DECUS U.S. CHAPTER

SIGs

NEWSLETTER

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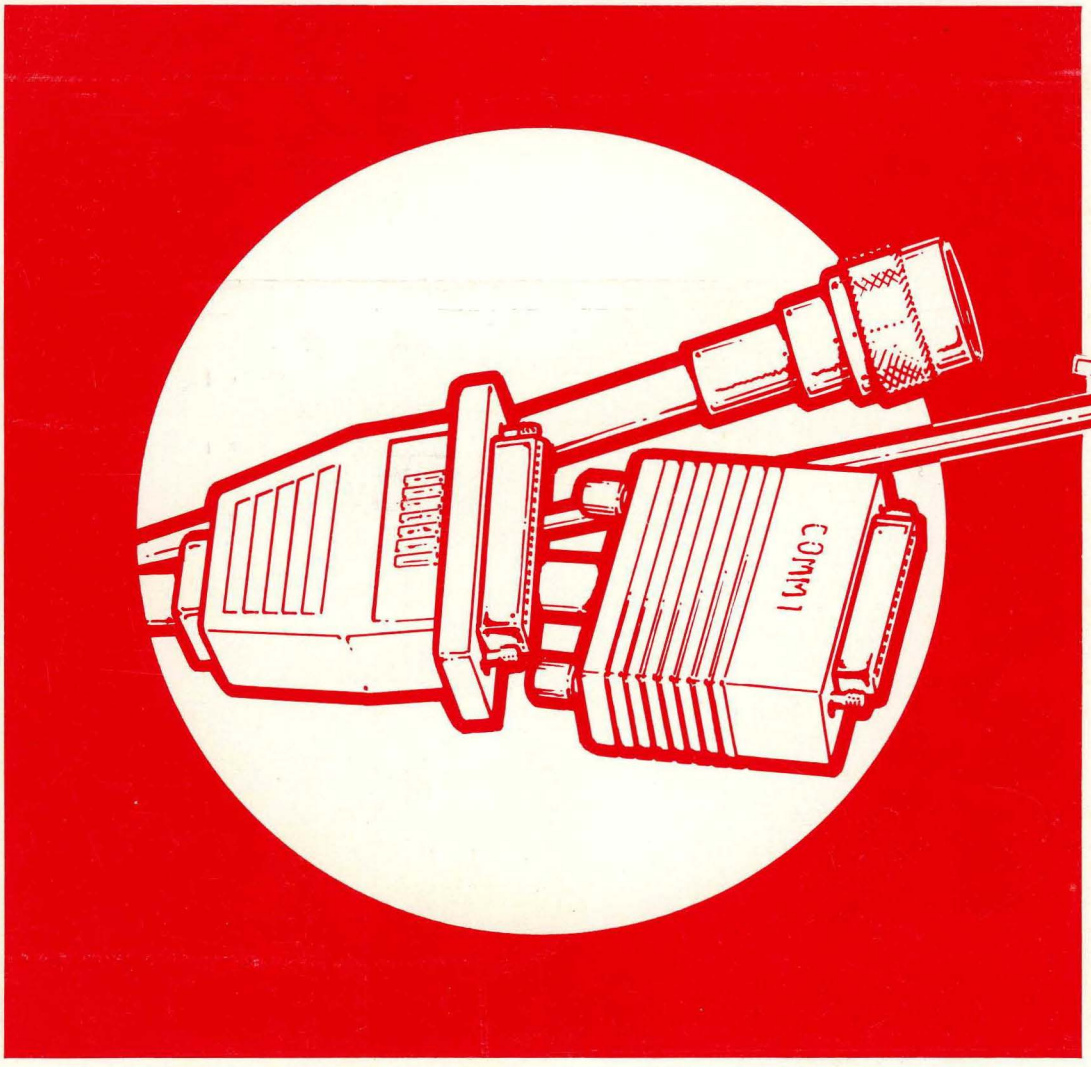

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DECUS

VOLUME 3
NUMBER 12

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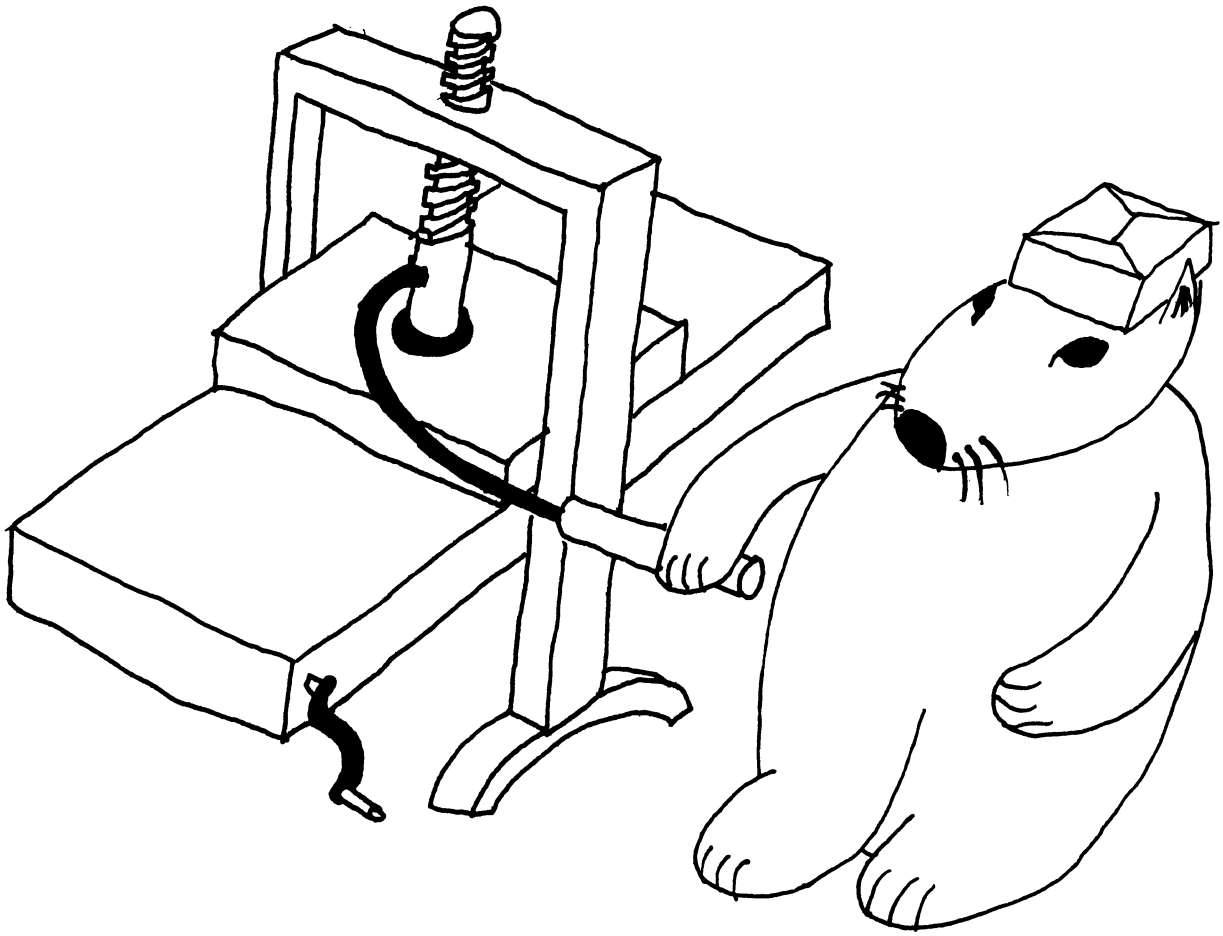
The Wombat

EXAMINER and 4GL Dispatch

DTR

"Increases the Circulation of Anyone in America" *Volume 9 Number 12*



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Machine readable input is highly desirable and machine-to-machine transfer of material is preferred, but most anything legible will be considered for publication.

Please send contributions, or for further information please contact either:

Editor, DATATRIEVE Newsletter
c/o DECUS U.S. Chapter
Company 219 Boston Post Road, BP02
Marlboro, MA 01752

Joe H. Gallagher, Ph.D.
4GL Solutions
10308 Metcalf, Suite 109
Overland Park, KS 66212

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About the authors...

Jerry Oberle is the Software Manager at Survey Sampling, Inc. He holds an MBA in accounting from the University of Bridgeport, and a JD from New York Law School. He has worked in the computing field for eight years on IBM 3083s running MVS/TSO, TOPS-10, and now VAXes. Jerry is the Stamford, Connecticut DECUS LUG Chair.

Bart Z. Lederman works in the Advanced Systems Development group of WU World Communications in New York City . Bart is the Library Committee and PDP-11 Working Group representative for the DTR/4GL SIG, a regular speaker at Symposia, the artist for the Wombat Examiner, and frequent contributor to the SIG Newsletters.

Dear Wombat Wizard

Dear Wombat Wizard:

How do you suppress the opening FORM-FEED that the report writer generates? Seems like I've seen something about this somewhere, but I can't remember where. I tried

AT TOP OF REPORT PRINT NO NEW-PAGE

but with no such luck!

Signed,

Interested in saving the trees

Dear Tree Saver:

The answer to your question is you can't suppress the form feed from within the report writer. The enhancement to DATATRIEVE that you seek was Product Improvement Request S87-2; see page DTR-43 of DECUS U. S. Chapter SIGs Newsletters, April 1987, Volume 2, Number 8.

However, if you put the output to a file, you can use an editor to remove the <FF> at the top of the file. You could also write a post-processor program in DCL, FORTRAN, BASIC, or your other favorite 3GL to strip the first record and then spool or directly print the rest. Or better (and maybe slower) yet, you could do it all in DATATRIEVE. Consider the following domain and record definition:

```
DEFINE DOMAIN PSPOOL USING PSPOOL_RECORD ON PSPOOL.DAT;
DEFINE RECORD PSPOOL_RECORD USING
01 PSPOOL_REC.
   03 BUFF PIC X(n). ! where n is big enough to handle your
                    !  widest reports
;
```

Then your report writer output would look like

```
ready foo
report foo with . . . sorted by . . . on PSPOOL.DAT
   . . .
   . . .
end-report
declare first-flag pic x.
first-flag = "Y"
ready pspool
for pspool begin
    if (first-flag eq "N") then begin
      print buff(-)
      end
    first-flag = "N"
    end
! and if you want to save disk space then
fn$dcl("$DELETE PSPOOL.DAT;*")
```

On the other hand, when you graduate to a laser printer, you will welcome the initial form feed every time you failed to manually form feed the last page of the previous report. The developers of DATATRIEVE would say the initial form feed was good planning based on the increased laser printer usage as both attached and cluster printers.

Signed

The Wombat Wizard

A New Plot Family For VAX-DATATRIEVE

B. Z. Lederman, WU World Communications, New York, NY 10004-2464

Two days before leaving for the Cincinnati symposium, I realized I had not prepared anything for the Wombat Magic session (not that anyone is required to, but it's fun to participate in that session). I recalled that at a previous symposium, a user had indicated that he needed to plot data on wind speed and direction for weather and environmental studies and wanted to know if a DATATRIEVE plot could be written to do this. I thought that it would not be too difficult to do; in fact, it turned out that in just an hour or two I was able to get a workable plot by taking the existing PIE plots and removing the parts I didn't need. Basically, I did a plot like the COMPASS plot shown below.

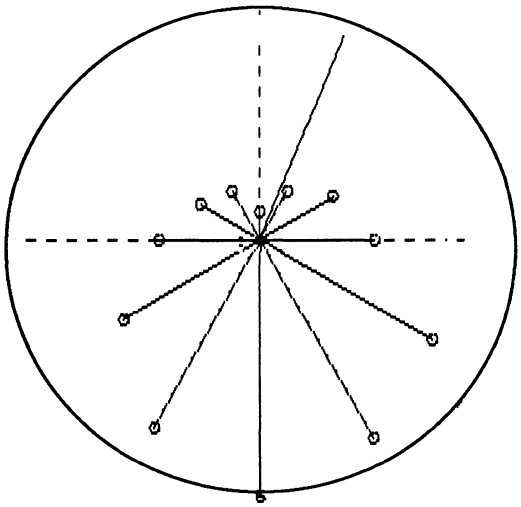


Figure 1 - COMPASS Plot

When I first did this, of course, I only had the data lines. After I had it working, I added the dashed background lines for the four compass points, and the little circles at the ends of each data line to make the ends easier to see. Basically, a PIE chart draws a circle, then divides it up into pieces and labels them. I removed the part of the PIE chart (plot DRAW_PIE) that takes the data and figures out how far apart the slices of the pie are, and made the length of the line proportional to the value plotted. I also removed all of the stuff that drew in the values and percentages on the plot; perhaps some day I'll put some of that back in to write the actual value of the angle and magnitude on the plot. In order to test my plots, I created a small domain with some data in it which follows:

DEGREES	MAGNITUDE
0.0	5
22.5	41
30.0	10
60.0	15
90.0	20
120.0	35
150.0	40
180.0	45
210.0	38
240.0	28
270.0	18
300.0	12
330.0	10

Originally I only had the data points at 30 degree intervals; it was only after I added the 22.5 degree data point that I realized that I was plotting things backwards. The original data was too "symmetrical" to see that I was drawing counter-clockwise instead of clockwise, like a compass. Having done that, I made some slides Friday and went home to prepare for my trip. On the way home I realized that I could do something really interesting now that I had a way to draw a circle and some lines out from the center. While in Cincinnati I used some time in the campground to work out the following plot:

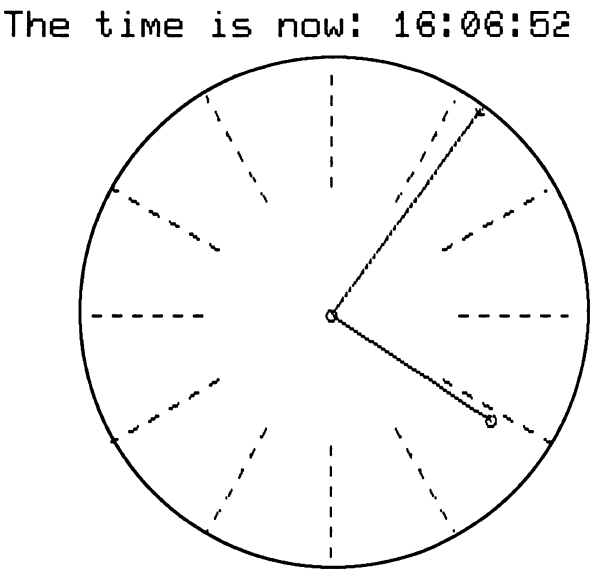


Figure 2. Clock

Somehow, the thought of turning an 8840 cluster into a very large, heavy, and expensive analogue clock appeals to me. Besides, I figure that if VMS will only give you digital time (SHOW TIME), DATATRIEVE should be able to deliver both analogue and digital. On returning from the symposium, I decided to clean up the plots a little and combine all of the separate plots into one clean family of plots as you see them here. I created a plot DRAW_CIRCLES to do the basic work for this family of plots similar in concept to DRAW_PIE.

```
REDEFINE PLOT DRAW_CIRCLES
!
!  The "working stuff" of clock face, compass, and vector plots.
!  B. Z. Lederman  WU World Communications  23-May-1988
!  This plot does not draw a background for easier hardcopy
!
DECLARE X_POS, I, ANGLE, STR_LEN, MAX_LEN
DECLARE DEFAULT_TITLE, RADIUS, Y_CENTER, MAX_MAG
DECLARE REAL VECTOR SCALED_MAG
!
ENTRY 0 (TITLES :      STRING VECTOR,
         DEGREES :     STRING VECTOR,
         MAGNITUDES : REAL VECTOR)
BEGIN
  PLOT HOUSEKEEP 0
  PLOT DATA_LIMITS 4            ! last top level plot was a "pie" plot
  SET_SEGMENT 5
  PRINT 'S(M1(L0))'             ! set output mapping
  CLEAR_SEGMENT 3
  SET_SEGMENT 0
  PRINT 'L(A1)'                 ! set character cell loading
  PRINT 'L"X"FFFFFFFFFFFFFFFF'  ! load cell
  PRINT 'L"Y"FFFFFFFFFFFFFFFF'  ! (not actually used)
  PRINT 'L"Z"FFFFFFFFFFFFFFFF'
  SET_SEGMENT 1
  PLOT DATA_LIMITS 6 (DEFAULT_TITLE)  ! set flag if TITLE plot not active
  IF DEFAULT_TITLE NE 0 THEN          ! put in "real" title
  BEGIN
    PRINT 'T(BS2)'                    ! Text command
    INCR I OVER TITLES
      MAX_LEN = MAX_LEN + LENGTH (TITLES(I)) + 1
    IF MAX_LEN > 38 THEN X_POS = 0 ELSE X_POS = (38 - MAX_LEN) * 10
    PRINT 'P', LXY (X_POS, 0)
    INCR I OVER TITLES
    BEGIN
      STR_LEN = STR_LEN + LENGTH (TITLES(I)) + 1
      IF (STR_LEN < 38) THEN PRINT 'T"', TITLES(I), ' "'
    END
  END
  ELSE PLOT DATA_LIMITS 13              ! output a plot header
  PLOT DATA_LIMITS 7 (RADIUS, Y_CENTER)  ! return radius for plot circle
!   Scale the magnitudes of the plot lines.
  MAX_MAG = MAX (MAGNITUDES)
  INCR I OVER MAGNITUDES
    SCALED_MAG(I) = MAGNITUDES(I) * (RADIUS / MAX_MAG)
!   Start drawing
  PRINT 'T(E)T(A1)p', LXY(380, Y_CENTER),   ! set position to center
      'c(w(r))', RX(RADIUS),                ! clear a circle
      'c', RX(RADIUS), 'T(A0)'              ! outline a circle
END
!
ENTRY 1
!   Draw in 12 hour markers in dashed lines for clock face.
BEGIN
!   Drawing the center circle depends on the command coming just after
!   drawing the main circle outline.
```

```
  PRINT 'c', RX((RADIUS / 50))              ! draw a small center circle
  ANGLE = 0
  INCR I FROM 1 TO 12
  BEGIN
    ANGLE = ANGLE - 30
    PRINT 'p', LXY(380, Y_CENTER), 'p',
      RXY( (- RADIUS / 2) * SIN(ANGLE), (- RADIUS / 2) * COS(ANGLE) )
    IF I EQ 12 THEN
    BEGIN                                   ! top mark a little longer
      PRINT 'V(W(P2I(0)))',RXY((-RADIUS/1.75)*SIN(ANGLE),
        (-RADIUS/1.75)*COS(ANGLE))
    END
    ELSE
    BEGIN
      PRINT 'V(W(P2I(0)))',RXY((-RADIUS/2)*SIN(ANGLE),(-RADIUS/2)*COS(ANGLE))
    END
  END
END
!
ENTRY 2
!       Draw in vertical and horizontal axis using dashed lines.
BEGIN
  PRINT 'p', LXY(380, Y_CENTER), 'V(W(P2I(0)))', RX(RADIUS)
  PRINT 'p', LXY(380, Y_CENTER), 'V(W(P2I(0)))', RY(RADIUS)
  PRINT 'p', LXY(380, Y_CENTER), 'V(W(P2I(0)))', RX(- RADIUS)
  PRINT 'p', LXY(380, Y_CENTER), 'V(W(P2I(0)))', RY(- RADIUS)
END
!
ENTRY 4 (DEGREES : STRING VECTOR)
!      Plot vectors clockwise from top.
BEGIN
  INCR I OVER DEGREES
  BEGIN
    ANGLE = -1 * DEGREES(I)
    PRINT 'p',LXY(380,Y_CENTER),'v',RXY((- SCALED_MAG(I))*SIN(ANGLE),
      (- SCALED_MAG(I)) * COS(ANGLE)), 'c', RX((RADIUS / 50))
  END
  OUTPUT_SEGMENT 0,1
  PLOT HOUSEKEEP 2
END
!
ENTRY 5 (DEGREES : STRING VECTOR)
!   Plot vectors counter-clockwise from right.
BEGIN
  INCR I OVER DEGREES
  BEGIN
    ANGLE = -1 * DEGREES(I)
    PRINT 'p', LXY(380, Y_CENTER), 'v', RXY(SCALED_MAG(I) * COS(ANGLE),
       SCALED_MAG(I) * SIN(ANGLE)), 'c', RX((RADIUS / 50))
  END
  OUTPUT_SEGMENT 0,1
  PLOT HOUSEKEEP 2
END
END_PLOT
```

To use this multiple entry plot you need other plots to "drive" it (much as PIE and VALUE_PIE call on DRAW_PIE). The first one is the COMPASS plot, so called because it works as a compass does (zero degrees is at the top or NORTH, and increasing angles go clockwise).

```
REDEFINE PLOT COMPASS
!
!   Do a direction and magnitude vector plot (clockwise).
!   B. Z. Lederman    WU World Communications, Inc.   12-May-1988
!
DECLARE STRING VECTOR TITLES
DECLARE REAL VECTOR DEGREES, MAGNITUDES
DECLARE INDEX
!
ENTRY 0 (TITLE2 : STRING, TITLE1 : STRING)
BEGIN
  PLOT DATA_LIMITS 0
  TITLES (1) = 'Compass plot of'
  TITLES (2) = TITLE1
END
!
ENTRY 1 (D, M)
BEGIN
  INDEX = INDEX + 1
  DEGREES(INDEX) = D
  MAGNITUDES(INDEX) = M
END
!
ENTRY 2
BEGIN
  PLOT DATA_LIMITS 5 (DEGREES, MAGNITUDES) ! save or restore real arrays
  PLOT DRAW_CIRCLES 0 (TITLES, DEGREES, MAGNITUDES)   ! start plot
  PLOT DRAW_CIRCLES 2                        ! draw X and Y axis
  PLOT DRAW_CIRCLES 4 (DEGREES)              ! draw vectors clockwise
END
END_PLOT
```

I also decided that it would be a good idea to have a math vector plot. This is almost the same as the compass plot, except that zero degrees is to the right (the positive X axis) and increasing angles go counter-clockwise.

```
REDEFINE PLOT VECTORS
!
!   Plot vector values (normal to X and Y axis).
!   B. Z. Lederman    WU World Communications 23-May-1988
!
DECLARE STRING VECTOR TITLES
DECLARE REAL VECTOR DEGREES, MAGNITUDES
DECLARE INDEX
!
ENTRY 0 (TITLE2 : STRING, TITLE1 : STRING)
BEGIN
  PLOT DATA_LIMITS 0
  TITLES (1) = 'Vector Plot of:'
  TITLES (2) = TITLE1
```

```
END
!
ENTRY 1 (D, M)
BEGIN
  INDEX = INDEX + 1       ! for each data point
  DEGREES(INDEX) = D      ! store angle
  MAGNITUDES(INDEX) = M   ! and magnitude
END
!
ENTRY 2
BEGIN
  PLOT DATA_LIMITS 5 (DEGREES, MAGNITUDES) ! save or restore real arrays
  PLOT DRAW_CIRCLES 0 (TITLES, DEGREES, MAGNITUDES)  ! start plot
  PLOT DRAW_CIRCLES 2                 ! draw X and Y axis
  PLOT DRAW_CIRCLES 5 (DEGREES)       ! draw vectors counterclockwise
END
END_PLOT
```

If you compare this plot carefully with the compass plot shown previously, you can see the difference.

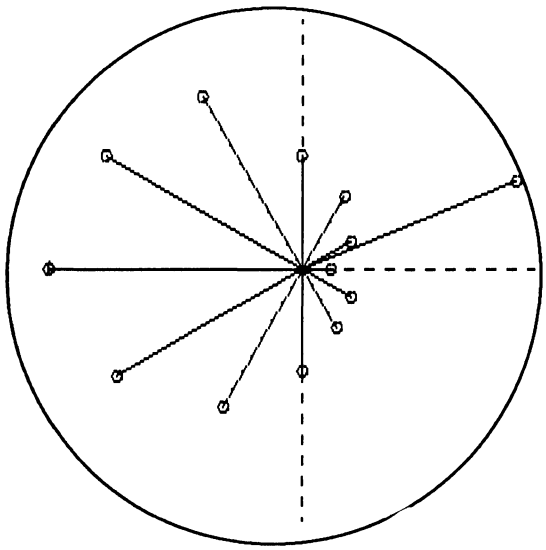


Figure 3. Vectors

The time clock plot is almost the same as the compass plot, but requires the time be fed into it in a certain way. I defined a procedure which would do this. A third "dummy" variable is used to feed the digital time in for use as a title (this was a little something extra I added after I got home from the symposium).

```
REDEFINE PROCEDURE TIME
!
!   Feed the current time into the clock plot.
!   B. Z. Lederman    WU World Communications 23-May-1988
!
PLOT CLOCK USING FN$HOUR("NOW"), FN$MINUTE("NOW"),     ! time
    "X" (FORMAT FN$TIME("NOW") USING X(8))             ! digital time in title
END_PROCEDUREREDEFINE PLOT CLOCK
!
```

```
!   Do a clock face vector plot.
!   B. Z. Lederman    WU World Communications, Inc.   23-May-1988
!
DECLARE STRING VECTOR TITLES
DECLARE REAL VECTOR DEGREES, MAGNITUDES
DECLARE INDEX
!
! The first data point is the hour, the second is the minute
! the third is to put the digital time as a text string in the title
!
ENTRY 0 (TITLE3 : STRING, TITLE2 : STRING, TITLE1 : STRING)
BEGIN
  PLOT DATA_LIMITS 0
  TITLES (1) = 'The time is now:'
  TITLES (2) = TITLE1
END
!
ENTRY 1 (H, M, DUMMY : STRING)
BEGIN
  DEGREES(1) = ( (H + (M / 60)) * 30) ! convert time to degrees
  MAGNITUDES(1) = 0.75                ! short hour hand
  DEGREES(2) = (M * 6)                ! convert minutes to degrees
  MAGNITUDES(2) = 1.0                 ! long minute hand
END
!
ENTRY 2
BEGIN
  PLOT DATA_LIMITS 5 (DEGREES, MAGNITUDES) ! save or restore real arrays
  PLOT DRAW_CIRCLES 0 (TITLES, DEGREES, MAGNITUDES)   ! start plot
  PLOT DRAW_CIRCLES 1                      ! draw 12 hour markers
  PLOT DRAW_CIRCLES 4 (DEGREES)            ! draw vectors clockwise
END
END_PLOT
```

The most important thing to remember about all of this is not to be afraid of trying to make new plots or modify existing plots. Simply make a copy of the Digital supplied plots and work in your own directory so you don't affect anyone else while you are experimenting.

Editor's Note: If Bart was amused at the thought of turning a VAX 8840 cluster into a clock, the editor almost fell off of his editing chair at the thought of a DATATRIEVE alarm clock. Consider the procedure:

```
DEFINE PROCEDURE ALARM
DECLARE ALARM_TIME USAGE IS DATE.
DECLARE ALARM_STRING PIC X(5).
DECLARE NOW USAGE IS DATE.
ALARM_TIME = "today"
ALARM_STRING = *."the alarm time in HH:MM format"
ALARM_TIME = FN$DATE(FN$UPCASE(FORMAT ALARM_TIME USING DD-MMM-YYYYB|
       ALARM_STRING|":00.00"))
WHILE 1 EQ 1 BEGIN                ! you have to ^C or ^Y to stop it!
    NOW = "now"
    IF (NOW GT ALARM_TIME) THEN BEGIN
        PRINT "^G^G^G^G^G"        !  5 bells is the alarm
        END
!
!   You can't use the procedure TIME here because the optimizing
```

```
!    Wombat will get you, and the hands of your clock won't move.
!
    PLOT CLOCK USING FN$HOUR(NOW), FN$MINUTE(NOW),
        "X" (FORMAT FN$TIME(NOW) USING X(8))
    FN$WAIT(5.0)  ! you can set the clock re-fresh rate by adjusting
                  !  the amount of time between plotting the clock
    END
END-PROCEDURE
```

If you are unfamiliar with the functions FN$WAIT, see Don Stern's article on DATATRIEVE functions in the Wombat Examiner and 4GL Dispatch, Volume 2, Number 8, April, 1987, pages DTR-29 and DTR-39. The function is equivalent to FN$DCL("$WAIT HH:MM:SS"), but without the overhead of spawning a sub-process.

Why Not To Define Your Default Dictionary The Wrong Way

Jerry Oberle, Survey Sampling, Inc., Fairfield, CT 06430

In the June 1988 issue of the Wombat Examiner and 4GL Dispatch (Volume 9, Number 10, for you librarians), Bart Lederman wrote a good article on some hidden traps in the DCL DEFINE command that may rise up to hurt you if you don't know they're there.

Essentially, his article cautions you to beware of the use of too many special characters in the equivalence string. While trying to track down the problem, he called TSC, who oversimplified the problem by saying that "you aren't allowed to have special characters in a logical name definition unless they are surrounded by quotes", and further that "there is a hidden bug in DCL which allows some invalid definitions to work, and the magic number of special characters appears to be two."

I'll give the folks at Colorado one thing, they certainly do make an effort to explain things, even when they don't know about that of which they speak.

For those who haven't read the original article, the problem is essentially that the first DEFINE command below works fine, while the second one generates an error.

```
$ DEFINE CDD$DEFAULT CDD$TOP.DTR$USERS.OBERLE     ! works fine

$ DEFINE CDD$DEFAULT CDD$TOP.DTR$USERS.OBERLE.SUBDICT  ! fails with

%DCL-W-PARMDEL, invalid parameter delimiter - check use of special characters
\.SUBDICT\
```

Actually, Mr. Lederman's problem seems to have been complicated by the fact that he was defining symbols for commands equivalent to those above, and DCL was eliminating the quotes surrounding part of the definition. Puzzled by what I read, I tried using the := form of the DCL assignment statement, and sure enough, it too removes the quotes surrounding the definition. Thus the following two statements are equivalent:

```
$ FOOBAR :== 1 "345"
$ FOOBAR  == "1 345"
```

Both define a symbol of length five, containing the characters "1", space, "2", "3", "4", and "5".

Now getting back to the guts of the problem . . . Let's make the assumption to begin with that the DCL DEFINE command is intended principally to define equivalence strings for logical names that are file specifications. While it is true that you can use logical names for other things, that is by far the most common use. Therefore, it is reasonable for DCL to demand that the equivalence string parameter on the command line be a valid file specification. Leaving out the issue of DECnet node names, a valid file specification must have one of the three following forms.

```
device:[directory(-ies)]filename.type;version
device:[directory(-ies)]filename.type.version
device:"anything you want"
```

A syntactically valid file specification can contain any or all of the above components, providing that the correct punctuation is supplied. Thus, FOOBAR.DAT;2 is a valid file specification.

The second format given above can be used to specify any file where both type and version are being specified. For example, we could also enter FOOBAR.DAT.2 for the file above. Quite frankly, I haven't the vaguest idea why this syntax is provided. It is confusing, since for example, in the file spec AFU.3, the three (3) is the file type, NOT the version number. If you need to give just the file name and version number, but leave the type unspecified (so as to let it default, for example), you MUST use the syntax AFU;3.

The third format is designed for tape files, which by ANSI standards can have weird characters in their names. It is also used by DECnet while specifying the node name instead of a device for initiating transparent task–to–task communication.

Now, of course, a CDD path name is not a file specification. It's simply a sequence of names, separated by periods. When you define a short enough CDD path (in terms of levels, not raw length), it appears to be a file specification in the second format shown above. Never mind that the version portion has something other than numerics; apparently, DCL assumes that RMS will take care of that problem if and when you try to use the logical name as a file specification component. However, once you get beyond three levels, it is necessary to put the path name in quotes, so that it looks like a format three name, without either node or device specified.

If you were to enter the following DEFINE command, in which the equivalence string has two special characters, namely pound signs, you'd find that DCL would object quite vehemently.

```
$ DEFINE LOGNAME JUST#TO#DEMONSTRATE
```

Thus, there is no "hidden bug in DCL." The reason that the magical number of special characters in an equivalence string is two is that when they are periods, the resulting string looks (almost) like a valid RMS file specification.

Wombat Magic, Spring 1988 - Part 1

Session Chair: Dick Azzi, Motorola, Phoenix, AZ
Session Editor: Joe H. Gallagher, Ph. D., 4GL Solutions, Overland Park, KS

Editor's note: The following is Part 1 of a highly edited transcription of the audio tape of the Wombat Magic Session at the 1988 Spring DECUS Symposium in Cincinatti, Ohio, which occurred on May 19, 1988. Material which was presented on transparencies has been merged into the oral presentation. An attempt has been made to convey both the technical content of the Magic Session as well as the humor, covert intellectual swaggering, and the spirited interchange of the presentations. Material which appears in the text with square brackets [] has been added by the editor in an attempt to improved the understandability of this very exciting Magic Session. Special acknowledgment is given to Mary Gallagher who assisted with the transcription of the audio tapes.

Joseph Mei, Harris Trust and Savings Bank, Chicago, IL

I brought a couple of functions. About a month or so ago a user came up to me and said they wanted to produce a report that would give them some sort of productivity numbers - as to how long it took to process certain things. So I gave it to them and they said these numbers look lousy and they wanted them in business days, so I thought about it and came up with these two routines: FN$ELAPSED_WEEKDAYS and FN$ELAPSED_BUSINESSDAYS. The one to compute elapsed business days we will call the week days function. I will show you the FORTRAN code on that. Now this is the code for FN$ELAPSED_WEEKDAYS.

```
integer*4 function elapsed_weekdays(start_date, end_date)
integer*4 start_date(2), end_date(2), elapsed_time(2), zero(2)
data zero /0,0/
integer*4 adjustment(7,7)
data adjustment /0, 0, 0, 0, 0, 0, 0,
2                1, 1, 1, 1, 1, 0, 0,
2                2, 2, 2, 2, 1, 0, 1,
2                3, 3, 3, 2, 1, 1, 2,
2                4, 4, 3, 2, 2, 2, 3,
2                5, 4, 3, 3, 3, 3, 4,
2                5, 4, 4, 4, 4, 4, 5/
integer*4 status, day_of_week, sys$numtim, lib$day_of_week
integer*2 elapsed_days(7)
C
C        Subtract start date from end date
C
status = lib$subx(end_date, start_date, elapsed_time)
if (.not. status) call lib$signal(%val(status))
if (.not. (btest (elapsed_time(2), 31)))
2 status = lib$subx(zero, elapsed_time, elapsed_time)
C
C        Determine the number of elapsed days
C
if (elapsed_time(1) .eq. 0 .and. elapsed_time(2) .eq. 0) then
elapsed_days(3) = 0
goto 10
```

```
end if
status = sys$numtim(elapsed_days, elapsed_time)
if ( .not. status) call lib$signal(%val(status))
C
C         Determine the day of week for start_date
C
10        status = lib$day_of_week(start_date, day_of_week)
if ( .not. status) call lib$signal(%val(status))
C
C         Compute the elapsed weekdays
C
elapsed_weekdays = elapsed_days(3) / 7 * 5 +
2 adjustment(day_of_week, imod(elapsed_days(3), 7) + 1)
return
end
```

The really important part is right down here the last few lines where it assigns the value to the function. The algorithm really is fairly simple. All you do is compute the elapsed calendar days between two points in time and divide by 7, multiply by 5, and add some kind of adjustment factor. That adjustment factor depends upon two variables; [first is] the MOD [modulus] of the elapsed days over 7 and [second] when the date started. Once that algorithm was figured out the rest was easy.

The adjustment depends on:

MOD(elapsed_days, 7)

Start	0	1	2	3	4	5	6
Mon	0	1	2	3	4	5	5
Tue	0	1	2	3	4	4	4
Wed	0	1	2	3	3	3	4
Thu	0	1	2	2	2	3	4
Fri	0	1	1	1	2	3	4
Sat	0	0	0	1	2	3	4
Sun	0	0	1	2	3	4	5

FN$ELAPSED_BUSINESSDAYS is similar.

```
integer*4 function elapsed_businessdays(start_date, end_date)
integer*4 start_date(2), end_date(2), holiday(2)
integer*4 status, elapsed_business_days, elapsed_weekdays,
1 day_of_week, zero_to_start_date, zero_to_end_date,
1 zero_to_holiday, lib$day, lib$day_of_week
open (unit=11, file='sys$tools:bank_holiday.dat', status='old',
          1         shared, readonly, form='unformatted')
5         elapsed_business_days = elapsed_weekdays(start_date, end_date)
status = lib$day(zero_to_start_date, start_date)
if ( .not. status) call lib$signal(%val(status))
status = lib$day(zero_to_end_date, end_date)
if ( .not. status) call lib$signal(%val(status))
10        read(11, end=100) holiday
status = lib$day(zero_to_holiday, holiday)
if ( .not. status) call lib$signal(%val(status))
status = lib$day_of_week(holiday, day_of_week)
if ( .not. status) call lib$signal(%val(status))
```

```
if (day_of_week .ge. 6) goto 10
if (zero_to_holiday .ge. zero_to_start_date .and.
1   zero_to_holiday .lt. zero_to_end_date)
1   elapsed_business_days = elapsed_business_days - 1
goto 10
100      elapsed_businessdays = elapsed_business_days
close(11)
return
end
```

At this point [FORTRAN statement number 5] it calls the function ELAPSED_WEEKDAYS and after that it reads through a holiday table [file of holiday dates] that you define yourself. If a date in the holiday file should fall in the range of the starting date and ending date, then it subtracts 1 from that.

