?

I guess I really don't know what we're/I'm doing right now. 1

The HELP system, rather than being completed, is in limbo waiting for one of several possibilities to happen; it is not clear which should be done and, if the first solution is chosen, what I should do: 1a

1. A rewrite of the CML interpreter to let it call x-routines as alternatives which may return TRUE or FALSE rather than just skipping them completely. After experimentation with several variations I have concluded that coding around the problem in the current CML is not possible. 1a1

2. A rewrite of the HELP system parser in L10 to get around the limitations of the CML interpreter. This is probably at best a waste of time if the interpreter will eventually be rewritten and is at worst extremely difficult given the number of obscure (undocumented?) global state flags controlled by the interpreter. 1a2

3. A hybrid. This is the current state and simply does not work, primarily because of user interaction embedded wthin the system which gets in the way of the interpreter and its global state flags. 1a3

The HELP system and the new NLS in general are up against the size wall. There are several solutions that have been considered, but the situation seems to be exacerbated daily by the addition of exotic commands of limited use. Until a reasonable plan for dealing with the size problem is accepted, (e.g., rolling subsystems in and out as needed), it is counterproductive to further add to the problem of debugging existing parts of the system by adding new commands and command options. 1b

Documentation for the new system is, I believe, non-existant except for the HELP system which is itself in limbo. 1c

Users of the experimental system have been coming up with suggestions for even more commands (some of which have validity) rather than true bugs; dealing with these suggestions is a further energy drain which prevents the completion of the new system. 1d

The coming change in group goals and tasks seems to imply to me the need for a streamlined system. (NLS is often accused of being difficult to learn.) Instead, the new NLS is gaining a rococco load of trim. 2

It is probably also time to begin discussing within the programmer's

Baroque's OK, But Rococco?

group possible new modes of interaction after 1 July. What will be the relationship among the three subgroups each operating a different verson of the system? (Tymshare, ARC, MST.) How can we best avoid duplication of effort?

3

HGL 1-APR-74 10:07 22550

Baroque's OK, But Rococco?

(J22550) 1-APR-74 10:07; Title: Author(s): Harvey G. Lehtman/HGL;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: HGL;

Date: 1-APR-74 14:18:25

From: Carl M. Ellison

Subject: feedback.sav

type of comment: Suggestion or unknown

Network online address: ellison@utah-10

Phone: 801-581-8224

Degree of urgency: Low priority

Type of response desired: Response is requested

Text:

Hi out there.

I notice this must be a variant of SNDMSG.

I was just wondering what it was, having noticed that it hadn't been read.

(J22551) 1-APR-74 13:17; Title: Author(s): NET COMMENT/NCMT ;
Distribution: / NCMT; Sub-Collections: NIC; Clerk: NCMT;

DVN 1-APR-74 13:18 22552

Office-1 Print Files and Brococo Messages

I am going to try sendprint (It's wole wheat with all of the bran) fromm Office-1 and will inform you of the outcome. 1

Havery's brococo message come from two sources, programming prbolems with the HELP system that I do not understand but which I unserstand to be the first instances of more general problems including the size of the code, and from news which arrived here yesterday that starting next fiscal year we will be getting somewhat less money from ARPA and that projects will be somewhat rearragned within ARC. Both of these things have to do with your work in the long run, but nothing you need to know before, and I have only fuzzy ideas what the consequences may be. 2

DVN 1-APR-74 13:18 22552

Office-1 Print Files and Brococo Messages

(J22552) 1-APR-74 13:18; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /JMB KIRK HGL; Keywords: HELP documentation;
Sub-Collections: SRI-ARC; Clerk: DVN;

DESIGN FOR A CORRESPONDENCE LOG FOR AN ONLINE OFFICE 22593
JBN December 1973

INTRODUCTION 1

This document sets forth the specific provisions and alternative provisions of a system designed to make available the research information contained in correspondence, defined as communication by letter. The system is a module in a total design for managing research information, as would be desirable for a knowledge workshop. 1a

In the knowledge worker's relations with his Office co-workers and with his colleagues in his discipline- or mission-oriented Communities, it is desirable for him to be able not only to retrieve but to reuse and recommunicate information gathered from correspondence. This design deals not only with the means by which the information in correspondence may be gathered, stored, and retrieved, but also explores means by which it can be reused and redisseminated. 1b

ITEMS AND INFORMATION TO BE HANDLED IN A CORRESPONDENCE CONTROL SYSTEM 2

In a department of 20 or more people carrying out project work, published and unpublished information of many types and forms is received daily. Forms in which the information arrives are typically: 2a

U.S. Mail

Official correspondence from contracting or funding agencies

Personal letters, sometimes with enclosures, some of which are publications

Letters to the department, requesting information, reports, or action

Internal Mail

Memos from parent organization to individual or classes of individuals

Official project-related reports and memos from the parent organization

Personal memos from individuals

Routed memos and reports

One class of mail typically received in a department is not dealt with here. Purchase orders and invoices are judged not to contain research information and are assumed to be subject to a separate control system. 2b

Other classes of mail not of principal concern here are reports and

periodicals received on distribution or by subscription, and catalogs, brochures, and meeting announcements. These items clearly bear research information; however, except when they are received as enclosures to personal letters, thereby suggesting further dialogue by correspondence, they are outside the scope of this system and are covered by a document control system. 2c

RELATION OF CORRESPONDENCE TO OTHER ITEMS BEARING RESEARCH INTELLIGENCE 3

Research information gleaned from correspondence will be used in conjunction with information received from many other sources, so that systems of capturing, storing, and retrieving it should be designed with these uses in mind, and designed in relation to systems set up to handle information from the other sources. A correspondence control system ideally should allow the receiver and communicator of research information to move freely from records for one medium (correspondence) to records of others (telephone dialogue, his personal notes, periodicals, reports, etc.) with a common set of procedures. 3a

CHARACTERISTICS OF CORRESPONDENCE 4

Correspondence presents interesting problems in information receipt, processing, storage and retrieval. Written correspondence as a medium for research information has several characteristics which make it both easier and more difficult to handle than other written media. The characteristics are: 4a

No standard reference, such as the standard references existing for books and journals

Small volume of distribution, so that reference is not meaningful to the general public

Ephemeral nature of some items, requiring purging

Time value of content, requiring quick handling

Dialogue nature of content, requiring (1) retrospective reference and (2) suspense until process continues

Unpredictability of receipt

Worthlessness of some items, requiring selectivity

Relationship of content to enclosures which may have independent value

Informational value of items outside text body, such as sender's title, address, phone number

DESIRABLE FEATURES OF A CORRESPONDENCE CONTROL SYSTEM 5

From these characteristics, certain desirable features of a correspondence control system may be derived. Features desirable for a system are: 5a

Selectivity rules

Quick recording procedures to avoid delay in transmission

Concise, unambiguous reference to each item

Control of original item, for quick retrieval

Provision for separating enclosures while retaining evidence of relationship

Links between item and any predecessors and successors in dialogue

Reminder system to insure required or desired responses are made

Provision for recording thoughts stimulated or actions taken as a result of the item

Retrieval by personal and corporate author, by specific subject, and by general class or set

Purging procedures

Archiving procedures

PRINCIPLES OF INFORMATION RETRIEVAL SYSTEMS AS APPLIED TO CORRESPONDENCE 6

The basic principles identified by Holm ["How to Manage Your Information", by Bart E. Holm, Reinhold, 1968] as essential for an effective information retrieval system apply to handling a correspondence data base. A look at these principles as they relate specifically to correspondence is presented here. 6a

1. Balance input and output effort. 6b

The tendency in designing a recording system for correspondence is to make a brief log of date and sender. Too little information captured at any input step causes retrieval to be difficult or impossible. In an effort at control it is possible to design a complex indexing system which takes more time and effort than some items are likely to be worth and tends to cause delay in transmission and to break down under its own weight. Each class of item handled should be considered at each step to make sure the expected retrieval value and envisioned retrieval steps are in balance with the effort at that step. In a complex system with

many steps it is also important to design input procedures so that each element of input is handled at the most efficient step. 6b1

