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EDITERIAL EDARD

Chairman:

Chuck Watson Batelle, Pacific NW Labs P.O. Box 999 Richland, Washington 99352 FTS: 444-2227/(509) 376-2227

Editors:

Cynthia Curry Boeing Commercial Airplane Company P.O. Box 3707 Mail Stop 9R-05 Seattle, Washington 98124 (206) 237-3242

Virginia Sventek Computer Science and Mathematics Building 50B Room 3238 Lawrence Berkeley Laboratory Berkeley, California 94720 FTS: 451-5216/(415) 486-5216

Geoly the cover

The cover, a visual pun on our newsletter name, was very generously created for us by Carole Agazzi of the Computer Science and Mathematics Department at Lawrence Berkeley Laboratory.

In This Issue

The size and timeliness of this issue of the Examiner reflects the new philosophy of the editorial staff: to get the paper on the streets as quickly and frequently as possible. It also represents an effort to provide SIG members with fundamental information on Datatrieve's use as seen from the user perspective. To this end, we are adding a regular column to the Examiner, called Hints and Kinks, which will serve as a forum for users to publicize solutions to problems they have encountered. It occurs to us that some users may not wish to make submissions because they think the problems are too trivial and the solutions too obvious. Let us quickly disabuse you of that notion. Joan Hilton and colleagues from G.D. Searle in Chicago and Phil Naecker from James M. Montgomery, Consulting Engineers in Pasadena have graciously provided the lead off materials for this issue's Hints and Kinks section.

This issue also contains the Wish List collected from users at the Los Angeles DECUS. While there are no guarantees made by Digital that any of the new features or changes you vote for will be implemented, it is a way for you to communicate with the developers and let them know what you think needs to be done to make Datatrieve more effective.

The last item in the newsletter is the Consultants List coordinated by J. Clark (we found him) at the LA DECUS. The users on the list have agreed to provide help to others. If by some strange chance you would like to participate as a consultant just let us know.

Instructions for Contributors

Contributions for the newsletter should be sent to:

Editor, Datatrieve Newsletter c/o DECUS, One Iron Way MR2-3/E55 Marlboro, MA 17562

Letters and articles for publication are requested from members of the SIG. They may include helpful hints, inquiries to other users, reports on SIG business, summaries of SPRs submitted to Digital or other information for members of the Datatrieve SIG. Camera ready copy is appreciated, machine readable input is desired, but almost anything legible will be considered. However, this newsletter is not a forum for job and/or head hunting, nor is commercialism appropriate.

HNTS and Kinks

Sorting, ACL, DTR\$STARTUP, WHILE, Control Breaks, Totaling Lists Joan Hilton and Colleagues G.D. Searle & Company

Sorting by Frequency

DTR32 allows sorting a collection by either a field or value expression. This makes it possible to sort a collection by the count or frequency of a specified field. The syntax is as follows:

| Record Definition | | Procedure Definition |
|--------------------|----------------------|--|
| RECORD TEMPR USING | | READY TEMP SHARE |
| 01 | TEMP-REC | REPORT A IN TEMP SORTED BY DESC (COUNT OF |
| 03 | REPNO PIC 9(8) | TEMP WITH CODENO = A.CODENO), CODENO |
| | EDIT-STRING IS | SET COLUMNS-PAGE $= 80$ |
| | 99/99/99/99. | SET LINES-PAGE = 54 |
| 03 | DATA PIC X. | SET REPORT-NAME ="DEPARTMENT OF DRUG SURVEILLANCE" |
| 03 | OUTCOME PIC X. | AT BOTTOM OF CODENO PRINT |
| 03 | CODENO PIC X(6). | (CODENO VIA CP-TBL) ("EXPERIENCE") |
| 03 | COMMENTS PIC X(234). | CODENO ("EXPERIENCE"/"CODE"), |
| ; | | COUNT ("FREQUENCY") |
| | | END-REPORT |
| | | FINISH |
| | | END-PROCEDURE |

Editor's Note: Joan Hilton provided us with a longer example which we have abbreviated here due to space constraints