[The MACRO linkages for DATATRIEVE for these two functions are:]

```
;
; FN$ELAPSED_WEEKDAYS - Computes the elapsed weekdays between two dates
;
; output is a longword containing the elapsed weekdays
; input  is a quadword specifying the start_date
; input  is a quadword specifying the end_date
;
$DTR$FUN_DEF FN$ELAPSED_WEEKDAYS, ELAPSED_WEEKDAYS, 2
$DTR$FUN_OUT_ARG TYPE = FUN$K_VALUE, DTYPE = DSC$K_DTYPE_L
$DTR$FUN_NOOPTIMIZE
$DTR$FUN_IN_ARG TYPE = FUN$K_REF, DTYPE = DSC$K_DTYPE_ADT, ORDER = 1
$DTR$FUN_IN_ARG TYPE = FUN$K_REF, DTYPE = DSC$K_DTYPE_ADT, ORDER = 2
$DTR$FUN_END_DEF
;
; FN$ELAPSED_BUSINESSDAYS - Computes the elapsed business days between
;                           two dates
;
$DTR$FUN_DEF FN$ELAPSED_BUSINESSDAYS, ELAPSED_BUSINESSDAYS, 2
$DTR$FUN_OUT_ARG TYPE = FUN$K_VALUE, DTYPE = DSC$K_DTYPE_L
$DTR$FUN_NOOPTIMIZE
$DTR$FUN_IN_ARG TYPE = FUN$K_REF, DTYPE = DSC$K_DTYPE_ADT, ORDER = 1
$DTR$FUN_IN_ARG TYPE = FUN$K_REF, DTYPE = DSC$K_DTYPE_ADT, ORDER = 2
$DTR$FUN_END_DEF
```

There are a couple of modifications that you may want to make to this. For instance, I hard coded the file [the file name]; you may want to set up a logical name if you have several files that you'd like to point to.

Another couple of suggestions that Bart [Lederman] made when he looked at it, was this. You may not want to open and close the [holiday] file all the time. You may want to have some sort of process that has the file open all the time. ... And another possible modification, instead of leafing through the entire table (the entire data file) you may want to do keyed GETs to go through that file. It may be quicker that was. That's my magic!

[Editor's note: Using a logical flag in the FORTRAN code to determine when the routine ELAPSED_BUSINESSDAYS is called for the first time and then reading the entire contents of the holiday file into an in-memory array, will five the best overall performance for ELAPSED_BUSINESSDAYS.]

Mary Jo Duffy, The University of Iowa, Iowa City, IA

[Mary Jo had consulted Dick Azzi about her magic. It's always a good idea to talk to Greybeards in the SIG Suite.] I was running a bibliography database with titles of research papers. My bosses wanted to find it [research papers] according to a SUBSET [key word or key phrase] of that title. So

```
DECLARE SUBSET PIC X(20).

READY BIBLIO
SUBSET = *."unique string"
FOR BIBLIO WITH TITLE CONTAINING SUBSET BEGIN
. . .
END
```

[but] it would never find it, ever! But I know it was there. ... The reason it would never find it was ... if I put "data" in SUBSET, it is "data" with 16 spaces at the end [because SUBSET is a PIC X(20) variable]. Therefore you will never find it [SUBSET] in your title because most titles wouldn't have that many spaces between the words. So his [Dick Azzi's] idea ... [was]

```
FOR BIBLIO WITH TITLE CONTAINING
FN$STR_EXTRACT(SUBSET, 1, FN$STR_LOC(SUBSET,"  ")) BEGIN
. . .
END
```

[Editor's Note: Another solutions to the same problem is

```
FOR BIBLIO WITH TITLE CONTAINING SUBSET||"" BEGIN
. . .
END
```

This seems a little easier.]

Dana J. Schwartz, Department of Defense, Washington, D. C.

We're all here for entertainment, right? Right! I hope that ... [some of you] have watched the David Letterman Show or this whole thing is going to go over like a lead balloon. We've got a top ten list. [Laughter] The Top Ten List of fun things to do at Symposia. *[Editor's note. To get the full effect, you need to cover up the list with a piece of paper and uncover them one at a time.]*

Top 10 Fun Things To Do at Symposia

10. Call the airline and change Chris Wool's return reservation to Friday at noon.
9. Introduce Andy Schneider as Ken Olsen's son.
8. Introduce Doug Cropper as Andy Schneider's son.
7. Lie about having a BI-based system to get a free calculator.
6. Ask the DEXPO bus driver if he stops at the airport.

5. Tell Joe Gallagher his shirt won't shrink much when it's washed.
4. Switch briefcase contents in the lunch area.
3. Push all the buttons in the elevators.
2. Steal a DEC badge to meet more girls.
1. Follow Bert Roseberry after he says he is going home for the night.

Raymond Ferrara, Digital Equipment Corporation, Concord, MA

presented by Doug Cropper

[Editor's note: Ray Ferrara works in the Information Systems Technology Group, Digital Information Systems (that's DEC internal DP department). He has contributed to the DATATRIEVE community in several ways. He was the editor of a Digital internal newsletter on DATATRIEVE and he is the moderator of the current internal VAX-Notes conference on DATATRIEVE. The magic presented by Doug Cropper for Ray was developed by Brian Richards and Ray Ferrara.]

I have two to present. I'm presenting one for a person who had to leave today. ... The first one is something that has been asked for for years. [Form the audience, "Compiled DATATRIEVE"] NO! It's call a forms generator!

What this does it take four parameters - parameter one, which is your dictionary, parameter two is a form library name that you wish the form in, parameter three is the record name, and parameter four is form name you want created. What this does is, it goes through and creates a bunch of stuff and executes a DATATRIEVE procedure. ...

```
$ WRITE SYS$OUTPUT ""
$ INQUIRE P1 "Enter full CDD dictionary name"
$ INQUIRE P2 "Form library name"
$LOOP:
$ INQUIRE P3 "CDD record name"
$ INQUIRE P4 "Form name"
$ WRITE SYS$OUTPUT " "
$ WRITE SYS$OUTPUT "Working..."
$ WRITE SYS$OUTPUT " "
$ OPEN/WRITE TDEF TDEF.COM
$ WT :== WRITE TDEF
$ WT "$ DEFINE/USER SYS$OUTPUT TOUT.TXT"
$ WT "$ DEFINE/USER CDD$DEFAULT ''P1'"          ! location of record
$ WT "$ RUN SYS$SYSTEM:DTR32"
$ WT "EXTRACT ''P3' ON INPCDDDEF.TXT"
$ WT "EXIT"
$ WT "$ DEFINE/USER FORM$FILE ''P4'.FLG"
$ WT "$ DEFINE/USER CDD$DEFAULT CDD$TOP.wombat" ! location of GENERATE
$ WT "$ DEFINE/USER SYS$OUTPUT TOUT.TXT"
$ WT "$ RUN SYS$SYSTEM:DTR32"
$ WT "PRINT ""Defining form"" ON TT:"
$ WT ":GENERATE"
$ WT "''P4'"
$ WT "EXIT"
$ WT "$EXIT"
$ CLOSE TDEF
```

```
$ @TDEF
$ WRITE SYS$OUTPUT "Translating form"
$ FMS/TRANS 'P4
$ OPEN/READ/SHARE=READ/ERROR=CREATE_IT TESTFLB 'P2.FLB
$ CLOSE TESTFLB
$ WRITE SYS$OUTPUT "Inserting form into library"
$ FMS/LIBRARY/REPLACE 'P2/FORM='P4 'P4
$ GOTO SKIP_CREATE
$CREATE_IT:
$ WRITE SYS$OUTPUT "Building form library"
$ FMS/LIBRARY/CREATE 'P2/FORM='P4 'P4
$SKIP_CREATE:
$ DELETE/NOLOG TDEF.COM;*
$ DELETE/NOLOG TOUT.TXT;*
$ DELETE/NOLOG INPCDDDEF.TXT;*
$ DELETE/NOLOG 'P4.FLG;*
$ WRITE SYS$OUTPUT " "
$ WRITE SYS$OUTPUT "Done!  ''P4'.FRM  saved, also inserted into library."
$ WRITE SYS$OUTPUT " "
$ INQUIRE ANS "More forms to generate for this node & Library <Y or N> "
$ WRITE SYS$OUTPUT ""
$ IF "''ANS'" .NES. "N" THEN GOTO LOOP
$ EXIT
```

The procedure call GENERATE which takes the record definition apart from the CDD, and create a default record definition. ...

```
DEFINE PROCEDURE GENERATE
!*************************************************************
!  This procedure takes a CDD record definition and builds a
!  FMS forms language descriptor file to be passed to the FMS
!  translator utility.  It is used in conjunction with / called
!  by a command file : CDDTOFMS.COM
!
!  There are several restrictions :
!     - Levels, i.e. 01, 03,  must contain that 0
!     - The letter combination "PIC" and "USAGE" must not appear
!       anywhere ( primarily in your field names ) except the
!       normal PIC  and USAGE statement.
!     - Field size must look like this PIC X(01) , i.e. two digits always !!
!       The parentheses are a must !!
!*************************************************************
DECLARE LINE WORD EDIT_STRING ZZZ.
DECLARE FRM_NAME PIC X(9).
DECLARE FIELD_NAME PIC X(32).
DECLARE PSIZE WORD EDIT_STRING ZZZ.
DECLARE ETYPE PIC X.
DECLARE USAGE_POS PIC 99.
DECLARE PIC_POS PIC 99.
SET COLUMNS_PAGE = 132
READY CDD_DEFINITION EXCLUSIVE READ
FRM_NAME = *."Form name"
LINE = 3
ON FORM$FILE BEGIN
PRINT "! This form was generated from CDD record by GENERATE"
PRINT "!              V0.3"
```

```
PRINT SKIP
PRINT "FORM NAME = '"||FRM_NAME||"'", SKIP,
"AREA_TO_CLEAR =1:23", SKIP,
"WIDTH=80", SKIP,
"BACKGROUND=CURRENT", SKIP,
"HIGHLIGHT=BOLD:REVERSE", SKIP,
";", SKIP
PRINT "TEXT (1,11) '"|FRM_NAME|||"SCREEN'",SKIP, ";"

!*************************************************************
!
!  parse starting here  --  determine field name, size and type
!
!*************************************************************
FOR CDD_DEFINITION BEGIN
PIC_POS = FN$STR_LOC(WHOLE_LINE,"PIC")
USAGE_POS = FN$STR_LOC(WHOLE_LINE,"USAGE")
IF PIC_POS > 0 OR USAGE_POS > 0 THEN BEGIN
IF PIC_POS > 0 THEN BEGIN
FIELD_NAME = FN$STR_EXTRACT(WHOLE_LINE,
(FN$STR_LOC(WHOLE_LINE,"0") + 3),
(PIC_POS - 1 - (FN$STR_LOC(WHOLE_LINE,"0") + 3)))
ETYPE = FN$STR_EXTRACT(WHOLE_LINE,
(FN$STR_LOC(WHOLE_LINE,"(") - 1),1)
PSIZE = FN$STR_EXTRACT(WHOLE_LINE,
(FN$STR_LOC(WHOLE_LINE,"(") + 1),2)
END ELSE BEGIN
FIELD_NAME = FN$STR_EXTRACT(WHOLE_LINE,
(FN$STR_LOC(WHOLE_LINE,"0") + 3),
(USAGE_POS - 1 - (FN$STR_LOC(WHOLE_LINE,"0") + 3)))
ETYPE = "X"
PSIZE = 11
END
PRINT "TEXT ("||LINE||",1) '"|FIELD_NAME||":'", SKIP, ";"
PRINT "FIELD NAME = '"|FIELD_NAME||"' ("||LINE||
",33) PICTURE = "|PSIZE||"'"||ETYPE||"'",
" REVERSE", SKIP, ";"
LINE = LINE + 1
END
END
PRINT "FIELD NAME = 'MESSAGE_LINE' (23,1)  PICTURE = 75'X'  ",
"REVERSE  DISPLAY_ONLY", SKIP,";"
PRINT "ATTRIBUTE_DEFAULTS FIELD", SKIP,
"CLEAR_CHARACTER = ' '", SKIP,
"NOAUTOTAB BLANK_FILL NOBLINKING NOBOLD NOREVERSE", SKIP,
"NOUNDERLINE NODISPLAY_ONLY ECHO NOFIXED_DECIMAL", SKIP,
"LEFT_JUSTIFIED NOSUPERVISOR_ONLY NOSUPPRESS NOUPPERCASE", SKIP, ";"
PRINT "END_OF_FORM NAME='"||FRM_NAME||"'  ;"
END
END_PROCEDURE
```

[The domain and record definition used by GENERATE is as follows:]

```
REDEFINE RECORD CDD_DEF_REC USING
01 WHOLE_LINE PIC X(80).
;
```

```
REDEFINE DOMAIN CDD_DEFINITION USING CDD_DEF_REC ON INPCDDDEF.TXT;
```

... You've been asking for that for years. [Applause]

Doug Cropper, Digital Equipment Corporation, Nashua, NH

[Editor's note: Doug Cropper has been in the VAX-DATATRIEVE Development Group for several years. He is moving on to an image processing group in Digital. Good luck; best wishes; and we'll miss you.]

Now that the boring stuff is over -- I'll do my magic. This for those of you who are on work stations - you know the 19 inch monitors. And you're tired of watching the little arrow run around on the screen. So, I've got a little program here, called SET CURSOR TO WOMBAT. [Laughter, oohs and ahs] And what this program does is, is it declares some variables down at the bottom. And it's MACRO so everybody can use it no matter what programming language [you are using]. It's got two different ones [icons], WOMBAT and WOMBAT2 depending on whether you are on a color GPX or just a black-and-white system. A color GPX uses the WOMBAT; the black-and-white uses the WOMBAT2. What that is is a data structure that creates a 16 by 16 pixel of a miniature PLOT WOMBAT.

```
          .TITLE    SET_CURSOR_WOMBAT -
          .IDENT    /V01.0/
;
;Build the program like this:
; $LIBRARY/CREATE/MACRO UIS SYS$LIBRARY:VWSSYSDEF
; $MACRO WOMBAT+UIS/LIB
; $LINK WOMBAT
; INCLUDED SYSTEM-WIDE DEFINITIONS;
          $DSCDEF                       ; Descriptor offsets
          $IODEF                        ; I/O Function codes
          $SSDEF                        ; System Status codes
          $QVBDEF                       ; QVSS Definitions
;
          .PSECT    LOCAL,LONG,noPIC,USR,CON,REL,LCL,NOSHR,NOEXE,WRT,NOVEC
;
CHAN1:    .BLKW               1                ; channel assigned
IOSTAT:   .BLKW               4                ; I/O Status Block
IOSUB:    .BLKW               2
HOTSPOT: .long 720
WOMBAT:                                        WOMBAT2:
          .word     624                                .word     624
          .word     508                                .word     508
          .word     510                                .word     502
          .word     2047                               .word     2046
          .word     4094                               .word     4094
          .word     8188                               .word     8188
          .word     16376                              .word     16376
          .word     16380                              .word     16380
          .word     32760                              .word     32760
          .word     32736                              .word     32736
          .word     -64                                .word     -64
          .word     -64                                .word     -64
          .word     -32                                .word     -32
          .word     32640                              .word     32640
```

```
          .word     16128                                   .word     16128
          .word     7680                                    .word     7680
          .word     0                                       .word     0
          .word     0                                       .word     0
          .word     8                                       .word     3
          .word     1                                       .word     0
          .word     0                                       .word     0
          .word     0                                       .word     0
          .word     0                                       .word     32
          .word     0                                       .word     0
          .word     0
          .word     0
          .word     0
          .word     0
          .word     0
          .word     0
          .word     0
;
          .PSECT    PDATA,LONG,NOPIC,USR,CON,REL,LCL,SHR,NOEXE,NOWRT,NOVEC
;
TT_DESC:  .ASCID /SYS$WORKSTATION/     ; name of workstation device
;
          .PSECT    $CODE,LONG,PIC,USR,CON,REL,LCL,SHR,EXE,NOWRT,NOVEC
;
; Main program entry point
;
          .ENTRY    SET_CURSOR,^M<R4,R5,R6,R7,R8,R9,R10,R11>
;
          $ASSIGN_S DEVNAM=TT_DESC,-; assign channel to WorkStation
                          CHAN=CAHN1          ;
          BLBC      R0,ERROR            ; LBC if error
          MOVL      -                           ;         *
#<IO$C_QV_SETCURSON!IO$M_QV_LOAD_DEFAULT!IO$M_QV+TWOPLANE_CURSOR>,R7
          MOVAB     WOMBAT,R8
;         MOVEAB    HOTSPOT, R9
          #QIOW_S CAHN=CHAN1,-                  ; Define cursor shape
                    FUNC=#IO$_SETMODE,-         ;
                    IOSB=IOSTAT,-               ;
                    P1=(R7),-           ; I/O Sub-function code
                    P2=R8,-                     ; Cursor shape description
                    P4=HOTSPOT                  ; Cursor "Hot Spot" Location
          BLBC      R0,ERROR            ; LBC if error
          MOVZWL    IOSTAT,R0           ; get completion status
ERROR:    RET                                   ; Exit with status
          .END      SET_CURSOR
```

This bottom program then changes the arrow into a little PLOT WOMBAT so as you move around the mouse, you have a little Wombat movin' around the screen. [Laughter and applause.]

Joe H. Gallagher, 4GL Solutions, Overland Park, KS

A guy I wrote an application for wanted to sort things in the "right order", not sorting alphabetically (even though it was a string that had PIC X clause) he wanted them numerically so I wrote a little function that I

called JUSTIFIED_NUMERIC_TEXT. It is a FORTRAN routine that takes a text string, if it's numbers it moves it to the right [it right justifies it], but it returns the sorted numeric value. On the other hand if it has alphas in it, it treats it all right. The regular way of sorting things comes out alphabetical, whereas if you run it through this function it will put it in numeric order. If it has alphas in it, it will put it at the end. [This is a] very nice things for sorting numbers that are mixed alphas and numeric. This particular one is fixed ... [in] length, but one could do a little jiggery-pokery and get one with variable [length]. The FORTRAN code is:

```
!
! justify_numeric_text
!  a routine which takes left justified text, and right justifies
!  it if it is all numeric with leading zeros
!
integer function justify_numeric_text(str_in, str_out)
character*10 str_in, str_out
integer*4 temp, status, ots$cvt_l_tu, ots$cvt_tu_l
external ss$_normal
status = ots$cvt_tu_l(str_in, temp, %val(4), %val(1))
if ( status .ne. %loc(ss$_normal)) then
str_out = str_in
else
status = ots$cvt_l_tu(temp, str_out, %val(10))
end if
return
end
```

The MACRO linkage is:

```
;
; FN$JUSTIFY_NUMERIC_TEXT
;
; input is a 10 character field (left justified number or text)
; output is a 10 character field (right justified leading zeros added or text)
;
$DTR$FUN_DEF FN$JUSTIFY_NUMERIC_TEXT, JUSTIFY_NUMERIC_TEXT , 2
$DTR$FUN_OUT_ARG TYPE = FUN$K_STATUS
$DTR$FUN_IN_ARG  TYPE = FUN$K_DESC, DTYPE = DSC$K_DTYPE_T, ORDER = 1
$DTR$FUN_IN_ARG  TYPE = FUN$K_TEXT, OUT_PUT = TRUE , ALL_LEN = 10
$DTR$FUN_NOOPTIMIZE
$DTR$FUN_END_DEF
```

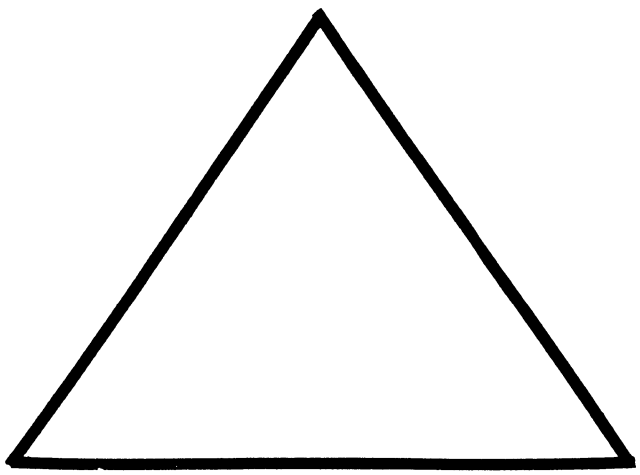
An example of the use of JUSTIFY-NUMERIC-TEXT is:

```
DTR> print test sorted by alpha-numeric-text,
fn$justify-numeric-text(alpha-numeric-text)

                                    FN$JUSTIFY
      ALPHA                         ALPHA
      NUMERIC                       NUMERIC
      TEXT                          TEXT

      1                             1
      111                           2
      12                            12
      1A                            111
      2                             1A
```

EDU

DECUS

edusig



Fellow Educators:

By the time this goes to print and you receive it, the summer heat will be no more than the sweat off of your ice tea glass or whatever you drink.

Well I'm back from good old Bean Town where your EDUSIG leaders had their annual Woods meeting with DEC. No, it will not be as newsworthy as Camp David, but what can I say. DEC's still trying to push those VAX workstations and DEC windows. Running VMS and UNIX simultaneously is like trying to jump over a rattlesnake and a cactus at the same time. You know your going to get bitten or pricked. You just do not know from which direction.

To all you CAS lovers out there, there is some good news and some bad news. First, the good news: there will be a new version. The bad news: the new version will only contain fixes and no new enhances. Such a shame.

As you can see in this edition we have a couple of items of business to take care of. Yours truly and my El Presidente are running for a seat on the EDUSIG executive committee. Arduth sent a written request to DEC about important issues from the Cincinnati DECUS. DEC's written reply should be interesting.

I have said enough for now. Folks keep those cards and letters flowing.

FGB

DIGITAL EQUIPMENT COMPUTER USERS SOCIETY

Education Special Interest Group

February 4, 1988

Robert F. Trocchi
Educational Computer Systems
Digital Equipment Corporation
Marlboro, Massachusetts

Dear Bob:

At the Fall DECUS Symposium in Anaheim, a Birds of a Feather session on "Workstations in Education" was held. Twenty-five representatives from a wide range of educational institutions attended (list enclosed). Michael Greene and Bruce Augenstein also attended. The notes from that BOF have been circulated to the attendees and a few other very interested people. This letter is a product of that meeting and the resulting comments that have been given to me over the Internet, BITNET and telephone. We, as the users and purchasers of Digital's workstations, want you to accept our input and have it influence Digital's policies toward the sale of workstations to educational institutions.

The issues from the BOF fell into seven categories:

1. Content of the Offerings

Regarding the content of the Education Software Library, there is confusion over what is available from Digital. Not all VAX software is available through the Library. Users expressed that it is desirable to have the library include all VAX software or to at least give institutions the ability to choose a fixed number of items from the total. Many expressed the desire to use the ESL to try new things in a school, citing that the current offerings are already popular. A faculty member may want to experiment with BLISS, for example, on a small system. This may not be practical on a large cluster. Education needs "a little of a lot" of packages. As always,

cost is a big factor.

Confusion was also expressed over how ESL and the VAXstation program integrate and overlap. Digital could ease this confusion by providing its Sales Representatives with some worksheets with examples that demonstrate how a school might take advantage of these offerings.

In all, attendees felt that the ESL is a "good start". Right now it is strictly rental; institutions are concerned about the effect on budgeting if Digital cancels the library program since it currently offers no lease/purchase option or guarantees of licensing.

2. Institutional Issues

Digital's policy has been that there be, essentially, one contract per institution and one point of contact for participants in the ESL program. This presents problems for many institutions. For example, a University may have a medical center, a law school and other institutes in addition to its main computing function. These units function semi-autonomously. This makes it difficult for them to take advantage of some programs. Bookkeeping becomes a significant issue. Telephone support and distribution from a central site, not equipped for either, is difficult. The attendees acknowledged that the institution must assume some responsibility in return for good prices, but agreed that they would like Digital to examine these issues from the institution's viewpoint. Some type of "appeals process" on individual site problems regarding licensing issues and other problems is desired. Digital might consider some slightly increased cost for allowing multiple support centers within an institution. However, the cost should not be a flat multiple of the base cost.

3. Cost of Purchase and On-Going Support

As you know, educational institutions are notorious for always wanting something (everything?) for nothing. This group acknowledged that we don't want everything for nothing but that we do want to see Digital's products compete with other vendors' products. Pricing and packaging are significant issues because the prices of so many Unix-based systems from other vendors are so attractive. While there are many all Unix shops, many would like to be all VMS. The VMS shops are forced to support two operating systems when they would like to support only one--VMS.

On-going support is a significant issue. Currently, Sun Microsystems sells software support to educational institutions for $2,500 per year for 100 SUN workstations. Digital does not compete with this at all. Institutions are very pleased with Digital's one year warranty plan. However, they are very concerned about what happens after the first year when the

warranty is gone. They are very concerned that their users will drop support after the first year because on-going support costs are so high.

4. Offerings for Smaller Institutions

ESL is currently open only to sites with 25 or more VAXstations. What is Digital going to do to provide similar support to smaller institutions who do not buy in this quantity?

5. Multiuser Systems

It is not uncommon for a workstation owner to want a multiuser license. Digital's current marketing philosophy is that workstations are for a single user. The user may or may not want to use the workstation as a timesharing system. In many cases, s/he just wants to occasionally have someone log in to look at a file, etc. Sun Microsystems, for example, makes no distinction about the number of users on a workstation.

All VAXes need to be included in licensing and price considerations. As one user puts it, "it is embarrassing to have a VAX-780 (or VAX-8700 for that matter) with no software on it and workstations with a ton of it!"

6. Other Issues

Issues mentioned, also relating to price, were the fact that the cost to add disks and tapes is very expensive. The cost for the software to boot a VAXstation from a VAX-8XXX is greater than the cost of the VAXstation itself!

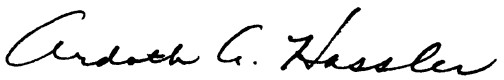
Users would also like to see Digital influence third party vendors on price issues as well. It has been our observation that third party vendors follow Digital's lead in pricing policies.

7. Futures

This meeting was time limited and as such was mostly devoted to issues, problems and concerns that exist today. However, a few "futures" were expressed. Two issues stood out. First, the issue of laptop compatibility and the proliferation of AT (80286) and 80386 machines. A battery powered VAX for less than $2,500 is desired. There is significant concern over compatibility between home and office. A VAX at this price would help address this concern. Second, users would like Digital to improve its role in the management of personal computer networks. VAX oriented software is needed and it must be affordable.

EDUSIG plans to form a working group to further address issues relating to workstations strictly from the viewpoint of educational institutions. DECUS is also forming a working group to look more globally at workstation issues and futures. Both have as their goal to influence Digital's plans and policies regarding workstations. To this end, you should consider creating a forum where several users can discuss these issues and concerns with Digital, before changes are made to existing programs or new ones are implemented. I am sure that a session could be arranged in Cincinnati in conjunction with the Spring DECUS Symposium, or earlier. We want to work with Digital to assure that education has the tools needed not only for today but tomorrow as well.

Sincerely,



Ardoth A. Hassler
EDUSIG Vice-Chair and
Acting Workstation Coordinator

Assistant Director for
Academic Services
Computer Center
The Catholic University
of America

Copy: Robert Shive, EDUSIG Chair
Michael Greene, Digital; EDUSIG Counterpart
Bruce Augenstein, Digital
EDUSIG Executive Committee Members
DECUS Workstations Working Group
Interested EDUSIG Members

Under its Operating Guidelines approved last winter, EDUSIG announces a call for nominations for the position of EDUSIG Executive Committee Member. The election will take place at the EDUSIG Business Meeting in Anaheim.

The term of office is three years, with the person elected beginning his/her term following the Fall, 1988 Symposium in Anaheim.

The current Executive Committee has slated two candidates:

> Professor Fred Bell at Taft College and newsletter editor for EDUSIG.
>
> Dr. David Cothrun President of Taft College and Administrative advisor to EDUSIG.

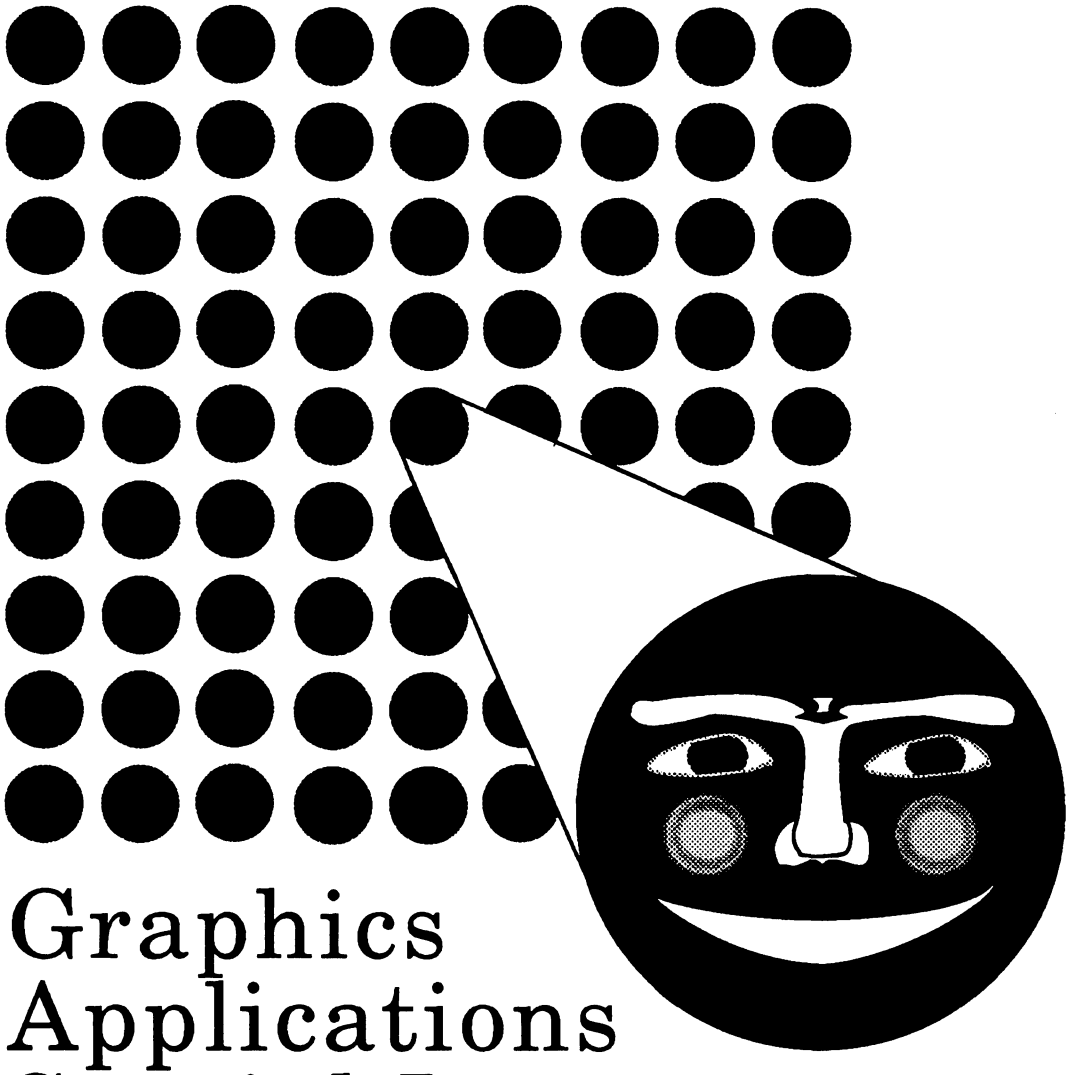
Any EDUSIG member is eligible to run for the Executive Committee. Additional nominations may be submitted in writing to:

> DECUS/US Chapter Activities Manager
> 219 Boston Post Road (BP02)
> Marlboro, MA 01752

A statement of the candidate's qualifications and the signatures of ten (10) EDUSIG members are required for nomination.

Nominations will be accepted until September 30, 1988.

Ardoth



Graphics Applications Special Interest Group Newsletter

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submissions

Articles, copies of viewgraphs, tips and tricks, and graphics output are all welcome submissions for the Graphics Applications Special Interest Group (GAPSIG) newsletter. There are many ways to make submissions:

1) Send in a tape. Tapes can be 1600 or 6250 BPI density. Your editor uses the Mass-11 word processing system from Microsystems Engineering Corporation, so submissions in this format are okay. Otherwise, provide straight ASCII documents. Please place any charts into a separate file. And, please enclose a letter with your address and any notes and description for format that you desire.

2) Send in paper. Hey, your editor can type and chew gum at the same time, so don't be afraid to send in hard-copy. And, if all you have is notes, FINE! Send them in!!! We have many folks who can take the ideas and flesh them out with English language extensions. Questions are desirable, too; DECUS should, in the opinion of your humble editor, be a place to trade information, so questions count for as much as answers here.

3) Mail to HAYS on DCS. If you have a DCS account and the article is all textual, mail it to HAYS on the DCS system.

Your editor's address appears in the **from the editor** section, so mail yours in today!

from the editor

This editorial is solely the opinion of the author and does not necessarily reflect the views of DECUS, Digital Equipment Corporation, or KMS Fusion, Inc.

Bob Hays
KMS Fusion, Inc.
3621 South State Rd.
Ann Arbor, MI 48106

It's time to start planning for another Symposium, this time in Anaheim, October 17 through 21; is everyone ready for another week of sessions, information, and general overload? Good, I knew you were.

The main theme for the Graphics Applications SIG at the Fall Symposium is color hard copy. Look for sessions dealing with new and improved color output devices and ways to use them in addition to the normal array of sessions on graphics interfaces, PostScript™, GKS and PHIGS, etc. You can expect about 50 hours of sessions generally organized into the following daily streams:

Monday - Workstation and windowing
Tuesday - Image processing
Wednesday - GKS and Phigs
Thursday - Electronic publishing
Friday - Terminals

All working group sessions will be in the campgrounds, which should be clean, spacious, well-lighted places this go-round.

This issue of the newsletter features copies of slides from a talk presented at the Spring 1988 Symposium GKS applications programmings dos and don'ts presented by Gary Poegel from Digital. I really enjoyed this talk because Gary spent most of the time discussing how to create tool box routines that use GKS and can then be used in general programs. Toolbox creation and usage can really save time in product development IF the tools are well designed and documented. Given the number of inquires at the last two symposia for a higher-level, callable set of routines a la Plot10 (Tektronix), this information will hopefully spur DECUS members on.

DECwindows™ of Digital Equipment Corporation
PostScript™ of Adobe Systems.

some Cincinnati notes

Bob Hays, ed.

The following is a set of Notes from the Spring DECUS symposium on GKS gripes, started by Jim Flatten with the following note:

"Since no one seems to have anything they want added to GKS and/or PHIGS, how about gripes. Is there something you DON'T like about VAX GKS and/or VAX PHIGS? How about graphics software that DIGITAL doesn't supply that we should? What pieces are missing? What do YOU need to do your job?" - Jim F.

Needless to say, this got 14 replies, as follows:

VAXFAM::AHUNT 19-MAY-1988 10:19

I don't know GKS but we are currently purchasing it. We want to use it to develop simple plots that we currently produce with HPGL and PLOT10. GKS looks nice because of the device support.

I believe our users would like to have some simplified calls similar to those found in the other packages to define borders, lines, etc. My understanding is that they have to build these up first.