2. Evaluate single entry and multiple entry files. 6c

The basic assumption in designing a retrieval system for research information in correspondence is that a single type of entry, such as sender, organization, or single subject is not adequate for retrieval for the many types of information contained in the file. On the other hand, some types of information, such as telephone numbers, will need to be retrieved only in connection with personal names, and an entry point by telephone number itself is valueless. 6c1

3. Describe items fully. 6d

Often a reference which seems adequate when the item is freshly in mind is found to be inadequate when the context is out-of-mind. To save retrieval of a bulk of items in order to find an appropriate one or few, enough information should be captured to make specific items identifiable. Lacking specifics, the searcher may be faced with retrieving and reading whole text of several letters to find the one that deals with a particular topic. Isolated incidents of this type will occur, but well-planned description will make such effort the exception. 6d1

4. Control the vocabulary. 6e

This principle is the single biggest pitfall of retrieval systems. The effort of constructing a controlled vocabulary with cross-references, and possibly in thesaurus form, is difficult and time-consuming, and the shortcut of using keywords in a free vocabulary is often tried. When any item from a class will be as satisfactory as any other, then uncontrolled vocabulary often will serve to bring the searcher an adequate return. However, when a searcher wants a particular letter and searches for it by the term "packet-switching" when it was indexed under "store-and-forward" with no cross-reference to remind him to ask for this term, he will fail to find it. Comprehensiveness and consistency in indexing are essential. 6e1

5. Know the subject. 6f

It is important that the preparation of the vocabulary for indexing, the indexing itself, and the retrieval be done by people knowledgeable of the subjects covered. Ideally, the user will have a hand in all three of these processes. 6f1

6. Select appropriate storage form. 6g

Various decisions on storage form must be made: 6g1

Where will the original items be physically stored, and how will they be both accessed and protected?

Will duplicate files of copies of originals be worth the effort of maintaining them, and where will they be stored?

How will the online references be stored, to make them accessible for added input while secure from unauthorized changes, accessible to proper users while secure from unwanted readers.

How will the online files be linked to other online information files?

How will online references be linked to filed hardcopy originals?

Will hardcopy of indexing tools be useful, and how will such hardcopy be kept up-to-date?

What storage forms for the text that will allow retransmission are possible and feasible?

ACTIVITIES IN HANDLING CORRESPONDENCE 7

Sorting out Types of Incoming Mail 7a

For convenience in describing the handling of mail, it will be assumed that mail addressed to the department and all business mail addressed to individuals as well, is delivered to the department secretary. From this miscellaneous flow of receipts the secretary separates the items to be entered into the system. 7a1

Letters addressed to individuals 7a2

In the prototype system, all business mail addressed to individuals in the department is assumed to have the potential of containing research information. In a research group, this mail constitutes a dialogue between members of a discipline-oriented Community (the invisible college concept) and serves to stimulate research in the same way as do technical articles read by the Worker. The value of such letters may be high, and their capture be important.

To preserve the privacy of correspondence, the design allows each individual a personal record, with pooling of entries to be accomplished at the option of the addressee. Mail to

individuals may be opened by the secretary and logged at that time or may be delivered to the individual who will bring back to the secretary items to be logged for his file only or coded to be available in a department file.

Letters to individuals often contain enclosures which are reports or reprints published elsewhere, or which have at least a separate identity, and are to be related to the letter but should be individually logged.

Letters to the Group, requesting reports or information 7a3

Because of its project work, a department receives mail from other individuals and organizations requesting informaton about the work. Sometimes these requests will be addressed to individuals whose relation to the work is known. Whether opened by the secretary or the individual, these letters may be handled as department letters.

These letters may request specific documents, ask general questions answerable with documents, or specific questions requiring specific answers. The research information in these requests is usually very slight, and any importance may rest in the fact that they represent a contact in the Community.

Citations to these letters, and replies or citations of replies, will be entered into the system.

Official correspondence from contracting or funding agencies 7a4

Incoming mail of this class includes requests for proposals, notice of acceptance of proposals, requirements of contracts, and occasionally carries enclosures which are independently useful. Mail of this class requires a procedure for follow-up.

Internal mail 7a5

Within an organization, transmission of informal notes, of formal organizational items and of copies of internal reports, and retransmission of external documents occurs. Some of these items are so ephemeral that there will be no need to record them. Several types are of great value. Representative types which will be put into the system are:

Policy documents from the parent organization

Technical reports from related departments

Periodic reports of the parent organization and of other departments in the organization

Reports and periodicals 7a6

All copies of journals received on subscription and all reports without transmittal letters are put aside. These will all go to the person who functions as order clerk, and are routed through the department librarian for examination and selection of articles and reports to be coded for the document catalog and for items to be brought to the attention of individuals in the department. All items of these classes are considered out of the scope of the correspondence files.

Catalogs, meeting announcements, and advertisements 7a7

These are out of the scope of the system, and are sent to the librarian for posting, routing, or filing. Any person wishing to have an online record made of any of these may make an entry in his personal file or may request the librarian to make a citation in the document catalog files.

purchase orders, invoices, and other equipment and service mail 7a8

A separate purchase order online record would be set up in an augmented Office. No plan for this is included here.

Recording the Correspondence in an Online Log 7b

Numbering 7b1

The recording and retrieval system for correspondence employs the numbering conventions used in recording online dialogue and hardcopy documents. A common series of numbers is available in the Journal system and is drawn upon for unique serial numbers for all types of information captured for the Office. (Ref: Journal User Guide (userguides,journal-guide,5)).

For the purposes of the correspondence system, a group of numbers are extracted as "preassigned numbers". The Journal system records these at this time as being assigned to the person taking them, and no record is made of the purpose to which they will be put. A number acquires meaning only when the coding information is entered with it and the record is "Journalized". The acts of taking a number and Journalizing can be accomplished at the same time, but in practice the two operations are usually separated, because often it is not convenient to complete the record at the moment that a number is desired to provide a reference point for an item.

The number to be assigned to the record of the item is written on the item, so that the item and any copies made of it will show under what number it is recorded. Reference to the number

of the item in subsequent dialogue will then make recall of the item's record possible.

Coding 7b2

On this manual step depends the success of the whole procedure. It is important to capture the essential information from the item so that subsequent references to the item by number will retrieve meaningful information, and so that indexing of the item is possible.

Data elements (see Section 10 of this report) selected for this file are a subset of those used for cataloging items for the document collection and for online dialogue in the Journal system.

Entering the Citation 7b3

The citation elements may be entered in any format selected as a standard, depending on the method of retrieval planned. There are two modes of retrieval to be provided for.

1. A concise citation of the correspondence item is needed for immediate use by the recipient in making notes and in referring to it for further dialogue.

2. A full citation is needed, to be used in running indexes for retrospective retrieval?

It is convenient at this time to use the input format shown here, because there are programs to operate on this format to prepare indexes for Journal items, and these same programs can be used to prepare similar indexes for these citations

(Cnumber) *a1 Writer #1 Writer's job title #2 Writer's organization #3 Organization address #4 City #5 Zip *b5 Addressee #1 Addresse's job title and so forth for all data elements for which there is information after coding.

However, this format is unsuited to need (1) and therefore the prime need is for files of citations input in a paragraph for easy reading. Such format is equally open to content analysis retrieval, and has the advantage that no formatting programs are needed before they are copied as references. Programs could and should be written to convert a citation input in the form below to the various formatted indexes. An example of such input is:

To: Addressee (His organization)
From: Writer (His organization)
Date: date written Number: Cnumber
Re: Title
Action called for:
Action taken:

The log will be constructed in segments, so that a set of updated citations can be issued daily by the secretary, and added as an increment to the files which may have been modified by individuals since the last update.