Department of Drug Surveillance

| Experience | Experience Code | Frequency |
|-------------------------|--------------------|-----------|
| Electrolyte Abnormality | 0374 | 5 |
| Hypokalemia | 0391 | 4 |
| Nausea | 0308 | 3 |
| Headache | 0109 | 3 |
| Dizziness | 0101 | 3 |
| Cramps Legs | 0939 | 2 |
| Impotence | 0182 | 2 |

Access Control Lists

Access Control Lists control access to directories and dictionary objects in the Common Data Dictionary. One easy way to implemented an ACL (without trying to figure out what each of the 13 access privileges do each time) is to create a command file to contain the desired ACL entries. A sample command file follows: DEFINEP <>1,PW=DRB, USER=LEMMON, GRANT=CDEFGHMPRSUWXDEFINEP <>2, USER=LEMON, GRANT=ERPS, DENY=CDFGHUXDELETEP <>(DRB) 3

Following the definition of a new dictionary object, invoke the Datatrieve Editor, delete the contents of the main buffer and use the INCLUDE command to copy the command file into the Editor's main buffer. The Editor SUBSTITUTE command could then be used to change every occurrence of "<>" with the appropriate dictionary object name. Datatrieve will execute the commands in the Editor's main buffer as soon as the Editor is exited.

DTR\$STARTUP File

The DTR startup command file can be used to invoke a procedure upon entering Datatrieve. An interesting implementation of this would be to invoke a procedure that would display a menu of options to the user upon entering Datatrieve, a la:

| Login Command File | DTR32 Command File | DTRSTART.COM |
|---|---|--------------|
| DTR32:== @DTR32.com ASSIGN DTRSTART.COM DTR\$STARTUP | on control_y then goto out dtr32:= mcr dtr32 set term/low/wid=132 assign/user sys\$output sys\$input dtr32 out: set term/lower/wid=80 exit | :MENU |

An example of the menu this procedure produces is:

| :WORKMENU | Provides a listing of data maintenance procedures for the WORK domain. |
|------------------------------|--|
| :TIMEMENU | Provides a listing of data maintenance procedures for the TIME domain. |
| : MATMENU | Provides a listing of data maintenance procedures for the MAT domain |
| :EMPMENU | Provides a listing of data maintenance and report procedures for the EMP domain. |
| :REPMENU | Provides a listing of available report procedures. |
| To review this list type :ME | NU |
| | |

DTR>

Escape Sequences

Escape sequences can be used to ensure correct pitch when a report procedure is executed at a printer, or to set the appropriate terminal width when executed at a viewo terminal.

The escape sequence may be coded into the report procedure itself:

Print col 1, "<ESC>[?3h"

(to set VT100 terminal width to 132 characters).

Or the escape sequence may be a separate procedure called by the report procedure:

```
:VT80
Ready domain [,etc]
```

Where VT80 is defined as:

print "<ESC>[?31" end-procedure

(to set VT100 terminal width to 80 columns)

Applications where escape sequences would be particularly useful include: setting terminal width to 132 columns at the beginning of the report and then using the sequence which sets the terminal to 80 columns width at completion of the procedure. Escape sequences which produce video attributes (such as blink, bold, reverse video) may also be used within a procedure for highlighting purposes.

WHILE

The little known WHILE statement provides an excellent way of controlling the execution of loops. We've found it to be especially useful when storing into two domains, where for each record in the first domain there may be any number of records in the second domain. In the following example, for each record in BOOK there may be several records in AUTHOR.

```
READY BOOK WRITE
READY AUTHOR WRITE
! set up variable which will be used to control book-storing
 loop
DECLARE BOOK_CODE_VAR PIC X(5).
BOOK_CODE_VAR = *."BOOK CODE"
! start book-storing loop
WHILE BOOK_CODE_VAR NE " " STORE BOOK USING BEGIN
    BOOK_CODE = BOOK_CODE_VAR
    TITLE = •. TITLE
    PUBLISHER = *. PUBLISHER
   PUB_DATE = *."PUBLICATION DATE"
! set up variable which will be used to control author-storing
1 loop
    DECLARE AUTHOR_VAR PIC X(25).
    AUTHOR_VAR = "X" ! initialize variable to be safe
   AUTHOR_VAR = *."AUTHOR NAME"
! start author-storing loop
WHILE AUTHOR_VAR NE " " STORE AUTHOR USING BEGIN
       BOOK_CODE = BOOK_CODE_VAR
```