VAXFAM::LTODD 19-MAY-1988 10:21

I would like to see some mechanism for improving control of the colors and fonts used for GKS choice menus and strings. On a 4-plane VAXstation II GPX, a yellow highlight (for choice) or cursor (for string input) on a white background is not particularly distinctive.

Lindsay Todd
Rensselaer Polytechnic Institute

VAXFAM::CSIMON 19-MAY-1988 10:23

I have some users who have Tektronix 4100 and 4200 series terminals on which they would like to be able to run my GKS applications. So far, no luck. Is there any hope of DEC providing some device drivers for these very expensive paperweights?

Chris Simon
E-Systems
Greenville, TX

VAXFAM::ISMART 19-MAY-1988 10:46

I believe Tektronix sells a GKS library for its terminals. 150,000 lines of Fortran! Not sure of cost.

Just when is DEC going to realize that Tek 4100 series terminals are an important part of the graphics scene? When will there be a 4100 emulator for VAXstations? Because of this lack, we (that is the engineering building at Ford where I work) have *no* VAXstations (but several *hundred* Tek 4105, 4106, 4107, 4109, 4115, 4125, 4128, 4129's, plus dozens of PC's running a 4107 emulator called Emutek).

Wake up, DEC!

19584::KLEINSORGE 19-MAY-1988 12:18

We do realize it.

VAXFAM::JPATTEEUW 19-MAY-1988 17:43

re: .11: Thanks for straightening me out Al !

But what Ian and I want is a TEK 41xx/42xx (preferablly 4125/4225) terminal emulator for VWS/DECWindows.

Many third party software people are still only delivering products that drive a particluar terminal.

VAXFAM::GPOEGEL 20-MAY-1988 09:31

The problem here is that if everyone used standard graphic packages like GKS or PHIGS instead of coding directly to UIS, ReGIS, or Tektronix format, there wouldn't be any need for any emulators.

Emulators are something that is needed only for the *SHORT TERM*. New applications should be written to use graphics standards if that is at all possible. Emulators should only be considered as a means to run old applications.

VAXFAM::JFLATTEN 19-MAY-1988 12:31

VAX GKS V3.1 already provides support for Tek 4107 terminals. You can expect to see support for 4200 series terminals in future releases of VAX GKS.

Jim F.
VAX GKS Product Manager

VAXFAM::ASORRELL 19-MAY-1988 14:29

How about support for the LJ250?? Understand PHIGS has it but GKS doesn't??

VAXFAM::GPOEGEL 19-MAY-1988 15:05

VAX GKS will be supporting the LJ250 'in a future release'.

However, if you have bought or are planning on buying VAX PHIGS, you might be interested in knowing that the device handler that VAX PHIGS uses for the LJ250 uses the same interface as VAX GKS.

VAXFAM::ASORRELL 19-MAY-1988 15:18

Unfortunately, we have GKS and no plans for PHIGS!

VAXFAM::JPATTEEUW 19-MAY-1988 17:20

re: .6 "Tek 4107 support already exists"

I am not yet a VAX workstation owner so please forgive what maybe an obvious question: does this mean that a user can create a TEK4107 terminal emulation window to run his application from (like ANSYS or PATRAN) ?

If not, how do I accomplish this?

VAXFAM::ASORRELL 19-MAY-1988 17:36

No - this is a different issue entirely. When you create a terminal emulator window, you (now and in the VWS3.3/4.0 timeframe) get a choice of VT220 text, VT24x graphics or 4014 graphics. - No 41xx or 42xx window support. The terminal emulators are part of VAX Windowing Software, not GKS.

If, on the other hand, you have an application written in GKS and can re-link the application to DEC's GKS libraries, you could then specify any of the DEC GKS-supported devices for output, which would include a 4107. - As you can see, these are entirely different topics.

Hope this is of some help in clarifying your question.

VAXFAM::ASORRELL 20-MAY-1988 09:36

> But what Ian and I want is a TEK 41xx/42xx (preferablly 4125/4225) terminal emulator for VWS/DECWindows. <

Yes, it would really be nice, but not in the 3.3 or 4.0 (V5 version) releases, as far as I know.

Project S: A GKS Application Case Study

Garry Poegel
Digitial Equipment Corporation

May 16, 1988

Cincinnati, Ohio; May 16, 1988

Project S: A GKS Application

Session Overview

- VAX GKS general capabilities
- Writing a typical GKS application
  - Application Initialization
  - Effective use of asynchronous (level c) inp
    - General input concepts
    - Using multiple types of input together
    - Taking advantage of VAX GKS specifics
  - General hints for modular GKS programs
    - Managing GKS 'resources'
    - Segment changes & screen regeneratic
    - Typical output drawing routine
  - Effective use of WISS
  - Effective use of metafiles

Project S: A GKS Application Case Study

VAX GKS – General Capabilities

V3.0 Level 2c Implementation

- level 2c is the highest level implementation of the GKS standard
- output:
  - polylines
  - polymarkers
  - fill areas
  - text
  - cell arrays
  - GDPs – circles, arcs, ellipses, elliptical arcs
- segments
- WISS – Workstation Independent Segment Store
- metafiles (GKSM, CGM)
- input: locator, stroke, string, choice, pick

Cincinnati, Ohio; May 16, 1988

Writing A GKS Application

- Typical application:
  - graphics editor
  - CAD/CAM package
  - business graphics package
  - interactive simulation package
- Basic requirements:
  - Interactive – with multiple methods of control
  - Hardcopy of the current display
  - Save/restore graphical and other information
  - Modular with respect to use of GKS
- Basic Attributes:
  - Multiple input devices 'active' simultaneously
  - Segments used to store display output
  - WISS used to store some output
  - Metafiles used store information

Project S: A GKS Application Case Study

Application Initialization

Making an application device independent

- After workstation is open, inquire the capabilities of the device.
- Initialize bundle tables and use bundle indexes later for output instead of specific attributes.
- External data file might be useful for determining things like:
  - Types of physical input devices (Mouse or no mouse)
  - Best string size for readability
- Set up some commonly used input devices
  - Choice #2 (keypad) in event mode
  - Choice #3 (function keys) in event mode
  - Choice #4 (mouse button down) in event mode
  - String #2 or #3 (keyboard) in event mode
  - Locator (any) in sample mode
  - Pick (any) in sample mode

Effective Use of Asynchronous Input

General Concepts:

- Use multiple input devices active simultaneously in event or sample modes.
- Use request ONLY when immediate response is required and when processing cannot continue without input from the user.
- Use main event loop with table of functions to call to process input events.
- Event functions are the only place where the application does any work.
- Have a set of routines to modify the event function table.

Main Event Loop Example

```
int PROCESS_GKS_INPUT(
state_type *state ) /* the state list */
{  /* declarations ... */
    input_tables_type
        *input_tables=state->input_tables;
while( should_continue )
    {
    gks$await_event( &state->timeout_value,
        &wsid, &input_class, &device );
    switch ( input_class )
        {
        case GKS$K_INPUT_CLASS_LOCATOR:
            gks$get_locator( &xform, &x, &y )
            (*input_tables.locator[device-1].function)
                (state,device,xform,x,y);
            break;
        case GKS$K_INPUT_CLASS_CHOICE:
            gks$get_choice( &choice_status,
                 &choice_number );
            if( choice_status == GKS$K_STATUS_OK)
             (*input_tables.choice[device-1].function)
                 (state,device,choice_number);
            break;
```



```
        case GKS$K_INPUT_CLASS_STRING:
            gks$get_string( &string_descriptor,
                &string_size, &total_size );
            (*input_tables.string[device-1].function)
                (state,device,&string_descriptor,
                 string_size);
            break;
        case GKS$K_INPUT_CLASS_PICK:
            gks$get_pick( &pick_status, &segment,
                &pick_id );
            if( pick_status == GKS$K_STATUS_OK)
            (*input_tables.pick[device-1].function)
                (state,device,&segment,pick_id);
            break;
        case GKS$K_INPUT_CLASS_STROKE:
            /* perform gks$get_stroke,
               call function ... */
            break;
        case GKS$K_INPUT_CLASS_VALUATOR:
            /* perform gks$get_valuator,
               call function ... */
            break;
        default:
        case GKS$K_INPUT_CLASS_NONE:
            /* nothing to do */
            break;
        }
}
```


Event Table Routines

```
int SET_STRING_EVENT_TABLE(
state_type *state,/* the state list */
int device,       /* the device number */
int (*function)(),/* function to call */
int mode,         /* the input mode */
int echo )        /* echoing mode */
{
string_table_type *string =
    &state->input_tables.string[device-1];
string->function = function;
string->current_mode = mode;
string->current_echo = echo;
gks$set_string_mode(&state->wsid,&device,
    &mode,&echo);
}
```

Input Transformations

Getting the right World Coordinates

- Locator & stroke return points in World Coordinates.
- NDC transformation determines World Coordinate to Device Coordinate relationship.
- NDC transformations have an input priority.
- Highest priority transformation used for converting from Device Coordinates to World Coordinates
- Need for 'pushing' and 'popping' NDC transformations.
- Before doing a request or sample locator or stroke 'push' the desired NDC transformation to make it the highest priority.
- Points are then returned in the World Coordinate system most convenient to the application at that time.


```
/* look to see if the xform that is being 'popped'
   is listed anywhere else in the stack */
for ( i = state->xform_stack_top;
      ( state->xform_stack[i] !=
        state->xform_stack[state->xform_stack_top+1])
     && ( i >= 0 ); i-- );
if ( i < 0 )
    /* not used anywhere -
       so just set it to be lowest */
    gks$set_viewport_priority(
        &state->xform_stack[state->xform_stack_top+1],
        &state->xform_stack[0],
        &GKS$K_INPUT_PRIORITY_LOWER );
else if ( i == state->xform_stack_top ) {
    /* it's at the top now again -
       so don't do anything */
    ; }
else
    { /* it's used earlier in the stack -
    go and reset the whole thing */
    /* first make this the lowest */
    gks$set_viewport_priority(
        &state->xform_stack[state->xform_stack_top+1],
        &state->xform_stack[0],
        &GKS$K_INPUT_PRIORITY_LOWER );
    /* now reset the whole list */
    for ( i = 1; i < state->xform_stack_top; i++ )
        gks$set_viewport_priority(
            &state->xform_stack[i],
            &state->xform_stack[i-1],
            &GKS$K_INPUT_PRIORITY_HIGHER );
```


Transformations Example

```
int PUSH_INPUT_TRANSFORMATION(
state_type *state,/* the state list */
int number)       /* the NDC transformation */
{
if ( ++state->xform_stack_top == MAX_NDC_XFORM )
    {
    printf("ERROR - stack overflow\n");
    return; }
state->xform_stack[state->xform_stack_top]=number;
/* only actually make the change if the requested
   one is different */
if ( number != state[state->xform_stack_top-1] )
    gks$set_viewport_priority( &xform,
        &state->xform_stack[state->xform_stack_top-1],
        &GKS$K_INPUT_PRIORITY_HIGHER );
}
/* ---------------------------------------- */
int POP_INPUT_TRANSFORMATION(
state_type *state )/* the state list */
{
int i;        /* local counter */
if ( --state->xform_stack_top < 0 )
    {
    printf("ERROR - stack underflow\n");
    return;
    }
```



```
/* ---------------------------------------- */
/* fragment of a routine that uses these */
....
PUSH_INPUT_TRANSFORMATION( state, 10 );
/* find out where the cursor is right now */
gks$sample_locator( &state->wsid, &3,
    &ret_xform_number, &location_x, &location_y );
/* do something with the location ... */
/* restore the input transformation order */
POP_INPUT_TRANSFORMATION( state );
...
```

Using multiple types of input together:

Choice and Pick

After receiving a choice event, sample the pick device. Using this method an operator can 'pick' a segment in more than 1 way, each with different actions performed.

```
int PROCESS_CHOICE_EVENT(
state_type *state,/* the state list */
int device,       /* the device */
int choice )      /* the choice number -
                     probably mouse button */
{   /* declarations ... */
/* sample pick */
gks$sample_pick(&state->wsid, &1,
    &pick_status, &segment, &pick_id);
if ( pick_status == GKS$K_STATUS_OK )
    {
    /* a segment was picked */
    /* do something with the information */
    switch(choice)
        {
        case 1:/* mouse button 1 */
            /* delete the segment */
            gks$delete_seg( &segment );
            break;
```


Using multiple types of input together:

Choice and Locator

After receiving a choice event, sample the locator device. Using this method the meaning of a button pressed on the mouse can differ depending on the location of the cursor on the display.

```
int PROCESS_CHOICE_EVENT(
state_type *state,/* the state list */
int device,       /* the device */
int choice )      /* the choice number -
                     probably mouse button */
{   /* declarations ... */
/* sample locator */
gks$sample_locator(&state->wsid,&1,&xform,&x,&y);
/* check what region of the display surface
   cursor is in */
if ( is_upper_right(state,x,y) )
     /* cursor in the upper right */;
else if ( is_upper_left(state,x,y) )
     /* cursor in the upper left*/;
else /* .... */
}
```



```
        case 2:/* mouse button 2 */
            /* make it invisible */
            gks$set_seg_visibility(&segment,
                &GKS$K_INVISIBLE);
            break;
        case 2:/* mouse button 3 */
            /* make it undetectable */
            gks$set_seg_detectability(&segment,
                &GKS$K_UNDETECTABLE);
            break;
        }
    }
}
```


Using multiple types of input together

String and Pick

After receiving a string event from the keyboard, sample the pick device. Using method the key commands can be used to accelerate common operations on segment, like 'd' could mean delete the segment under the cursor.

```
int PROCESS_STRING_EVENT(
state_type *state,    /* the state list */
int device,           /* the device */
struct dsc$descriptor_s *string,
int string_size )     /* the string length */
{
    /* declarations ... */
/* sample pick */
gks$sample_pick(&state->wsid, &1,
    &pick_status, &segment, &pick_id);
```



```
if ( pick_status == GKS$K_STATUS_OK)
    {
    /* a segment was picked */
    /* do something with the information */
    switch( GET_CHAR( string ) )
        {
        case 'D': /* delete the segment */
            gks$delete_seg( &segment );
            break;
        case 'I':/* make it invisible */
            gks$set_seg_visibility(&segment,
                &GKS$K_INVISIBLE);
            break;
        /* .... */
        }
    }
}
```

Using multiple types of input together:

Pick and Locator

After receiving a pick event, sample the locator device. Using this method the application can determine where on a segment it was picked.

```
int PROCESS_PICK_EVENT(
state_type *state,/* the state list */
int device,       /* the device */
int segment,      /* the segment picked */
int pick_id )     /* the pick id */
{   /* declarations ... */
/* sample locator */
gks$sample_locator(&state->wsid,&1,
    &xform_number,&x,&y);
/* now find out where on the segment
   is was picked */
/* ... */
}
```

Project S: A GKS Application Case Study

Using Request Mode Input

Don't assume anything!

- Turn off all other input that is active first.
- Reserve certain device numbers for only request mode operations.
- Initialize immediately prior to using:
  - Prompt and echo type.
  - Choice strings.
  - Echo area.
  - Title strings – (VAX GKS extension).

Project S: A GKS Application Case Study

VAX GKS Specific Input

Special Input Devices

- Choice
  - Mouse button down (#4)
  - Mouse button up (#5)
  - Auxilliary keypad (#2)
  - Function keys (#3)
- Keyboard character input (#2 – VAXstations or #3 – All else) Keypress is both value and a termination trigger.
- More information can be found in appendix J of the VAX GKS reference manual, Volume II.

Default Actions for ALL Applications

Makes for Consistent interface

- Choice keypad and function keys:
  - Help - use key 'HELP' or keypad 'PF2'.
  - GOLD/BLUE - use keypad 'PF1'/'PF4'.
  - Command input request - use 'DO' key.
  - Change the cursor - (i.e. switch to cross hair cursor.)
  - Change the background color.
- Keyboard string input - have keys defined for re-drawing the display (^R, ^W), help, ('?', 'H').

Segment priority values can also be treated as a resource. Careful management of the values used can lead to easy implementation of 'pushing' and 'popping' segments on the display.

The following 2 routines manage segment priorities. The first returns the next available highest segment priority which can be used for 'popping' an object. The second returns the next available lowest segment priority which can be used for 'pushing' an object.

```
int GET_NEXT_PRIORITY(
state_type *state,/* the state list */
float *priority ) /* segment priority */
{
/* increment by a small number */
state->current_high_priority += 0.00001;
*priority = state->current_high_priority;
if ( state->current_high_priority > 1.0 )
    printf("ERROR priority overflow\n");
}
int GET_PREV_PRIORITY(
state_type *state,/* the state list */
float *priority ) /* segment priority */
{
/* decrement by a small number */
state->current_low_priority -= 0.00001;
*priority = state->current_low_priority;
if ( state->current_low_priority < 0.0 )
    printf("ERROR priority underflow\n");
```

A Modular GKS program

Need to Manage GKS 'resources'

In order to create a modular application certain things in GKS need to be treated as shared resources and managed. Some of these are:

- segment names
- NDC transformation numbers
- workstation identifiers
- segment priorities

Each application should allocate and decallocate these resources as they would memory. By avoiding 'hard coding' segment names, NDC transformations, etc., modules may be added to an application that need not know what segments names have been used already.

```
int GET_SEGMENT_NAME(
state_type *state,/* the state list */
int *segment_name)/* the segment name */
{ /* return the next segment name */
*segment_name = ++state->gks_segment_count;
}
```


The following example shows how to use segment priorities to 'pop' an object.

```
int POP_SEGMENT(
state_type *state,/* the state list */
int segment )     /* segment to pop */
{
    float priority;
    GET_NEXT_PRIORITY(state,&priority);
    gks$set_seg_priority(&segment,&priority);
}
```

Controlling Screen Regeneration

Segment Changes

An application can 'batch' together multiple segment changes to avoid multiple redraws of the display. Other optimizations include:

- **Turn off all active input devices first.**
- **Limit intersections of segments to avoid excess redrawing.**

A typical routine might look like:

```
int TURN_ON_SEGMENTS(
state_type *state ) /* the state list */
{   /* declarations ... */
gks$inq_ws_defer_and_update( &state->wsid,
    &error_status, &deferral_mode,
    &save_regen_mode, &surface_empty,
    &new_frame_necessary );
if ( save_regen_mode != GKS$K_IRG_SUPPRESSED )
    gks$set_defer_state( &wsid,
        &GKS$K_BNIL, &GKS$K_IRG_SUPPRESSED );
```



```
/* make all the segments invisible */
gks$set_seg_visibility( &state->segment1,
    &GKS$K_INVISIBLE );
gks$set_seg_visibility( &state->segment2,
    &GKS$K_INVISIBLE );
gks$set_seg_visibility( &state->segment3,
    &GKS$K_INVISIBLE );
if ( save_regen_mode == GKS$K_IRG_ALLOWED )
    gks$set_defer_state( &wsid,
        &GKS$K_BNIL, &GKS$K_IRG_ALLOWED );
}
```


Typical Output Routine

A typical drawing routine should include the following:

- **Set ALL primitive attributes that it might use**
- **Turn off all active input (improves performance)**
- **Select the appropriate NDC transformation**

```
int DRAW_SOME_OUTPUT(
state_type *state )/* the state list */
{   /* declarations ... */
/* turn off all input */
TURN_OFF_INPUT( state );
/* save the old NDC transformation */
gks$inq_current_xformno( &error_status,
    &save_xform_number );
/* make sure the right one is selected */
gks$select_xform( &state->xform );
/* create a segment */
gks$create_seg( &state->segment1 );
    /* set the segment attributes */
    gks$set_seg_priority( &state->segment1,
        &state->priority );
    gks$set_seg_detectability( &state->segment1,
        &GKS$K_DETECTABLE );
    gks$set_seg_xform( &state->segment1,
        &state->seg_xform );
```



```
    /* set *ALL* the primitive attributes */
    gks$set_pick_id( &1 );
    SET_LINE_ATTRIBUTES( state, GKS$K_LINETYPE_SOLID,
        1.0 /* line width */, 5 /* line color */ );
    /* draw the primitives .... */
gks$close_seg();
/* restore the NDC transformation */
gks$select_xform( &save_xform_number );
/* turn on all input again */
TURN_ON_INPUT( state );
}
```

Effective Usage of WISS

Uses for WISS

- Makes hardcopy output easier.
- Create a segment once and 'insert' it when needed.
- Save a 'picture' to a metafile.
- Duplicate a segment easily.

```
int HARDCOPY_OUTPUT(
state_type *state )/* the state list */
{   /* declarations ... */
/* open the hardcopy workstation */
gks$open_ws( &wsid, &conid_desc, &wstype );
/* initialize the transformations */
gks$set_ws_window( &wsid, &state->ndc_min_x,
    &state->ndc_max_x, &state->ndc_min_y,
    &state->ndc_max_y );
gks$set_ws_viewport( &wsid, &0.0, &max_dc_x,
    &0.0, &max_dc_y );
/* possibly set up the bundle tables,
   or color table ... */
```



```
/* traverse the list of segments */
while ( segment_list ) {
    /* associate the segment to the
       hardcopy workstation */
    gks$assoc_seg_with_ws( &wsid,
        &segment_list->segment );
    /* if it's a metafile, then write out
       the application-specific information */
    if ( is_metafile )
        gks$write_item( &wsid, &user_item_type,
        &segment_list->item_length,
        &segnent_list->item_info );
    /* go on to the next segment */
    segment_list = segment_list->next;
    }
/* close the workstation */
gks$close_ws( &wsid );
}
```


Effective Usage of Metafiles

An application can use metafiles to save the current set graphical information and also application-specific information. Restoring metafiles may be handled in a number of ways:

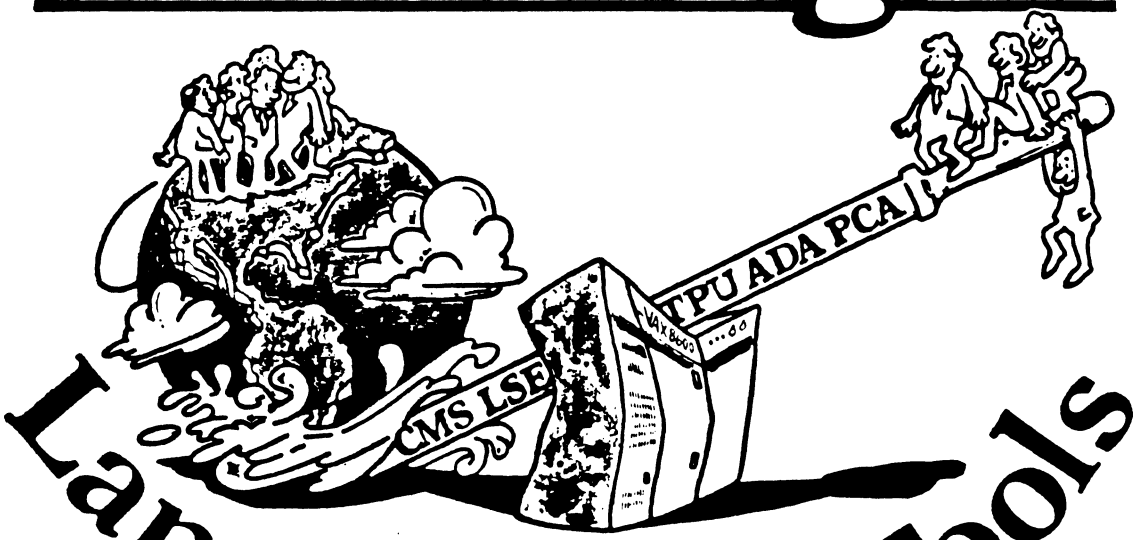
- Just interpret all item types
- Interpret only selected items, i.e. a segment name may not be meaningful in the current context of the application and may have to be changed.
- Interpret application specific items like 'picture' orientation or data associated with another metafile item.

```
int INTERPRET_METAFILE(
state_type *state )/* the state list */
{   /* declarations ... */
/* open the metafile input workstation */
gks$open_ws( &wsid, &conid_desc,
    &GKS$K_GKSM_INPUT );
```



```
gks$get_item( &wsid, &item_type,
    &item_data_length );
gks$read_item( &wsid, &item_data_length,
    item_data );
/* loop while there are items */
while( item_type != END_ITEM ) {
    if ( item_type == CREATE_SEG_ITEM ){
        /* create a new segment */
        GET_NEXT_SEGMENT( state, &segment );
        gks$create_seg( &segment );
        }
    else
    if ( item_type == USER_ITEM ) {
        /* store the item data with the
           'object' .... */
        }
    else if ( /* look for other items */ ){
        }
    else
       /* just let GKS interpret it */
       gks$interpret_item( &item_type,
           &item_data_length,item_data );
    /* get the next item */
    gks$get_item( &wsid, &item_type,
        &item_data_length );
    gks$read_item( &wsid, &item_data_length,
        item_data );
    }
/* close the workstation */
gks$close_ws( &wsid );
}
```

Leverage



Languages & Tools

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Editor's Notes

First, my apologies for the missing issues the last two months. I have been up to my neck in problems which my employer pays me to deal with, and have therefore been unable to harass the appropriate people for contributions. Of course, if things had been flowing in at a steady rate without the harassment, it would have been relatively easy to collate it all into an issue or two. The moral of the story is if you want to read *Leverage*, make life easy on your editor, and send in material!

This issue is a first for *Leverage*, in that almost all of the articles included have been submitted electronically. I've done the formatting, page layout, and so forth, so if anything is drastically wrong there; *mea culpa*. If you have suggestions regarding layout, font size, or whatever, I'd be glad to entertain them. Also, if you would like to submit something electronically, I can handle it one of several ways. DECUS leadership can DCS material to me. Other folks may dial into my system and KERMIT material across, just contact me for details. Finally, I'll accept material on floppy or TK50 tape. Now there's no excuse for holding back.

Not only is it pretty, but I believe there is some "good stuff" in this issue. First is an article by Robert De Wolf of Hughes Aircraft, proposing a mechanism for Data Independent File Access from high level languages. This is a very well done article that deserves some study.

Next is a series of articles dealing with the L & T working groups. Joe Pollizzi, of the Space Telescope Science Institute, describes the duties of a Working Group Chair. Joe is the outgoing Working Group Coordinator for L & T, and the incoming SIG Chair. Following Joe's article are reports from three of our working groups. George Scott of Computer Sciences Corporation has submitted reports from the Cross Development Systems Working Group and the CASE and Tools Integration Working Group, and Gerald Lester of Computer Processes Unlimited has submitted a brief report from the Low Level Languages Working Group.

Two articles from the last symposium follow. George Scott has submitted a report from the L & T Clinic, and Gerald Lester has submitted some command procedures which took a first prize at the L & T Wizardry session.

Jeanne Macmillan of DEC has sent in a description of some new documentation available from DEC, PDP-11 to VAX Language Compatibility Guides. There has been a constant clamor for this information at symposia, and they have heard. The guides are free, and ordering information is enclosed.

Finally, the latest version of the L & T SIG Master's Directory is included. If you have any problems with specific tools or languages, these folks have volunteered to help. Please let the SIG know if you make use of the Masters Directory, and how well the process worked for you.

Al Folsom
L & T Newsletter Editor

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Data Independent File Access from Standard Programming Languages: A Proposal

Robert S. De Wolf
Software Engineer
Hughes Aircraft Company
Fullerton, CA

Abstract: This paper contains a proposal to add Data Independent I/O to standard programming languages. A unique implementation approach developed by the author is proposed.

Introduction

The capability to perform data independent I/O has traditionally been reserved to data base management systems. The time has come to add data independent I/O to standard programming languages (Ada, Basic, C, Cobol, Fortran, Modula, and Pascal). If properly implemented, data independent I/O will make efficient compiled languages simple, straightforward tools for implementing self-contained data independent applications.

Current Capabilities

Currently, many high level languages have the capabilities for creating memory resident data records containing heterogeneous data items. Most can also perform I/O to disk files using records. Unfortunately, only data dependent I/O is supported.

Data dependent means that the record definition describing the data in the file must exactly match the definition contained in the program that reads or writes the file. This causes a problem when the fields in the record must be changed. With data dependent I/O all programs that reference the file must be re-compiled and re-linked when fields are added or removed from the record.

With any data base application the data file must be re-built when the fields within the record definition are changed. With data dependent applications all programs that reference the data must be rebuilt as well, and both of these operations must be done at the same time. While it's being done the application cannot be used.

If the application processes multiple files, it will be necessary to convert all of the files or keep old versions of the program images and match them up with the data files that use

the same record definition when they are used.

Clearly, the data dependent nature of the current I/O capabilities of standard programming languages is a serious limitation.

Database Management Systems

Database management systems were developed to provide a more capable way to manipulate data than was available using programming languages. DBMS's store the record definition outside the program and interpret it each time the program is run. When a field is accessed the record definition is searched to locate the field. Therefore, changes in the record definition typically do not require changes in the program. More general programs read the record definition and process the entire record.

Unfortunately, database management systems are very complicated. They duplicate some, but not all of the features contained in standard programming languages. Many are substantially more complex than a programming language. When it is necessary to develop applications that use a programming language and a database management system, the resulting software system can be complicated and very expensive to develop and maintain.

Business applications are the primary users of database management systems and, therefore, many are really special purpose development environments for business and not general purpose systems. In many cases, specialized features are provided to address very specific requirements. The result is that a very large number of such features are required, and the system ends up being complex, but limited in flexibility.

The Proposal

Data Independent I/O should be added to standard programming languages which already support record structures by simply relaxing the data dependency requirement. The new capability should be added with a minimum of syntactical additions. Since records already exist, nearly all of the required constructs are already present.

This will be data independent I/O in its purest form. The record definition will only allow data fields to be defined and omit field validation and a host of other capabilities that DBMS's have incorporated. Applications that require the omitted features can implement the same functionality by using conventional programming methods.

Applications

What will be the applications for these new capabilities? Applications which have flexible processing requirements such as those from science and engineering will be good candidates. A large class of these are the data collection and reduction applications. DBMS systems handle these problems quite clumsily. Currently these types of systems often involve the development of complex special purpose database management systems at great expense.

In a typical data collection/analysis system there is one program or set of programs that collects the data and stores it, and many programs that analyze it. Usually the analysis programs are much larger than the data collection programs. Using a data independent system the collection program can be updated to collect additional data without rebuilding the data analysis programs. Data analysis programs can be rebuilt individually as required to support new requirements. Without data independence all software that uses a record definition must be rebuilt every time it is changed.

An Approach

First we must define a method of storing the data and the record definitions. The simplest way is to define a file that contains both the data and the applicable record definition. This is convenient because when you delete the data, you also delete the record definition. Also, the record can be defined in a program, and this same record used to create the record definition in the file. For lack of a better term I will refer to a file that contains both data and the data description (record definition) as a 'structured file'.

A structured file can be read without using a structured access method if desired. When this is done, the I/O will be data dependent and the external and internal record definitions must match. When structured access is used, all fields that the program references must exist in the file, but the record definitions need not be an exact match. The internal record definition can be thought of as the program's 'view' of the file.

Most programming languages will require four additions at a minimum. These are listed as follows:

- A file oriented data structure that uses the same syntax as to the existing memory oriented data structure.
- Enhancements to the statements that prepare files for access to support data independent I/O.
- A function to read the record definition from a structured file.
- A utility program which can create or add and/or delete fields from a structured file. The program reads a structured file and the source code for the record definition to be used for the new file and creates a new file. This program is similar in concept to the DCL CONVERT command.

Pascal example

Suppose we consider implementing data independent I/O in the Pascal programming language. First, a few terms need to be defined for those who are not familar with Pascal.

> component - The amount of data transferred during a single I/O operation. In the context of VMS this would be a record.

file variable - A variable that identifies a data stream. In the context of VMS this would be a software I/O channel.

record - A data structure that can contain heterogeneous data items. In the context of VMS this would be a record definition.

For this example the Pascal statements that reference fields and records and the statements that read and write records for structured files will be identical to those that are used for ordinary files. Some enhancements are required to statements that declare variables and prepare files for I/O.

This example is a simple program which extracts some fields from a structured file and displays them on the users terminal. We shall assume that the structured file already exists and was created with a program that uses the record in Figure 1.

```
Employee_rec = record
  PayrollNumber:  integer;
  Name:           record
    LastName:   varying [15] of char;
    FirstName:  varying [15] of char;
    MiddleInitial:   char;
    end;
  StreetAddress:  record
    Street:     varying [20] of char;
    City:       varying [20] of char;
    State:      varying [2] of char;
    Zip:        varying [5] of char;
    end;
  DepartmentCode: record
    Division:   integer;
    Department: integer;
    end;
  HireDate:       record
    Month:      (Jan,Feb,Mar,Apr,May,Jun,
                 Jul,Aug,Sep,Oct,Nov,Dec);
    Day:        1..31;
    Year:       integer;
    end;
end;

var

Employees:     structured file of Employee_rec; {DI I/O}
Employee_buff: file buffer of Employee_rec;     {DI I/O}
```

Figure 1

Note that the record statement is identical to one that could be used for data dependent I/O. The file variable declaration uses 'structured file of' instead of 'file of' to indicate that data independent I/O will be performed. The I/O buffer variable is declared using

'file buffer of' to indicate that this variable will be used to access data from a structured file. Figure 2 is a listing of the application that uses the structured file created using the record of figure 1.

```
Program Example(input,output);

type

  Employee_rec = record
    PayrollNumber: integer;
    Name: record
      LastName:    varying [15] of char;
      FirstName:   varying [15] of char;
      MiddleInitial:              char;
      end;
  end;

var

  Employees:        structured file of Employee_rec; {DI I/O}
  Employee_buff:    file buffer of Employee_rec;     {DI I/O}

Begin
  OPEN(Employees,file_name:='EX.DAT',history=old);
  reset(Employees);
  initbuffer(Employees,Employee_buff);              {DI I/O}
  repeat
    read(Employees,Employee_buff);
    with Employee_buff
      do writeln(Name.LastName,' ',PayrollNumber);
  until eof(Employees);
  close(Employees);
end.
```

Figure 2

Again the 'structured file of' clause is used to indicate that the file variable will be used for data independent I/O and 'file buffer of' is used to indicate that a variable is to be used as a file buffer. The 'initbuffer' procedure is used to initialize the file buffer before attempting to read data from the file. There are a total of three changes that must be made to change a data dependent program into a data independent program. In this example that is a significant part of the program. In most real world applications the number of statements to be changed will be a small part of the program because most statements are expressions or control statements.

Note that the record in the application that reads the structured file has many fewer fields than the actual file. In practice it is only necessary to declare the fields that are used when accessing a structured file. A program that creates a structured file must declare all

fields.

Using structured files the capabilities for defining records in memory and in files are totally compatible and equivalent. When DBMS's are used with programming languages such as Pascal there are always problems with incompatibility between the record definition capabilities of the language and the DBMS. The programmer must master the subtleties of both before attempting complex applications.

Implementation Notes

The 'structured file of' construct tells the compiler that this will be data independent I/O to a structured file. If 'file of' were used, data dependent I/O would be performed when accessing an existing file whether or not the file is a structured file.

When a variable is declared using 'file buffer of' the compiler is notified that this variable will be used to access a structured file. There are a number of unique problems in accessing structured files that are addressed by this. First, the I/O buffer space used for an existing structured file cannot be allocated until the file is open because the record size is obtained from the file. Second, each field reference to a the external record is not known until the file is open. Therefore the memory structure created when 'file buffer of' is used contains only space for a few pointers, namely 1) a pointer to a field offset table that is created when the file is opened, 2) a pointer to the I/O buffer that is allocated when the 'initbuffer' procedure is called, and 3) a pointer to the file variable with which the buffer is associated.

There is only one restriction on the use of file buffers. A file buffer cannot be used in the I/O list for a structured file other that the one it was initialized for. Otherwise a file buffer can be used like any other record variable. If a record is to be copied from one file to another, a separate file buffer must be declared and initialized for each file.

When a structured file is opened the record definition is read from the file. A field offset table is created. The field offset table contains one position for each field, and is used to locate fields in a record buffer when field references are made. The record size for I/O buffers is determined.

When the 'initbuffer' procedure is run, space is allocated for the I/O buffer and values for the various pointers are stored in the file buffer data structure.

When a read is performed, a component is read into the I/O buffer. The first time a field is accessed, the position corresponding to it in the field offset table must be filled in. This is accomplished by searching the external record definition for the field. When another component is read and a previously accessed field is accessed it will not be necessary to search the record definition again because the offset is already stored in the field offset table. Thus, the second and all subsequent references to a field require one level of indirection to locate the data.