Accessing and Using the Log 7c

Accessing the Log 7c1

For privacy reasons, the correspondence log probably will not be entirely open to all readers. In this case, subsets of the log should be made by the secretary for various individuals and classes of readers.

The Worker can access his version of the log to read the citations there and to use them for further dialogue, as indicated in the following activities.

Making Notes 7c2

The correspondence log as seen by the Office worker will be open for him to write in his comments and action he takes in response to letters. These will remain in the file and be unaffected by updates.

Copying Citations 7c3

If the worker keeps personal files, he will be likely to copy citations from the log into his files. He may of course construct links instead.

Using for Follow-up 7c4

An important use for the log is to insure that correspondence is answered as called-for. One means to do this is to have the secretary check the Action line at intervals to follow up on actions indicated.

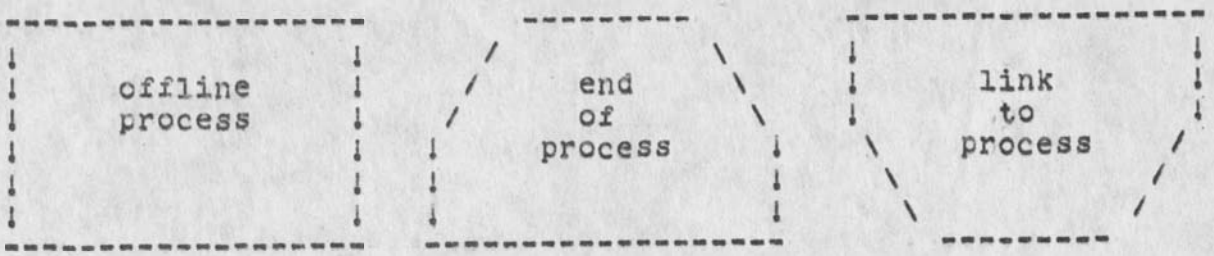
Charting the Flow in the Correspondence Control System 7d

Based on the foregoing analysis, a correspondence control system has been charted. Explanatory text follows the flow charts, to briefly describe the operations charted. 7d1

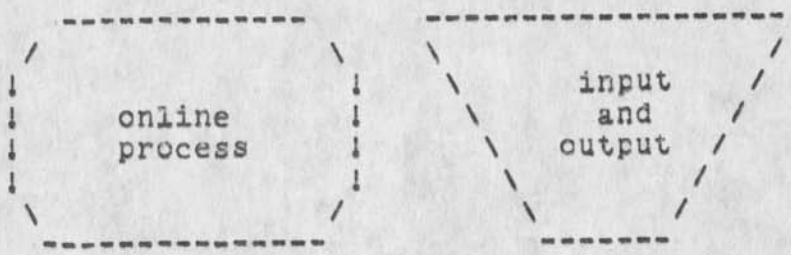
FLOW CHARTS FOR CORRESPONDENCE

SYMBOLS USED IN CHARTS

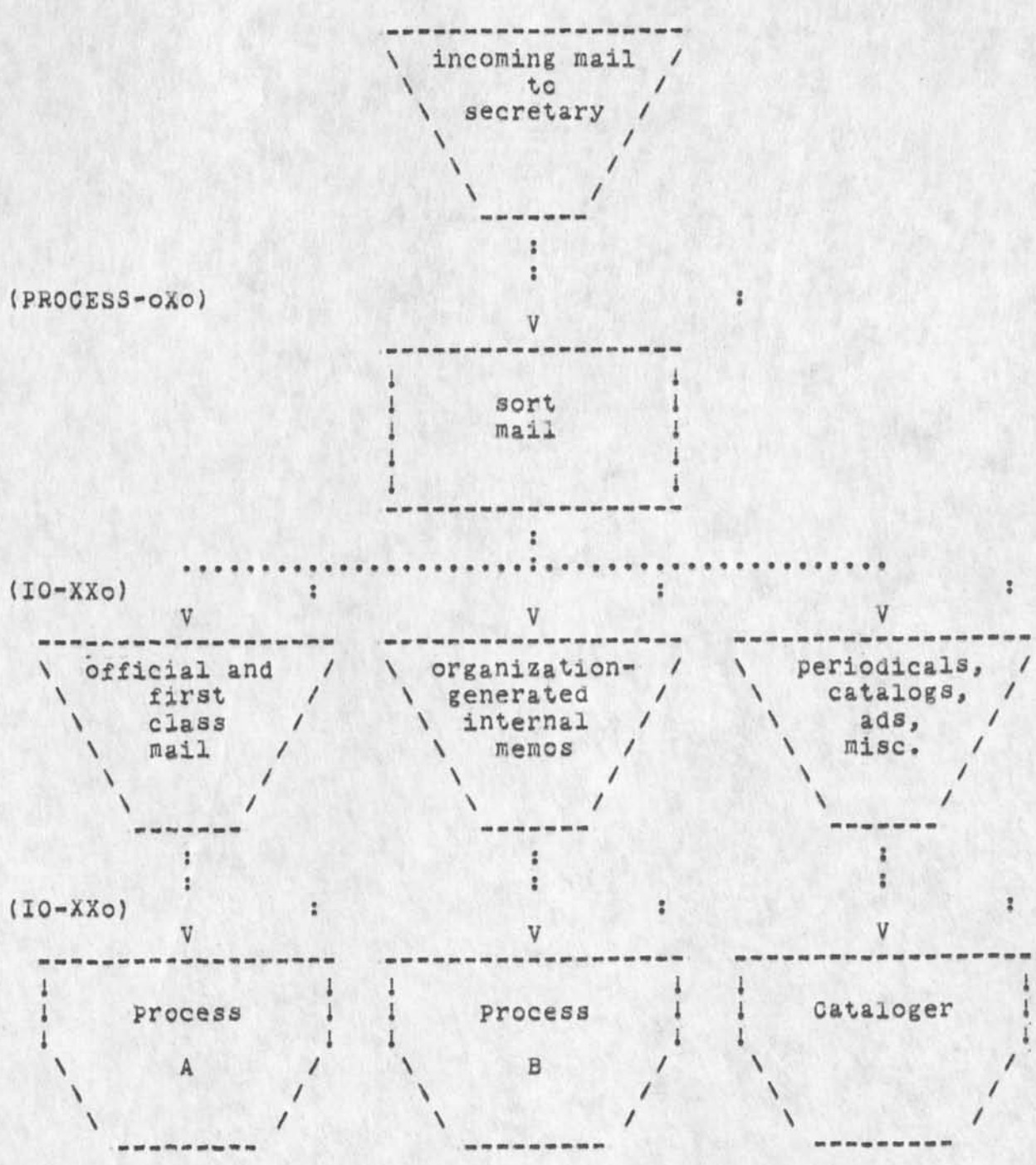
(PROCESS-Xoo)



(ONLINE-PROCESS-S-Xoo)