4

AUTHOR-NAME = AUTHOR_VAR ! end author-storing loop END THEN AUTHOR_VAR = •."NEXT AUTHOR NAME OR <space>" ! end book-storing loop END THEN PRINT SKIP THEN BOOK_CODE_VAR = •."NEXT BOOK CODE OR <space>" RELEASE BOOK_CODE_VAR FINISH

There are two loops being controlled by WHILE statements in the above procedure. The outer one allows a person to store records in the BOOK domain until he/she hits a <space> in response to the prompt for "next book code". The inner loop permits the storing of authors for a given book until the person hits a <space> in response to the prompt for "next author name".

This eliminates the need for using Control-z to terminate a loop, or for asking how many authors the person wants to store in advance (as in REPEAT *."HOW MANY AUTHORS" STORE AUTHOR).

And, believe it or not, it will work in Datatrieve-11.

Control Breaks in the Report Writer

In order to produce a control break in a report if either FIELD-1 or FIELD-2, you can use a virtual variable. For example:

DECLARE COMBINATION COMPUTED BY FIELD-1|FIELD-2 REPORT DOMAIN SORTED BY COMBINATION AT BOTTOM OF COMBINATION PRINT NEW-PAGE PRINT ... END-REPORT

Print Totals of List Items in a Report

To print the total of fields which are in a list, you can use the following report writer statement:

AT BOTTOM OF REPORT PRINT TOTAL (TOTAL AGE OF KIDS)

User Defined Functions Phil Naecker

Some of the most useful applications of functions involve two or more functions working together. Here are some examples of kinky functions.

A Binary Value

This functions application is cute and simple. There are many different ways of implementing it, including a special purpose User Defined Function. This particular implementation makes use of some of the default functions that come with DTR-32.

DECLARE BINARY COMPUTED BY FN\$MIN(FN\$FLOOR(VALUE/UPPER_LIMIT), 1).

This functions wil evaluate to 1 if VALUE is greater than UPPER_LIMIT, to 0 otherwise. Use it via a table to translate to things like "YES" or "NO" or "*" or " ", which you can use to, say, flag values in a report.

FICA

Something that comes up in a personnel application is computation of an employee's Social Security Contribution (FICA). The FICA contribution is calculated based upon salary, but with an upper limit.

DTR> DECLARE FICA COMPUTED BY CON> FN\$MIN(CUMMULATIVE_SALARY*RATE,SALARY*MAX_RATE).

Conversion of Name Formats

In moving old fashioned personnel systems to a more modern system, we had names of the format

last-name, first-name middle-initial

like

SMITH, JAMES E. JR.

We wished to convert these to a more useful format that had each of the parts of the name in a separate field. Here's how we converted them.

[The declaration clauses for the variables are left as an excercise for the reader!]

FOR A IN OLD-DOMAIN FOR B IN NEW-DOMAIN WITH EMPNO EQ A.EMPNO BEGIN ' Where's the comma? COMMA = FN\$STR_LOC(FNAME, ",") - 1 ! Use that to define the end of the last name and the start of the first name....

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This procedure had about a 90 percent hit rate, which is really not bad considering how few conventions were used in the old personnel files. The places it failed were where an employee had two middle names, or there was a spurious comma, or there was no space between the employee's names. But as they say, "nine out of ten ain't bad!"

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Datatrieve Wish List

For the benefit of persons who have not seen a wish list before, an explanation of it's nature is in order. A wish list consists of items which the product users have indicated they would like to see incorporated into a product; however, an item desired by one user may not be wanted by many others, and DEC is not about to commit a significant amount of manpower to change a product to suit only a very few users. By publishing a wish list, the community of product users are able to indicate which items are of interest to the greatest number of users, and while DEC is not obligated to implement any of these items, past experience has indicated that they give more attention to those items which are wanted by the greatest number of customers. The wish list therefore acts as a means by which the users can indicate their desires to DEC, and DEC can learn which changes will satisfy the greatest number of users.