Using the above approach a level of performance can be achieved that is close to that of a data dependent program. If the record definitions become static, the applications can be converted easily to data dependence if higher performance is required.

Because this method uses the record definition capabilities already built into the language, the Pascal compiler already contains the code required for parsing it. As a double benefit this greatly reduces the amount of technical expertise a programmer will need to create applications.

Conclusion

When most programming languages were developed, the importance of data independence was not fully comprehended. Now we know that a great many applications can benefit from it. Writing data independent applications using programming languages that lack built in support for it is clumsy at best.

Present day DBMS products evolved in an environment where data independence was only available using facilities that were external to a compiled programming language. If this capability existed within programming languages while DBMSs were evolving, they might look very different today.

Data independence can be added with relative ease to languages like Pascal that support memory resident data structures and data dependent I/O to disk files. Much of the code required to implement data independent I/O already exists to support memory resident data structures. Adding data independent I/O would make it possible for the first time to create self contained data independent applications. This improvement will make it possible to reduce the cost of many data independent applications developed in compiled programming languages by eliminating the need to resort to external data base management systems.

Working Group Chair Responsibilities

I write this memo to the WG chairs with many mixed emotions. By now you've all heard that Sam has passed the L&T gauntlet to me. I came into the L&T SIG as it's first official WG Coordinator and am proud of the work that you've done in creating, organizing and fostering your groups. And not only do I look forward to each of you continuing in your WG Chair roles, but moreover I'll depend on it even more as I assume my new role as SIG Chair.

In turn, Dave Ream has been asked and has accepted the challange of being the 2nd L&T Working Group Coordinator. I know you'll support him as you have me in the upcomming years.

However a promise is a promise - and I had promised many to write down the responsibilites I envisioned for WG chairs.

Foremost of the responsibilties for a WG chair is to be the "spark" of his working group. That doesn't mean that the WG Chair must be the leading expert in his topic area, but rather that he(she) has the deep enthusiam and willingness to spread that enthusiam around the DECUS membership. An enthusiam that will stimulate others to share in their experiences within the topic area among themselves and with the membership at large. That encouragment to share our knowledge is the key to L&T and to DECUS in general. The tangible aspects of sharing are sessions at Symposia, submissions to the proceedings and newsletter, providing seminars and even submissions to one of the various SIG tapes (especially our own). These are what I call the Working Group "Deliverables". For a Working Group to exist, it must demonstate some tangible deliverable to the DECUS membership at least annually - and the more often the better.

Beyond stimulating and directing their working group towards one or more deliverables, Working Group Chairs need to help the SIG in promoting both L&T and their specific groups. In return for their assistance to the SIG, all Working Group Chairs also become members of the L&T Steering Committee.

To earn that membership (and the traditional bi-annual symposium hat that comes with it), each working group chair is expected to do the following:

1. After each symposium, each WG Chair writes up a short (1 - 2 paragraph) description of their WG, their current accomplishments (i.e. deliverables) and future goals. The report will include the WG name, mailing address, network address (if available) and phone to enable the general readers to contact the chair for more information. This is sent to the WG Coordinator (I'll still take delivery of these for this last time) for incorporation into a combined WG report for the newsletter. This should be sent out 2 - 3 weeks following the symposium (NOTE: You're already

late!).

2. [In the future - if we can ever get alittle ahead] The working group chairs will be expected to review and help prioritize sessions for the next symposium.

3. Following scheduling for a symposium, each WG Chair will receive a copy of the abstracts associated with his topic area (if not of all the L&T abstracts). Using these, the WG Chairs are asked to develop a "working group ROADMAP" for that symposium. This will help those symposium attendees with interests in common with those of their WG to find the "interesting" sessions at symposium.

4. At Symposium, each WG holds an open working group meeting. At this meeting, the WG chair (or his designate if he can't make it) builds the fire of enthusiam for the topic area among those present - and especially toward the goal of soliciting new WG deliverables (i.e. sessions for the next symposium, articles, ...). A DEC representative will always attend our WG meetings. So it would also be appropriate to solicit wishlist items, discuss common problems, etc. And of course - L&T is always interested in finding a "few good men (and women)." The most obvious way a WG member can join in an active role within L&T is to become a MASTER in their topic area. Then there is always the infinite number of tasks that occur at symposium itself - session chairs, campground/suite hosts, runners for the sessions cards, ...

   Wishlist items collected at the meeting should be passed on to the L&T wishlist coordinator (Bob van Keuren) as soon as possible after the meeting. Likewise, any volunteer names as well as a roster of all who attended the meeting should be passed on to the volunteer's coordinator (currently Dave Ream).

5. In addition, although this hardly seems necessary to mention from my experiences with you guys, the WG chairs are expected to pitch in as much as possible with running the symposium itself. All those items mentioned above - session chairs, hosting the campground, helping with the session cards when you sit in on an L&T session, ...

   For the most part we organize this at the SIG steering committee meeting(s) that are held Saturday and Sunday prior to each symposium. Each WG Chair (or his designate) is asked to come early to symposium to make these meetings.

6. Twice a year, generally between symposiums, L&T holds "Woods Meetings." Together with the meetings held at the symposium, these meetings are the core to the organization and planning of L&T activities. As much as we'd like to, the shear size of our Steering Committee prohibts us from bringing all the committee to each meeting. However, for as many slots as we can, we plan on rotating Woods Meeting slots through the WG chairs. Expenses for these meetings are covered by the SIG.

   You can move into one of the more permanent slots of the Woods Meetings (if not other DECUS leadership meetings as well) by accepting a more significant role within the SIG when it arises. { Look what happened to me?!?!?! - Now I'll even get

to call the meetings. What Joy?!?!? - as an aside: be wary of any invitation to a private walk with your current SIG Chair. }

I'm sure I've left something out. But I've gone on too long as it is. If you have any questions about these points or about your WG that you'd like to discuss, just send me mail (be sure to copy REAM since this will soon become his problem).

I've thoroughly enjoyed working with you and seeing the "spark" you have for your groups and L&T itself. I know I can count on your continued support for both Dave and for myself in our new roles. I know that it is only with your backing and activisim in the SIG that L&T will retain its coveted strength within DECUS.

Joe

Cross-Development Systems Working Group Report

The Embedded Systems Working Group of the Languages and Tools SIG met as a BOF at Cincinnati. The nine charter members immediately changed the name to Cross-Development Systems Working Group to make the purpose of the group clearer to those who may not know that they are working on embedded systems. The working group supports the needs of those working on systems that have a computer dedicated to one application. In many cases, the computer in the system is lacking one or more of the standard peripherals expected by most compilers, such as a printer or a standard keyboard. Because of this, the program source editing, compilation, and linking are performed on one computer, the host computer, and execution is performed on another computer, the target computer. The members of this working group have interests in several other L&T working groups, but this one addresses the unique needs of those in a cross-development environment. The members expressed the following areas of interest on a sign-in form, with the number of people expressing interest shown in parentheses:

Debug tools for the embedded system (9)

Cross-compilation from DEC to non-DEC (6)

Impact of Ada on implementation of Real Time Systems (5)

Meeting government standards (4)

Cross-compilation from DEC to DEC (2)

Other

Integrate cross support tools with productivity tools

Simulation of other computers

Design tools

From the above, it is apparent that there is a real need for good debug tools for embedded systems, which frequently involve computers made by other manufacturers. The debug tools could be based in a VAX computer, using VAX Debug as a core and an interface over an I/O cable to a task driver in the other computer. Quite a few wishlist forms were filled out and submitted during the meeting. The members will receive a roster of the working group within a month. Anybody can join the Cross-Development Systems Working Group by sending a note to George Scott, Computer Sciences Corporation, PO Box N, Moorestown, NJ 08057.

CASE and Tools Integration Working Group Report

The CASE and Tools Integration Working Group of the Languages and Tools SIG met at Cincinnati. The working group exists to define ways in which Digital and third party tools can be made to work together even better than they do now. There is a new emphasis on integrating analysis, design, and program management tools with existing and future software coding, debugging, and testing tools, shown by the addition of "CASE and" to the name of the group. The twenty members attending agreed to these points:

We are looking for full integration between the Common Data Dictionary (CDD) and all languages.

We want more integration between VPM and VAXset, and so on.

Sixteen bit people need CASE and tools, too.

CASE is integrated tools, not just a set of tools.

The integrated interface should be an open structure so that project and company requirements can be included.

The tools, and particularly CASE, should include provision for picking up a project in the middle of the project's life.

It was suggested that the working group (and maybe all working groups) have conferences on DECUServe. Many wishlist forms were filled out and submitted during the session. The members of the working group will receive a roster of the working group in about a month. Anybody can join the working group by dropping a note to George Scott, Computer Sciences Corporation, PO Box N, Moorestown, NJ 08057.

L&T Clinic Report

Over sixty questions were asked of 28 experts at the Cincinnati Languages and Tools Clinic at the Spring '88 DECUS Symposium. They were asked on Ada (1), APL (1), Basic (4), C (2), CMS (4), COBOL Generator (1), Datatrieve (1), Debug (3), DTM (2), EDT (1), FORTRAN (7), F77 (1), LaTeX (1), LSE (2), MMS (8), PASCAL (1), PCA (1), PL/I (4), SCA (1), Scan (1), SMG (2), SRT (1), TeX (2), TPU (2), VAXset (1), and VMS (3), according to the records returned. The number in parentheses is the number of times the item was selected on the returned records. There were many questions that bridged two or more subjects.

The experts included most of the Digital Languages and Tools developers at the symposium and several others. They included August Reinig, Gary Feldman, Keith Knowles, Craig Neth, Ed Flecchia, Dave Moore, Bev Schultz, Peter O'Malley, Bruce Ferguson, Glenn Joyce, Stan Whitlock, Bob Crowlim, Randy Meyers, Dave Ream, Brian Rezac, Dave Powell, Peter Hosford, Mark Eklof, Joe Pollizzi, Gerald Lester, Brian Adler, Neil Savage, John Ektermanis, Ken Benson, Barbara Beeton, Howard Holcombe, Mike Terrazes, and Wayne Sewell.

Some of the more interesting questions and answers are included here. Remember that these questions and answers are from scribbled notes written in the heat of battle. Completeness and accuracy are not promised at all.

David Howard says, "If you open a file with access append, your system has a user timeout feature, and the user of the file gets timed out, the file does not seem to close properly and all records are lost if no other users are currently sharing the file." Ken Hobday says, "Way it works - use $FORCEX then $DELPROC or use periodic SYS$FLUSH."

Eric Husby asks, "What is the relationship of the various [TeX] font files MF, TEM, PXL, PK, GF? What are necessary online for a run-time TeX/LaTeX environment?" Brian Adler answers, "TEMs are font metric files required for TeX. PXL, PK, GF are the fonts themselves, but stored in differing file formats. The format you need at run time depends on your device converter.

Thomas Goodhart asks, "How are bits numbered in PL/I?" Keith Knowles answers, "1..32 instead of 31..0." [Bit numbering is one of the most inconsistent things in computers.]

Andy Pesthy asks, "I have several third party vendor packages which run much better with the .EXE file is contiguous. COPY/CONTIG usually fails, and there is no COPY/CONTIG_BEST_TRY. This would be ok if it existed. How can I (easily) get less fragmentation, without a disk refresh?" Dave Ream suggested using CONV/FDL. [Check the manual first. Online HELP takes you through CONVERT File /FDL and recommends the manual.]

Douglas McCune asks, ".... PCA cannot be used reliably unless all modules are compiled

/DEBUG. In our large ... application, this required ... 1/2 RA81 of disk space. We'd like to PCA-analyze only subtrees of our application, or perhaps only certain subroutines libraries, charging called routines to caller -- is this possible?" Gary Feldman replies, "Compile modules of interest with /DEBUG. Run the PCA Collector using SET STACK_PCS. In the Analyzer, use the /MAIN_IMAGE= {module/routine} qualifier to charge back PCA data bucket hits to the module or modules of interest."

Ron Frederick says, "Many FORTRAN programs written to expect interactive input from terminal ... must be converted to BATCH runs ... without recompiling programs." Gerald Lester suggests a batch job of this form:

```
$ RUN my_program
      data line
      data line
      data line
      and so on
      $
```

The lines without $ are supplied to my_program when it asks for an input line. The $ is logically the same as an EOF to my_program.

B. Taylor says, "[FORTRAN] Compiler allows a single record of length greater than 65535 to be passed by argument. The V4.6-V4.7 release notes identify this as a fatal error. The compiler does catch this as an error if the aggregate passed is an array." It was agreed that there is a hardware limitation here. [A similar problem was encountered at the author's shop with VAX Ada. This problem is repeated here to alert users to the absolute limit of 65K-1 on moves imposed by the hardware.] Digital will check to see if the compiler can catch this case.

Low Level Language Working Group Meetings Minutes

Minutes from Low Level Language Working Group Meeting at Spring '88 DECUS

There were approximately 9 working group members in attendance; unfortunately, our Digital counterpart was detained answering questions at a preceding session and was not able to attend. The major topic of discussion was the previous wishlist items. At the symposia, Digital announced full symbolic DEBUG and PCA support for MACRO-32, SCA support for MACRO-32, and LSE templates for MACRO-32. This amounted to most of the previous wishlist items. The remainder of the time was spent discussing new wishlist items (these items have been furnished to the L&T wishlist coordinator). Major areas of concern seem to be with the limitation of symbols (symbols are not typed and can not be text strings) and with the addition of some "structuring" macros.

Gerald Lester

PRIZE WINNING COMMAND PROCEDURES

The following files won first place for best command procedures at the L&T Wizardry Session at the Spring 1988 Decus Symposia. They are used to assist in management of directories associated with the VAXSET tools.

Gerald Lester

```
$ VERMODE = 'F$VERIFY(0)
$!
$!  Command file to create CMS, CMS reference, DTM, and SCA subdirectories
$!  and libraries.  This procedure prompts for all missing parameters.
$!
$!
$!  INPUTS:
$!
$!  P1  - Project directory name              [], Required
$!  P2  - Project description              [], Required
$!  P3  - Owner         [current_uic]
$!  P4  - List of users [], Optional
$!
$!
$!  First check for required privilege
$!
$ Previous_privilege = F$SETPRV("SYSPRV")
$ IF .NOT. F$PRIVILEGE("SYSPRV") THEN GOTO No_privilege
$!
$!  Now get required information
$!
$ Current_directory = F$ENVIRONMENT("DEFAULT")
$Get_Project_name:
$ IF (P1 .EQS. "") THEN INQUIRE P1 "Name for project subdirectories"
$ IF (P1 .EQS. "") THEN GOTO Get_Project_name
$ Project_name = P1
$Get_Project_Description:
$ IF (P2 .EQS. "") THEN INQUIRE P2 "Description for project libraries"
$ IF (P2 .EQS. "") THEN GOTO Get_Project_Description
$ Project_Description = P2
$ Owner = F$GETJPI (" ","UIC") - "[" - "]"
$ IF (P3 .EQS. "") THEN INQUIRE P3 "Owner [''Owner']"
$ IF (P3 .NES. "") THEN Owner = P3
$ IF (P4 .EQS. "") THEN INQUIRE P4 "List of users"
$ user_list = P4
$!
$!  Add the ID
```

```
$!
$ open/write file sys$scratch:add_id.tmp
$ write file "$ SET DEFAULT SYS$SYSTEM"
$ write file "$ RUN SYS$SYSTEM:AUTHORIZE"
$ write file "ADD /ID ",Project_name
$ write file "$ SET DEFAULT ",Current_directory
$ close file
$ @sys$scratch:add_id.tmp
$ delete sys$scratch:add_id.tmp;*/nolog
$!
$!  Now grant the ID to the users
$!
$ IF (user_list .EQS. "") THEN GOTO End_add_users
$ user_number = 0
$ user_id = ""
$ open/write file sys$scratch:add_id.tmp
$ write file "$ SET DEFAULT SYS$SYSTEM"
$ write file "$ RUN SYS$SYSTEM:AUTHORIZE"
$Add_a_user:
$ user_id = F$ELEMENT (user_number, ",", user_list)
$ user_number = user_number + 1
$ IF (user_id .EQS. ",") THEN GOTO End_add_a_user
$ write file "GRANT /ID ",project_name," ",user_id
$ goto Add_a_user
$End_add_a_user:
$ write file "$ SET DEFAULT ",Current_directory
$ close file
$ @sys$scratch:add_id.tmp
$! delete sys$scratch:add_id.tmp;*/nolog
$End_add_users:
$!
$!  Now create the directories and give the project people access
$!
$!  First the CMS reference copies
$!
$ SET DEFAULT CMS_REFERENCE_DISK:[CMS_REFERENCE_COPIES]
$ CREATE /DIRECTORY /OWNER=['OWNER'] [.'Project_name']
$ SET ACL 'Project_name'.DIR /ACL=(id='project_name',access=R+W+E)
$ SET ACL 'Project_name'.DIR /ACL=(id='project_name',opt=default,access=R+W+E+D)
$ SET ACL 'Project_name'.DIR /ACL=(id='owner',access=R+W+E+D+C)
$ SET ACL 'Project_name'.DIR /ACL=(id='owner',opt=default,access=R+W+E+D+C)
$!
$!  Next the CMS Library
$!
$ SET DEFAULT CMS_LIBRARY_DISK:[CMS_DIRECTORIES]
$ CREATE /DIRECTORY /OWNER=['OWNER'] [.'Project_name']
$ set acl 'Project_name'.DIR -
    /like=(object_type=file,-
    object_name=CMS_REFERENCE_DISK:[CMS_REFERENCE_COPIES]'Project_name'.DIR)
$ CMS CREATE LIBRARY -
  /REFERENCE_COPY=CMS_REFERENCE_DISK:[CMS_REFERENCE_COPIES.'Project_name'] -
  [.'Project_name'] "'Project_Description'"
$!
$!  Then the DTM Library
```

```
$!
$ SET DEFAULT  DTM_DISK:[DTM_DIRECTORIES]
$ CREATE /DIRECTORY /OWNER=['OWNER'] [.'Project_name']
$ set acl 'Project_name'.DIR -
    /like=(object_type=file,-
    object_name=CMS_REFERENCE_DISK:[CMS_REFERENCE_COPIES]'Project_name'.DIR)
$ DTM CREATE LIBRARY [.'Project_name'] "'Project_Description'"
$!
$!  Lastly the SCA Library
$!
$ SET DEFAULT SCA_DISK:[SCA_DIRECTORIES]
$ CREATE /DIRECTORY /OWNER=['OWNER'] [.'Project_name']
$ set acl 'Project_name'.DIR -
    /like=(object_type=file,-
    object_name=CMS_REFERENCE_DISK:[CMS_REFERENCE_COPIES]'Project_name'.DIR)
$ SCA CREATE LIBRARY [.'Project_name']
$ GOTO All_done
$!
$!  Here if insufficient privilege
$!
$No_privilege:
$ WRITE SYS$OUTPUT "You need SETPRV or SYSPRV privilege to run this procedure"
$!
$!  All done so reset default directory and exit
$!
$All_done:
$ Previous_privilege = F$PRIVILEGE(Previous_privilege)
$ SET DEFAULT 'Current_directory'
$! 'F$VERIFY(VERMODE)
```

```
$ VERMODE = 'F$VERIFY(0)
$!
$!  Command file to delete CMS, CMS reference, DTM, and SCA subdirectories
$!  and libraries.  This procedure prompts for all missing parameters.
$!
$!
$!  INPUTS:
$!
$!  P1  - Project directory name              [], Required
$!? P3  - Owner          [current_uic]
$!? P4  - List of users  [], Optional
$!
$!
$!  First check for required privilege
$!
$ Previous_privilege = F$SETPRV("SYSPRV")
$ IF .NOT. F$PRIVILEGE("SYSPRV") THEN GOTO No_privilege
$!
$!  Now get required information
$!
$ Current_directory = F$ENVIRONMENT("DEFAULT")
$Get_Project_name:
$ IF (P1 .EQS. "") THEN INQUIRE P1 "Name for project subdirectories"
$ IF (P1 .EQS. "") THEN GOTO Get_Project_name
$ Project_name = P1
$!
$!  Remove the ID
$!
$ open/write file sys$scratch:add_id.tmp
$ write file "$ SET DEFAULT SYS$SYSTEM"
$ write file "$ RUN SYS$SYSTEM:AUTHORIZE"
$ write file "REMOVE /ID ",Project_name
$ write file "$ SET DEFAULT ",Current_directory
$ close file
$ @sys$scratch:add_id.tmp
$ delete sys$scratch:add_id.tmp;*/nolog
$!
$!  Now grant the ID to the users
$!
$GOTO End_add_users
$! IF (user_list .EQS. "") THEN GOTO End_add_users
$ user_number = 0
$ user_id = ""
$ open/write file sys$scratch:add_id.tmp
$ write file "$ SET DEFAULT SYS$SYSTEM"
$ write file "$ RUN SYS$SYSTEM:AUTHORIZE"
$Add_a_user:
$ user_id = F$ELEMENT (user_number, ",", user_list)
$ IF (user_id .NES. "") THEN GOTO End_add_a_user
$ write file "GRANT /ID ",project_name," ",user_id
$ goto Add_a_user
$End_add_a_user:
$ write file "$ SET DEFAULT ",Current_directory
$ close file
```

```
$ @sys$scratch:add_id.tmp
$ delete sys$scratch:add_id.tmp;*/nolog
$End_add_users:
$!
$!  Now Delete the directories
$!
$!  First the CMS reference copies
$!
$ SET DEFAULT CMS_REFERENCE_DISK:[CMS_REFERENCE_COPIES]
$ DELETE [.'Project_name']*.*.*
$ set prot=w:RWED 'Project_name'.dir.*
$ DELETE 'Project_name'.dir.*
$!
$!  Next the CMS Library
$!
$ SET DEFAULT CMS_LIBRARY_DISK:[CMS_DIRECTORIES]
$ DELETE [.'Project_name']*.*.*
$ set prot=w:RWED 'Project_name'.dir.*
$ DELETE 'Project_name'.dir.*
$!
$!  Then the DTM Library
$!
$ SET DEFAULT  DTM_DISK:[DTM_DIRECTORIES]
$ DELETE [.'Project_name']*.*.*
$ set prot=w:RWED 'Project_name'.dir.*
$ DELETE 'Project_name'.dir.*
$!
$!  Lastly the SCA Library
$!
$ SET DEFAULT SCA_DISK:[SCA_DIRECTORIES]
$ DELETE [.'Project_name']*.*.*
$ set prot=w:RWED 'Project_name'.dir.*
$ DELETE 'Project_name'.dir.*
$ GOTO All_done
$!
$!  Here if insufficient privilege
$!
$No_privilege:
$ WRITE SYS$OUTPUT "You need SETPRV or SYSPRV privilege to run this procedure"
$!
$!  All done so reset default directory and exit
$!
$All_done:
$ Previous_privilege = F$PRIVILEGE(Previous_privilege)
$ SET DEFAULT 'Current_directory'
$! 'F$VERIFY(VERMODE)
```

```
$ VERMODE = 'F$VERIFY(0)
$!
$!  Command file to change to work with a project.
$!  This procedure prompts for all missing parameters.
$!
$!
$!  INPUTS:
$!
$!  P1  - Project directory name              [], Required
$!
$!
$!  First get required information
$!
$ Current_directory = F$ENVIRONMENT("DEFAULT")
$Get_Project_name:
$ IF (P1 .EQS. "") THEN INQUIRE P1 "Name of project"
$ IF (P1 .EQS. "") THEN GOTO Get_Project_name
$ Project_name = P1
$!
$!  Now check for required "priviledges"
$!
$ define/user sys$output temp.tmp
$ show process /privilege
$ define/user sys$output NL:
$ define/user sys$error nl:
$ search/out=nl: temp.tmp 'project_name'
$ authorized_user = $STATUS
$ delete /nolog temp.tmp.
$ IF (authorized_user .NE. 1) THEN GOTO No_Privilege
$!
$!  He has access so get full name in case of partial typein
$!
$ project_file_spec_proto = "CMS_REFERENCE_DISK:[CMS_REFERENCE_COPIES]" + -
        Project_name + "*.DIR"
$ project_file_spec = F$SEARCH(project_file_spec_proto)
$ unique_name = F$SEARCH(project_file_spec_proto)
$ old_project_name = project_name
$ project_name = F$PARSE(project_file_spec,"","","NAME")
$ IF (old_project_name .EQS. project_name) THEN GOTO Set_libraries
$ IF (unique_name .NES. "") THEN GOTO Not_unique
$!
$!  Now set the libraries and logicals
$!
$Set_libraries:
$ DEFINE CMS_REFERENCE_COPIES -
    CMS_REFERENCE_DISK:[CMS_REFERENCE_COPIES.'Project_name']
$ DEFINE CMS$REFERENCE_COPIES CMS_REFERENCE_COPIES
$ CMS SET LIBRARY CMS_LIBRARY_DISK:[CMS_DIRECTORIES.'Project_name']
$ DTM SET LIBRARY DTM_DISK:[DTM_DIRECTORIES.'Project_name']
$ SCA SET LIBRARY SCA_DISK:[SCA_DIRECTORIES.'Project_name']
$!
$!  Now see if we have to change default directories
$!
$ found_file = F$SEARCH("SYS$LOGIN:"'Project_name'.DIR")
```

```
$ IF (found_file .EQS. "") THEN GOTO All_done
$ SET DEFAULT SYS$LOGIN
$ SET DEFAULT [.'Project_name']
$ found_file = F$SEARCH("MY_SETUP.COM")
$ IF (found_file .EQS. "") THEN GOTO All_done
$ @MY_SETUP.COM
$ GOTO All_done
$!
$!   Here if insufficient "privileges"
$!
$No_Privilege:
$ WRITE SYS$OUTPUT "You do not have access to the requested project"
$ GOTO All_done
$!
$!   Here if a if name specified is not unique
$!
$Not_unique:
$ WRITE SYS$OUTPUT "Project name is not unique, please specify more characters"
$ GOTO All_done
$!
$!   All done so reset default directory and exit
$!
$All_done:
$! 'F$VERIFY(VERMODE)
```

PDP-11 to VAX Language Compatibility Guides

Extending the PDP-11 VAX/VMS Coexistence and Migration Program.

In many interactions with PDP-11 customers, they requested that Digital document the changes they can expect when moving from the PDP-11 architecture and operating systems to a VAX/VMS environment, in a way that would make them easy to understand and easier to implement. Digital's response to this request was to initiate projects to create PDP-11 VMS Compatibility Guides, three of which are now available: the BASIC Language Guide, the FORTRAN Language Guide, and the COBOL Language Guide.

With programmers as their primary audience, the language guides describe the similarities and differences between programming languages available from Digital for the PDP-11 operating systems and those for VMS. This information assists people with operating in a mixed PDP-11 VMS environment and with moving applications from a PDP-11 environment to VMS. The language compatibility guides provide extensive information but are not intended to be a guide to the entire process of a PDP-11 to VMS applications migration.

They are useful as:

- A day-to-day reference for programmers working in a mixed PDP-11 VMS environment
- A tool for understanding and performing an application conversion,
- An accelerated training vehicle with new information being releated to familiar topics,
- A guide for writing transportable programs.

All of this valuable information is being offered at no cost to Digital customers as part of our continuing effort to help customers understand their options and thereby increase their satisfaction with Digital.

ORDERING INFORMATION

The following language compatibility guides are available now:

BASIC Compatibility Guide	EJ-31492-41
COBOL Compatibility Guide	EJ-31811-41
FORTRAN Compatibility Guide	EJ-31491-41

Send the following information:

NAME_____

TITLE_____

COMPANY_____

ADDRESS_____

CITY_____

STATE/ZIP_____

SEND TO:

DIGITAL EQUIPMENT CORPORATION
MEDIA FULFILLMENT GROUP
44 WHITNEY STREET
NR02-1/H3
NORTHBORO, MA 01532-2599
ATTN: COMPATIBILITY GUIDE

Jeanne Macmillan

LANGUAGES & TOOLS SIG

MASTERS DIRECTORY

June 21, 1988

Those listed here have agreed to answer questions from users, normally by telephone, on the products or subjects under which their names are listed. Expertise is generally in VMS layered software, unless otherwise noted. Complete addresses and phone numbers appear in an alphabetical list following this directory. The alphabetical listing includes [notes] on other software in use at the Master's installation, where this information could be helpful to a user in selecting a Master and where the Master has supplied it.

The list will become fuller as time goes on. Not all L&T products are listed here, and we await volunteer Masters in all the missing areas. A few non-L&T products are mentioned to accommodate individual Masters with interests broader than L&T's. Mumps is included by special request of the Mumps SIG, as a service to Mumps users.

The expertise of these volunteer Masters overlaps; you may find it necessary to call more than one. Please remember that these Masters can provide you with brief assistance, not with long-term support. Some Masters are professional consultants who have agreed to donate their time and talent in their areas of expertise; it is not L&T's intent to provide a reference service for consultants, and any instance of unwanted commercialism should be reported to the L&T Masters Coordinator (see below). Neither L&T nor DECUS make any claim that the information you receive will necessarily be correct or complete.

Please also notify the L&T Masters Coordinator of any errors in the entries in this Directory, or if you experience real difficulty in your effort to obtain help through this list. **Please note that this list expires three months from the date appearing above. After that time, please consult a more recent issue of the Newsletter for a current list.**

If you can participate as a Master yourself, please fill out the attached Masters Program application. Submit it to the L&T Campground Host during symposium or mail it to either:

George Scott, L&T Masters Coordinator, Computer Sciences Corporation, 304 West Route #38, P.O. Box N, Moorestown, NJ 08057; (609)234-1100

or

Dena Shelton, Assistant L&T Masters Coordinator, Cullinet Software, Inc., 2860 Zanker Road, Suite 206, San Jose, CA 95134; (408)434-6636

L&T MASTERS SUBJECT LISTING

ADA

Donald E. Amby
Philip D. Brooke
William Graham

APL

Daniel J. Garvin
Richard Golden (& NON-DEC APL)
Daniel P. Thompson

BASIC

Ted A. Bear (incl. VAX)
R. Alan Bruns
Joel Finkle
Daniel J. Garvin
Stephen C. Jackson (VAX)
B. Lee Jones
Noah Kaufman
Brian Lomasky (VAX)
Kim McDowell
David Santistevan (VAX)
Mark E. Schoneman
Gary A. Slater
Kelvin Smith
Tom Stewart (INCL. VAX)
William Tabor (VAX)
Robert van Keuren (INCL. VAX)

BASIC-PLUS

Stephen C. Jackson
Tom Stewart
Robert van Keuren

BASIC PLUS 2

Ted A. Bear
Joel Garry
Stephen C. Jackson
Brian Lomasky (RSX)
Tom Stewart
William Tabor (RSX)
Christopher Thorn
Robert van Keuren

BLISS

M. Erik Husby
Lawrence J. Kilgallen

C

Donald E. Amby
Fred Avolio
Dale Hites
Lawrence J. Jones
Jim Maves
Teri McNamara (CP/M,First Sys,VAX)
Lorin M. Ricker (incl VAX/ELN)
Kenneth Robinson
Mark E. Schoneman
Michael Terrazas
Richard Wallace

CMS

Donald E. Amby
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L&T MASTERS ALPHABETICAL LISTING

[Subjects in bold face are those under which the master is listed in the Subject Section. Subjects in braces are others running at the master's site.]