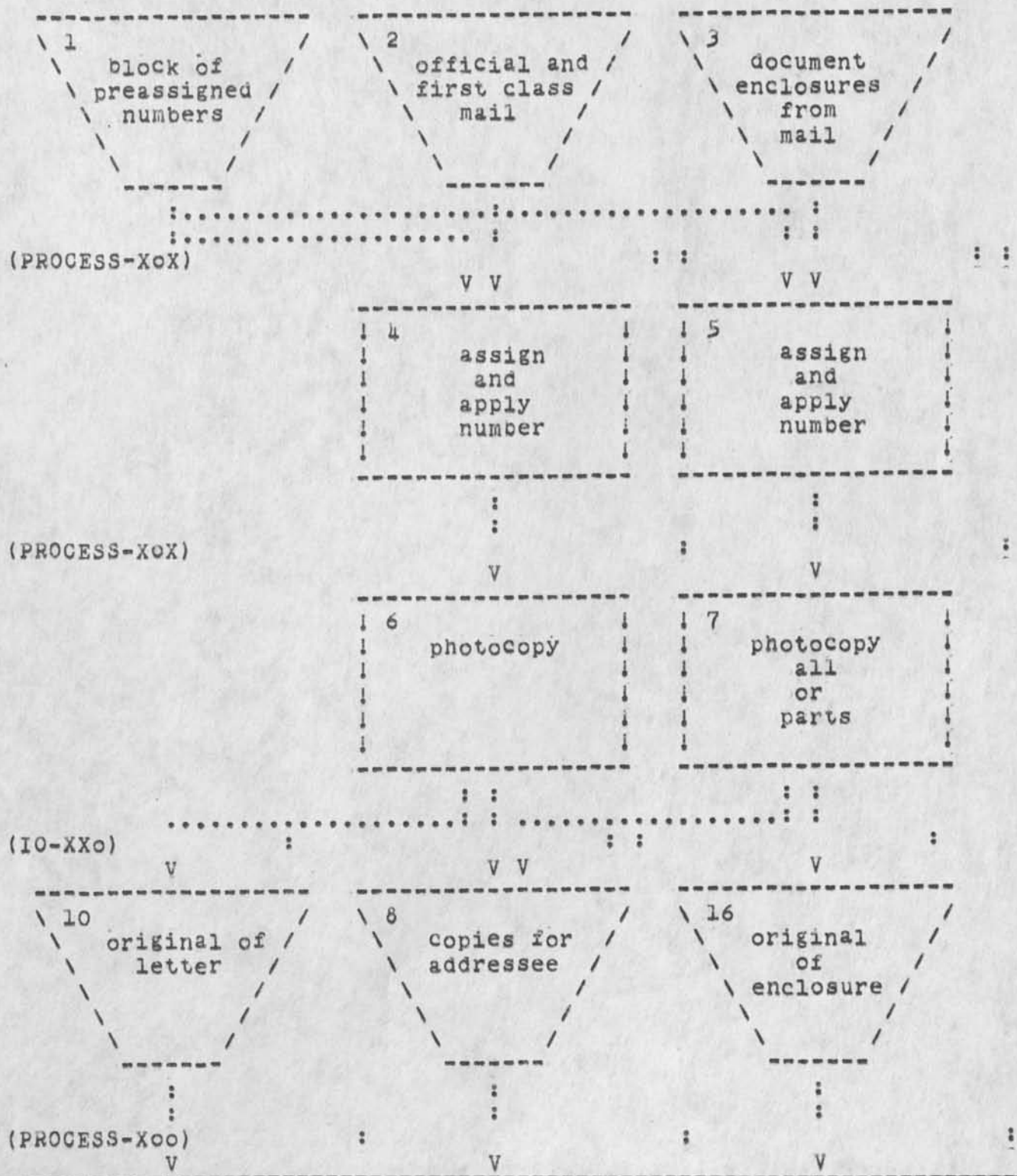
FLOW CHARTS FOR CORRESPONDENCE

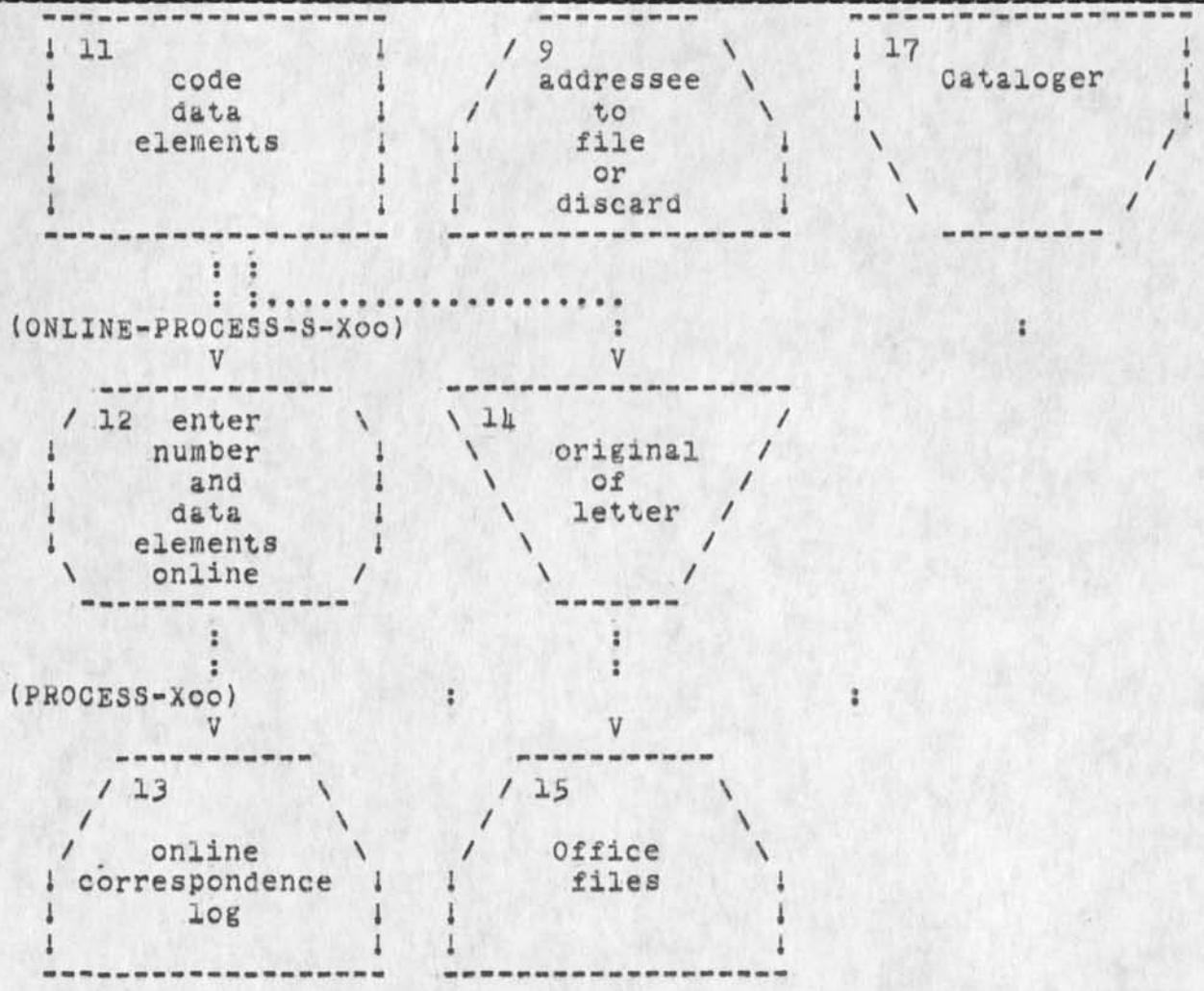


FLOW CHARTS FOR CORRESPONDENCE