Since this is the first Datatrieve wish list, it is somewhat experimental. Only items pertaining to Datatrieve-11 are contained on this list as the VAX version has not been in the field for very long (though some items will also be of interest to VAX users). Two questions are simply to obtain a perspective on the user community (the version of Datatrieve used and the operating system used). The first main section are items which are clearly defined enough for the users to vote on, and to obtain valid responses. The second section contains items which were submitted to the wish list, but which require additional input from the community before they can be voted upon. (In the future, I would like to urge all persons submitting items to the wish list to give as specific an example as possible of the problem.) The last section contains items which were submitted to the wish list for which solutions have been found (the problem was corrected, an alternative

solution exists) or which cannot be done at all, so that there is nothing to be gained by voting on these items.

The editor has been informed that no new features should be expected in Datatrieve-11 until a method of obtaining more pool space is found. One of the biggest problems with Datatrieve-11 is exhaustion of pool space, and DEC is acutely aware of the problem, but at this time any new feature which uses up pool space would just make things harder for everyone. Some of the items on this wish list are marked as existing on VAX: DEC is looking at all of the VAX enhancements with the possibility of moving as many as possible to Datatrieve-11 when feasible (many, perhaps all, will have to wait until the pool problem is solved). The possibility exists that some of the items on the list could be implemented without impacting upon pool space.

The procedure for voting on the wish list is as follows:

There are 42 items on the first list. Each voting site has 35 points to "spend" upon the various items: you may vote zero, one, two, three, four, or five points on each item depending upon the degree of importance you wish to attach to each item. Since you cannot vote for every item, and you may find some items more important than others, please read through the list carefully, and consider which items are most important to your installation. The results will by tabulated by the number of sites voting on each item, and the number of points assigned to it. Please note that the first two entries are for information only, while items 43 on are not voting items, but are solicitations for additional input: for these items (and item 6 if you wish) please print or type your suggestions on the back of the ballot.

Informational Items

Are you using:

- (1) Datatrieve-11,
- (2) VAX-Datatrieve

Your operating system is:

- (1) IAŠ,
- (2) RSTS/E,
- (3) RSX-11M,
- (4) RSX-11M+,
- (5) VMS.

Voting Items

- COLLECTIONS: allow two or more collections from the same domain to be merged.
- (2) INTERFACE: add support for FMS-11.
- (3) MESSAGES: allow suppression of the "ABORT... process terminated" message, possibly as an installation option.
- (4) MESSAGES: when an error is encountered, the error message should be more specific.

Editor's note: this is to determine if users desire the error messages to be expanded. You may wish to indicate which messages you consider are not sufficiently informative in the space reserved for additional comments.

- (5) EDIT STRINGS: scientific notation, i.e. PIC 9.999E99.
- (6) EDIT STRINGS: octal notation, i.e. PIC 777.
- (7) EDIT STRINGS: hexadecimal notation i.e. PIC FFF.
- (8) EDIT STRINGS: allow specification of an edit string for a table to be in the table definition rather than on each PRINT table VIA statement (as is in VAX).
- (9) TABLES: allow ELSE DISPLAY VALUE so that, if there is no match with the table, the data item itself is printed rather than the default character string from the table.
- (10) COMMANDS: allow suppression of the "ENTER" message when prompting for a value. A new prompt symbol such as "?_#" may be required.
- (11) COMMANDS: implement uniform handling of all fields in the record definition, especially within lists to allow proper sorting, simplify field access in lists, etc.
- (12) COMMANDS: when a record is defined, print a message showing the number of bytes of pool the definition consumes.
- (13) COMMANDS: add the ability to PURGE records from a collection using SELECT (the DROP command in VAX).
- (14) COMMANDS: add a SET QUIET to suppress output to the terminal, especially with command files.

Response from DEC: since commands in procedures do not print out, procedures should be used rather than command files when suppression of the commands is desired. (15) COMMANDS: add abbreviations (synonyms) for the commands so that experienced users need not type as much.