Amby, Donald E. Delco Systems Operations, P.O. Box 471; M/S 1A21, Milwaukee, WI 53201; (414)768-2682; **•Ada •C •CMS •EDT •LSE •MMS •Pascal •Runoff & DSR •TPU**

Ancona, Jim Colt Software Technologies, P.O. Box 336, Franconia, NH 03580; (603)823-8756; **•Dibol**

Avolio, Fred , 8300 Professional Place, M/S DCO/913 Landover, MD 20785; (301)731-4100; **•C**

Bear, Ted A. Ramek, 2211 Lawson Lane, Santa Clara, CA 95950; (408)988-2211; [EDT,TECO] **•Basic** (incl. VAX) **•Basic Plus 2**

Beer, Al VAX Products Coordinator Ask Computer Systems Inc., 730 Distel Drive, Los Altos, CA 94022; (415)969-4442 X4103; [Debug,Fortran,VAX Notes,TPU,EVE] **•EDT •Runoff & DSR**

Beeton, Barbara American Mathematical Society, P.O. Box 6248, Providence, RI 02940; (401)272-9500; **•LaTeX •TeX**

Berryman, Mark V. Digital Equipment Corp., 3 Results Way (MRO3-2/H7), Marlboro, MA 01752; (617)467-4875; BITNET:BERRYMAN@DSM.DEC.COM **•Mumps**

Boes, Jeff Lear Siegler, 4141 Eastern SE, M/S 121, Grand Rapids, MI 49508; (616)241-8157; **•LSE •MMS •SCAN**

Brayman, Rod Phoenix Beverages, Inc., 37-88 Review Ave., Long Island C ity, NY 11101; (718)729-2000; **•Dibol**

Brooke, Philip D. President Future Generations, Inc., 5 Prospect Street, Rowley, MA 01969; (617)948-7812; [Pascal,Basic,LSE,Runoff&DSR] **•Ada •Debug •EDT •Fortran**

Bruns, R. Alan Allied Electronics, Inc., 401 E. Eighth Street, Fort Worth, TX 76102; (800)228-6705; **•Basic**

Byrne, Tom Data Processing Manager L. Karp & Sons, Inc., 1301 Estes Avenue, Elk Grove Vil lage, IL 60007; (312)593-5706; **•Dibol**

Calhoun, Donna Computer Engineering, 704 S. Illinois Avenue, P.O. Box 3174 Oak Ridge, TN 37831; (615)483-0000; **•Fortran •Runoff & DSR**

Carter, Anthony J. Systems Programmer Bates Linear Accelerator Center, Massachusetts Institute of Technology, P.O. Box 846/21 Manning Road Middleton, MA 01949-2846; (617)245-6600; CARTER@MITBATES(BITNET) [Debug,Fortran,EDT,C,TeX and LaTeX] **•Pascal**

Claxton, John Technical Consultant Collier-Jackson, Inc., 3707 West Cherry Street, Tampa, FL 33607-2596; (813)872-9990; [Pascal,Fortran,Basic,Macro-32] **•Cobol •DCL •Debug •EVE •TPU**

Cory, Earl Eaton Corporation, 31717 La Tienda Drive, Westlake Vill age, CA 91359; (818)706-5385; **•CMS •DCL •EDT •Fortran •LSE •Runoff & DSR**

Crego, Mark Integrated Data Systems, 8023 Carbondale Way, Springfield, VA 22153; (703)838-5677; **•Dibol**

Davis, Jack NAP Consumer Electronics Corp., Videowriter Business Unit, 1111 North Shore Dr. Knoxville, TN 37919; (615)558-5206; [CMS,LSE,MMS] **•Debug •Fortran** (VMS) **•LSE •Modula-2**

Dirks, Dave L. Bedfore Industries, Inc., 1659 Rowe Ave., Box 39 Worthington, MN 56187; (507)376-4136; **•Dibol**

Duff, Steven Ergodic Systems, Inc., 23666-A Birtcher, El Toro, CA 92660; (714)380-9719; **•PL/I**

Evans, Rick Consultant Evans & Ricker, Inc., 27900 S.W. Grahams Ferry Road, Sherwood, OR 97140; (503)682-0179; [Macro 32, Macro 11] **•LaTeX •Pascal •TeX •TPU**

Finkle, Joel G.D. Searle, 4901 Searle Parkway, Skokie, IL 60077; (312)982-8010; **•Basic •CMS •Fortran •MMS •Pascal •Test Manager •TPU**

Flood, Stewart F. Asten Group, Inc., 4399 Corporate Road, P.O. Box 10700 Charleston, SC 29411; (803)747-7800; [Macro, RMS] **•Dibol**

Garry, Joel Beck Computers, 5372 Long Beach Blvd, Long Beach, CA 90805; (213)428-2894; **•Basic Plus 2**

Garvin, Daniel J. System Analyst Litton Industrial Automation Systems, 2300 Litton Lane, Hebron, KY 41048; (606)334-2810; **•APL •Basic •Fortran •Software Proj Mgr**

Golden, Richard Systems Manager , 300 S. Riverside Plaza, Suite 1054 Chicago, IL 60606; (312)930-9800; **•APL** (& NON-DEC APL)

Graham, William U.S.A.F., OC-ALC/Det. MMECZA, P.O. Box 11037, Tucson IAP , AZ 85734; (602)573-2391; **•Ada •CMS •Debug •Fortran •Runoff & DSR •TPU**

Gursha, Jim VP & Dir. Information Service Goldman Sachs & Co., Financial Strategies Group, 85 Broad St., 25th Floor New York, NY 10007; (212)902-3009; **•CMS •Debug •MMS •SCA**

Hanson, Brad Group Health, Inc., , 2829 University Ave. S.E. Minneapolis, MN 55414; (612)623-8427; **•Mumps**

Hites, Dale Health Chicago, 1624 Bay Ct, Naperville, IL 60565; (312)961-0825; **•C •Macro**

Holcombe, Howard RCA, Front & Cooper St., Camden, NJ 08055; (609)338-4946; [Config Mgmt, Project Mgmt] **•CMS •Fortran •MMS •Runoff & DSR**

Hsu, Jerry Rubicon Corp., 1200 E. Campbell, Richardson, TX 75083; (214)231-6591; **•Mumps**

Husby, M. Erik Mgr, Technical Development Project Software and Development, Inc., 20 University Road, Cambridge, MA 02138; (617)661-1444; [Fortran, CMS, MMS, EDT, C, DSR] **•Bliss •Debug •EVE •LSE •TPU**

Hyde, Mark J. Advanced Computing Services, 209 Ardsley Drive, DeWitt, NY 13214; (315)446-7223; BITNET:MHYDE@SUVM **•Mumps •TECO**

Ivler, J.M. MTS Applications Support De La Rue Printrak, 1250 N. Tustin Ave., Anaheim, CA 92807; (714)666-2700 X264; [Debug,Fortran,TPU,EVE,C,Scan,MMS] **•CMS •Config Mgmt •DCL •EDT •Runoff & DSR**

Jackson, Stephen C. SCJ Consulting, Inc., Suite 105, 7260 University Ave. N.E. Minneapolis, MN 55432; (612)571-8430; **•Basic** (VAX) **•Basic-Plus •Basic Plus 2**

Jeter, William RCA, 3800 Southern Blvd., West Palm, FL 33402; (305)683-8002 x334; **•Cobol**

Jones, B. Lee Manager, Computer Systems Sierra Semiconductor Corp, 2075 North Capitol Ave., San Jose, CA 95132; (408)263-9300; [C,EVE,LSE,TECO,TPU] **•Basic •Cobol •DCL •Debug •EDT •Emacs •Fortran •LaTeX •Pascal •Runoff & DSR •TeX •VAX Notes •C •EDT**

Katz, Mark GTE Government Systems, 100 First Ave., Waltham, MA 02154; (617)466-3437; CMS, MMS, SCA **•CMS •LSE •MMS •Runoff & DSR •SCA •TECO •TPU**

Kaufman, Noah JEOL (U.S.A.), Inc., 11 Dearborn Road, Peabody, MA 01960; (617)535-5900; **•Basic •Fortran** (& F77)

Kennedy, Jef PBR & Associates, 6549 Park N A-1, Solon, OH 44139; (216)349-5877; **•EVE •TPU**

Kidwell, Mark Software Design Engineer Texas Instruments, Inc., P.O. Box 801, M/S 8006, McKinney, TX 75069; (214)952-2058; **•Config Mgmt**

Kilgallen, Lawrence J. , Box 81, MIT Station, Cambridge, MA 02139-0901; ; **•Bliss •TECO**

Krusemark, Scott Systems/Software Consultant Systemation, Inc., 8473 Daisywood Ave. NW, North Canton, OH 44720; (216)499-6251; [Debug, Eve, Runoff, TPU] **•Cobol •EDT •FMS •Fortran**

Kurjan, Phil Project Manager Consilium, Inc., 1945 Charleston Road, Mountain View , CA 94043; (415)940-1400; **•PCA**

Lane, Thomas Software Engineer , 1310 Electronics Dr., Carrellton, TX 75006; ; **•Pascal**

Leroy, Walter W. The Softwear House, P.O. Box 52661, Atlanta, GA 30355; (404)231-1484; **•Cobol**

Lester, Gerald Computerized Processes Unlimited, Suite #205, 4200 South I-10 Service Road Metairie, LA 70001; (504)889-2784; **•EVE •Macro •TPU**

Lomasky, Brian Teradyne, Inc., 321 Harrison Ave., Boston, MA 02118; (617)482-2700 X3259; **•Basic** (VAX) **•Basic Plus 2** (RSX) **•FMS**

Lundin, John Jr. Technical Asst Academic Computing, University of Richmond, Richmond, VA 23173; (804)289-8652; **•Forth** (CPM,&86,MSDOS,VAX)

Madison, Matthew RPI Center for, Interactive Computer Graphics, Rensselaer Polytechnic Inst. Troy, NY 12180-3590; 518-271-2606; MADISON@RPICICGE.BITNET; **•PL/I**

Manning, Paul , Apt. 8, 11905 S.W. 91st Ave Tigard, OR 97223; (503)684-8091; **•Dibol**

Maves, Jim Eaton Corp, IMSD, 31717 La Tienda Drive, Box 5009 Westlake Vill age, CA 91359; (818)706-5395; **•C •CMS •Debug •LSE**

McDowell, Kim Programmer/Analyst National-Southwire Aluminum Company, P.O. Box 500, Hawesville, KY 42348; (502)927-6921 X457; [EVE, Runoff & DSR, TPU] **•Basic •Debug •EDT**

McIntyre, Michael Chief Engineer PRX, Inc., 43 Bradford Street, Concord, MA 01742; (508)369-3566; **•Mumps**

McNamara, Teri Sr. Software Eng./Sys. Manager Data Card Corporation, 111 Bren Road West, Minnetonka, MN 55343; (612)931-1792; **•C** (CP/M,First Sys,VAX) **•Config Mgmt**

McPherson, Kent , 4141 Eastern Ave, SE M/S 121, Grand Rapids, MI 49508; (616)241-7458; **•LaTeX •LSE •TeX**

Mebust, Bruce L. Burlington Northern Railroad, 176 East Fifth Street, P.O. Box 64962 St. Paul, MN 55164; (612)298-2382; **•Dibol •TECO**

Medvedeff, David Rochester Institute Technology, One Lomb Memorial Dr., Rochester, NY 14623; (716)475-2810; DJMACC@RITVAX.BITNET; **•EVE •Fortran •TPU •VAX Notes**

Meeks, James Trevecca College, 333 Murfreesboro Road, Nashville, TN 37210; (615)248-1236; **•EDT •EVE •TPU**

Merritt, G. Del TASC, 55 Walkers Brook Drive, Reading, MA 01867; (617)944-6850 X2893; **•CMS •Config Mgmt •Emacs •Fortran •MMS**

Miano, John Berlex Laboratories, 110 East Hanover Ave., Cedar Knoll, NJ 07927; ; **•Fortran**

Ontko, Ray System Manager Computing Center, Earlham College, Richmond, IN 47374; (317)983-1437; Debug,Fortran,Basic,EVE,EDT **•Pascal •Runoff & DSR •TPU**

Pajak, John Director, Information Systems Solo Serve Corp., 3200 E. Houston St., San Antonio, TX 78219; (512)225-7163; •**Focus** (VAX)

Phillips, Lyle Moody Institute of Science, 12000 E. Washington Blvd, Whittier, CA 90606; (213)698-8256; •**Dibol**

Plum, Paul Consultant , P.O. Box 1208, Lansdall, PA 19446; (215)275-7216; •**Fortran** (& F77)

Pollizzi, Joseph A. III Space Telescope Science Institute, 3700 San Martin Dr., Homewood Campus Baltimore, MD 21218; (301)338-4901; POLLIZZI@STSCI.ARPA [VAX C, VAX Fortran] •**CMS** •**MMS** •**SCAN**

Potter, Andrew Rochester Institute Technology, One Lomb Memorial Dr., P.O. Box 9887 Rochester, NY 14623-0887; (716)475-6994; AWPSYS@RITVAXD.BITNET; •**Fortran** •**Runoff & DSR** •**VAX Notes**

Powell, David J. Scientific Programmer The Upjohn Company, 7294-25-7, 301 Henrietta Street Kalamazoo, MI 49007; (616)385-7214; [Debug,Fortran,CMS,MMS,LSE,SCA,PCA] •**Test Manager**

Ream, David K. Senior Systems Analyst Lexi-Comp, Inc., 26173 Tallwood Dr., N. Olmsted, OH 44070; (216)777-0095; •**PL/I** •**SCAN**

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Ricker, Lorin M. Consultant Evans and Ricker, Inc., 27900 SW Grahams Ferry Road, Sherwood, OR 97140; (503)682-0179; [Macro-32] •**C** (incl VAX/ELN) •**Debug** •**LaTeX** •**Pascal** (incl VAX/ELN) •**TeX** •**TPU**

Robinson, Kenneth Bell Communications Research, 444 Hoes Lane, Room 4D-416, Piscataway, NJ 08854; (201)699-8796; •**C** •**CMS** •**Debug** •**EVE** •**MMS**

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Schoneman, Mark E. System Manager Computer Consulting Group, E.I. Dupont, P.O. Box 448 Cedar Mt, NC 28718; (704)885-5537; [Debug,Cobol,CMS,MMS,LSE,EVE,EDT] •**Basic** •**C** •**DCL** •**Fortran** •**Pascal** •**PL/I** •**TPU**

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Sewell, E. Wayne Software Engineering Specialist E-Systems, Garland Div., M/S 53700, Box 660023 Dallas, TX 75266-0023; (214)272-0515 X3553; [Debug, LSE, Macro, PCA, Scan, TPU] •**LaTeX** •**Modula-2** (MS-DOS) •**Pascal** (incl real-time use) •**TeX** •**Web**

Siemsen, Peter Senior Programmer MIDCOM, Inc., 645 Ohio Avenue #302, Long Beach, CA 90814; (213)433-3059; [C,CMS,Debug,EVE,Fortran,Pascal,TPU] •**TECO**

Slater, Gary A. Computer Systems Consultant Aslan Business Systems, 246 Knollwood Drive, Newbury Park, CA 91320; (805)499-0931; [Cobol, TPU, EVE, EDT] •**Basic** •**Software Proj Mgr**

Smith, Kelvin Data Processing Manager Financial Computer Systems, One Strawberry Hill Court, Stamford, CT 06902; (203)357-0504; [EDT, Runoff & DSR] •**Basic** •**TECO**

Stacks, Rickey H. Sr. Programmer Analyst Arkansas Dept. of Pollution Control, 8001 National Drive, P.O. Box 9583 Little Rock, AR 72219; (501)562-7444; [Cobol,EDT,TECO,Runoff&DSR] •**EVE** •**Fortran** •**TPU**

Stair, Patrick Systems Analyst Arkansas Dept Pollution Control/Ecology,8001 National Drive, Little Rock, AR 72209; (501)562-7444; •**Cobol** •**EDT** •**Runoff & DSR**

Stephan, Dean MTS Hughes Aircraft Company, Bldg. 540/MS T310, P.O. Box 92919 Los Angeles, CA 90009; (213)615-7438; DEAN@ENGVAX.HAC.COM [Debug,Fortran,CMS,MMS,SCA,PL/I,C] •**Pascal**

Stewart, Tom , Box 5110, Denver, CO 80200; (303)740-4000; •**Basic** (INCL. VAX) •**Basic-Plus** •**Basic Plus 2** •**Cobol** (RSTS/E, VAX) •**Dibol** (RT, RSTS/E, VAX)

Sutton, Lyle Space Telescope Science Institute, 3700 San Martin Dr., Baltimore, MD 21218; (301)338-4509; •**LSE** •**Test Manager**

Szep, Steven Consultant Szep Consulting, P.O. Box 450, Bowling Green Station New York, NY 10274; (718)789-3020; [Debug, Pascal, CMS, MMS, EDT] •**Scan** •**TPU**

Tabor, William W.I. Tabor, Inc., P.O. Box 8078, Coral Springs , FL 33075; (305)528-9802; [BP2(RSTS), CMS, MMS, TPU] •**Basic** (VAX) •**Basic Plus 2** (RSX)

Terrazas, Michael LDS Church, 50 E. North Temple, 27th Floor, Salt Lake Cit y, UT 84150; (801)531-3246; •**C** •**Debug** •**EDT** •**Macro** •**SQL** (Oracle)

Thompson, Daniel P. Assoc. Dir., Mktg Research The Gillette Company, Safety Razor Division, Gillette Park Boston, MA 02106-2131; (617)463-2536; •**APL** •**LSE**

Thorn, Christopher Elias Sports Bureau, 500 Fifth Avenue, Suite 2114, New York, NY 10110-0297; (212)869-1530; •**Basic Plus 2** •**EDT** •**Kermit** •**Runoff & DSR**

Thury, Dennis Texas Instruments Inc., Box 801 M/S 8006, McKinney, TX 75069; (214)952-2066; CSNet:THURYMCCORE@TI-EG; •**EVE** •**Pascal** •**TPU**

Todd, Lindsay Rensselaer Polytechnic Inst., , Troy, NY 12180-3590; (518)276-6751; TODD@RPICICGE.BITNET; •**Fortran** •**PL/I**

Tucker, Stan Compu-share, Inc., Suite 200, 5214 68th Street Lubbock, TX 79424; (806)794-1400; •**Dibol**

Tutterrow, Jesse Systems Programmer St. Louis University, Des Peres Hall, 3694 W. Pine St. Louis, MS 63108; (314)658-2560; [Basic,Cobol,Fortran,TPU,EVE,EDT] •**Debug**

Wallace, Richard AFWAL/AADE, , WPAFB, OH 45433; (513)255-4448 x8654; •**C** •**Fortran** •**Pascal**

Watson, Allen Watson Consulting, Inc., 3 River St., Suite 30, Little Ferry, NJ 07643; (201)641-2468; •**EDT** •**EVE** •**Runoff & DSR** •**TECO** •**TPU** •**VAX Notes**

Westmoreland, J.R. Custom Software Products, Utah Power & Light, 1407 W.N. Temple, Annex 6/208 Salt Lake Cit y, UT 84116; (801)535-4784; •**LaTeX** •**TeX**

Wettersten, Phil Borden, Inc., E. Broad Street, Columbus, OH 43215; ; •**TECO**

Wiley, Jay Manager, Advanced Technology Group Bechtel Power Corp., 12400 E. Imperial Highway, Norwalk, CA 90650; (213)807-4016; •**CMS** •**Fortran** •**LSE** •**Test Manager**

Williamson, Charles O. Jr Hargray Telephone Co., P.O. Box 5519, Hilton Head I sland, SC 29938; (803)686-1204; •**RPG**

Wilson, John Kellogg Company, 724 OakBrook Blvd., Battle Creek, MI 49015; (616)961-3515; [Debug,Pascal,Fortran,MMS,LSE,SCA] •**CMS** •**Cobol** •**EVE** •**TPU**

Woodford, Mark G.D. Searle Research & Development, 4901 Searle Parkway, Skokie, IL 60077; (312)982-4992; [Fortran,Basic,TPU,Test Manager] •**CMS** •**MMS**

van Keuren, Robert , 4087 Chamoune Avenue,
San Diego, CA 92105; (619)283-5285; [TPU, EDT]
•**Basic** (INCL. VAX) •**Basic-Plus** •**Basic Plus 2**
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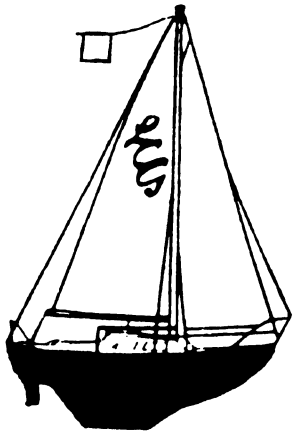

AT LARGE

The Newsletter of the Large Systems SIG

Contributions

Contributions and suggestions for this newsletter are constantly needed. Articles, letters, technical tips, or anything of interest to our SIG are greatly appreciated. The editor prefers submissions be made electronically, but magnetic tape and hard copy will be accepted.

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BITNET: CTP@UTADNX
CIS: 75226,3135
DECUServe/DCS: POOLE

or if you must, use the U. S. Mails:

Clyde T. Poole
The University of Texas at Austin
Department of Computer Sciences
Taylor Hall 2.124
Austin, Texas 78712-1188

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Letter from the Chairman LS-2

Letter from the Chairman

A Gracefull Farewell

E. F. Berkley Shands, Washington University, St. Louis, MO

Since 1964 Digital has produced and marketed 36 bit mainframes. The Large Systems SIG has been there to represent the interests of this product line, and the interests of the large system user in general. As of May, 1988, the LS SIG became the LS SIC or Special Interest Committee, a transitional form of DECUS entity. At the end of the Fall Symposia, the LS SIC will enter the history books as the first SIG to acknowledge that its mission is over.

The high end banner is being passed to the VAX Systems SIG to fly high and proudly. Digital now has real mainframe class VAXen, and sees the needs of the high end / commercial user. The most visible place for high end interests to be represented is now the VAX SIG, and in particular the Commercial Working Group (CWG) of the VAX SIG. The CWG is committed to providing the input to Digital crucial to the operation of large VAX installations. The two vehicles involved in this input are seven "White Papers", and Symposia sessions to gather and distribute feedback.

The white papers being generated are:

1) Operator interface - The communication to operation personnel.

2) File Archiving - The ability to store and retrieve offline files.

3) Dates / Times - The ability to deal with a consistent time standard that includes daylight savings and universal time.

4) Accounting - (presented) A complete data collection of system usages.

5) Scheduling - Process scheduling / Class scheduling / processor control

6) Services - Telephone support, bug resolution, field service issues

7) Utilities - Large shop file and monitor support utilities

Why has this happened? Where do we go now? Since the cancellation of "JUPITER", interest and participation in the LS SIG has dwindled. For the last three years, the steering committee has been running at less than full strength. For the last year, only four out of ten positions have been filled. The chairman's position became vacant, and nobody jumped up and screamed for it. Under DECUS bylaws, a SIG that cannot fill its leadership positions is in trouble. The process for healing a sick SIG involves entering SIC status. The the case of LS, SIC status provides an orderly way of closing the doors, and insuring that the remaining 10/20 interests are not sent to the NULL device. The LS function of speaking for the high end VAX interests is better placed in the VAX SIG. The VAX SIG is now committed to voicing those concerns.

With some work, the "turf wars" within the US DECUS have been reduced by the efforts of the LS SIG Steering Committee. Sessions that could be better placed have been moved. More cooperation between SIG's has been fostered by the folding of Large Systems. As the world changes, so too must DECUS. Hardware and software evolve at different rates. Areas of great interest today might be forgotten in 10 years. Bear in mind that time is not controlled by man, but time controls man. In the US, the time for the reaper has come to Large Systems. European DECUS has a strong Large Systems SIG, they cover all the high end interests. Cooperation

between SIG's is strong. US and European DECUS activities are being more closely linked by the changes with LS.

DECUS Leadership is a volunteer position. Those with the drive and desire to participate do so. Those that lose interest move on. Good, active leadership is needed to promote worthwhile responses from Digital. The demise of Large Systems does not mean that the core of the steering committee will wither and die. We have an interest in Digital products, and will continue to strive to see that the high end interests are properly heard within Digital. Is this a precedent being set? You bet! We hope that other DECUS members will evaluate their own commitments. Both to their employer, and to themselves. New times require new involvement, new leadership, new roles. For the Large Systems SIG, the choice has been difficult and painful. We thank all who have participated in the LS experience, and look forward to the new day.

Berkley Shands, Chairman

OFFICE AUTOMATION

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FROM THE EDITOR...

We're pleased to present the most recent SIR Response listing from DEC for everyone to review along with the newest set of SIR items to be voted upon. Make sure to complete your ballot as soon as possible and send it in to Ed so that your vote can be counted!

Also in this issue Roger Bruner updates us on the latest happenings with the OA SIG Tape. We have some wonderful articles coming up for you in the next few months; both technical and an update or two on 'upcoming' versions of products.

Regards,

Therese LeBlanc
OA Newsletter Editor
275 London Place
Wheeling, IL 60090

SPRING 1988

OA SYSTEM IMPROVEMENT REQUEST RESPONSES

Robert Malay, Digital Equipment Corp.

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#1— 559

188014 *Allow the sharing of All-In-1 files, folders and file cabinets in Read, Write and Append mode as part of the standard All-In-1 product.*

THIS ITEM IS HIGH ON OUR PRIORITY LIST OF DESIRABLE FUNCTIONALITY. WE RECOGNIZE ITS IMPORTANCE AND ARE SERIOUSLY CONSIDERING IT

FOR INCLUSION IN A FUTURE RELEASE.

#2-399

288005 *Provide the ALL-IN-1 system manager with the ability to manipulate mail messages: to delete all messages (read or unread) for any user (without having to read them first), to delete an unread message if the recipients have not yet read it, and to delete a message regardless of whether or not the recipients have read it. Additionally, when the system manager deletes a user, the outstanding mail messages (read and unread) should be automatically deleted.*

A WORKING PROTOTYPE NOW DEMONSTRABLE IN THE EXHIBIT HALL WILL ALLOW USERS TO DELETE UNREAD MAIL MESSAGES.

THIS IS AN ORGANIZATION ISSUE, NOT A TECHNICAL ISSUE. WE ARE UNLIKELY TO IMPLEMENT THIS FOR SECURITY REASONS. ARCHIVING WILL ALLOW FILES TO BE OFFLOADED TO INCREASE PERFORMANCE.

#3— 358

288020 *When printing a document, "from" and "to" pages (via PG) should NOT be saved. The "from" and "to" should automatically be reset to 1 and 0 after printing.*

GOOD SUGGESTION. THIS ITEM IS ON OUR FUTURE REQUIREMENTS LIST, AND WE ARE EXAMINING THE IMPLICATIONS OF INCLUDING IT IN A FUTURE RELEASE.

#4— 342

188016 *Provide File Cabinet Access Management, similar to Calendar Access Management. The authorized user would need the ability to review the documents in another's file cabinet, unless they are marked as confidential.*

WE RECOGNIZE THE IMPORTANCE OF THIS REQUIREMENT AND ARE CONSIDERING IT FOR INCLUSION IN A FUTURE RELEASE.

#5— 265

188035 *Provide WYSIWYG, multi-column editing and column cut and paste.*

A WORKING PROTOTYPE OF WYSISYG COLUMN CUT AND PASTE IS NOW DEMONSTRABLE IN THE EXHIBIT HALL. MULTI-COLUMN WYSIWYG EDITING IS ON OUR LIST OF DESIRABLE FUNCTIONALITY AND IS SERIOUSLY BEING CONSIDERED FOR INCLUSION IN A FUTURE RELEASE.

#6— 250

288012 *Save the default print settings in Electronic Mail messages, rather than forcing the user to set them each time. Given the method that Digital has chosen for managing mail messages (maintaining one copy regardless of the number of recipients), print settings should be maintained on a per user basis, rather than on a per document basis. Print settings may differ based upon the type of printer used by individual departments, and print settings that are appropriate for the LN03 may be very different from those appropriate for the LA100. Forcing the recipient to use the sender's print settings for the message is inconsistent with the All-In-1 concept of flexibility as well as with the print facilities available for Word Processing documents. A user cannot be expected to remember which documents were created with Electronic Mail and which with Word Processing.*

GOOD SUGGESTION. WE ARE STUDYING ALL-IN-1 FOR THE REQUIREMENTS OF IMPLEMENTING THIS FUNCTION IN A FUTURE RELEASE. WPS WILL PROBABLY RETAIN THE DOCUMENT PRINT SETTING.

#7— 249

387013 *When deleting an ALL-IN-1 user, the entries in PENDING.DAT and MEETING.DAT should also be deleted.*

A WORKING PROTOTYPE NOW DEMONSTRABLE IN THE EXHIBIT HALL WILL REMOVE REFERENCES TO THE USER FROM THE PENDING.DAT AND MEETING.DAT AS WELL AS THE CALACCESS.DAT AND ATTENDEE.DAT FILES.

THE VMS ACCOUNT CAN BE DELETED WHEN THE ALL-IN-1 ACCOUNT HAS BEEN DELETED.

#8— 235

188008 *When using the GOLD-A function for printing, allow the selection of multiple non-consecutive pages, e.g. pages 3, 6, and 9.*

WE RECOGNIZE THE IMPORTANCE OF THIS REQUIREMENT AND ARE CONSIDERING IT FOR INCLUSION IN A FUTURE RELEASE.

#9— 230

487030 *Provide a status line for cursor position and insert/overstrike status.*

A WORKING PROTOTYPE NOW DEMONSTRABLE IN THE EXHIBIT HALL PROVIDES THE OPTION OF HAVING A STATUS LINE DISPLAYED WHICH WILL INDICATE CURSOR POSTION AND INSERT/OVERSTIKE STATUS.

#9— 230

288018 *Include an Insert/Overstrike key.*

AN <INSERT/OVERSTRIKE> KEY WILL BE PROVIDED WHICH TOGGLES THE EDITOR BETWEEN THESE MODES.
A WORKING PROTOTYPE OF THIS FUNCTION IS NOW DEMONSTRABLE IN THE EXHIBIT HALL.

#11-192

487007 *Provide a tape backup and restore facility for all documents in one ALL-IN-1 folder.*

A WORKING PROTOTYPE NOW DEMONSTRABLE IN THE EXHIBIT HALL HAS ADDED AN ARCHIVING FUNCTION WHICH WILL ALLOW BACKUP/RESTORE FROM TAPE.

#12— 187

387006 *Provide TPU support.*

WE RECOGNIZE THIS AS AN IMPORTANT REQUIREMENT AND ARE STUDYING WHAT IT WOULD TAKE TO IMPLEMENT.

#13— 182

188036 *Provide a key for toggling the status line in and out, such that once it is toggled on it will remain displayed until it is toggled off.*

IN A WORKING PROTOTYPE NOW DEMONSTRABLE IN THE EXHIBIT HALL, <GOLD> Z WILL TOGGLE THE STATUS LINE DISPLAY ON AND OFF.

#14— 176

487035 *Provide multiple paste buffers.*

THIS ITEM IS ON OUR FUTURE REQUIREMENTS LIST, AND IS UNDER CONSIDERATION FOR INCLUSION IN A FUTURE RELEASE.

#15— 173

188001 *When transferring a User, the PERSONAL.LGP (used by Spell Check) should also be transferred.*

THIS ITEM IS HIGH ON OUR PRIORITY LIST OF DESIRABLE FUNCTIONALITY AND WILL BE SERIOUSLY CONSIDERED FOR INCLUSION IN A FUTURE RELEASE. FOR A DEMONSTRATION OF A WORKING PROTOTYPE OF THIS FUNCTION, VISIT THE EXHIBIT HALL.

#16— 167

387019 Provide a Multiple Delete/Purge option for Action Items, Reminders and To Do's, similar to the facility in Meetings and Appointments.

A WORKING PROTOTYPE NOW DEMONSTRABLE IN THE EXHIBIT HALL WILL ALLOW MULTIPLE DELETION OF TIME MANAGEMENT TASKS.

#17— 162

188002 *Provide the ability to edit the Spell Check dictionary. Personal dictionaries should not include the company name and company specific terms; they should reside in the main dictionary. Also, it would be desirable to remove some words from the dictionary.*

GOOD SUGGESTION FOR PERSONAL DICTIONARIES. THE MAIN DICTIONARY HAS A LEXICON WITHIN. SPELL CHECKER IS COPYRIGHTED BY HOUGHTON MIFFLIN CO. WE ARE CONSIDERING THIS ITEM FOR INCLUSION IN A FUTURE RELEASE.

#18— 160

188009 *Allow users to control their print jobs when they are queued to a shared printer, similar to the DECmate facility STOP Printer that is used for a dedicated printer.*

PRINT CONTROL MANAGEMENT IS BEING STRONGLY EXAMINED. THIS ITEM WILL BE SERIOUSLY CONSIDERED FOR INCLUSION IN A FUTURE RELEASE.

#19— 150

387005 *Expand the length of the Nickname Management name field so that it can be used to assist in accessing public networks.*

GOOD SUGGESTION. WE RECOGNIZE THIS AS AN IMPORTANT REQUIREMENT AND ARE STUDYING WHAT IT WOULD TAKE TO IMPLEMENT.

#20— 149

288017 *DO NOT expand the Distribution List; leave it as it is entered rather than displaying the users on the list.*

THIS FUNCTION IS AVAILABLE NOW. THE SYSTEM MANAGER SETS THE LIMIT FOR THE DISTRIBUTION LIST. YOU CAN SHOW THE DISTRIBUTION LIST WITH THE SH COMMAND. WE ARE UNLIKELY TO DISPLAY THE DISTRIBUTION LIST NAME.

#21— 148

188037 *Allow WPS-Plus to support proportional fonts.*

THIS ITEM IS ON OUR FUTURE REQUIREMENTS LIST AND IS SERIOUSLY BEING CONSIDERED FOR INCLUSION IN A FUTURE RELEASE.

#22— 141

487041 *Provide a facility for automatically creating an Index for a document.*

INDEX CREATION IS SUPPORTED BY THE WORKING PROTOTYPE NOW BEING DEMONSTRATED IN THE EXHIBIT HALL.

#23— 135

387007 *Provide a statistical analysis that would allow the system manager to monitor ALL-IN-1 user activity.*

A WORKING PROTOTYPE NOW DEMONSTRABLE IN THE EXHIBIT HALL HAS ADDED A METERING FUNCTION WHICH WILL ALLOW SYSTEM MANAGERS OR APPLICATION DEVELOPERS TO RECORD INFORMATION ON

. NUMBER OF TIMES METERING IS CALLED
. CPU USAGE
. DIRECT I/O
. BUFFERED I/O
. PAGE FAULTS
. APPLICATION SPECIFIC METERED RESOURCES

#24— 135

188013 *Provide a higher grouping of documents than folders, similar to the DRAWER facility on WPS-Plus/DOS.*

THIS ITEM IS STRONGLY BEING CONSIDERED FOR INCLUSION IN A FUTURE RELEASE.

#25— 130

188032 *Automatically alphabetize Distribution Lists after any changes or entries are made.*

SORTING OF DISTRIBUTION LISTS IS UNDER CONSIDERATION FOR INCLUSION IN A FUTURE RELEASE. A NUMBER OF SORTS ARE AVAILABLE NOW.

#25— 130

287062 *WPS-Plus does not require a Right margin when rulers are defined; a Right margin should be required. This is inconsistent with the other WPS products and can cause problems when editing the document.*

THERE IS NO WAY TO DETERMINE IN AN UNRULERED DOCUMENT BEING TRANSFERRED TO WPS+ WHERE TO PUT THE RULER. THIS ITEM IS UNLIKELY TO BE INCLUDED IN A FUTURE RELEASE.

#27— 126

188039 *Provide dual tray sheet feeders (with envelopeÿé capabilities) on LN03 laser printers.*

WE ARE SERIOUSLY CONSIDERING PROVIDING A PRODUCT HAVING THIS FEATURE IN THE FUTURE.

#28— 125

287061 *Allow WPS-Plus to support the escape <ESC> character, as EDT does; this would implicitly allow users to support their own non-Digital printers.*

<ESC> SEQUENCES CAN BE INSERTED IN PRINT TABLES TO SUPPORT FOREIGN PRINTERS. THEY ARE NOT NEEDED IN THE DOCUMENT; THEY HAVE TO BE IN THE PRINTER TABLES, INCLUDING THE FOREIGN PRINTERS SUPPORTED.

#29— 124

387025 The Gold-Get facility of WPS-Plus/All-In-1 should retain the rulers of an E-mail message.

IF YOU SHIP THE WPS DOCUMENT AS AN ATTACHMENT, THE RULERS ARE SAVED. IF NOT, THE DOCUMENT COMES AS AN ASCII FILE.

#30— 118

187021 *In WPS-Plus List Processing, provide the ability to use multiple forms*

GOOD SUGGESTION. THIS ITEM WILL BE CONSIDERED FOR INCLUSION IN A FUTURE RELEASE.

#30— 118

188015 Allow users to Read a shared document without having to make a copy of it and without the System Manager having to establish different VMS file protections or ACLs.

WE RECOGNIZE THE IMPORTANCE OF THIS REQUIREMENT AND ARE CONSIDERING IT FOR INCLUSION IN A FUTURE RELEASE.

#32— 117

188012 *Provide the same LN03 capabilities on All-In-1/WPS-Plus as on the DECmate.*

WE RECOGNIZE THE IMPORTANCE OF THIS REQUIREMENT AND ARE CONSIDERING IT FOR INCLUSION IN A FUTURE RELEASE.

#32— 117

387027 *Increase the amount of information provided by the Message Router Manager Utility about mail messages, e.g. name of sender, name of receiver, etc., in order to simplify problem tracking and resolution.*

GOOD SUGGESTION. WE RECOGNIZE THE IMPORTANCE OF THIS REQUIREMENT AND ARE CONSIDERING IT FOR INCLUSION IN A FUTURE RELEASE.

#34— 116

387016 *Provide a Speed Read facility that allows you to Read New Mail messages, but does not return to the E-mail menu after reading each mail message.*

A WORKING PROTOTYPE NOW DEMONSTRABLE IN THE EXHIBIT HALL WILL ALLOW THE USER TO SELECT MULTIPLE MAIL MESSAGES TO READ AND HAVE THEM READ CONTINUOUSLY ONE AFTER ANOTHER WITHOUT HAVING TO EXIT TO THE E-MAIL MENU AFTER EACH MAIL MESSAGE HAS BEEN READ.

#35— 115

188017 *Provide a method to execute List Processing in batch mode in order to minimize the impact on system performance.*

GOOD SUGGESTION. WE RECOGNIZE THE IMPORTANCE OF THIS REQUIREMENT AND ARE CONSIDERING IT FOR INCLUSION IN A FUTURE RELEASE.

TIME TO VOTE!

Edward L. Bowen, BellSouth Services

-

Once again, it's time to vote on the SIR's! The System Improvement Request (SIR) Process provides us, Digital users, with a mechanism to help guide the development of Digital's Office Automation (OA) products. SIR's are submitted by you and then prioritized through a tally of your votes on the SIR's. It is this prioritized list that Digital will review in order to prepare their response, which will be given at the OA Wish List Session in Anahiem. For those of you not attending the symposium, you'll find the response printed in the OA SIG Newsletter after symposium.

In order to give Digital an adequate amount of time to form their response, you need to vote TODAY! Any ballots received after Sept. 3 cannot be counted. You'll find the ballot in the "tear-out" section at the end of the newsletter.

The list of SIR's was compiled from three sources: completed SIR forms (like the one in the "tear-out" section at the end of the Newsletter); wishes submitted at the OA Wish List session during symposium; and, SIR's to which Digital has not yet made response but which received votes during a prior ballot. **Unfortunately the conference center in cinncinati misplaced the wish list session recording. Some notes** were taken, so some of the wishes were transcribed into SIR's. If you made a request during the wish list session that did not appear as a SIR, Please be reassured that action will be taken to insure it doesn't happen again.

The SIR's are grouped below by category, to simplify your review. You have 100 points to allocate among the SIR's on the ballot, although you may not give any one SIR more than 10 points. You may assign the point values in either a positive or negative sense: a high positive value would strongly encourage change, and a low negative value would discourage the change. For example, if the positive points total 80 and the negative points total 20, the allowed 100 points have been fully utilized. Remember, only one ballot per DECUS member will be accepted!

ALL-IN-1: GENERAL ENHANCEMENTS AND CAPABILITIES

488037 File Cabinet Sharing was addressed by Digital at the last symposium but the overwhelming request still arriving, mandated that I submit it for balloting once again. File Cabinet Access Management similar to the current Calendar Access Management has been suggested as a means to provide this.

185002 Provide the capability for system-wide nicknames.

185025 Provide better integration of ALL-IN-1 with the following products: DECslide, DECgraph, and DECalc.

385013 Provide improved security and protection features for ALL-IN-1, something on the order of allowing users to see the menus and the selections on them, but not be able to execute the individual functions unless they have been authorized to do so.

485058 Document header formats should be identical for ALL-IN-1, PCs, and DECmates so that a document transfer will retain keywords, subject, author, etc.

486013 ALL-IN-1 should support the IBM PC/XT/AT printer port; i.e. the user should be able to select PORT IBM like PORT LA50 can be selected.

187003 Provide updates to the ALL-IN-1 documentation kits from version to version, rather than complete new documentation kits.