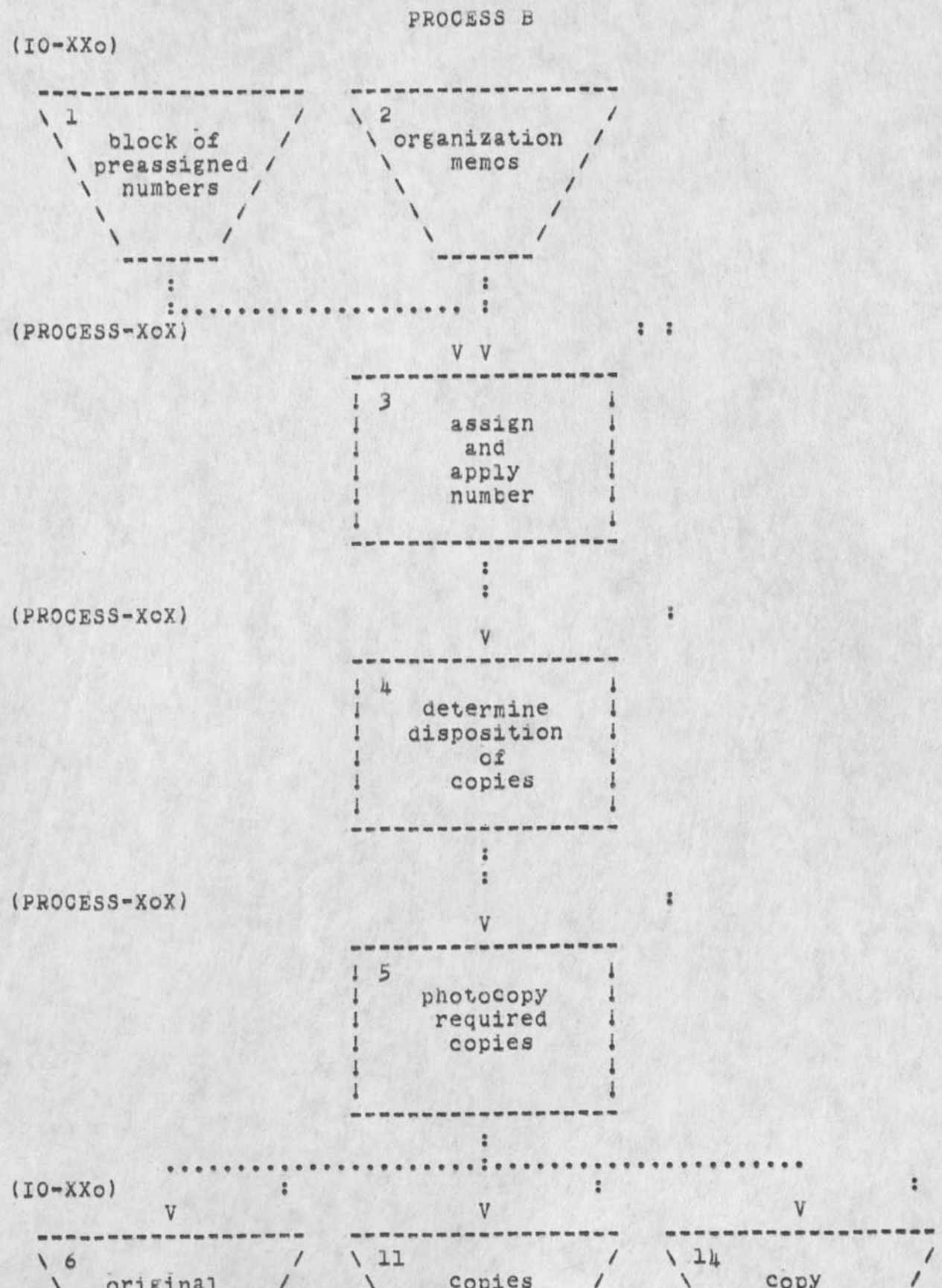
PROCESS A

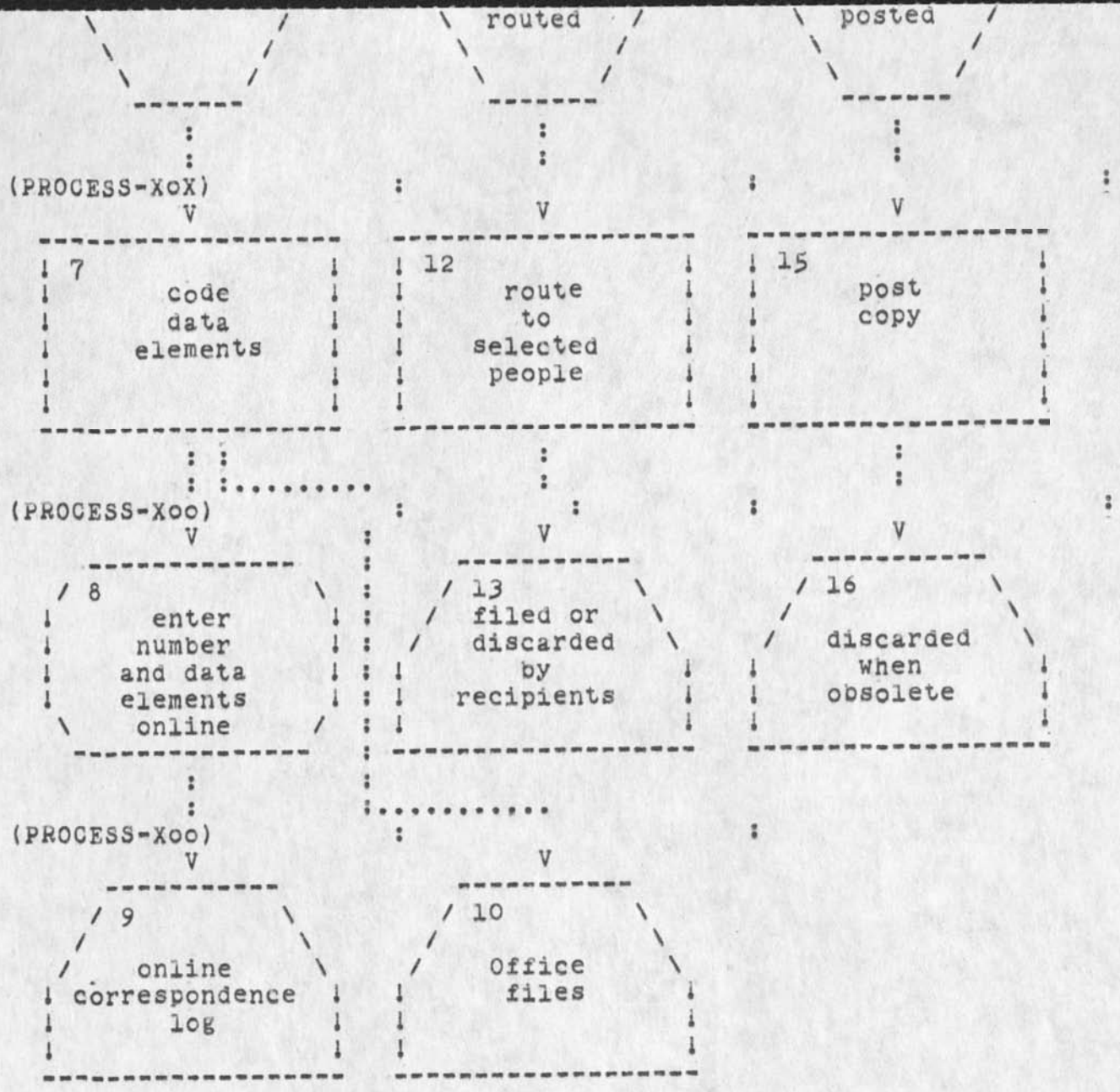
Numbers in boxes refer to procedure notes which follow the charts.