Response from DEC: this will use up pool.

Editor's note: the ability to select an alternative list of commands, as a SET option or QD.MAC option was suggested. DEC has indicated that this would also use up pool, and that implementation is impractical.

(16) COMMANDS: add to the RSE string "STARTING (with)"

Example: FIND YACHTS WITH BUILDER STARTING "AL".

Response from DEC: will be looked at; is in VAX version.

(17) COMMANDS: allow boolean operations on strings to allow matches of two or more strings in a list (or in another domain using FOR loops).

> Example: FIND ANY SAILBOATS WITH OWNER-NAME = "JIM" <AND> OWNER-NAME = "ANN" should find only those yachts jointly owned by Jim and Ann. (The "=" might be a CONTaining.)

- (18) COMMANDS: add additional string handling functions such as LENGTH, POSITION, SUB-STRING.
- (19) COMMANDS: add the record length to the command "SHOW FIELDS" and identify the keys.

Editor's note: this may be more appropriate in the SHOW recorddefinition command: see also item 51.

(20) COMMANDS: add prompts for domain names, so that a procedure could include a line such as REPORT *.DOMAIN ON FOO.FOO Response from DEC: a means for doing this in a different manner is available in VAX.

(21) COMMANDS: allow variables to be used in any location where a prompt is allowed (this allows assignment of a value to a prompt in a procedure.

Editor's note: the solution for this may also resolve the previous item.

(22) COMMANDS: add CRT cursor positioning in PRINT and REPORT WRITER lines.

> Example: PRINT LINE (expression) COL (expression) print-list

(23) COMMANDS: add simple CRT cursor positioning: HOME cursor and CLEAR-SCREEN.

> Response from DEC: for both of the above items, there could be serious problems if the output were directed to a hard copy device. The commands are also very terminal specific.

> Editor's note: the above items are to gauge user's interest. If implemented, it can be assumed that they would work only on DEC terminals, and possibly only on one type of terminal. DEC has suggested that users send their own command strings to suit their particular needs.

- (24) COMMANDS: allow sorting on computed fields, such as COUNT, SUM, AVERAGE.
- (25) COMMANDS: add a CHAIN command.
- (26) COMPUTATION: simplify the procedure for adding a number of days to a date to allow computation of elapsed days.

Response from DEC: is being looked at; should be O.K.

Editor's note: computing elapsed months was also suggested, but since the number of days in a month is not constant, this was deemed impractical.

- (27) COMPUTATION: allow ROUNDING and TRUNCATION options, either in PICture or USAGE clauses.
- (28) CONTROL: implement a simple method of breaking out of a loop.

Editor's note: it is possible that documentation and use of the WHILE statement could solve this problem for many users.

- (29) REPORT WRITER: allow the report writer to sequentially number items and/or lines. Allow use of this feature for running totals.
- (30) REPORT WRITER: implement plotting.

Response from DEC: good idea, not enough pool space available.

- (31) REPORT WRITER: allow prompting for report date and page number.
- (32) REPORT WRITER: add IF-THEN-ELSE

Example:

REPORT YACHTS ON TI: PRINT BUILDER IF PRICE GT 0 PRINT PRICE ELSE PRINT ''NO PRICE AVAILABLE''

Response from DEC: look for other solutions.

(33) REPORT WRITER: add the ability to test for the number of lines remaining on the page so that a skip to the top of the next page can be forced when the user knows that the next group of items to be printed will occupy more space than is available on the current page.

Editor's note: if you set the number

of lines per page to be less than the number of lines you require to print an item, you could run into problems. Be prepared for this if you vote for this.

- (34) REPORT WRITER: add DECLARE and ASSIGN to allow temporary variables in the report writer.
- (35) REPORT WRITER: add a page number variable which can be printed in the report.

Response from DEC: good idea.

- (36) ADT: add the option not to create the file.
- (37) ADT: add optional signs on numeric fields.
- (38) FILES: allow a field length greater than 255 characters.

Response from DEC: there is a direct trade-off with pool space, and if the buffer is made bigger, **all** users lose pool space even if they never use the larger field. There are also problems in printing out more than 255 characters at a time. Try breaking up the field into several smaller fields.