187007 Provide ALL-IN-1 Error Message Documentation on DSIN.

387001 Have the print formatter recognize and correctly interpret the special print characteristics embedded in COBOL/FORTRAN generated print files.

487001 Allow the user to "blank out" the ALL-IN-1 screen via one or two keystrokes.

487002 Digital should establish a corporate philosophy that all software will require the same keystrokes to perform similar functions, and establish and publish a User Interface Standard.

188003 Enhance Personal Dictionary support to provide an automated "fix" facility for correcting corrupted or "broken" files or dictionaries.

188004 Provide system dictionary's targeted for the medical or engineering industry.

188005 When programs that were obtained from the [illegible] library are updated for compatibility with new ALL-IN-1 versions, they should be made available at no charge to companies where they are installed.

188006 Implement a corporate wide policy regarding pricing of ASSETS library programs. There is a significantly wide spread in pricing across the United States.

188007 Allow the user to control which "system" printer PAPER MAIL is to be printed on and/or allow the user to specify that PAPER MAIL is to be printed to the "bit bucket".

188010 Provide direct support of Postscript from ALL-IN-1 and WPS-Plus without having to go through a translator.

188011 When printing documents that are wider than the printer will accommodate, the document should be automatically broken into segments with each segment printing in full before the next segment prints so that the user can easily reassemble it.

188018 Provide a convenient way of handling foreign (non All-In-1) documents at the receiving end after they have been mailed.

188019 Provide the capability for system-wide UDPs.

188020 Provide a "distributed" All-In-1. This system would include an IBM-Generator kit so that All-In-1 and any company-developed All-In-1 customization could be down-loaded into an IBM PC/AT or IBM PS/2. A great deal of the functionality (more than just Word Processing) would reside on the PC; it would be transparent to the user as to which functions executed on the PC and which required access to the VAX.

188021 Make a major program announcement as to the relationship between DECWindows and All-In-1.

288001 When creating a document or changing a document title, any word in the title should be entered as a keyword for that document.

288002 Validate the Username when it is entered in the Nickname Management Subsystem, rather than letting validation occur when the nickname is used.

288003 Provide an option that allows the user to turn off (or on) terminal output while a UDP is processing.

288004 Provide a menu option for mailing UDPs and for filing UDPs received via the Electronic Mail Subsystem.

488005 Expand the UDP process to allow, user interaction, conditional statements and branch statements.

488010 We should be able to selectively build ALL-IN-1 to contain only those Functions/portions/ pieces that we require for our environment.

488011 Provide a method for a VMS event to interrupt the ALL-IN-1 context to perform a series of ALL-IN-1 activities, such as watchdog filing users documents before killing his process.

488012 Provide a "call out " method for ALL-IN-1 giving subscribers the ability to access and pass ALL-IN-1 symbols to anything that subscribes to the Vax calling standard.

488013 Provide a parsing function at least as versatile as the DCL functions F$LOCATE, F$LENGTH, and F$EDIT.

488014 The SET VMS PASSWORD screen exists to the previous screen after a error occurs with a message too brief to read.

488015 When using RFD, the system should default back to the folder you are refilling from, not the folder you are filing to.

488016 The RS(restore saved setting) and PG, options should take effect without having to print the document.

488017 Provide a method for storing settings similar to rulers that would paginate and number the pages of a document when it is filed.

488018 Provide a manual feed option for the LN03 so forms or letter head can be changed, rather than make two trips to the printer.

488019 Provide a Edit/Read option available within list processing.

488020 Provide a List processing facility that is easier to set up, more streamlined.

488030 Provide the ability and support for system wide shared dictionary.

488031 Allow the output of list processing to be sent directly to the printer.

488032 Provide a grammar/usage checker similar to the spell checker.

488033 Increase the maximum number of lines allowed in document from 32760.

488034 Enhance the Gold-Get to allow you to extract a portion of a document rather than get the whole document.

488035 Provide more flexibility on the date format allowing you to change/specify the date such as June 15,1988.

ALL-IN-1: SYSTEM AND SYSTEM MANAGER FUNCTIONS

485016 Provide a function (OA$SYM-DELETE) to delete symbols from the permanent symbol table.

486008 Provide the ability to run ALL-IN-1 user main processes at a higher priority (than other users), while any ALL-IN-1 user sub-processes would run at the normal (default) priority.

187008 Provide an ALL-IN-1 Guide to Development for new ALL-IN-1'ers.

287001 Provide a script function that is equivalent to a PASCAL "case" statement.

287014 Provide technical ALL-IN-1 Training, *ANYWHERE* (Ed. Services, DECUS, etc.)! It should consist of Introduction to Scripts, Intermediate Scripts, Advanced Scripts, etc.

387011 For sites running non-homogeneous clusters, provide a facility (for use by the ALL-IN-1 manager) that allows mail messages that have been delivered to the wrong node to be redirected.

387012 Allow the Carpenter facility to run on a subset of the ALL-IN-1 system, e.g. on a crashed disk, so that the system can be restored quickly, rather than taking the many hours required to rebuild the entire system.

487006 Provide menu-driven system administration functions (such as backup, queue management, etc.) for non-technical VAX environments, similar to A-Z Systems.

188022 Enhance the FVR System Management function to operate off a selection list.

188023 Document, explain, and include the All-In-1 install procedure in the distribution kit of any other layered product interfacing with All-In-1, i.e. VAXNotes.

188024 Provide procedures outside of All-In-1 that will convert WPS-Plus documents to ASCII text files. Currently, a system logical will do this for documents handled by the Message Route, but it converts the document to text regardless of whether or not the destination node/user is running All-In-1; there needs to be better method than a system logical. A callable procedure that allows the system manager to customize the system to do the conversion outside All-In-1 before it reaches the Message Router would be an acceptable work-around.

188025 Provide a System Management function that allows purging of Mail Box folders for all users, i.e. file it or lose it.

188026 Include an All-In-1/.WPS-Plus LOGIN.COM file in each VMS kit (major or minor release) that will reflect the changes necessary for compatibility with the new VMS version.

188027 Provide a re-build procedure that will convert WPS-Plus documents from the inefficient state they reach after heavy editing back into an efficient state. This procedure should operate off a selection list so that it can be specific to a document, all documents in a folder(s) or file cabinet, all documents for selected users, or all documents on the system.

188028 Provide a Customization Management facility that accommodates customization to the All-In-1 system without changing users' OAINI.COM or USER.FLB and without having to add multiple form library names to the users' profile.

188029 When using All-In-1 to develop applications requiring file access, only one user can access the file at a time. All-In-1 should handle record locking, as it did in V1.x.

288006 State VAX CPU performance claims/estimates in office terms rather than in terms of concurrent users. For example, indicate how many users a CPU will support if they are typing at 70 words a minute and using Word Processing or Electronic Mail.

288007 Provide reporting facilities where the system manager can select messages by time created and have displayed the users attached, or select messages by title (or partial title) and have displayed the users attached.

288008 Allow node specific ports to be added when defining computer lines, e.g. nodename::TXA1. This is especially important in a VAXCluster with load balancing implemented — the user doesn't know if he's on the same machine as the dial-out modem.

288009 Make the WPS-Plus editor callable rather than linked with All-In-1. If it were a callable image users could build their own shell with just the features that they wanted or needed.

288010 Provide system services or programmer facilities to access and manipulate WPS-Plus files, the All-In-1 file cabinet, etc. from high level languages such as C.

288011 Entry form scrolled regions should be more accessible. Currently when developing All-In-1 application entry forms with scrolled regions, it is difficult and messy to combine the scroll data file with the entry form data file.

ALL-IN-1: ELECTRONIC MESSAGING

485001 Provide some kind of audit trail, notification to a user or duplicate messages indicating that something was sent to him and auto-forwarded.

386023 Provide the ability to request Return Receipts from selected users, rather than all recipients of a mail message.

486001 Provide a user-selectable default for Received Receipts and Read Receipts; currently, NO is the default and YES must be selected on a per document basis.

187026 When Spell Check is selected from Electronic Messaging (EM), ensure that it returns to the EM menu, not Word Processing.

287018 Expand the Current Item Block to include the name of the sender of the message.

287020 Allow messages to be deleted before they have been read.

287021 Expand the mail header on "answer" messages to include a reference to the title of the document being answered.

387014 Provide the ability to mail spreadsheets and executable images (binary files).

487008 For the ANSWER function, Paper Mail recipients should be identified by name, not just "Paper Mail".

487009 The recipient of a message should be notified as to who sent the message and that a Return Receipt was requested. The recipient should then have the option of *not* reading the message at that time, so that the Return Receipt will not be generated until it is read.

188030 Allow for the use of Next Screen and Previous Screen keys and allow "search" capabilities when executing the Read New function.

188031 After Reading a new mail message, automatically display a Delete Message prompt with the default set as "no".

288013 Allow Distribution Lists to be created from an ASCII file of valid addresses. Currently, Distribution Lists must be created by manually entering each username.

288014 Provide a function that allows a user to "recall" a message, if none of the addressees have read it.

288015 Provide an alarm facility that will notify the user if there are any mail messages in the CREATED folder over "x" days (or perhaps 48 hours) old. This will minimize the number of times users create mail messages and forget to send them.

288016 Allow keywords to be added to a mail message AFTER it has been filed. Currently, keywords cannot be changed in the UPDATE function.

488001 Provide the ability to edit existing distribution lists.

488002 Allow the users to selectively see the distribution list, in list name or expanded.

488003 Validate the electronic mail addressee when it is entered instead of asking for paper copies after it is sent.

488004 Provide the ability to read and answer VMS mail messages from within ALL-IN-1 without having to import them from VMS.

ALL-IN-1: TIME MANAGEMENT

287026 All Time Management facilities should use the same entry screen. This would be consistent with a user having a single calendar page for a day.

287029 In Time Management To Do Lists, provide the ability to print and view the items in priority sequence.

387020 Allow Calendar Access (i.e. Management, Two Calendar Access, Meetings) to work across nodes. (Note: Multiple nodes, connected via DECnet, can be located in the same building.)

487014 If an appointment is scheduled within the bounds of the hours specified in the user profile, the AM or PM notation should be optional, e.g., from 8 to 12 should assume 8AM to 12PM.

487015 Replace the Display Events and Print functions for Weeks and Months Schedule with something more similar in format to the Days Schedule. And, rather than have three menu entries (day, week, and month) have a single menu entry that allows the user to specify the number of days to list.

487016 On the Advanced Calendar display, the selected appointment should be highlighted so the user can easily see which appointment would be edited, deleted, etc.

487017 In the Advanced Calendar function, instead of using the SEL function, the user should be able to position the cursor on the appointment to be operated on and then press the desired function, such as D (delete) or E (edit).

487020 Prior to scheduling a meeting, a check of the attendees calendars should be made to ensure that they don't already have an activity scheduled.

487023 Eliminate the To Do function as it is too similar to the Action Item and Reminder functions.

487029 Add a 'tentative meeting scheduled' status. This should appear on the user's calendar until an attendee accepts or declines the invitation to a meeting. (This should also appear when the SCAN function is used.) If the meeting scheduler cancels a meeting, the 'tentative meeting scheduled' status should be removed.

188033 When Scheduling a Meeting, automatically look for a free time slot for the scheduler and those attendees on the local VAX or on the VAXCluster. For attendees on remote VAXes, just send the message for the meeting just scheduled.

488006 Allow combined calendars for ALL-IN-1 accounts so a secretary can print a weeks schedule and see everyone appointments and meetings.

488007 Provide the ability to schedule appointments for multiple days at a time, such as scheduling vacation time.

488008 Expand the set owner capability to allow a secretary to respond to meeting requests for her boss.

WPS-PLUS: GENERAL

385033 Provide better journaling in WPS-Plus so that a little bit more of the document is left when the system crashes and comes back.

485049 Allow all PC's to transfer files and WPS documents to ALL-IN-1, Rainbow and P/OS, as part of user-friendly application.

485056 Enable DECmates, Rainbows, PRO's and anything else running WPS-Plus to directly exchange documents.

287030 The location of the NEW PAGE marker should be consistent in List Processing Form Documents. Currently, the location differs between DECmate WPS and WPS-Plus/VMS documents.

287063 The Index function in WPS-Plus/VMS should display the VMS file specification for each document.

287064 The Index function in WPS-Plus/VMS should display the VMS file size (in blocks).

387022 In WPS-Plus, when the user moves past the bottom or top of the document, "any key" must be pressed in order to continue. Change the function to recognize any Gold-key or arrow sequence as alternatives to the "any key to continue".

387024 Make the Footnote Editor work the same as WPS-Plus, in terms of size, editing features, etc.

387026 Make WPS-Plus/All-In-1 display text correctly when Mail Notify and Broadcast Messages are received.

487032 Provide a small reference card that can be placed next to the terminal to prompt the user on commonly used functions.

487037 Provide a Widow/Orphan option.

487039 Allow editing to occur in View mode.

487040 Provide for auto-hyphenation.

487042 Provide a facility for automatically creating a Table of Contents for a document.

487046 Current Text Size should automatically be adjusted according to the document's page size and top and bottom margins. Or, the Current Text Size should be located on the Print menu instead of the Editor's menu.

487049 Change the status so that the line number of each page is displayed when scrolling backwards.

487053 Provide a statistical column layout feature.

487054 Allow for automatic column centering for column headings.

487056 When printing, allow several non-consecutive pages of a document to be queued at the same time.

188034 Provide a column facility in WPS-Plus.

288019 Retain the last specified search phrase when exiting from a document so that it can be used for the next document — just as the paste buffer is managed.

488021 When the ruler is changed or text is inserted or deleted the document should automatically reformat.

488022 The current ruler should be displayed on the screen at all times.

488023 Provide the ability to sort a selected area of a document.

488025 Display Superscripts and Postscripts at their respective places.

488026 Toggle word wrapping on and off so it doesn't interfere with the editing of a document, or leave it on continuously so it is done when characters are inserted or deleted.

488027 Provide a punctuation usage checker.

488028 Expand control block commands such that users can modify print settings(margins, lines per page) within the document.

488029 Provide a journal file so that work is not lost when the system crashes, power fails or watchdog bites.

488036 Provide proportional spacing key within WPS.

WORD PROCESSING: WPS-Plus/DOS

486023 WPS-Plus/PC should be more like WPS/DECmate — there are differences in the user interface, keystrokes and functionality.

287037 Provide the ability for print functions to occur in the background.

287039 Provide support for Overstrike Mode, rather than just Insert Mode.

287049 Develop a "hot-key" to DOS to allow simple DOS commands to be executed without exiting WPS-Plus/PC.

188038 Have WPS-Plus/DOS support the Toshiba keyboard.

488024 Provide a better and easier way to import ASCII files.

MISCELLANEOUS

386065 The LN03 should not produce controller errors every time pages that are more than 90 characters wide are sent to it.

OA SIG TAPE: A CALL FOR SUBMISSIONS

Roger E. Bruner, OA SIG Tape Coordinator

Now that we're back from Cincinnati and excited about what's on the current OA SIG TAPE, it's time to start getting things together for the next (post-Anaheim) tape!

What was very apparent from talking to some of you in Cincinnati is that a number of our SIG members have done some nifty things which would benefit the rest of us tremendously! However, there seems to be some hesitation to submit these things to a tape and a general feeling of "Aw, this isn't very fancy or very complex, and I can't see how anyone could possible benefit from it."

Everyone knows something that would likely benefit someone else. That's one reason we're in the OA SIG: to share. What better way to do so than through the tape?

To encourage your participation, let me outline some possible types of things you might not have thought of for the tape:

(1) UDP's which do a job many folks would like help in doing (very repetitious or error-prone procedure when done manually)

(2) UDP's which serve as an example of what can be done (e.g., I am encouraging one of our USERS to enter a UDP she wrote which uses the TPU to move a train across the screen, simulating animation — that *concept* might be just what someone else needs even though the example itself is only "cute")

(3) Documentation of procedures (either technical or user-oriented) which have worked well at your site

(4) Articles which have been published in the DECUS newsletter or elsewhere

(5) Printer tables, especially for non-DIGITAL printers

(6) Modifications to ALL-IN-1

(7) ALL-IN-1 applications

(8) Utility procedures for ALL-IN-1 Managers (e.g., we have command procedures for compiling/installing MEMRES, OAFORM, and the TXL — apparently a number of SIG members had never thought of automating those procedures)

This list is certainly not complete, but it should give you an idea of SOME of the things which might be useful to submit to the tape.

Please refer to the separate article about how to submit your work to the SIG Tape. The deadline will be announced later, but I suspect we will be accepting submissions until just after the Fall SYMPOSIUM in Annaheim.

Don't forget that you can get the latest tape either through the DECUS library or through your local LUG!

HOW TO SUBMIT ITEMS FOR SIG TAPE

A DECUS symposium swap tape is a collection of software contributed by the members of a SIG which is assembled by a SIG volunteer tape coordinator and distributed to individual DECUS Members by the National LUG Council through the DECUS U.S. Chapter Local User Group Structure. The SIG Swap Tape's purpose is to serve as a vehicle to allow DECUS members to share software.

Contributions are by no means limited to those at symposia. They can be sent directly to the volunteer tape coordinator. Usually it is convenient to use the symposium to serve as focal point for the effort since there are so many users together at once.

If you would like to contribute to the Swap Tape, there are several guidelines to keep in mind.

- The tape should be made in VAX/VMS BACKUP format, at a density that is acceptable to the tape coordinator (usually 1600 BPI).
- Each submission should be in a separate "save set" that is made up of whatever files relate to that submission and a README file that briefly describes what the submission is. Typically, the README file is named "AAAREADME.TXT" so that it can be easily located in a directory listing of the tape. In submissions where there are many parts to the submission, each "piece" of the submission should have it own subdirectory as well.
- Each submission must include a DECUS PROGRAM LIBRARY Submittal Form. These forms are available through by contracting me at the address listed below. Processing of your submission will be delayed if this form is not completed.

Remember, you are not limited to the number of items you submit. Of course, no previously copyrighted work, commercially available product, or Digital layered software should be included in your submissions.

Please bring your submissions with you to the Fall Symposium in Anaheim or send them directly to me at the address listed below. They must be received by February 29, 1988, to be included.

Robert E. Bruner, Volunteer OA Tape Coordinator
MIO
Foreign Mission Board
3806 Monument Ave.
P.O. Box 6767
Richmond, VA 23230

PERSONAL COMPUTER

SPECIAL INTEREST GROUP

PC

NEWSLETTER

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A USER'S VIEW OF INTERLEAF'S ELECTRONIC PUBLISHING SOFTWARE

By Mark Sebern Sebern Engineering Inc. P. O. Box 268 Cedarburg, WI 53012 (414) 375-2200

Introduction

Interleaf's electronic publishing software, which runs on Digital's VAXstations, is growing in popularity. It is powerful and sophisticated, yet easy to use, providing integrated layout of text and graphics. It's hard not to be impressed by an Interleaf demonstration given by a skilled user. Still, not everything you want to know can be learned from a demo. The purpose of this article, based on a session from the Cincinnati Symposium, is to present one user's experience with Interleaf.

There are actually a number of different Interleaf products. The primary package is known as TPS (Technical Publishing System), and consists of a core package plus a number of add-on options. A reduced functionality package, known as WPS (Workstation Publishing Software), is available at lower cost. WPS is also referred to as IWPS (Interleaf WPS) to avoid confusion with DEC's word processing software product. This article will not describe the various options in detail, since that information is readily available from the vendor. It should be noted, however, that the WPS product is priced as a viable alternative even for the user who views a VAXstation as a personal computer and has a limited software budget.

Environment

Any evaluation will likely be influenced by the specific characteristics of the system in use. This evaluation is based on about nine months of experience with Interleaf WPS version 2.5.29, running on a color VAXstation II/GPX with dual RD54's, a TK50, and 16 Mb of memory. Output is to an LN03R Scriptprinter interfaced via a DHQ11 port. Applications include proposal generation, software manuals, electronic hardware documentation, and routine correspondence and reports.

Installation

I initially had a little trouble taking delivery of the Interleaf software, perhaps because of the volume of orders. Luckily the end of the fiscal quarter was near, and the software soon arrived by express air freight. Each copy of WPS is locked to a specific VAXstation, using the ROM on the Ethernet interface for identification. It installed easily using the standard VMSINSTAL procedure. The instructions are fairly clear, though they recommend modifying SYSGEN parameters using

SYSGEN itself, rather than AUTOGEN and MODPARAMS.DAT, which would be preferable. If you want to run a VAXstation dedicated to Interleaf, the instructions should be sufficient. If you are running other applications (with other parameter requirements), some knowledge of SYSGEN parameters would be helpful. The installation manual doesn't assume much VMS knowledge, and even explains the EDT editor and how to set up user accounts.

PIRACY PROTECTION. To "unlock" the software, you must call Interleaf's Password Center, and give them a number of pieces of information, including the VAXstation's Ethernet address. They then give you a password to be entered into the system. If you miss your first chance to enter it, you may have to manually enter the password in a file. In my particular configuration, the password file is:

SYS$SYSROOT:[IWPSLIB]IWPSPW_2_5_29_GPX1.DAT.

The "GPX1" part comes from the node name of the VAXstation. Once the password has been entered, you can forget about it unless the disk crashes or the file gets deleted. In general, I don't care for piracy protection, but this method is less unpleasant than some others.

PRINTER SETUP. I did find the printer setup a little confusing. WPS installs its own print queue and symbiont, which may directly drive the printer or may dump its output into another queue, such as a Postscript queue in the Scriptprinter support software. After a few false starts, I did get everything set up OK.

INITIAL FILE SETUP. When you run WPS for the first time, it creates a "desktop" for you, in a subdirectory tree. A good number of sample, demo, library, and tutorial documents are included.

Scriptprinter Software and Interfacing - A Digression

I first installed the LN03R directly on the VAXstation console port (CSA0:) using the normal VMS print symbiont (not the Scriptprinter software). It seemed to work well at both 4800 and 9600 baud. However, I was unable to print ASCII files, since the LN03R understands only Postscript.

After "upgrading" to the Scriptprinter software, so that I could print ASCII or LN03 files, I started having problems, especially at data rates above 4800 baud. To make a long story short, I am now running the LN03R and Scriptprinter software successfully at 19200 baud on a DHQ11 port. Further details are available in the March 1988 PC SIG newsletter, page PC-13. This is not really Interleaf's problem at all, but it's one you may run into.

First Experiences

I started out following the tutorial directions, working with documents supplied by Interleaf. After I learned enough to be dangerous, I abandoned the tutorial and started fooling around on my own. In general, that worked out well, as most operations are pretty clear from the menus alone, once you have the basic concepts down.

Documentation

Four manuals are provided with WPS. All are well done. The installation and training manuals have already been mentioned. Also included is a two part reference manual, divided roughly into text and graphics processing. In general, the tables of contents and indices are very useful, but each volume has its own index. So if you pick up the wrong half of the two volume reference manual, you won't be able to find things like the keyboard layout for the symbol character set. The "cookbook" section in the graphics manual is particularly useful.

Support

I have been very pleased with the local Interleaf sales support. Unlike many DEC third party vendors, my Interleaf rep treats me as a real customer, even though I have only a single copy of their low end product. She is knowledgeable about the product and is willing to go elsewhere for answers when necessary. I don't know if this is a local anomaly or a typical example.

Interleaf also provides a telephone support service, for a monthly fee. The first year of software

maintenance is mandatory. I have had little occasion to make use of the telephone support. On the few times I have tried, the quality of response has been a little uneven; in most cases I got the answer I needed, even if it wasn't the one I wanted. When asked about the availability of Postscript fonts, I was referred to the local sales rep.

Some Positives

EASE OF USE. The biggest positive about Interleaf is the power and ease of use of the software. Once you have the basics down, most things are pretty intuitive.

VWS COMPATIBILITY. Interleaf runs within DEC's VWS windowing system, except on low end monochrome systems where it runs in an alternate full screen window. Although Interleaf's default window fills most of the screen, it is possible to switch to another VWS window or to shrink Interleaf to an icon while you do something else.

FILE STRUCTURE. Interleaf uses a hierarchical file structure, which is visually depicted by file cabinets, drawers, folders, and documents. As with other windowing systems, a clipboard allows copying and transferring of information at virtually any granularity, though not as transparently as might be desired. More on this later, under negative features.

IMPORTING TEXT AND GRAPHICS. It is easy to import text or graphics into Interleaf, using supplied or optional filters. WPS comes with filters to import ASCII text, SIXEL graphics, DX (WPS-8 format) documents, and Calcomp 925 and 960 images. TPS can also import MacPaint and MacDraw images, Lotus 1-2-3, and other common formats. Portions of the VAXstation display screen may be easily captured. Raster images (from SIXEL input) tend to take up space and to be slow in printing, but the function works fine when you need it.

Interleaf supports the easy integration of text and graphics. The TPS package even supports microdocuments, formatted chunks of text embedded within graphics frames.

COMPONENTS AND "STYLE SHEETS". Text and graphics frames are organized into components. Each component has its own set of properties. Components with the same user-assigned names inherit the same properties, providing a "style sheet" function, though specifics of even these components may be set individually.

AUTOMATIC CHECKPOINTING. Although Interleaf does not create a journal file in the sense of EDT, it does make periodic checkpoint files if you fail to save your work often enough. It even has an interrupt key which allows you to save your work in the unlikely event that the software gets hung in a loop. I've only had to use that capability once, but it was much appreciated.

DICTIONARY. Hyphenation is done from a dictionary where possible, and can be easily controlled. The spelling checker works well, though it doesn't seem to understand possessives ("'s"). Unlike some other spelling checkers, Interleaf stops at every occurrence of a potentially misspelled word unless you add it to the dictionary, even if you have accepted a previous occurrence. TPS has a spelling correction (not just checking) feature not found in WPS. You may add words to your own dictionary, as well. This works better in TPS than in WPS, where dictionary maintenance is awkward at best. A sometimes useful trick is that you can check the spelling of a single word by asking to see its hyphenation points; a by-product of this request is that Interleaf tells you whether the word is in the dictionary.

PAGE LAYOUT. Page layout details like headers and footers are handled reasonably well, and you have a number of options for the placement of graphics frames. Graphic frames can be small and embedded in text, so in a pinch you can even insert special symbols that way.

MULTI-COLUMN TEXT. TPS (not WPS) includes automatic support of multi-column text, with automatic column balancing. Some components may be set to straddle columns.

AUTOMATIC NUMBERING AND REFERENCING. TPS (not WPS) has an optional autonumbering

and autoreferencing facility. This allows you to sequentially (and hierarchically) number paragraphs or other items. It also means that moving "Figure 8 on page 2" to another page automatically adjusts all references in the body of the text.

LARGE DOCUMENTS. TPS (not WPS) has an optional "book" facility that allows a number of documents to be grouped into a larger entity, with consistent page and figure numbering, etc. Table of contents and index generation are also supported by this option.

GRAPHICS FEATURES. The graphics, or diagramming, subsystem support arcs as well as TPS, but there is a library of arc segments that can be pasted into a drawing. Both grid and gravity alignment can be selected, and are configurable according to your specific needs.

COMPOSITE GRAPHIC OBJECTS. Graphic elements may be grouped hierarchically, allowing the definition and manipulation of composite elements such as logos. Filled polygons and splines are also supported. Each element may have a large number of attributes, and these may be selectively locked against inadvertent modification. This feature also allows the tail of an arrow to be stretched without affecting the shape of the head, etc.

GRAPHIC TECHNIQUES AND CLIP ART. The selection of "clip art" is more limited on WPS than TPS, but is quite useful on both. The documentation includes a cookbook of graphic techniques which is very handy.

CHARTS. A built-in charting facility can generate a variety of bar, line, and pie charts. The data to drive the chart may be cut from a table embedded in the document without retyping. Though I haven't tried it, it should be possible to take data from a PC spreadsheet, import it into the document, and then generate a chart, while leaving the data untouched by human hands.

IMAGES. Raster images can be imported into graphics frames, and "paint" style touchup can be done, though large images can consume disk space and print slowly. I have captured full FMS forms from a VT220 window and then used them as figures in a software manual. Often, though, it makes sense to import the image, "trace" it with the drawing tools, and then delete the original image to save space and printing time.

ISOMETRIC DRAWING AND EQUATIONS. TPS (not WPS) has an optional isometric drawing facility, and drawing components may be easily moved from one plane to another. TPS also supports an optional equation editing package.

Some Negatives

PRINTERLEAF. Although, in my case at least, the ultimate output is on the LN03R, Interleaf does not work in native Postscript. Rather, it generates its own page description language, called Printerleaf. This file must then be converted to Postscript by the Interleaf-supplied print symbiont. The time required for translation can be significant on large documents, and degrades interactive response while the translator is running. Still, it is primarily an annoyance, rather than a functional problem. One related problem is that there is no convenient way I could find to create a Postscript file for later (local or remote) printing.

ON-LINE HELP. Interleaf, in spite of all its pop-up menus, provides no online HELP facility. I missed this a lot at the beginning, and even now would appreciate a context-sensitive HELP function.

TYPE FONT AND SIZE SELECTION. WPS (and even TPS) includes only a limited number of type fonts and sizes, though some additional fonts can be acquired at extra cost. There are times when it seems that 10 point is too small and 12 point is too big, but there is no 11 point font, even though the final Postscript output device would be able to produce it. Macintosh fanatics will be somewhat disappointed in the font selection, though there may be times when our readers are just as glad that their manuals are not done in 18-point outline Hobo.

COMPLEX MENU INTERFACE. Interleaf's basic user interface is a number of hierarchical "slide off" menus. In general, this works well and contributes to ease of use. On some of the more complex menus, though, I keep running out of mouse space. When this happens, it is necessary to pick up and reposition the mouse, while carefully keeping the mouse button depressed. If you let go at the wrong time, an unintended menu selection may well be made. Interleaf does support a number of keyboard equivalents for common menu functions, but I've never been sufficiently motivated to learn them.

LACK OF WORD PROCESSING FEATURES. Since it was designed for large technical documents, Interleaf lacks many features common in more general purpose word processing packages. These include list processing (mail merge), user definable macros, a thesaurus, grammar and usage alerts, etc. These features may not be important to many users, but are missed by those who adopt Interleaf for virtually all document preparation, including routine correspondence and reports.

GRAPHICS FONTS. In the provided fonts, even in graphics frames, the largest available size is 24 points. A set of line and polygon graphics fonts are included; since these are really composites of drawing primitives, they may be sized and filled as desired. The only negative thing is that each letter in the font is a graphics object, and must be individually cut and pasted into the frame. This can be very tedious if very much text is required. It seems that there should be an easier way.

VMS CONVENTIONS. Purists will not like the fact that Interleaf creates file names that contain dollar signs even though they are not system files. The software also creates files with the file type ".DIR" which are NOT true VMS directories.

JOBCTL CRASH BUG. There is a bug in the Interleaf-supplied Postscript translator symbiont. Once you have printed a job on that queue, any attempt to shut down the queue will cause the job controller to crash. On a single user system, this is primarily an annoyance, though you must remember to purge all the copies of JOBCTL.DMP that build up in SYS$SYSTEM.

WPS PRIVATE SPELLING DICTIONARY. In WPS, if you add words to your own private dictionary, they are lost whenever you exit from the desktop. There is a very cumbersome procedure to maintain your own dictionary in a document, but for me it isn't worth the trouble. With TPS, this works much better.

A GRAPHICS BUG. I have run into a bug in the diagramming system when rotating a small, filled, composite object. When I tell it to rotate 90 degrees, the object seems to "bleed" all over the drawing. I have yet to figure out the specific conditions that cause this problem.

EXPORTING DOCUMENTS. Although the need does not arise very often, I have yet to find a convenient way to export text from WPS to other systems. It is quite easy to save a document in ASCII form, but Interleaf's definition of ASCII is really a markup language, with some similarities to Runoff. This means that a fair amount of editing is required after export, if what you really want is only the text of a richly formatted document. To be fair, TPS does include a "strip filter" which does a plain ASCII export.

MOUSE CLICK STYLE. Interleaf (like the Mac) requires you to hold down the mouse button while making a selection, and then release it to take action. This contrasts with VWS's "two click" style; the main problem is when you leave Interleaf, and then can't figure out why VWS won't do what you want (with a single click).

REARRANGING THE DESKTOP. Unlike the Macintosh Finder, you can't drag a document or folder from one folder or cabinet to another. Rather, you must CUT the item to the clipboard, and then PASTE it in at the desired destination.

The Future

I have heard rumors about a multi-lingual version of TPS being released in the United States. Apparently this would be an adaptation of the European product, and would switch menu text as well

as the current character set when another language is selected. I don't know if this product exists or is currently available.

Probably the biggest thing on the horizon is support for DECwindows. A lot of us who are impatiently waiting for DECwindows hope that Interleaf will be ready as soon as DEC is (whenever that might be). Although I have heard no commitments, my belief is that Interleaf is working in this direction.

Overall Evaluation

There is really too much in the Interleaf software to describe, or even comment on, in this limited space. After using WPS for six months, there are still a number of features I have yet to explore fully. At the same time, I was able to become productive with it very quickly. The bottom line is that, despite some negatives, I really do like Interleaf. After a recent price reduction, the WPS product is even more attractive. If Interleaf would do the same for full TPS, the result would be hard to beat.

General Section (PC's, et. al.)

Looking Towards Anaheim
By Jimbo Wilson, PC SIG Symposium Coordinator

The PC SIG has grown considerably since the last few symposia. But due to a space constraint in Anaheim, we may not have much of an increase in session times, and those we have may be scattered over many strange times over all five days. FRIDAY IS PC DAY! Yes that is correct, the PC SIG will present some of the best sessions on Workstations and MACintosh on Friday. Plan now on making your travel arrangements to include Friday as a full day at symposium. You will be pleased with the extra time you spend in Anaheim with the PC SIG.

The exact schedule of sessions that will be offered is now being worked on. By the time you read this, your pre-program will be on its way with the preliminary SAG inside. More information on PC sessions will be available in the September issue of the SIG Newsletter.

Think about volunteering to help the PC SIG in Anaheim. We need to have a session chairperson at every session. Our steering committee always volunteers to chair some sessions, but most of the sessions are chaired by people like you. Volunteering to chair a session guarantees you a seat in a potentially crowded room; allows you to enter the Sunday evening reception a half hour before the general public; earns you a "Volunteer Button" and partial fulfillment towards a volunteer gift (like our "Volunteer Mug"). If you would like to be a session chair, call me at (716) 475-6241 and I will provide you with the necesscary information. Other volunteer help we will need at symposium are: campground volunteers, suite volunteers, and gofers. Call me if you would like more information on any of these jobs.

New Versions of Popular PC Integration Products
By Digital Equipment Corporation

Digital Equipment Corporation introduced significant enhancements to its popular integrated personal computing software, which allows leading industry-standard MS-DOS personal computers to take advantage of Network Applications Support to access information and services on the DECnet/OSI network in May 1988 in Littleton, MA.

Version 2.0 of VAX/VMS Services for MS-DOS software and DECnet for PCs software features greatly enhanced performance. In addition, the new version offers wider configuration support, including support for selected COMPAQ personal computers and support for NETBIOS compatible applications; and enhanced security and system management features.

"Digital's Integrated Personal Computing Products extend the power of DECnet/OSI and VMS to

leading MS-DOS computers -- giving customers a choice of desktop devices from Digital, IBM, and now COMPAQ -- plus all the data, resources and services of an enterprise-wide DECnet network," said Dom LaCava, Manager of Digital's Low End Systems Group.

VAX/VMS SERVICES FOR MS-DOS

Digital's award-winning VAX/VMS Services for MS-DOS software, licensed with DECnet-VAX, allows MS-DOS and VMS users to share files, data and resources over the DECnet/OSI network. Using VAX/VMS Services for MS-DOS, any VAX anywhere on the network can act as a file, disk and print server to groups of personal comptuers.

Greatly Enhanced Performance and Local Area Disk Services

Version 2.0 of VAX/VMS Services for MS-DOS offers approximately 30 percent faster file server performance than the previous versions. In fact, Digital's internal testing shows that the new version is significantly faster than the leading PC LAN products in the industry. The increased speed is achieved in Version 2 by the addition of multi-threading, in which requests from several MS-DOS users can be handled concurrently.

The software performance has also been enhanced by new technology that allows MS-DOS applications, which have no need to be shared by VMS users, to be stored on a portion of a VAX disk, allowing high-speed access to those applications --- speeds comparable to an IBM PC/AT hard disk. With the new Local Area Disk (LAD) server, the VAX system is freed from performing file conversions on files that do not need to be shared with VMS applications.