11
code data elements
9
addressee to file or discard
17
Cataloger
(ONLINE-PROCESS-S-Xoo)
12 enter number and data elements online
14
original of letter
(PROCESS-Xoo)
13
online correspondence log
15
Office files

FLOW CHARTS FOR CORRESPONDENCE




routed
posted
(PROCESS-XoX)
7
code data elements
12
route to selected people
15
post copy
(PROCESS-Xoo)
8
enter number and data elements online
13
filed or discarded by recipients
16
discarded when obsolete
(PROCESS-Xoo)
9
online correspondence log
10
Office files

INCOMING CORRESPONDENCE 1

PROCESS A 1a

The following procedures presuppose an interest of the Office in keeping track of all hardcopy correspondence that is received as official business and that is received by individuals in their Office capacity. It is adaptable for use in recording all correspondence received by an individual, in which case the originals would go into a separate file for the individual, and the citations would be placed in an online file to be accessed by him alone. 1a1

1. Access the online number system and request a block of preassigned numbers, perhaps as many as will be needed fr a week. Make an offline record, and check off as used. 1a2

2. Examine the letter to assure it is a separate codable entity. It may be a formal contract document, a letter to an individual in his Office capacity, a letter from another professional, or even a personal interoffice communication from a colleague in the same organization. 1a3

3. Examine any enclosure to decide whether it should be coded. Enclosures which are significant documents in themselves should be treated as are other external documents, but linked in the data elements of the citation to note their connection to correspondence. 1a4

4. Assign and apply a number to the letter. 1a5

5. Assign a number, preferably an adjoining number to the number assigned the accompanying letter, and apply the number to the enclosure document. 1a6

6. Photocopy the letter in entirety. 1a7

7. If practical, photocopy the entire enclosure, so that the original can be retained for the Office collection. If not practical, photocopy enough to indicate the contents. 1a8

8. Give the copies of letters and documents to the addressee. 1a9

9. Addressee retains, forwards, or discards his copies, with the knowledge the originals have been retained by the Secretary. 1a10

10-11. From the original letter, code the data elements applicable to the letter. (See: Data Elements for Correspondence, Section....). 1a11

12. Enter the selected information into an ongoing file (See example .....). 1?A12

13. This file may be accessible by the recipients of the correspondence, for links to the citations, and for adding comments of their own. 1a13

14-15. File the original of the letter, by number, in the Office files, or, file the correspondence of an individual in a separate file accessible to him. 1a14

16-17. Code the document with daa elements appropriate to external documents. (See: .....). 1a15

18. Enter the citation in the external document catalog with citations for other external documents not related to correspondence, adding the indication of its connection to correspondence. 1a16

19. The online document catalog will contain citations to other externally-generated publications. The assumption is that the value of the document is independent of the accident of its transmittal. In fact, a copy of the document may have been received and cataoged previously, in which case the new document may be indicated as a second copy and the earlier number used. 1a17

20-22. The document itself may be filed in the hardcopy document collection, or charged out to the user with an OUT card, or in the case of a second copy, givn to the original addressee. It will be a matter for local practice asto how much control is maintained over documents which are actually the property of the original addressee. 1a18

PROCESS B 1b

This process is designed to control written material that is issued within the parent organization for its own people, and that is expected to be needed for reference for internal dialogue. 1b1

1. Use the same block of preassigned numbers obtained for Process A. 1b2

2. Examine memos, management reports, policy documents, and all other types of written communications received in the Office from the parent organization or other Offices in it. Some will be seen to be ephemeral and not worth recording. Others will be intended for the Office management only. Others will be of interest to several of the Office workers. Local practice will determine application of procedures. 1b3

3. Assign number to all such communications of more than ephemeral interest. 1b4

4. Determine whether the communication is to be routed and if it is to be posted. 1b5

5. Make photocopy or copies as indicated by 4. 1b6

6-7. Code the original with applicable data elements. 1b7

8-9. Enter the citation into Office online correspondence record files, including information of routng if any. 1b8

10. File original in Office hardcopy files. 1b9

11-12. Route copies as desirable. 1b10

13. Copies may be disposed of as desired by recipients. 1b11

14-16. Post copy if this action is indicated, and discard when out-of-date. 1b12

OTHER MATERIALS RECEIVED 2

Some externally-produced documenxs will be received as Office mail, rather than in response to orders or on automatic distribution. These may be addressed to the Office director or simply to the Office. They differ from these latter two cases in that discretion is needed in electing to bring them to the attention of the director or other Office member and whether to acknowledge receipt to the sender. 2a

1. If the document is addressed to an individual, attach the address label to the document. No number is to be assigned at this stage to a document received at the Office. 2b

2. Send a card of acknowledgement if this seems appropriate. Forward to the Cataloger, with note to route to addressee if it is assumed addressee would wish to see it. 2c

DATA ELEMENTS FOR CORRESPONDENCE LOG 3

These data elements are a subset of those designed for cataloging all information items (10937,) including Journal items and external documents. 3a

For outgoing letters, the elements will be picked up by cataloging programs from the online files. For incoming hardcopy letters, a coder will select the relevant information from the copy used in coding. 3b

Number: Number should be input in the form (Cxxxxx). This functions as the statement name. 3c

From: *a1 Author 3d
#1 job title 3d1
#2 corporate affiliation 3d2
#3 suborganization, if any 3d3
#4 street address 3d4
#5 city, state, zip 3d5

To: *b5 Addressee 3e
#1 job title 3e1
#2 corporate affiliation 3e2
etc. 3e3

Re: *c1 Title (or supplied title in brackets). 3f
All incoming letters or memos not carrying a title will have a bracketed title supplied by the coder. All outgoing letters and memos should contain one supplied by the writer. 3f1

Rec'd: *d1 Date item was received 3g

Dated: *d2 Date carried on item 3h

Encl: *n6 Documents accompanying this letter or memo 3i

Abstract: *y1 Not essential, but a place for noting information of interest from or about the communication. For outgoing memos this field will be picked up from the Comments field. 3j

Keywords: *y3 Keywords, preferably selected from an authority list. 3k

INCOMING CORRESPONDENCE 8

PROCESS A 8a

The following procedures presuppose an interest of the Office in keeping track of all hardcopy correspondence that is received as official business and that is received by individuals in their Office capacity. It is adaptable for use in recording all correspondence received by an individual, in which case the originals would go into a separate file for the individual, and the citations would be placed in an online file to be accessed by him alone.

1. Access the online number system and request a block of preassigned numbers, perhaps as many as will be needed for a week. Make an offline record, and check off as used.

2. Examine the letter to assure it is a separate codable entity. It may be a formal contract document, a letter to an individual in his Office capacity, a letter from another professional, or even a personal interoffice communication from a colleague in the same organization.

3. Examine any enclosure to decide whether it should be coded. Enclosures which are significant documents in themselves should be treated as are other external documents, but linked in the data elements of the citation to note their connection to correspondence.

4. Assign and apply a number to the letter.

5. Assign a number, preferably an adjoining number to the number assigned the accompanying letter, and apply the number to the enclosure document.

6. Photocopy the letter in entirety.

7. If practical, photocopy the entire enclosure, so that the original can be retained for the Office collection. If not practical, photocopy enough to indicate the contents.

8. Give the copies of letters and documents to the addressee.

9. Addressee retains, forwards, or discards his copies, with the knowledge the originals have been retained by the Secretary.

10-11. From the original letter, code the data elements applicable to the letter. (See: Data Elements for Correspondence, Section 10 of this report).

12. Enter the selected information into an ongoing file.

13. This file may be accessible by the recipients of the correspondence, for links to the citations, and for adding comments of their own.

14-15. File the original of the letter, by number, in the Office files, or, file the correspondence of an individual in a separate file accessible to him.

16-17. Code the document with data elements appropriate to external documents.

18. Enter the citation in the external document catalog with citations for other external documents not related to correspondence, adding the indication of its connection to correspondence.

19. The online document catalog will contain citations to other externally-generated publications. The assumption is that the value of the document is independent of the accident of its transmittal. In fact, a copy of the document may have been received and cataloged previously, in which case the new document may be indicated as a second copy and the earlier number used.

20-22. The document itself may be filed in the hardcopy document collection, or charged out to the user with an OUT card, or in the case of a second copy, given to the original addressee. It will be a matter for local practice as to how much control is maintained over documents that are actually the property of the original addressee.

PROCESS B 8b

This process is designed to control written material that is issued within the parent organization for its own people, and that is expected to be needed for reference for internal dialogue.

1. Use the same block of preassigned numbers obtained for Process A.

2. Examine memos, management reports, policy documents, and all other types of written communications received in the Office from the parent organization or other Offices in it. Some will be seen to be ephemeral and not worth recording. Others will be intended for the Office management only. Others will be of interest to several of the Office workers. Local practice will determine application of procedures.