(39) FILES: this comprises three suggestions:

> allow prompting for a file name in additional statements such as DEFINE DOMAIN FOO USING FOO-RECORD ON *.FOO;

extend the "ON" feature to be a fullfledged command that redirects the output of the PRINT statement i.e. "ON FILE.DAT" opens FILE.DAT as the output file of a PRINT statement;

add an OPEN FILE statement to open a file which would receive all output until a CLOSE FILE statement was encountered. This should include open new or old files, and open for append.

Response from DEC: good idea, all of the above items should be considered as one basic feature.

(40) FILES: correct the syntax for EXTRACT.

Example: EXTRACT resource {password} ON file-spec.

Response from DEC: this is allowed on VAX.

- (41) FILES: support the multi-device print de-spooler.
- (42) DOCUMENTATION: list the Datatrieve error messages with an explanation of each, suggested course of action to correct the error when appropriate, etc.

The following items require additional input from the user community before they can become voting items.

(43) COMMANDS: if a record is currently SELECTed, a warning message should be issued before doing a MODIFY ALL.

> The problem is: what message should be issued, and what action should Datatrieve take after issuing the message. If there is a concensus of opinion, this can become a voting item.

(44) COMMANDS: add STOP or PAUSE commands.

> The problem here is that the commands are operating system specific. This can become a voting item only if someone can think of a way to get it to work on all -11 operating systems (RSX-11M, RSTS/E

and IAS).

(45) COMPUTATION: allow another option to divide by zero other than 0 or -1.

What other option would you like to see?

(46) REPORT WRITER: allow more than one PRINT line in the report writer.

Since the report writer allows printing multiple lines and printing AT TOP and AT BOTTOM, a clear example of something which needs to be done which cannot be done with the present commands is needed for DEC to consider this item.

The following are suggestions which have received answers from DEC.

(47) Include all DTR patches on the AUTO-PATCH tapes.

DTR patches are now in all kits.

(48) Provide a video tape lecture, provide a self paced course.

> All training materials come from the Educational Services group, not Datatrieve. Requests for courses must go to them.

(49) When an error is encountered in a procedure, print more than one line of the procedure so that the error can be located.

> Response from DEC: not possible. The information is not available when the error occurs.

(50) Add to the RSE string: "ENDING (with)"

Response from DEC: unlike the

STARTING (with), this is not feasible.

(51) Add the field length to the command "SHOW FIELDS"

> Use the SHOW record-definition command to get the field lengths. Using SHOW FIELDS would defeat some of the protection procedures, i.e., only those persons who have read access to the record definition need to know the length of the fields.

(52) Allow use of report writer commands in the print statement.

Response from DEC: use the report writer.

(53) Allow complete suppression of the page numbers in the report writer.

Use SET NO-PAGE.

(54) Add to ADT: option to not create a domain, group names, redefines, computed by fields, multiple filler.

> Response from DEC: ADT is intended to give the first time user to Datatrieve who is not familiar with record definitions, etc. a method of getting started with Datatrieve and an example to use. It was never intended for regular use by persons already familiar with Datatrieve. Group names were considered in testing and found confusing to new users.

Editor's note: I must agree with this. I have found in my installation that after using ADT one or two times the users are able to produce record definitions which better suit their applications without using ADT, and would rather do it themselves.

(55) Allow expressions as file names, i.e., on 'FILE' COST-CENTER appends the string COST-CENTER to the file name string.

Response from DEC: this opens up horrendous problems, and is not

possible.

(56) Customize Datatrieve for each operating system.

Response from DEC: Solutions which work for one operating system and not for others are usually "kludges". When the correct solution for a particular problem is found, it will correct the problem for everyone. The most serious problems, such as lack of pool space, are common to all operating systems and need to be solved for all users.

(57) Allow user definable functions, or make Datatrieve callable from other programs.

> DEC has indicated that there are problems here, especially with the different operating systems. There is a solution for VAX, and they may continue to look at this.

(58) List the lun assignments so that systems with multiple disks can optimize sorting, etc.