New Configurations Support

Version 2 of VAX/VMS Services for MS-DOS supports additional personal computer configurations to protect investments customers have already made in personal computer hardware and software.

For example, support is now extended to selected COMPAQ personal comptuers and IBM PS/2 series personal computers. In addition, VAX/VMS Services for MS-DOS now supports selected 3COM and MICOM/Interlan Ethernet cards, as well as IBM and COMPAQ native keyboards.

VAX/VMS Services for MS-DOS now also supports the NETBIOS networking protocol for popular industry-standard applications.

"With today's announcement, Digital is delivering on its commitment to provide comprehensive desktop solutions in a multi-vendor, enterprise-wide networked environment, based on international and industry standards," LaCava said.

New Security and System Management Features

Version 2.0 of VAX/VMS Services for MS-DOS contains several new enhanced security and system management features, including remote boot capability. With the new LAD server, appropriately configured personal comptuers can boot directly from the VAX-based disk server, avoiding the system management requirements of key diskettes. In addition, Version 2.0 offers VMS level security for access control and support for VAXcluster systems.

"Digital's integrated personal computing solutions create an environment that gives customers more features, functionality and growth potential than a traditional PC LAN, with competitive price and performance," said John Rose, Group Manager of Digital's Personal Computing Systems Group.

DECNET FOR PCs

DECnet for PCs software allows personal computers to participate as true peers (DECnet Phase IV end nodes) in a DECnet network. DECnet for PCs includes task-to-task communications, terminal emulation, file transfer, network management, mail transmission, transparent file access, virtual disk use, and virtual printer access. For users who write customized applications, DECnet for PCs offers program-to-program communications for VAX-based VMS, UNIX or RSX operating systems.

Version 2.0 of DECnet for PCs includes many of the same new features of VAX/VMS Services for MS-DOS, such as support for new PC configurations. In addition, DECnet for PCs Version 2 offers:

- Enhanced SETHOST
- Enhanced network management
- Enhanced task-to-task capabilities
- Improved user interfaces

"The continued enhancements to our integrated personal computing software build upon Digital's Strategic Network Vision," said Robert Murray, Marketing Manager, Digital's Network and Communications Group. "Digital continues to lead the industry in being THE systems' integrator -- connecting anything, anywhere, anytime -- across the enterprise-wide network."

Availability

Version 2.0 of VAX/VMS Services for MS-DOS and DECnet for PCs are available now.

Digital Equipment Corporation, headquartered in Maynard, Massachusetts, is the world's leading manufacturer of networked comptuer systems and associated peripheral equipment, and is the leader in systems integration with its networks, communications, and software and service products.

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PRO Section

PRO Software Update

By Gary Rice, PC SIG Newsletter Editor

In an effort to keep you informed about software being shipped from various vendors, I began the following list in April, 1986. This list was last published in the July, 1988 issue of these Newsletters. This updated list reflects information that I have received as of June 24, 1988. An asterisk by an entry indicates that the item has changed or been added sine the last time the list was published. The changes are highlighted as well.

DEC Software	List Price	Last Rev	Source of info	Still Avail?	P/OS v3 Supported?
20/20	**495**	**1.0.54**	**User**	**Yes**	***Yes**
Athena/Graph	**450**	***1.1**	***User**	**Yes**	***Yes**
BASIC-11/RT-11 (Replaced - See BASIC-PLUS/RT-11)					
BASIC-PLUS/RT-11	UNK	3.0	DEC	Yes	N/A
CT*OS	UNK	1.0	DEC	Yes	UNK
Design Graphix/Executive	595	1.0	User	Yes	Yes
Easyentry	995	3.0B	DEC	Yes	UNK
FORTRAN IV/RT-11	495	2.8	DEC	Yes	N/A
Installation & Maintenance	UNK	3.2	DEC	Yes	Yes
LOGO	350	1.4	DEC	Yes	UNK
MAIL-PLUS	N/A	1.0	DEC	No	N/A
MJA Accounts Payable	**600**	**5.2**	***User**	**Yes**	***Yes**
MJA Accounts Receivable	**600**	**5.2**	***User**	**Yes**	***Yes**
MJA General Ledger	**600**	**5.2**	***User**	**Yes**	***Yes**

MJA Order Entry/Inventory	**600**	**5.2**	***User**	**Yes**	***Yes**
MJA Payroll & Personnel	**600**	**5.2**	***User**	**Yes**	***Yes**
NPL Information Management	N/A	1.4	DEC	No	UNK
Phoenix-PRO	1795	1.0A	DEC	Yes	UNK
P/OS ADCCP Driver	UNK	1.0	DEC	UNK	UNK
P/OS (Diskette)	N/A	1.8	DEC	No	No
P/OS (Hard Disk)	475	3.2	User	Yes	Yes
P/OS Hard Disk (Arabic)	783	R3.1	DEC	Yes	Yes
PRO 2780/3780	53	1.2	DEC	DECUS	No
PRO Application Starter Kit	399	1.0	DEC	Yes	No
PRO/Associate	N/A	1.0	DEC	No	No
PRO/BASIC	195	1.4	DEC	Yes	Yes
PRO/Comm (diskette)	N/A	1.8	DEC	No	No
PRO/Comm (hard disk)	195	3.0	DEC	Yes	Yes
PRO/CPM-80	UNK	1.1	DEC	UNK	UNK
PRO/Datatrieve	495	2.0	User	Yes	Yes
PRO/DECnet	250	2.1	DEC	Yes	Yes
PRO/FORTRAN-77 Debug (See PRO/Toolkit Symbolic Debugger)					
PRO/IVIS	UNK	3.1	DEC	Yes	Yes
PRO/Laboratory Subroutine Lib.	300	1.2	DEC	Yes	Yes
PRO/NAPLPS	N/A	1.0	DEC	No	No
PRO/Office Workstation	UNK	2.0	DEC	Yes	Yes
PRO/PRODUCER Toolkit	300	1.6	DEC	Yes	Yes
PRO/RDT	495	1.1	DEC	Yes	Yes
PRO/Scientific Subroutine Library	300	1.3	DEC	UNK	No
PRO/SIGHT	295	1.1	User	Yes	Yes
PRO/SNA	N/A	1.1	DEC	No	No
PRO/Smart Mailer	53	1.0	User	DECUS	Yes
PRO/Toolkit	520	3.2	DEC	Yes	Yes
PRO/Toolkit BASIC-PLUS-2	495	2.5	DEC	Yes	Yes
PRO/Toolkit COBOL-81	495	2.5	DEC	Yes	Yes
PRO/Toolkit DIBOL	495	1.7	DEC	Yes	Yes
PRO/Toolkit FORTRAN-77	495	5.2	DEC	Yes	Yes
PRO/Toolkit PASCAL	495	1.3	User	Yes	Yes
PRO/Toolkit Real Time Library	150	2.1	DEC	Yes	Yes
PRO/Toolkit Symbolic Debug	200	2.0	DEC	Yes	Yes
PRO/VENIX	495	2.0	DEC	Yes	N/A
PRO/Videotex	895	1.0	DEC	Yes	UNK
Professional CTS-300	995	1.0	DEC	Yes	N/A
Professional Real Time Lib/RT-11	250	1.0	DEC	Yes	N/A
PROSE PLUS	295	2.0	User	Yes	Yes
RS/1	1900	12.0	User	Yes	UNK
RSX Host Toolkit	UNK	3.0	DEC	Yes	Yes
RT-11	550	5.4D	DEC	Yes	N/A
Supercomp-20	N/A	1.28	User	No	UNK
Synergy	695	2.0	User	Yes	Yes
VAX Host Toolkit	UNK	3.0	DEC	Yes	Yes
WPS/Plus	695	1.0	DEC	Yes	Yes

3rd Party Software (Vendor)	**List Price**	**Rev**	**Info Source**	**Still Avail?**	**P/OS v3?**
D-M-DRIVER for P/OS (PROTO SYSTEMS)	195	V2/V3c	Vendor	Yes	Yes
Fingraph (Graphic M*I*S)	N/A	2.0	DEC	No	UNK

IT*OS (Intermation)	UNK	5.2	User	Yes	UNK
Online Disk Unfragmentor (By Hand)	59	2.0a	Vendor	Yes	Yes
PRO/Sentinel (By Hand)	47	1.0	Vendor	Yes	Yes
PRO/Session Logger (By Hand)	29	2.0	Vendor	Yes	Yes
PRO/Text Locator (By Hand)	43	1.1	Vendor	Yes	Yes
RDM Relational Data Manager (Interactive Technology)	995	4.1C	User	Yes	Yes
SATURN-BASE (SATURN SYSTEMS)	750	1.4	Vendor	Yes	Yes
SATURN-CALC (SATURN SYSTEMS)	500	3.0	Vendor	Yes	Yes
SATURN-GRAPH (SATURN SYSTEMS)	500	2.1	Vendor	Yes	Yes
SATURN-WP (SATURN SYSTEMS)	600	5.0	Vendor	Yes	Yes
SPSS/Pro (SPSS Inc.)	UNK	1.1	Vendor	Yes	Yes
TK!Solver (Software Arts)	**N/A**	**1 (2A)**	**User**	**No**	***Yes**

This month's updates were accompanied by the following comments:

"20/20 - works well on P/OS v3. (P/OS) Version 3 release notes set it up to acces file services and communications from within 20/20. However, it cannot handle communications that have been suspended.

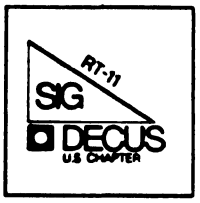
Athena/Graph - Last revision is v1.1. Some enhancements of v1.0 including producing a GID file and additional fonts. However, they never installed P/OS v3 on their machine. Athena/Graph appears to work on P/OS v3 but the GID files cannot be plotted correctly."

If you have received a shipment of software in the last month (and you DIDN'T get it in a fire sale), please compare the documented REV level to the one I have listed. If your software is more recent (or it isn't listed at all), please let me know so I can update the list. Also, if the source of my information is listed as "DEC", I would appreciate hearing from a user, since I've found that hearing about it from DEC doesn't always mean that it is actually shipping. I will publish a new list each time it changes.

You can contact me at: McDonnell Douglas
5555 Garden Grove Blvd.
MS: K20/200
Westminster, CA 92683
(714) 952-6582

THE mini•tasker

DECUS
RT-11 SIG NEWSLETTER



RT-11 MINITASKER
August, 1988

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From the Editor:
Special thanks to Milton Campbell this month for his blow-by-blow account of the RT-11 sessions at the Cincinnati DECUS Symposium. If you missed the conference (as I, alas, did) or missed a session of interest, get in touch with the session speaker. If you don't know how to get in touch, write to me, I'll run down addresses and phone numbers for you. Milton also supplies a little nugget to help you make your FORTRAN programs ans subroutines agree among themselves as to how many arguments are being passed. Jim Whitlock not only finds problems with the RT-11 implementation of DECUS C, he fixes them. (Now that's the kind of SPR's we like to see.) He sent a couple of others that I'll print next month. (Jim writes with a Texas drawl, and it takes a little time to edit them into what Yankees call English.) And of course we can always count on Nick Bourgeois, one to the "grand old men" of RT-11 and TSX+. Nick has updated his TSXLIB in the DECUS Library. Check out Page RT-20 for details.

I still need material for next month's issue. Steve Bart of Brookhaven has sent something of interest. I can't wait to see what it is, but that's awaiting the repair of the magtape. Thanks Steve; we'll look forward to next month. Meanwhile, the rest of you keep sending those cards and letters to:

John M. Crowell
RT-11 Newsletter Editor
Multiware, Inc.
2121-B Second St. #107
Davis, CA 95616

REPORT FROM CINCINNATI
Part II

Milton Campbell
RT-11 SIG Symposium Coordinator

This is my contribution to the "what happened in Cincinnati" subject. Please note that this is not normally for anybody to read but me, so please ignore the grammar and spelling mistakes. You may want to ignore the whole comments and anything else I thought was not for public consumption, but if you find anything offensive, please chalk it up to fatigue and poor notes.

The DECUS Spring Symposium was held from May 16, 1988 to May 20, 1988 in Cincinnati, OH. The Symposia Committee held a meeting on the evening of Saturday May 14, so I traveled on May 14. I returned on May 21 (also a Saturday). The actual symposium sessions were held in the Cincinnati Convention Center, with SIG suites and committee meetings in several nearby hotels, including the Hyatt. I stayed in the Hyatt, which is diagonally across the street from the Convention Center.

Note: Session listed are ones I saw some part of (maybe just the start). I did not go to all the RT-11 sessions.

****

May 14 (Saturday) Activities.

The DECUS Symposia Committee held a meeting Saturday evening to dole out information, including session chair forms. Items such as "beeper" numbers and various procedural matters were discussed. Nothing particularly noteworthy happened.

****

May 15 (Sunday) Activites.

For me, this is pretty much a wasted day. There are no morning or afternoon events that I go to. Not until late afternoon/evening is there something for me to do. I slept late, prepared my session chairman packets and worked in the General Information Booth.

At 17:00, there was an RT-11 steering committee meeting in the RT-11 SIG suite. I passed out session chair packets. We discussed the need for filling several steering committee positions, as well as the need for a replacement SIG Chair, but no particular action was taken. General discussion about the future of the SIG occurred with no particular resolution.

I went to the Sunday evening reception needing about 15 session chairs. It took the whole time, but I was able to find chairs for all but 1 or 2 sessions (which I took care of Monday morning). As a result of this frenzy of activity, I was not able to meet very many people at the reception. To top it off, the food at the reception was hot dogs instead of ice cream.

****

May 16 (Monday) Activities

=======
RT-11 Roadmap (9:00)

About 30 people in the audience. I did most of the talking for this session. First the Symposia Committee garbage, then the "highlighted" SAG. There were 5 or 6 first time symposium attendees at this session.

=====
RT-11 Business Meeting (9:30)

About 30 people in the audience. Nothing unusual happened. The usual introductions were somewhat truncated since much of the steering committee was not at the Symposium. Rally Barnard talked a little about the SIG tape, saying that he would probably combine last fall and this spring. He also said that this would be the last time he would do it.

=====
RT-11 Product Panel (10:00) (Connie Pawelczak)

About 25 people in the audience. The usual recapitulation of version 5.4 support. The current release is V5.4D (Feb. 1988), the next release V5.4E (June 1988), with V5.4F probably coming out this calender year.

New stuff coming (it is unclear from my notes which release we are talking about, could be either a 5.4 or later).

- Disk enhancements
    - More logical units
        - DU logical units to 64
        - LD logical units to 32
    - MSCP error logging (as SYSGEN option)
    - Disk caching

- Additional low memory for users (but they are not addressing the basic problem, they are applying bandages all over the place).
    - New overlay handler
    - cleanup supplied handlers and utilities

- 22-bit UNIBUS mapping support (through UB: handler)

- New pseudo-handler AT: to perform virtual to physical address translations. (Why do we need a handler for this?, must be doing something else)

- Enhancements to BUP, KED/KEX and SYSLIB

RTEM - Current version is V2.3. (So still does not support XM type programs)

DECnet/RT-11 - Current version is same old nearly useless V2.1.

What's coming in DECnet/RT

- XM only
- DNA phase IV support
- end node
- Ethernet support
    - net Ethernet hardware device support
    - LAN environment
    - DLX or Ethernet protocol
- Access to nodes outside local area
- conjunction with next major release of RT-11. (specific statement is "not a letter" release).
- Phase V DECnet compatible (through 1 release backwards compatibilitiy of DECnet)
- Interoperate tier V2.1 of DECnet/RT (i.e. backwards compatible)
- Upward compatible from V2.1

KXJ support

- host support on uVAX
    - layered product on VMS
    - support for multiple KXJs
    - Standard RT-11 (on KXJ), allows FB or XM
    - 2 modes
        - shared system files on host
        - essentially standalone (host only used for booting)
    - coexistenct of RT-11 and VMS
    - uses VMS resources

- also a similar product with same kind of features for an RT-11 host

---
Other layered products current status

- BASIC V3.1
- FORTRAN-IV V2.8
- FORTRAN-77 V5.0A
- CTS-300 V8.2

Thankfully, we were not subjected to the usual license enumeration.

=====
RT-11 to VMS Migration (12:30) (Greg Adams substituting for Ned Rhodes)

About 25 people came. This session was quite well done. Greg is a good speaker and covered the subject quite well.

=====
Running in RT-11 (13:30) (Margaret (Peggy) Carlson)

Audience of about 15. I did not stay for this session.

=====
DECnet/RT=11 (14:30) (Jennifer Gunderson)

Audience of about 20 (grew to 25). This was a pretty good talk by one of the DECnet/RT-11 developers. She knew her stuff well, but was somewhat hobbled by the general low level of network knowledge in the RT-11 community. This session had one of the liveliest audiences of any RT-11 session, indicating a high interest level. This session had a handout.

=====
ETHERNET: RT-11 to VAX (15:30) (Glen Macko)

I did not see this talk, but from several comments, I wish I had. Glen Macko works for Digital (but not RT-11). The system he was describing looks like a reasonable (and available) method for talking between various DEC computers (including RT-11 and VMS).

=====
MSD Meets DECUS (18:00) (MSD)

This session seemed to be somewhat less well attended than the equivalent session in Anaheim. Over 50 MSD people were introduced. The usual problems were expressed (I missed the preceding session which was conducted by the PDP-11 working group). While it is clear that Digital has a continuing commitment to the PDP-11, what is not clear is whether they are prepared to "sell" rather than "take orders". Since I did not come out of this session with a clear picture, I guess the behaviour in the market place speaks for itself.

Two notable comments were made by the audience. One was from someone who finally figured out that "PDP" stands for "Please, DEC, Please". The other was that Digital's treatment of its PDP-11 base was similar to sending one's spouse to sleep with someone else one night a week and hoping he/she will come home the other nights.

========== Other Monday activities

DEC announced their RTA (real-time accelerator) in two sessions Monday. This is yet another answer to the real-time question. The RTA is a MicroVAX-II on a BI card. The idea is that you offload some of the real-time activities (especially interrupts) to the RTA and let the BI take care of backend type processing. RTA programming is down using VAXELN. While not discussed at the session, the price of the hardware and software firmly place this "solution" in the BI market.

I also went out to the DEXPO site to drop off some things. They were setting things up in the Cincinnati Gardens and things were something of a mess. The "garden" part of the name is clearly misleading. While setup is not the best time to evaluate a building, it did not look much better later in the week.

****

May 17 (Tuesday) Activities

=====
RT-11 Running on the KXJ (14:00) (Jim Williams)

The audience was 20-25. The topic of the session was near and dear to my heart, but the content was very similar to that of the similar session in Anaheim. The basic structure of the KXJ software was described. The general hint was that it may be available with the next non-lettered release of RT-11.

=====
Real-Time Strategy Workshop (15:00) (Adam Bridge - moderator)

The audience was in the 40-60 range. This was not a particularly good session. The audience participation was limited and not very lively. There were two major camps, those who wanted cheap products and those who want high performance products (both from Digital). There were also those who wanted cheap high performance products. The general consensus was that IBM-PC compatible products were disgusting and that DEC should try to stamp them out.

=====
Worlds Largest Color Display (16:00) (Jim Maloney)

The audience for this session was in the 50-60 range. This was as very good session that featured a video tape narrated by the speaker. The first part of the tape had film of early Goodyear airships. There was then some footage of the construction of the newest airship. This was followed by tape of how the airship nightsign displays are built by animaters in Akron. The final sequence showed actual displays on the side of the airship. Included were several segments saluting the RT-11 anniversary.

=====
RT-11 Anniversary (17:00) (Milton Campbell - moderator)

The audience for this session was about 50. This session did was not that good, primarily because I was not as prepared as I had hoped.

========== Other Tuesday Activities

Tuesday morning I went out to DEXPO. The DEXPO site was about a 30 minute bus ride from DECUS. I did not have too much time there. I made a quick pass passed all the booths looking for things that I did not think I would see in the trade magazines (and that I was interested in). There was not much of noticable interest. While many of the major vendors had "new" things for DEXPO. Nothing really stood out as new, interesting (to me), and some I did not know about, or expect to see in the press.

****

May 18 (Wednesday) Activities

=====
FORTRAN Style (13:00) (Adam Bridge - substituting for Bob Walraven)

Audience was about 45. This session followed the usual pattern. The audience agreed with itself that style is important and that standards are good, but disagreed over various details. Adam's presentation was remarkably good for a man who looked like he would probably be sick in bed for a week.

=====
TSX Emulator (14:00) (Greg Adams)

Audience was about 25. This session was a discussion by Greg of a "handleroid" he developed that allows supports a number of functions beyond those available in RT-11. The most important were support for most TSX-Plus EMTs (hence the title), keeping VBGEXE always active (as far as RT-11 is concerned) and supporting a command processor in a VBGEXE partition. Since this handler supports EMT filtering, it offers the possibility of replacing/extending the USR, which overcomes a number of limitations in vanilla RT-11.

=====
TSX on a Coprocessor (15:00) (Milton Campbell)

Of course this was the highlight of the RT-11 sessions. Anyone who missed it, missed a dynamite talk.

=====
TSX-32 (16:00) (Phil Sherrod)

Audience of about 40. Phil discussed the current status and desing goals of TSX-32. This session was kind of wierd for DECUS because the first target machine for TSX-32 is the 80386 based IBM PS-2 product. When I solicited the talk, the VAX was the target, but things changed in the meantime. Nothing particularly startling came out of the talk, anyone who know TSX-Plus should be able to operate TSX-32. The programming environment is supposed to be compatible with the Phar Lap MS-DOS extender for 80386s. This means that languages and develpment tools are available and will come from other parties (not S&H).

=====
TSX-Plus Magic (17:00) (Milton Campbell, Bill Walker, Greg Adams).

Audience of about 25. Another somewhat lack luster session. No particularly hard (or current) problems were presented. In response to a poll of how many knew of the TSX-Plus Users Group and wanted the newsletter to continue, there was general agreement that it is a good idea.

========== Other Wednesday Activities

I again made a quick (as quick as possible) trip out to DEXPO in the morning.

In the evening, the RT-11 SIG suite was open with cold cuts and soft drinks. Connie Pawelczak was available to discuss KXJ software packaging ideas.

****

May 19 (Thursday) Activities

=====
ADEP: Real-time Software (12:00) (Ellen Bachman, Jim Lindesmith)

Audience of about 20. This was a repeat from Anaheim. The speakers describe a data driven set of programs that allows data acquisition by non-programmers.

=====
RT-11 Interrupts and Traps (13:00) (Jim Williams)

Audience of about 15. Jim discussed the processing of interrupts and traps, both in general (i.e. hardware) and in gory detail on the PDP-11.

=====
UCL+ (19:00) (Bill Walker - Replacement session)

Audience of about 15. Bill discussed how UCL+ does its job. The audience offerred wishlist items, most of which were taken under consideration (a few were rejected outright).

=====
RT-11 Gems and Nuggets (20:00) (Rally Barnard - Moderator)

Audience of about 20. There were a couple of Gems (or Nuggets), but the one main event was a wishlist ballot for DECnet/RT-11 presented by Jennifer Gunderson. She ended up talking for about 40 minutes explaining the ballot and taking suggestions. Another indication of the interest (and low knowledge level) in networking in the RT-11 community. She also showed how some of the features of DECnet/RT would be used.

=====
RT-11 User Speakout (21:00)

Audience of about 30. The highlight of this session was a presentation by Scott Harrod of a comparision of the "DIFFERENCE" command performance between VMS and RT-11. The performance of the RT-11 system was somewhat slower than the VMS, although in the same ball park. The punchline was that the VMS system was running on a high end VAX with super disk drives, while the RT-11 system was running on an LSI-11/2 with floppy disks.

========== Other Thursday Activites

I again went out to DEXPO, this time to drop off some materials.

I had a meeting with Connie Pawelczak to discuss ideas for the RT-11 anniversary at Anaheim. Our thoughts are to have suitable lapel pins made, have a booklet containing an RT-11 history and contributer list, and have some kind of food (ice cream? cake?) Thursday evening.

****

May 20 (Friday) Activities

=====
RT-11 Mag Tage Usage (10:00) (Peggy Carlson)

Audience of about 15. This session is basic, but very useful to RT-11 users new to magnetic tape. One important fact from this session is that there is a hardware FCO for the TK50 out in recent months. It fixes problems encountered in several of the PDP-11 operating systems. Under RT-11, there can be a problem when a program (using the TK50?) is aborted using control-C.

=====
RT-11 Application Workshop (11:00) (Laura DeChellis-Barry - Moderator)

Audience of about 25. This was a very lively session. Uses of RT-11 (and TSX-Plus) presented included a manufacturing monitoring system, using RT-11 to collect data on roads and bridges, and using RT-11 in a medical lab environment. Thanks to Laura DeChellis-Barry, Debra Corcoran, Neil Krandall, Bill Walker, and Ralston Barnard.

=====
RT-11 Feedback (12:30) (Jim Williams, et. al.)

Audience of about 20. This session was not as good as usual because we did not get ourselves organized early in the week to collect wishlist items. Therefore, the number of written items was low. Wishlist items were accepted (and evaluated) from the floor.

=====
RT-11 Wrapup (13:30) (John Rasted)

Audience of about 20. The usual wrapup session.

========== Other Friday Activities

An RT-11 steering committee meeting was held in the SIG suite following the wrapup session. The following are the main events:

A. Personnel Changes

1. Dave Evans (from Sandia) has agreed to become the Assistant Symposium Coordinator, with the likely result that he will take over the Symposium Coordinator job.

2. David Billing (from Monsanto) has agreed to become the suite coordinator. Included in the job will be partial responsibility for the campground.

3. Laura DeChellis will continue to be our store representative and will be our Com-Com rep. at symposia.

4. John Bedell will take over the SIG tape generation, so Rally is off the hook.

B. Other

1. We intend to sell hex/octal/decimal calculators through the store. We decided to limit our risk to 50 units. Suposedly, the store buys the things and we only are responsible for any unsold items remaining after two symposia. We may not actually do this (it is up to the store) depending on the eventual retail price.

2. The SIG suite will be scheduled early enough so that the schedule can be passed out at the opening sessions. We also need to ensure that a wishlist box gets started early in the week.

3. A Woods meeting sometime this summer is expected, but no particular plans were made. It was suggested that it be in the Boston area so that we can get a good represenation from the RT-11 developers.

C. More Other -- whatever I forgot. If I left anybody or anything out, sorry, it was a long week.

TO: John M. Crowell
RT-11 Newsletter Editor
Multiware, Inc.
2121-B Second St. Suite 107
Davis, CA 95616

FROM: James D. Whitlock
Woodcraft Components
7111 Forest Pine
San Antonio, TX 78240
(512) 681-0439

FOR THE DECUS C FLIT GUN

The FWILD/FNEXT functions in FWILD.MAC found in the new DECUS C V2 distribution is still not free of the RT-11 problem of skipping the first file in every directory segment (excluding the first).

The RT-11 conditional assembly of FWILD.MAC version 18 will demonstrate the known bug. However there is a fix contained in the file DECUSC.FIX.

Applying this alteration as delivered, does not help at all.

It becomes apparent that the patch is missing an all-important change to be applied lower in the code. Once this is done, things get better. Files are not skipped anymore. However, the stack is being used as a push place, and is not being properly restored. The net effect is, that when large numbers of wildcard operations are being performed, the stack blows up crashing the program. A good example is using ARCHC.SAV to build an archive of all *.MAC files contained in the DECUS RT-11 APL V2 distribution (something with 100's of files contained on more than say, 4 directory segments, preferably un-squeezed).

With this in mind, I altered the code further (me no expert), and found that the stack holds and the function performs as intended, when dealing with big-numbered wildcard operations.

The following are the code fragments for FWILD.MAC containing all alterations necessary to fix the directory segment bug. Consider A. Movshon's fix as edit 19 (he considers it edit 17), and my further alterations as edit 20.

```
        .title  fwild   Wild-card file open
.iif    ndf     rmsio   rmsio   =       0       ;Assume FCS-11
.if ne RMSIO
        .ident  /RMS020/                        ;!!JDW fix up the ident
.iff
        .ident  /000020/                        ;!!JDW fix up the ident
.endc
 ...
 ...    <fix up the edit history>
 ...
; 000016 28-Dec-82 TTC  Fixed several RT-11 bugs.
; RMS017 29-Dec-83 TTC  Added RMS support.
; RMS018 08-Jan-83 RBD  Fix bug in fnext status checks
; 000019 14-Jun-87 AM   Fix RT-11 bug with directory segments for fnext ;!!JDW
; 000020 01-Dec-87 JDW  Edit 19 incomplete / needs no-stack approach ;!!JDW
;
 ...
 ...    <A. Movshon's patch plus JDW edit 20>
 ...
;
; Loop through the directory
;
;START OF FWILD.FIX PATCH SECTION.
;*****************************************************************************
; This is a modification of the RT11 code from FWILD.MAC. There was an error
; that prevented the function from finding a wildcarded file if it was the
; first one in a directory segment. The fix is not beautiful, but it works.
; This is a section of FWILD.MAC, otherwise identical to FWILD ident 16.
;
fscan1:
;!!JDW  mov     V$WFLG(r4),-(sp)        ; Copy of flag for check below  ;19
        mov     V$WFLG(r4),holder       ; Copy of flag for check below  ;20
fscn1a:                                                                 ;19
        mov     W.DSEG(r3),r1           ; Compute lbn of segment
        beq     done                    ; Exit if at directory end
        asl     r1
        add     #DOFSET,r1
        clr     -(sp)                   ; Build .readw parameter block
        mov     #512.,-(sp)             ; r0 -> ! 10  ! chan!
        mov     V$BASE(r4),-(sp)        ;       !    blk    !
        mov     r1,-(sp)                ;       !    buf    !
        mov     V$LUN(r4),-(sp)         ;       !   wcnt    !
        add     #<400*10>,(sp)          ;       !     0     !
        mov     sp,r0                   ; r0 -> argument block
        emt     375                     ; .READW
        bcs     nogood                  ; br if error reading directory
        add     #<5*2>,sp               ; Clean off the stack
        mov     #L.ENTR,r0              ; Std dir. entry size = 7 words
        mov     V$BASE(r4),r2           ; r2 --> directory header       ;16
        add     D.EXTR(r2),r0           ; Add in extra bytes per entry
        mov     r0,W.ESIZ(r3)           ; Store entry size in wdb
;!!JDW  cmp     (sp)+,V$WFLG(r4)        ; Are we here from fscan3?      ;19
        cmp     holder,V$WFLG(r4)       ; Are we here from fscan3?      ;20
        bne     fscan2                  ; Yes, do not skip 1st entry    ;19
        bit     #VF$WF1,V$WFLG(r4)      ; Second time through           ;15
        bne     fscan3                  ; Yes, step to next entry
        bis     #VF$WF1,V$WFLG(r4)      ; No set flag for next time.    ;15
```

```
fscan2:
;*****************************************************************************
;Forgot to include a single important change in fscan3: -- see below
;END OF FWILD.FIX PATCH SECTION.
 ...
 ...    <Deduced missing part of A. Movshon's patch plus JDW edit 20>
 ...
;
; Not a permanent file, or no match for this one.
;
fscan3:
        add     W.ESIZ(r3),W.DENT(r3)   ; Point to next entry
;; call test1
        cmp     @W.DENT(r3),#ENDBLK     ; At end of segment?
        bne     fscan2                  ; Until type == end of segment mkr.
        mov     V$BASE(r4),W.DENT(r3)   ; Reset to 1st entry in segment ;15+
        add     #L.HDR,W.DENT(r3)       ;
;; call test2
        clr     holder              ;!!JDW alteration seems bullet proof ;20
        mov     V$BASE(r4),r0                                            ;16
        mov     D.NEXT(r0),W.DSEG(r3)   ; Link to next logical segment  ;16
;;;     add     #D.NEXT,W.DSEG(r3)      ; Link to next logical segment;15-/16--
;!!JDW  bne     fscan1                  ; Continue if more
;!!JDW Forgot to include this single change in decusc.fix
        bne     fscn1a                  ; Continue if more      ;!!JDW  ;19
done:
        .CLOSE  V$LUN(r4)               ; Close directory channel
 ...
 ...    <Put this at the end of the file; takes the place of the stack>
 ...
holder: .word   0                       ;!!JDW use a word instead of stack ;20
.even                                   ;!!JDW this word must be out of ;20
                                        ;!!JDW  the code area           ;20
        .end
```

Note that this function affects more than 50% of the DECUS C utilities.

TO: John M. Crowell
RT-11 Newsletter Editor
Multiware, Inc.
2121-B Second St. Suite 107
Davis, CA 95616

FROM: James D. Whitlock
Woodcraft Components
7111 Forest Pine
San Antonio, TX 78240
(512) 681-0439

FOR THE DECUS C FLIT GUN

The CLIB function TIME found in TIME.MAC has a minor bug. The days 1-FEB to 29-FEB for all leap years are off by one day (one day ahead). This will show up in archive file headers or the COOKIE program for example.

The following code fragments correct this problem.

```
        .title  time    Compute time of day
;!!JDW  .ident  /000003/
        .ident  /000004/                ;!!JDW fix up ident
 ...
 ...    <Fix up edit history>
 ...
; 000003 01-Feb-84 MM   Sigh.  Damn that Julius Caeser anyways
; 000004 04-Feb-88 JDW  Days from 1-Feb to 29-Feb in leap years
;                       off by 1 day (ahead) ;!!JDW
;
 ...
 ...    <Correct the code>
 ...

        mov     (sp)+,r0        ; r0 := month (1 .. 12)
        mov     (sp)+,r4        ; r4 := day in month
        asl     r0              ; *2 for index
        add     <montab-2>(r0),r4       ; r4 := days in year
;!!JDW  cmp     r0,#2*2         ; past march? (comment misleading)
        cmp     r0,#2*2         ; past FEBRUARY?
;!!JDW change bacon, lettuce, tomato TO bitter lemon extract
;!!JDW  blt     30$             ; no, don't look at leap
        ble     30$             ; no, (SO) don't look at leap.;!!JDW
        mov     (sp),r0         ; years - 1972 ('72 was a leap year)
        bic     #^C3,r0         ; year mod 4
        bne     30$             ; not leapyear
        inc     r4              ; fix date
 ...
 ...    <Rest of code follows>
 ...
```

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FOR THE DECUS C FLIT GUN

Reference to the VF$BZY busy bit variable in CLIB module IOPUTC.MAC, causes the RT-11 Linker to give an undefined global warning -- every time. This doesn't happen with RSX-11M. VF$BZY was dismissed in earlier versions, and must have crept back in here.

The following code fragments correct this problem.

```
        .title  $$putc  Output one character to a file
;!!JDW  .ident  /0000013/
        .ident  /0000014/               ;!!JDW Fix up ident
 ...
 ...    <Fix up edit history>
 ...
; 000013 09-Apr-84 TTC  Force ESC to 233 on rsts when outputting
;                       to terminal
; 000014 25-Sep-86 JDW  Get rid of reference to busy bit VF$BZY,
;                       for RT-11 linker warning. This must have
;                       crept back in. ;!!JDW
;
 ...
 ...    <Fix up code>
 ...
20$:
        movb    r0,@V$BPTR(r4)  ; stick byte in buffer
        inc     V$BPTR(r4)      ; and bump free byte pointer

;!!JDW  bis     #VF$BZY,V$FLAG(r4) ; Set busy bit                ;14+
;!!JDW
;!!JDW  BUSY BIT IS NO LONGER USED! THIS MUST HAVE CREPT IN
;!!JDW  SOME HOW.  IF NOT COMMENTED OUT, RT-11 LINKER GIVES
;!!JDW  UNDEFINED GLOBAL VF$BZY.
;!!JDW                                                            ;14-

;
30$:
        return
.endc                                                            ;02-
        .end
```

XDTCKA - Argument Count Checker for FORTRAN-IV

Milton Campbell

For a long time I have had a coding rule for FORTRAN that the number of arguments in a subroutine call must match the number of arguments in the subroutine definition. FORTRAN does not require this. Standard FORTRAN considers it perfectly reasonable for for the argument counts to be different. The only restriction is that if the number in the call is less than the number in the definition, the subroutine should not use the missing arguments.

Since most of the time when I have a different number, it is a mistake, I decided to make having the same number my policy. The enclosed MACRO-11 routine enforces this rule for FORTRAN-IV. The routine should be called once for a program. It patches itself into the the FORTRAN-IV OTS routine that gets called when a routine is entered. It compares the actual number of arguments passed (pointed to by R5) to the number defined and generates an error message if they are different.