3. Assign number to all such communications of more than ephemeral interest.

4. Determine whether the communication is to be routed and if it is to be posted.

5. Make photocopy or copies as indicated by 4.

6-7. Code the original with applicable data elements.

8-9. Enter the citation into Office online correspondence record files, including information of routing if any.

10. File original in Office hardcopy files.

11-12. Route copies as desirable.

13. Copies may be disposed of as desired by recipients.

14-16. Post copy if this action is indicated, and discard when out-of-date.

OTHER MATERIALS RECEIVED 9

Some externally-produced documents will be received as Office mail, rather than in response to orders or on automatic distribution. These may be addressed to the Office director or simply to the Office. They differ from these latter two cases in that discretion is needed in electing to bring them to the attention of the director or other Office member and whether to acknowledge receipt to the sender. 9a

1. If the document is addressed to an individual, attach the address label to the document. No number is to be assigned at this stage to a document received at the Office. 9b

2. Send a card of acknowledgement if this seems appropriate. Forward to the Cataloger, with note to route to addressee if it is assumed addressee would wish to see it. 9c

DATA ELEMENTS FOR CORRESPONDENCE LOG 10

These data elements are a subset of those designed for cataloging all information items (10937,) including Journal items and external documents.

For outgoing letters, the elements will be picked up by cataloging programs from the online files. For incoming hardcopy letters, a coder will select the relevant information from the copy used in coding.

Number: Number should be input in the form (Cxxxxx). This functions as the statement name.

From: *a1 Author
#1 job title
#2 corporate affiliation
#3 suborganization, if any
#4 street address
#5 city, state, zip

To: *b5 Addressee
#1 job title
#2 corporate affiliation
etc.

Re: *c1 Title (or supplied title in brackets/.
All incoming letters or memos not carrying a title wipl have a bracketed title supplied by the coder. All outgoing letters and memos should contain one supplied by the writer.

Rec'd: *d1 Date item was received

Dated: *d2 Date carried on item

Encl: *n6 Documents accompanying this letter or memo

Abstract: *y1 Not essential, but a place for noting information of interest from or about the communication. For outgoing memos this field will be picked up from the Comments field.

Keywords: *y3 Keywords, preferably selected from an authority list.

HGL 1-APR-74 16:53 22594

Yummy, Yummy! Journal Statistics are Neat!!!

Susan's analysis of Journal usage (22547,) is NEAT!!! This comes from an analysis cynic. 1

Yummy, Yummy! Journal Statistics are Neat!!!

(J22594) 1-APR-74 16:53; Title: Author(s): Harvey G. Lehtman/HGL;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: HGL;

LPD 1-APR-74 19:52 22595

Update for <NETINFO>PARC-MAXC

The NETINFO files for PARC-MAXC seem to be in quite a mess. There is the PARC-MAXC file, which has an enormous number of voids; then there is something called PARC-KIRK which is closer to reality, but also has a number of errors. The ones I noticed are: (1) we now have 256K of primary memory, not 128K; (2) 5 disks rather than 2; (3) for terminals, 16 T-I terminals rather than 20, 16 modems rather than 7, and a new category, 8 PARC video terminals (high-quality character display terminals built at PARC).

1

LPD 1-APR-74 19:52 22595

Update for <NETINFO>PARC-MAXC

(J22595) 1-APR-74 19:52; Title: Author(s): L. Peter Deutsch/LPD;
Distribution: /JAKE; Sub-Collections: NIC; Clerk: LPD;

Date: 2-APR-74 09:02:55

From: Jean Iseli

Subject: SUGGESTED PERISHABLE JOURNAL SUBMISSIONS

type of comment: Suggestion or unknown

Network online address: ISELI@ISI

Phone: (703) 893-3500

Degree of urgency: Low priority

Type of response desired: No response needed

Text:

ARE THERE ANY PLANS TO CREATE A CATEGORY OF JOURNAL SUBMISSIONS THAT WOULD BE PERISHABLE; I.E., SEND MESSAGES OR FILES TO DISTRIBUTION LIST AND TO HAVE THE SUBMISSION NOT BE RECORDED PERMENANTLY IN THE SYSTEM. THE NEW SENDMAIL FEATURE IS INDEED NICE; DOES IT [OR IS IT INTENDED TO] PROVIDE THAT FUNCTION?

(J22596) 2-APR-74 09:03; Title: Author(s): NET COMMENT/NCMT ;
Distribution: / NCMT; Sub-Collections: NIC; Clerk: NCMT;

SRL 2-APR-74 09:18 22597

Copy of a sndmsg sent to FEEDBACK

Thought you might like to see this

Copy of a sndmsg sent to FEEDBACK

1-APR-74 1828-PDT BECK: Praise to Allah the HELP programmers
Distribution: FEEDBACK
Received at: 1-APR-74 18:28:21 1

When I am busily constructing networks in the HELP Database (in New NLS) and want to check how my links work, I can immediately do a <control-q>, one Show command to get to the branch I was working on and then step through the menues I have just created just as a HELP user would, do a Quit, and PRESTO! I'm back where I was in Editor, editing the file again. Very Nice. 1a

SRL 2-APR-74 09:18 22597

Copy of a sndmsg sent to FEEDBACK

(J22597) 2-APR-74 09:18; Title: Author(s): Susan R. Lee/SRL;
Distribution: /CHI HGL EKM; Sub-Collections: SRI-ARC; Clerk: SRL;

DVN 2-APR-74 10:03 22598

Comments on Journal Statistics

That's a really neat piece of work. 1

One comment. It may be a misktate to throw branche, groups, and plexes in with messages as far as size is concerned. A plex can be hundreds of pages, of course. I send many of my journal items as a group from my scratch file (vannouhuys,mylin,). It is my impression that they are often one or two pages. 2

DVN 2-APR-74 10:08 22601

Progress of BRLprop

I have read in the editing changes, have not (underlined) revised the cost figures, and passed the binder with editing and edited version on to Doug. 1

DVN 2-APR-74 10:08 22601

Progress of BRLprop

(J22601) 2-APR-74 10:08; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /JCN DCE JML; Sub-Collections: SRI-ARC; Clerk: DVN;

PRELIMINARY COMPARISON OF OFFICE-1 AND SRI-ARC SYSTEMS 1

INTRODUCTION 2

Superwatch began running regularly March 18 at OFFICE-1. The following is a first comparison between the performance of the ARC system and the OFFICE-1 system. All statistics cited are based on data taken March 18-21 from 8 am to 5 pm PDT for SRI-ARC and 8 am to 5 pm EDT for OFFICE-1. 2a

DISCUSSION 3

The average total time used in the major subsystems (EXEC, JOB0, SYSJOB, TNLS, and DNLS) is approximately the same, 76% of %U for OFFICE-1 and 72% for SRI-ARC. Overhead (IOW, %SK, %CK, and %GC) accounted for 39% of CPU used by OFFICE-1 and 31% by SRI-ARC. 3a

There are some interesting differences. 3b

JOB0 is 19% at OFFICE-1 and 7% at SRI-ARC. 3b1

The average IOW at OFFICE-1 is 25% and is 15% at SRI-ARC. 3b2

The %DW (percent of time the system is waiting on the disk) is 18% for OFFICE-1 and 2% for SRI-ARC. (The percent of time the system waits on the drum plus the percent of time the system waits on the disk plus the percent of time the system waits on both is the IOW.) 3b3

This indicates that OFFICE-1 users spend most of their IOW waiting on the disk while ARC users spend most of their IOW waiting on the drum, and to be more specific, OFFICE-1 users spend twice as much time waiting on the disk as we spend waiting on the drum. 3b3a

On the average, SRI-ARC has twelve nondetached users while OFFICE-1 has ten. The average load is 4.5 at SRI-ARC and 3.3 at OFFICE-1. 3b4

Assuming utility usage will grow, the load and number of users will increase. Another probability is that users will use NLS more and relatively less EXEC, adding an additional strain. 3b4a