Response from DEC: The luns are assigned dynamically, as they are needed: this frees up space [pool] when files do not have to be open. If the luns were fixed, the space for the lun assignments for all files would be taken up at all times: for example, when a sort is not being done, the space used to open the sort work files would not be available for other uses if the lun assignments were fixed.

(59) On RSTS/E, the QUERY.TMP file should be deleted when the user is done.

This was a bug in the RSTS RMS code and should now be fixed.

(60) Datatrieve should automatically do a save every (pick a number) records when STOREing data with a large repeat factor. This is dependent upon the RMS handler, not Datatrieve.

(61) Allow Datatrieve to be shareable (a section of code resident in core shared by many users).

This is on VAX, but to do it on the PDP-11 would require re-writing Datatrieve, and is not practical.

BALLOT

| Datatrieve 11: | |
|--------------------|--|
| VAX-11 Datatrieve: | |

Operating System:

Voting Items:

| 1. | points | 15 | points | 29 | points |
|-----|--------|----|--------|----|--------|
| 2. | points | 16 | points | 30 | points |
| З. | points | 17 | points | 31 | points |
| 4, | points | 18 | points | 32 | points |
| 5. | points | 19 | points | 33 | points |
| 6. | points | 20 | points | 34 | points |
| 7. | points | 21 | points | 35 | points |
| 8. | points | 22 | points | 36 | points |
| 9. | points | 23 | points | 37 | points |
| 10. | points | 24 | points | 38 | points |
| 11. | points | 25 | points | 39 | points |
| 12. | points | 26 | points | 40 | points |
| 13. | points | 27 | points | 41 | points |
| 14. | points | 28 | points | 42 | points |

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For items 43 through 61, please print or type the item number and your input below or on the back of this page.

Return the ballot to: Bart Lederman c/o Editor, Datatrieve Newsletter c/o DECUS, One Iron Way MR2-3/E55 Marlboro, MA 17562 The following list of names identifies people who have agreed to provide assistance to other Datatrieve users.

| | | Datatrieve Masters | |
|------------------|------------|--|------------------------|
| Operating System | Computer | Name | Telephone |
| IAS | PDP 11/70 | Watson, Chuck BATTELLE NORTHWEST Richland Wash. 99352 | (509) 376-2227 |
| RSTS | PDP 11/70 | Clark, J. C. (Jr.) YOUNGER COMPANIES 4904 Griggs Road Houston Tx. 77021 | (713) 748-0100 X233 |
| RSX | PDP 11/34 | Azzi, Dick MOTOROLA 5005 E Mcdowell Road Phoenx Az. | (602) 244-4316 |
| | PDP 11/70 | Jasmann, Larry U. S. COAST GUARD 500 Camp Street New Orleans, La. 70130 | (504) 529-3273 |
| RSX 11-M | | | |
| | PDP 11/70 | Kelly, Joe WAYMON GORDON Worchestel Road North Grafton Mass. 01536 | (617) 839-4441 X5480 |
| VMS | VAX | Kussete, Don EASTMAN KODAK 901 Elmgrove Rd. Rochester N. Y. 14650 | (716) 726-7 057 |
| | VAX 11/780 | Kelly, Joe WAYMON GORDON Worchestel Road North Grafton Mass. 01536 | (617) 839-4441 X5480 |
| | | Swanger, James G. D. Searle & Co. P. O. BOX 5110 Chicago III. 60680 | (312) 982-7 430 |

Datatrieve Masters

| Operating System | Computer | Name | Telephone |
|------------------|----------|--|----------------|
| | | Saxer, Gary AXXA CORP 21201 OXNARD ST. Woodland Hills, Ca. 91367 | (213) 992-8110 |
| | | Eade, Darrell J. NAVAL UNDERSEA WATER E. S. Heyport Washington 98345 | (206) 396-2501 |
| | | Wool, Chris E. I. DuPONT Engineering Dept. Willington Delaware 19898 | (302) 366-4610 |
| | | Stephenson, Glen KAISER HEALTH PLAIN 4747 Sunset Blv, 1st Floor Los Angeles Ca. 90027 | (213) 667-8435 |



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