CONCLUSION 4

Indications are that the present utility configuration is not optimal. 4a

APPENDIX 5

DAILY STATISTICS 5a

CPU DISTRIBUTION 5a1

3/18	Utility	SRI-ARC	5a1a
OVERHEAD	34.7	30.5	
%U	30.9	58.3	
IDL	33.7	8.1	
TOTAL	99.3	96.9	5a1a1

3/19	Utility	SRI-ARC	5a1b
OVERHEAD	42.6	31.6	
%U	40.2	57.8	
IDL	16.4	7.4	
TOTAL	99.2	96.8	5a1b1

3/20	Utility	SRI-ARC	5a1c
OVERHEAD	32.9	31.5	
%U	27.4	57.1	
IDL	39.1	8.5	
TOTAL	99.4	97.1	5a1c1

3/21	Utility	SRI-ARC	5a1d
OVERHEAD	46.7	31.6	
%U	43.4	56.7	
IDL	9.1	9.0	
TOTAL	99.2	97.3	5a1d1

OVERHEAD 5a2

3/18	Utility	SRI-ARC	5a2a
IOW	21.8	15.3	
%SK	8.6	7.2	
%CK	2.8	5.2	
%GC	1.5	2.8	
TOTAL	34.7	30.5	5a2a1

3/19	Utility	SRI-ARC	5a2b
IOW	27.2	15.0	
%SK	11.0	8.0	
%CK	2.1	5.1	

%GC	2.3	3.5	
TOTAL	42.6	31.6	5a2b1

3/20	Utility	SRI-ARC	5a2c
IOW	20.5	15.8	
%SK	7.8	7.5	
%CK	3.2	5.2	
%GC	1.4	3.0	
TOTAL	32.9	31.5	5a2c1

3/21	Utility	SRI-ARC	5a2d
IOW	30.2	16.0	
%SK	12.2	7.4	
%CK	1.8	5.1	
%GC	2.5	3.1	
TOTAL	46.7	31.6	5a2d1

MAJOR SUBSYSTEMS 5a3

The following are percentages of percent used (%U). 5a3a

3/18	UTILITY	SRI-ARC	5a3b
EXEC	25.01	9.84	
JOB0	17.98	6.87	
SYSJOB	11.88	13.74	
TNLS	16.86	6.68	
DNLS	0.00	40.94	
TOTAL	71.73	78.07	5a3b1

3/19	UTILITY	SRI-ARC	5a3c
EXEC	17.79	9.03	
JOB0	20.18	6.52	
SYSJOB	10.49	10.74	
TNLS	19.11	3.88	
DNLS	10.50	40.46	
TOTAL	78.07	70.63	5a3c1

3/20	UTILITY	SRI-ARC	5a3d
EXEC	24.00	10.60	
JOB0	20.19	6.99	
SYSJOB	10.87	10.87	
TNLS	19.89	6.96	
DNLS	1.85	33.96	
TOTAL	76.80	69.38	5a3d1

Preliminary Comparison of OFFICE-1 and SRI-ARC Systems

3/21	UTILITY	SRI-ARC	5a3e
EXEC	17.80	9.82	
JOB0	18.48	7.91	
SYSJOB	16.11	11.61	
TNLS	18.18	6.36	
DNLS	6.75	34.38	
TOTAL	77.32	70.08	5a3e1

DRUM-DISK STATISTICS 5a4

3/18	UTILITY	SRI-ARC	5a4a
IOW	21.8	15.3	
%DW	15.0	1.9	
%PF	4.6	10.9	
%DB	17.2	61.7	
DQL	2.0	3.1	
DPT	5.7	9.9	
DT	11.4	30.9	
TF	7.9	8.2	
DRR	19	39	
DRW	11	21	
DKR	1.1	2.1	
DKW	1.0	1.9	
GJ	2.0	4.3	
#U	9	13	5a4a1

3/19	UTILITY	SRI-ARC	5a4b
IOW	27.2	15.0	
%DW	18.8	1.6	
%PF	6.4	12.5	
%DB	25.7	66.3	
DQL	2.0	3.2	
DPT	5.3	9.4	
DT	11.0	30.1	
TF	7.7	7.1	
DRR	30	47	
DRW	17	22	
DKR	1.6	2.1	
DKW	1.5	1.8	
GJ	3.6	5.1	
#U	13	13	5a4b1

3/20	UTILITY	SRI-ARC	5a4c
IOW	20.5	15.8	
%DW	14.1	2.2	

Preliminary Comparison of OFFICE-1 and SRI-ARC Systems

%PF	4.1	11.5	
%DB	16.8	62.0	
DQL	2.1	3.0	
DPT	5.5	9.8	
DT	12.0	30.3	
TF	7.6	7.6	
DRR	18	41	
DRW	11	21	
DKR	1.4	2.4	
DKW	1.2	1.8	
GJ	2.4	4.5	
#U	11	14	5a4c1

3/21	UTILITY	SRI-ARC	5a4d
IOW	30.2	16.0	
%DW	22.7	1.8	
%PF	6.4	11.3	
%DB	24.6	62.9	
DQL	1.8	3.0	
DPT	4.6	10.0	
DT	8.5	30.8	
TF	7.7	7.7	
DRR	32	42	
DRW	19	20	
DKR	1.9	2.0	
DKW	1.8	1.8	
#U	13	14	
GJ	5.0	4.3	5a4d1

AVERAGE STATISTICS 5b

	Utility	SRI-ARC	
			5b1
% of %U used by major subsystems	75.98	72.04	5b2
Overhead	39.2	31.3	5b3
IOW	24.9	15.5	5b4
JOBO	19.21	7.08	5b5
%U	35.5	57.5	5b6
%DW	17.7	1.9	5b7
EXEC	21.15	9.83	5b8

TNLS	18.51	5.97	5b9
DNLS	4.78	37.44	5b10
TF	7.7	7.6	5b11
GJ	3.3	4.5	5b12
#U	12	14	5b13

DEFINITIONS OF PARAMETERS 5c

%U - percent of real time spent running user programs 5c1

IDL - percent of real time the system is idle 5c2

IOW - percent of real time spent in I/O wait 5c3

%SK - percent of real time spent scheduling 5c4

%CK - percent of real time spent in process clocks 5c5

%DW - percent of time in I/O wait with drum free 5c6

%PF - percent of real time spent handling page faults 5c7

%DB - percent of real time the drum is busy 5c8

DQL - drum queue length 5c9

DPT - drum page time in ms. 5c10

DT - drum total time (incl. queue wait) in ms. 5c11

TF - system average time between page faults 5c12

DRR - number of drum reads per second 5c13

DRW - number of drum writes per second 5c14

DKR - number of disk reads per second 5c15

DKW - number of disk writes per second 5c16

#U - number of non-detached users 5c17

GJ - load average 5c18

SRL 2-APR-74 12:24 22602

Preliminary Comparison of OFFICE-1 and SRI-ARC Systems

(J22602) 2-APR-74 12:24; Title: Author(s): Susan R. Lee/SRL;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>UTSUP.NLS;11, 2-APR-74 12:20 SRL ;

SRL 2-APR-74 12:51 22603

Link to Analysis Report on Feedback

The first Analysis report on feedback classified as Needs & Possibilities is complete and may be found in (analysis,fbrp,). It is our intention to revise this file monthly, indicating the status of past items as well as adding new ones. Some of the items may already be planned for future implementation, if so - great. Comments regarding the status of the items listed as well as this system of handling feedback are welcome. Please feel free to send this via secondary distribution to anyone else who might be interested. 1

SRL 2-APR-74 12:51 22603

Link to Analysis Report on Feedback

(J22603) 2-APR-74 12:51; Title: Author(s): Susan R. Lee/SRL;
Distribution: /RWW CHI PR; Sub-Collections: SRI-ARC; Clerk: SRL;