This routine did not need any modifications for any of the versions of FORTRAN-IV from V2.4 (or earlier) to V2.6. I have not upgraded my FORTRAN-IV since 2.6 (I use FORTRAN-77), so I don't know if XDTCKA works for 2.7 or 2.8. It is likely that it does, since the OTS routine it is looking at probably has not changed. If it does not work, the most likely reason is that some of the offset locations have moved. The way to find the new ones is to extract the routine $OTIS from the FORTRAN-IV library and disassemble it. It should then be possible to figure out what the new offsets are.

While a similar routine for FORTRAN-77 may be possible, I have not figured out how. The number of actual arguments is available (via R5) and the routine pointed to by location NAM is called on routine entry (unless all traceback is turned off), but the number of formal parameters does not seem to be available.

```
        .TITLE  XDTCKA  FORTRAN-IV ARGUMENT COUNT CHECKER
;
; This routine patches itself into the FORTRAN-IV entry processing routine
;       ($OTIS/$$OTIS) to ensure that the number of actual arguments in a
;       subroutine/function call matches the number of formal arguments in
;       the subroutine/function statement.
;
; Since this routine effectively becomes part of $OTIS/$$OTIS, it must
; not be overlayed.  Note that this routine calls SYSLIB routine R50ASC.
;

        .MCALL  .PRINT,.EXIT

        .GLOBL  $OTIS,$AOTS,R50ASC

; The following are the critical offsets into FORTRAN-IV OTS components that
; could be different in different version of the OTS.  The following values
; work for FORTRAN IV V02.6.

POFF    = 44                    ; Address of where jump to our routine
                                ;- should be patched in $OTIS/$$OTIS

ZARG    = 66                    ; Offset into $OTIS of zero argument
                                ;- code

SARG    = 52                    ; Offset into $OTIS of some arguments
                                ;- code

; I am not sure what these offsets contain, but they are used to get the
; state of the program set up correctly for the subroutine call (when an
; argument error is detected).

OFF1    = 16                    ; OTS work area offset
OFF2    = 164                   ; Another

XDTCKA::
        MOV     #$OTIS,R0               ; R0=Base address of entry routine
        MOV     #137,POFF(R0)           ;** JMP @# PROUTN IN
        MOV     #PROUTN,POFF+2(R0)      ;**     $OTIS
        MOV     R0,R1                   ;R1=Base of $OTIS for calculating
                                        ;- address of exit from our routine
        ADD     #ZARG,R1                ; Compute "PROUTN" exit for zero args.
        MOV     R1,ZEXIT                ; And put it away
        ADD     #SARG,R0                ; Compute "PROUTN" exit for some args.
        MOV     R0,SEXIT                ; And put it away
        RTS     PC                      ; Patch complete, so return to caller
```

```
; The following code is entered via the patch inserted into $OTIS/$$OTS
;       following the point where the number of arguments have been
;       retreived.  At this point:
;
;               R0 - Points into the receiving routine's $DATAP area
;                       at the location that contains the number of
;                       formal parameters defined for the receiving routine.
;               R1 - Contains the number of arguments in the actual call
;               R2 - Contents undefined, one of the instructions replaced
;                       by the above patch loaded the the number of
;                       formal parameters into R2
;               R3 - $AOTS pointer, points into OTS work area
;               R4 - The "THREADED CODE" PC
;               R5 - Points to address of first actual argument
;

PROUTN: MOV     (R0)+,R2        ; Do patched instruction, R2=number of formal
                                ;- parameters
        CMP     R1,R2           ; See the the number of actual and formal
                                ;- parameters match
        BEQ     MATCH           ; Branch if they do (no error)

; The number of arguments does not match.  Print the routine name and
;       issue the "WRONG NUMBER OF ARGUMENTS" TRAP

        TST     (SP)+           ; Pop the Threaded/Inline flag from stack
        MOV     (SP)+,N46       ; Pop chrs. 4-6 of name
        MOV     (SP)+,N13       ; Pop chrs. 1-3 of name
        MOV     #ARGLST,R5      ; Point R5 at the "R50ASC" arg. list
        CALL    R50ASC          ; Convert routine name to ASCII
        .PRINT  #MESSG          ; Print out the message

        MOV     $AOTS,R4        ; R4 = Address of OTS work area
        MOV     (SP)+,(R4)      ; **Get stack and OTS work area
        MOV     (SP)+,0FF1(R4)  ; **   back to correct state
        MOVB    (SP)+,0FF2(R4)  ; **   for calling routine
        TRAP    16.             ; TRAP 16. is the FORTRAN "WRONG NUMBER OF
                                ;       ARGUMENTS" TRAP
        .EXIT                   ; Just in case somebody returns from the TRAP

;  We get here if the number of formal and actual arguments match.  We
;       re-join $OTIS code at two different points, depending on whether
;       the number of arguments is zero or not.

MATCH:  TST     R2              ; See if the number of arguments is zero
        BNE     NZR             ; Branch if non-zero argument count
        MOV     ZEXIT,-(SP)     ; Stack the "ZERO ARG" return address
        BR      EXIT            ; Go to the common exit point
NZR:    MOV     SEXIT,-(SP)     ; Stack the "SOME ARG" return address
EXIT:   RTS     PC              ; Re-join the $OTIS code
ZEXIT:  .WORD   0               ; Will hold the ZERO arguments re-join addrs.
SEXIT:  .WORD   0               ; Will hold the SOME arguments re-join addrs.
```

```
ARGLST: .WORD   3               ; Start of arg. list for call to R50ASC
        .WORD   SIX             ; Convert 6 characters
        .WORD   N13             ; Storage place of name
        .WORD   ANAME           ; Where the characters go

SIX:    .WORD   6               ; Constant 6 for R50ASC call

N13:    .WORD   0               ; First 3 R50 chars of name
N46:    .WORD   0               ; Last 3 R50 chars of name

MESSG:  .ASCII  <15><12><12>/Wrong number of arguments in call to: /

ANAME:  .ASCIZ  /      /        ; Routine name goes here
        .EVEN
        .END
```

****

****

D E C U S -I N T E R O F F I C E M E M O R A N D U M

Date: 7-Jun-1988 04:36pm EST
From: N. A. (Nick) Bourgeois
BOURGEOIS
Dept:
Tel No: 505-298-2346

Subject: NEWSLETTER ITEM

I have just released another update for TSXLIB. This one includes all TSX-Plus EMTs through V6.31. The DECUS Program Library number is 11-490. Tom Gaudette, the library manager, has approved my request that it be made available on RX50 and TK50 as well as RX02 and 1/2" mag tape. It will also be included on the RT-11 Spring 88 Swap Tape.

Nick

UNISIG

Editor's Observations

An article appeared in Digital Review of 6/20/88 entitled "Can VMS Survive Unix?" In the same magazine, Bill Byrne, a spokesman for VenturCom of Cambridge MA was quoted as saying "VMS will be ported to Ultrix in 10 years, so [large user] investments will be protected." This sounds like a radical change in the way unix is being viewed by the VMS community and by VMS watchers. Even fairly recently, unix was seen as a "cult" operating system. Now, many are expressing doubt that there will be any OS *other* than unix in the future of mini-, supermini-, minisuper-, and super-computing. Reading this DR article, and others like it, there is an assumption that users and hardware vendors will *settle for* unix. In the same way that many hardware startups turned to unix in the past because it was quick and relatively inexpensive, everyone will go with unix in the future because it will be cheap. There is no mention of any of the intrinsic advantages of unix. All the advantages seem to be in the openness and standardization of the system. One gets the impression that if everybody agreed to run MS-DOS or MVS, it would be just as good. Those of us who have been extolling the properties of unix have clearly missed the boat here. No one cares about the power of grep and awk. No one is interested in the elegance of pipes and filters. All that matters is the *standard*. Now that everybody has been converted to the religion of open systems, unix is the only game in town. Well, DECUS had better start putting the Unisig sessions in bigger rooms at the upcoming symposia.

Turning to this month's newsletter, we have 2 articles. **The Unisig Steering Committee** is the first in a planned series explaining the functions and responsibilities of the different members of the Unisig Steering Committee. Our SIG Chair Kurt Reisler, an avid net.news reader, has sent in **ALICE in DIGITALand,** which he got from rec.humor.funny.

As always, your comments, suggestions, and articles are encouraged. Please send hardcopy to :

Sharon Gates-Fishman
NDC Systems
730 E. Cypress Ave.
Monrovia CA 91016

or e-mail to:

amdahl!cit-vax!ndc!sgf

The Unisig Steering Committee

Have you ever looked at the Unisig Steering Committee List in the SIC section of these newsletters and wondered "What do all these people do?" In an attempt to answer that question, I have polled the members of the Unisig Steering Committee and asked them to describe their jobs. What follows is a description of some of the Steering Committee functions, in (more or less) the person's own words. Look for similar descriptions of other Steering Committee functions in future newsletters.

Sam Kimmery - Symposia Coordinator

The Symposia Coordinator is responsible for planning the SIG specific portion of the Symposium. The Coordinator reviews each abstract as it is received, reviewing grammer, spelling, etc. While the editing is going on, the Coordinator is trying to plan a schedule and fit the abstracts into a "stream."

Each SIG is allotted a set number of hours (which varies by Symposium). The Coordinator is responsible for selecting, and rejecting sessions - enough sessions to fill his time allotment. After the time allotment has been met, the sessions are arranged in a day-by-day order into streams. These streams are then submitted to a group of select Symposia Coordinators, who are responsible for several SIGs (and have a fixed number of rooms and hours available), this group of people is known as "the ring". The ring person next symposium (Anaheim) is responsible for UNISIG, NETWORKS, and OA. The ring person then massages the SIGs streams into his resources. After this is done to the satisfaction of the SIG Coordinators, it is passed on to an even more experienced group known as "core". Core then checks then *entire* symposium for conflicts (both speaker and topic) and corrects the problems.

Issues other than scheduling:

+ writes the SIG article for the CFP (Call For Participation)
+ writes the SIG article for the prelim. program
+ creates the cross reference that appears in the program

and the real big one:
+ is responsible for solving SIG scheduling problems at symposium (speaker no shows, etc)

And Steve Lazarus, the former Unisig Symposia Coordinator, adds:

Besides the actual scheduling of sessions, the Symposia Committee (made up of all the Symposia Coordinators) determines policies such as how to handle lost badges, the press, speaker passes, and what kind of ice-cream to serve on Sunday night.

Jim Livingston - CommComm Representative

The SIG's Communications Committee (voting) representative is responsible for making sure the SIG's interests are represented in all decisions about policies and procedures affecting SIG activities, that come under the purview of CommComm. Such topics include, but are not limited to, newsletters and other non-symposium publications, symposium publications, and the DECUS store.

While the SIG newsletter editor and symposium session notes publisher are both members of the committee, the CommComm rep is the only SIG member on the CommComm that has the right to vote on matters before the committee. Other voting members of the committee are the CommComm chair, vice-chair, chairs of standing committees (appointed by the CommComm chair), and the DECUS staff liaison.

ALICE in DIGITALand

"Where am I?" asked Alice, as she peered at the large 7-lettered sign with the standard blue letters.

"You're in Digitaland," replied the security guard, "May I see your badge?"

"I don't have a badge."

"Did you lose it?"

"No." answered Alice in a puzzled tone. "How could I lose something I never had?"

"If it's not lost then you must show it to me."

"I can't. I don't have one."

"Then you'll have to have a temporary."

"A temporary what?" asked Alice, more confused then ever.

"A temporary Badge. What's your badge number?" requested the guard.

"I don't have one"

"Of course not, Ken Olsen has 1. Give me your badge number, and your cost center"

"I'm so confused. I can't do this. I've already said 3 times why. Do I have to tell you 4?"

"Ahhh. 3XY, badge number 4. You must be very important to have such a low badge number. I should have immediately recognized how low by your state of extreme confusion. Here's your temporary. Go right on in."

Alice pasted the sticky paper to her dress and headed down the hall. Not 10 feet ahead she saw a rather distressed looking rabbit coming toward her. He was dressed in a pair of torn, faded jeans, and a dirty tee shirt.

"What's wrong?" Alice asked.

"I'm late! I'm late!" exclaimed the rabbit as he peered at the pert chart dangling from his pocket protector.

"Late for what?" asked Alice.

"My date. I'm going to miss my date. I've got a deadline to meet and I'm not going to make it."

"Well, if it's already dead, it probably won't mind. In fact it isn't likely to be going too far in such a state. I'm sure that however long you take will be just fine."

"You obviously don't understand. Everything takes longer than it really does. It doesn't matter what you are doing, only that you meet your date, and that's always impossible."

"Well if its impossible, why would anyone expect you to meet it?" Almost at once regretting that she had asked. Was this was going to be as confusing as badges?

"Its really very simple. In order to move forward, you need a goal. Any goal will do. It just has to be impossible to do. To motivate the troops, you have to make goals very challenging. Its really only there to get a stake in the ground, you know. After that we march in step until we reach our objective. The date really doesn't mean anything. You simply have to understand that we are going to do the right thing."

"But the if the goal is impossible, and really doesn't mean anything why are you trying to go there? Wouldn't it be simpler to first figure out what you are really going to do, then figure out how to get there?"

"You obviously don't understand the process. And as I said before I'm late so there is obviously only one thing to do."

"Hurry up and rush off?" Alice asked, hoping it would sound more like a suggestion than a question.

"No. No. No. A meeting. Let find the Mad Manager and a number of involved, interested, or warm bodies."

"That will obviously take a lot of time. I don't think you have any to waste.

"No it won't. All we have to do is find a conference room. There are lots of them right over here."

"But," started Alice, "those rooms are all full of people. Don't we need an empty conference room?"

"Silly thought. If we want to find the Mad Manager and some meeting attendees, why would we look in an empty conference room? Anyway, its impossible to ever find an empty conference room."

The rabbit took Alice by the hand, and promptly lead her into the largest, fullest conference room. Alice immediately noticed that the wastebasket was quite full of foam cups, and overhead projector bulbs. These people had obviously been here for a long time.

At the head of the table sat a man with a rather funny suit wearing a large hat.

"Why" whispered Alice to the rabbit, "is that man wearing that funny hat? Who is he?"

"I'm the Mad Manager," answered the man at the end of the table, obviously overhearing the question, " And I'll be happy to tell you why I'm wearing this Hat, but that topic is not on the agenda."

"Why don't we change the agenda?" asked a person in the corner.

"Is that a topic for another meeting?" replied the manager.

"Is what a topic for another meeting?" voiced a third. "The reason for the hat, or why we don't change the agenda?"

"Why don't we take this off line?" queried another.

"Does everyone agree that these are all topics we should address?" asked the mad manager.

"Possibly so. " injected the person in the corner. "Could it be that we have a hidden agenda?"

"Oh no!" the Mad Manager began, the dismay obvious on his face, "someone has hidden the agenda again! Let me put on my process hat and we'll see if we can work this issue."

With that, he removed his rather amusing top hat, and place a big green fedora on his head.

"Now, with my process hat on, I'd like to address the issue of the hidden agenda. Since we can't have a productive meeting without an agenda, it is up to all of us to find it."

"But, " a voice from the corner piped in, "who is going to drive this issue?"

"Do we have an action item here?" asked another attendee.

"Does anyone here want to work this?" asked the mad manager.

"Who originally brought this up?" asked another.

"I believe that the woman who came in with the rabbit proposed this. Shouldn't she own it?"

"Well" the Manager stated, pointing to Alice. "I'd say that this is your issue."

"What issue. I don't have any issues. " retorted Alice, nervously fingering her temporary badge. "I only posed a simple question."

"I'm not sure we can accept that," the manager declared. "We need a date."

"But, " Alice began, remembering what the rabbit told her about dates, "a date is impossible."

From the back of the room another voice asked, "How about a date for a date?"

"The least we can ask it that you give us a date when you will be able to give us the date for the date." stated the person in the corner.

"I'm not sure I can do that," Alice opened, "since I don't know what I'm supposed to give you a date for. I'm having a problem trying to figure out what you want me to do."

"We don't have any problems here, only opportunities!" Piped a chorus of voices.

"It's really quite obvious," the mad manager declared as he reached behind him for a striped blue and gray beret, "let me put on my Digital hat for a moment," he continued doffing the fedora and flipping on his latest selection, "You must do the right thing."

"Yes. yes. " chimed the chorus of attendees, "Do the right thing.

"Now, who is keeping the minutes?" the manager asked as he pitched the beret and placed the fedora back on his head. "We need to record this action item so we can come back to it later."

"We obviously can't deal with this issue until we can determine whose meeting this is."

"Should we schedule some time to cover that topic?" asked one of the attendees.

"Whose going to drive this?" asked another.

Just at the Mad Manager was pulling out a rather worn pith helmet, a voice in the back suggested "Let's take a break and work some of this 1x1 off line"

Being closest to the door Alice was the first to leave. She quickly dashed down the hall, and ran up the first flight of stairs she encountered, relieved to be free of the madness.

When she opened the door the scene that confronted her made her wonder if returning to the meeting wasn't a bad idea. Seated around a large oval table were what appeared to be playing cards, each dressed in a gray or navy blue three piece suit. Around each neck was a rather oddly shaped handle (or were they nooses?) made of silk, or polyester.

"Off with her head!" screamed the queen of hearts who was sitting at the head of the table. Alice noticed that her tie was silk, and each card seated near her was dressed in a suit and noose combination similar to the queen's.

"Why would you want to remove my head?" Alice asked. By now she was feeling beyond confused.

"It's not a modern, iconic, user friendly, menu driven, color, PC compatible user interface," replied the queen, in a tone that would need to come up two notches to be vaguely considered condescending.

"It happens to suit me just fine," retorted Alice.

"What are you an engineer or something?" asked the 7 of spades.

"No, I'm Alice. Who are you?"

"Marketing." they replied in perfect fifty-two part harmony.

"And what is that?" asked Alice.

There was a brief interlude of silence as each of the cards fidgeted with their ties, checked their watches and scribbled notes on the pads of paper contained in a handsome genuine imitation leather folder embossed with the company logo. Then one by one, as dominoes would do, they turned to the person on the left until they all stared at the queen of hearts.

The queen cleared her throat, adjusted her tie a second time and stared directly at Alice. "We provide the strategic thinking necessary to grow the business."

"Oh," said Alice, "you figure out what products to build!"

"Heavens, no!" exclaimed the Queen, "That's too tactical. We feel its our job to develop the vision for the long term."

"You develop things," began Alice, "so you build the products?"

In unison each member of the table made a face reminiscent of the look a small child gets upon tasting spoiled dead roaches for the first time.

"Uggggh, that's even more tactical," jeered the chorus.

"No! No!" shouted the Queen. "You still do not understand. We take the pulse of the key market leaders demand curve."

"I see now." said Alice, "You sell the products."

By now the chorus of cards chanting "Tac-ti-cal! Tac-ti-cal!" was becoming too much.

The queen was furious and repeated her original greeting. "Off with her head! Off With her head"

"WAIT!" demanded Alice. "I believe I understand. You are all responsible for driving the solution opportunities for the key client supply perceptions through strategic vision management!"

Alice wondered if she should add something about the claws catching, and frumious bandersnatches and thought that she'd best leave it at that before she became ill.

"Yes," screamed the cards, "That's exactly right!"

"And how, might I ask, do you accomplish these lofty and important goals?"

"By calling a BOD," the queen responded.

"And what, pray tell, might that be?" inquired Alice as she looked for the quickest escape route, hoping that this jabber would keep her head attached long enough to get out.

"A Board of Directors", began the queen, just as Alice noticed the door to the left of the table. "Its a type of high level meeting."

"A meeting????!!!!" exclaimed Alice. "Not another meeting!" With that she bolted for the door, no longer fearing for her head. Her only hope was that she make it through before the agenda hit the overhead. In a dead run, she passed through the door just as the projector lamp flicked on. The sound of the fan was the last sound to fade as the door closed.

Breathlessly she looked up to see a large open area. Directly in front of her was an enclosed area lined on one side with triple chrome table. A stack of plastic trays was at the foyer.

As she wandered through, an assortment of sandwiches, prepared foods, soft drinks and salad began their daily spiel. "Eat Me! Drink Me! Eat Me!"

"Oh no," answered Alice, "I may know nothing about dates, and problems and meetings and agendas, and marketing and badges, but I do know food. I'm not gonna touch any of you. After the morning I've had I deserve a nice cheese steak (no lettuce)!"

With that, Alice opened the nearest exit door and left. A resounding high pitched whine sang its midday good-byes as Alice returned to the real world.

NEWSLETTER OF THE VAX SYSTEMS SIG

Pageswapper

Our Mascot

VAX SYSTEMS SIG DECUS U.S. CHAPTER

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Contributions

Contributions and suggestions for this newsletter are constantly needed. Articles, letters, technical tips, or anything of interest to our SIG are greatly appreciated. The editor prefers submissions be made electronically. Magnetic tape and hard copy will be accepted, but may delay publication.

Please do not submit program source. It is difficult to typeset and is better distributed on the VAX SIG tape. Please do not submit "slides" from DECUS Symposia presentations or other meetings. They are generally a very incomplete treatment for those readers of the Pageswapper who are not so fortunate as to be able to travel to Symposia. Please DO write articles based on such slides.

Send your contributions to:

ARPAnet/CSnet/NSFnet: ctp@cs.utexas.edu
UUCP: ctp@cs.utexas.edu.uucp ({harvard,ihnp4,uunet}!cs.utexas.edu!ctp)
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CompuServe: 75226,3135
DECUServe/DCS: POOLE

or if you must, use the U. S. Mails:

Clyde T. Poole
The University of Texas at Austin
Department of Computer Sciences
Taylor Hall 2.124
Austin, Texas 78712-1188

An Introduction to CDROM Technology

Larry Stone, TMS Inc., Stillwater, Oklahoma

CDROM (Compact Disc Read Only Memory) technology is a dream come true for people and companies that have large amounts of information to distribute. Each CDROM disc can contain at least 550 megabytes of information. In real world terms, each disc has the potential to hold the equivalent of 150,000 pages of printed text or the complete contents of 1200 standard 5.25-inch floppy disks. The enormous storage capacity and relatively inexpensive reproduction cost for CDROM make it an ideal medium for large scale data and information storage projects. Imagine a complete reference library including a dictionary, thesaurus, and book of quotations, or the entire body of the tax code for the United States on a single disc that you can slip in your pocket. These are some of the products that are already available on CDROM.

The recent announcement from Digital Equipment Corp. that it would be distributing software on CDROM discs represents an introduction of CDROM to the VAX world. This article is a brief introduction to CDROM technology for anyone who is not familiar with CDROM and how it works. It includes information about the history of CDROM technology, the physical characteristics of a CDROM disc, advantages and disadvantages of CDROM as compared to magnetic media, and a short list of some of the current applications available on CDROM.

A Brief History of CDROM

Compact discs have their roots in the 12 inch videodiscs that were used to record video sequences for home entertainment. Between 1972 and 1976, a controversy raged over which of several conflicting videodisc formats should become the industry standard. The Laser Vision format discs eventually won out, although they were never established as the official standard. Lack of a standard wasted enormous amounts of time, energy, and money, and the product was never particularly successful.

When work to develop CD audio discs began, Philips Electronics, and later Sony, worked for worldwide agreement on a standard disc format before they ever released the first CD audio product. The specification for the CD audio standard that came out of this work resulted in a substantially united front among all the disc manufacturers. Today, CD audio discs represent the fastest growing segment of the consumer electronics market.

People soon realized that compact discs were suitable for storing types of information other than music. Philips and Sony went to work again and in 1983 announced a standard for CDROM as an extension to the CD audio specification. All CDROM discs produced today comply with this standard, regardless of the manufacturer, and any manufacturer's CDROM drive can retrieve data from these discs.

In 1984 several prototype CDROM drives were unveiled. The first commercially available drives and subsystems were released in 1985. Along with them came the first databases published on CDROM.

Physical Characteristics of the CDROM

A CDROM disc is 120 mm (about 4.72 inches) across, 1.2 mm thick, and has a 15 mm hole in the center. Information is stored on the disc as a spiral track of pits molded into one surface. That surface is coated with a reflective metal layer which in turn is covered with a protective layer of plastic. Data is recorded on the disc from the inside of the disc to the outer edge. The information is read from the disc by focusing a very small laser beam on the layer that contains the pits and then measuring the amount of light reflected back into the objective lens.

The information on the disc is stored much more densely than on magnetic media. The track on a CDROM disc is almost three miles long and can contain almost two billion pits.

The primary characteristic that differentiates a CDROM disc from an audio disc is that the CDROM has a special layer of error correction coding added to it. This is required to bring the quality of the disc up to computing standards. In fact, the quality of the information on the CDROM is as good as or better than all other computer peripheral devices. Other than the error coding, the discs are identical. Many of the production CDROM drives come equipped to play CD audio discs.

CDROM discs can hold at least 550 megabytes of data. This number is more a factor of the CDROM player than the disc itself. Some of the early drives have had trouble reading data that was recorded close to the edge of the CDROM. The newer drives have overcome this limitation and 660 megabytes is now accepted as the maximum amount of data that may be placed on the disc and still be read by a variety of disc players.

Advantages of CDROM

CDROM has several distinct advantages over magnetic media including durability, large storage capacities, and machine independence. Because the player reads the disc without any contact between a playing head and the disc, a CDROM cannot fall victim to a head crash. The

data is physically pressed into the disc so that the information is nonvolatile; it cannot be erased by accident. This is actually the optimal situation for data that needs to be accurate and should never be changed, for example, statistical information or legal guidelines. The disc is extremely durable and is difficult to damage. It is not prone to bending or scratching as are most magnetic media.

The extreme density of the information on the disc pays tremendous dividends for information brokers who have large amounts of data to distribute. For the mailing cost of a single floppy disk, the information broker can send out the equivalent of over 1200 floppy disks of data. Replication costs are very reasonable (about three dollars per disc), and as the technology becomes more available, this cost continues to decrease.

Compact discs can store any kind of digitized information, and can be especially valuable for applications that involve digitized images or video. Such applications require large amounts of storage space, and CDROM may often prove to be the most cost effective medium for the job.

The cost savings can not measured in terms of the CDROM disc alone. CDROM drives are also very reasonably priced. A good quality CDROM player costs from $600 to $1200. The price is much less than the cost of a magnetic disk drive from Digital, and the CDROM can easily contain up to 33% more data than an RA81.

An important but often unrealized aspect of CDROM technology is that it is the only widely available medium that is completely hardware independent. It is possible to create discs that are accessible by a VAX, IBM PC or compatible, or Apple computer. The ability to address all these different hardware environments with a single distribution disc is one that data publishers are just beginning to deal with. The potential cost benefits for the consumer can be substantial. A later article will describe the file systems that have evolved for CDROM and how they facilitate the creation of discs intended for multiple hardware environments.

Disadvantages of CDROM

CDROM discs do have some drawbacks; specifically slower seek times and the inability to change the content of the disc. The same technology that makes it possible to have very large amounts of information on the CD also causes random access times to be much slower than on magnetic disk. The newer CDROM players provide dramatically improved seek times over the earlier drives, but the delay is sometimes still noticeable under interactive applications that require frequent seeking over the surface of the disc.

A user's application cannot write directly to a CDROM. Once the data is mastered on the disc, the only way to change it is to master an entirely new CDROM. While many people view this as a limitation, it is often a strong point in favor of the medium. Most of the data stored on magnetic disk and tape today is actually archival information, well suited for storing on CDROM where it cannot be erased or corrupted.

Some Current Applications on CDROM

Digital Equipment Corp. announced recently that it will be distributing software on CDROM. This is an ideal application for the technology. It will be less expensive for DEC to produce and distribute the executables on CDROM, and the person receiving the software no longer has to be concerned that the tape or floppy has been damaged or erased during shipping. Storing the media after the software installation is complete will require less space and no longer requires a controlled environment to guarantee the integrity of the data.

New databases are appearing on CDROM each month. In particular, relatively static, full text applications are ideally suited to distribution on CDROM. Most of these applications have

been created for the PC market, but both Apple and Digital have announced their support for CDROM and the ISO CDROM file system standard and we can expect to see offerings for their machine environments soon.

Traditionally online databases that have begun to appear on CDROM include the offerings from Lotus, Dialog, and UMI. A number of applications including maps and demographic information, telephone information, and legal and statistical data have also begun to appear.

For the home market the potential is enormous. Grolier's has already published its first edition of an encyclopedia on CD and has announced that a second edition will be available soon. Computer game manufacturers are beginning to see the value in CDROM as a means to store video, graphics, and sound for increasingly complex computer adventure games. Other applications involve a combination of text, video, and audio capabilities to produce an exciting learning environment for the home.

Conclusions

CDROM as a medium has finally come of age. More and more manufacturers are beginning to realize the potential of a 500 to 600 megabyte medium that only costs a few dollars per unit to produce. Never before has the small computer user had such inexpensive access to such large amounts of data. In the next year we can expect to see many new products released on CDROM. The potential applications of this new medium are limited only by our own imaginations.

For Further Information

Buddine, Laura and Young, Elizabeth. The Brady Guide to CD-ROM. New York, New York: Prentice Hall Press, 1987.

Lambert, Steve and Ropiequet, Suzanne, eds. The New Papyrus. Redmont, Washington: Microsoft Press, 1986.

VAX SIG Commercial Working Group Seeks Input

Berkley Shands, Washington University, St. Louis, MO

The VAX SIG Commercial Working Group has a new chairman and an expanded role to fill. We are seeking more contributors for the white papers currently in process. We have eight people actively involved in writing, including EUROPEAN support. If you have ANY interest in the topics below, please let us know your thoughts so we can demonstrate a broad base of support when presenting these papers. Send your comments to: BERKLEY@WUNET.BITNET or BERKLEY@WUCS2.WUSTL.EDU or use regular US MAIL (see the back of the Pageswapper for the address).

The white papers being generated are:

1) Operator interface - The communication to operation personnel.

2) File Archiving - The ability to store and retrieve offline files.

3) Dates/Times - The ability to deal with a consistent time standard that includes daylight savings and universal time.

4) Accounting - (presented) A complete data collection of system usages.

5) Scheduling - Process scheduling / Class scheduling / processor control

6) Services - Telephone support, bug resolution, field service issues

7) Utilities - Large shop file and monitor support utilities

Suppressing Extra Blank Pages from VMS Print Symbionts with Print Symbiont Modification Routines

Ross Miller

The VMS print symbiont facility offers fabulous control over various kinds of printers by using SETUP MODULES associated with FORMS. Each different device can have its own library of device control strings. There are some problems with doing this as the symbiont comes to us from DEC.

When the queue is started, the symbiont sends a form feed to the printer prior to the first setup module. This can cause problems when the setup module contains the control command to define the form length to the printer. Essentially we are asking the printer to form eject, then later tell it how far to jump. If the printer was already at the top of form, then a sheet of paper is wasted. There is also another paper eater hiding here. When using control strings which are foreign to DEC, the symbiont will see the setup text as printable data. Because it thinks printable data has been sent to the printer it will issue a form feed prior to starting the print job.

Both of these form feeds can be suppressed. We will need to modify the symbiont slightly using the Print Symbiont Modification Routines as supplied with VMS. Essentially we create can create our own print symbiont program which simply calls `PSM$PRINT`. `PSM$PRINT` invokes [messed up stuff here] the VAX/VMS supplied print symbiont. But before we call the standard symbiont to process, we would like to replace two of the normal functions with our own noop input routine. This is done with the `PSM$REPLACE` routine. This facility is described in the VAX/VMS Utility Routines Reference Manual.

The following program shows how easy it can be to modify the standard symbiont, and performs the useful function of suppressing the blank pages as described above.

```
;         This program is a user modified symbiont which suppresses
;         the extra form feed between jobs, and when the symbiont
;         first starts up.  It has a side effect that it will prevent
;         RESET modules from working.  This is a multi-threaded symbiont
;         allowing up to 16 streams, the limit imposed by VMS.
;
;         Compile as:  $ macro odpprtsmb
;                      $ link odpprtsmb

.LIBRARY  "SYS$LIBRARY:LIB"
$PSMDEF   GLOBAL

; Argument Pointer offsets for input routine
request_id = 4          ; Request identifier (stream id)
```

```
work_area = 8           ; Work area for this stream
func = 12               ; Function code
func_desc = 16          ; Depends on function
func_arg = 20           ; Depends on function

streams = 16            ; Support as many streams as possible


.PSECT    $CODE,PIC,CON,REL,LCL,SHR,EXE,NOWRT,LONG

.ENTRY    ODPPRTSMB,^M<>

          PUSHAL        NOOP_INPUT          ; Address of input routine
          PUSHAL        #PSM$K_FILE_SETUP_2; Module to replace
          CALLS         #2,G^psm$replace    ; Tell symbiont
          BLBC          R0,ABORT            ; Insure success

          PUSHAL        NOOP_INPUT          ; Address of input routine
          PUSHAL        #PSM$K_JOB_SETUP    ; Module to replace
          CALLS         #2,G^psm$replace    ; Tell symbiont
          BLBC          R0,ABORT            ; Insure success

          PUSHL         #0                  ; Context size
          PUSHL         #0                  ; Use default buffersize
          PUSHAL        #streams            ; number of streams supported
          CALLS         #3,G^psm$print      ; Startup printer symbiont

ABORT:    RET                               ; Exit image upon return


          .PAGE
          .SUBTITLE     NOOP_INPUT - no function input routine
; STANDARD DO NOTING INPUT ROUTINE
;
.ENTRY    NOOP_INPUT,^M<>
          MOVL          @func(AP),R0        ; What are we asked to do

          CMPL          R0,#PSM$K_OPEN      ; Are we asked to try to open?
          BNEQ          100$                ; Branch if not

          MOVL          #1,@func_arg(AP)    ; Yes, return #1 in funcarg
          MOVL          #SS$_NORMAL,R0      ; Return success status
          RET

100$:     CMPL          R0,#PSM$K_READ      ; trying to get a line from us ?
          BEQL          200$                ; Branch if so

          MOVL          #PSM$_FUNNOTSUP,R0 ; We don't do this one
          RET

200$:     MOVL          #PSM$_EOF,R0        ; We have nothing more to say
          RET                               ; DONE


          .END          ODPPRTSMB           ; Declare our entry
```

System Improvement Request Ballot, Fall 1988

Dave Schmidt, VAX System SIG - SIR Coordinator

HOLD IT! DON'T PUT THIS OFF! THE DEADLINE IS August 31, 1988! Ballots received after August 31, 1988 will not be counted in order to make the cutoff date to allow Digital time to prepare a response for presentation in Anaheim.

You have an opinion about what is right or wrong with VAX/VMS. Here is your chance to influence the directions of future DEC development. The VAX Systems SIG System Improvement Request (SIR) program is an important method for the VAX user community to provide input to the Digital software developers in formulating their long range (more than one year out) development plans. The SIR process is not intended to address short term issues or SPR type problems. Additionally Digital is more interested in the capability needs rather than requesting yet another switch for the `COPY` command, consequently future SIR BALLOT entries will begin to take on more of this flavor.

Your opinion is important, and every ballot adds to the influence of the SIR program. We have a tight deadline as usual due to the lead times and fixed cutoff dates for publication in the Pageswapper. Please take the time to vote (quickly). The greater the number of voters the greater the impact on Digital Developers!

On the following pages, you will find the current collection of System Improvement Requests. Please take the time to review these SIR's and assess their effect on your use of VAX's. Then indicate your preferences as described below. THE SIR BALLOT FORM APPEARS IN THE "QUESTIONNAIRE" SECTION OF THIS NEWSLETTER.

Also, please fill out the questionnaire portion of the ballot. This information is important to DEC, as it points out which requests are important to a particular segment of the VAX community.

Occasionally there is some confusion about the ballot. You can only vote for the SIR's that are listed below. Please provide your six-digit DECUS membership number. (If you subscribe to the DECUS U.S. Chapter SIG's Newsletter, then your membership number is the first six digits of the twelve-digit number on the mailing address.) If you are a non-US DECUS member, please provide your full membership number.

The returns from this ballot will be totalled, and Digital will provide a formal response to the 10 items which receive the most votes. The results and DEC's responses will be given at the VAX System SIG System Improvement Requests session of the Fall 1988 DECUS Symposium in Anaheim.

Instructions For Voting

The ballot form contains two sections, a "support" section and an "oppose" section. To indicate your support for an SIR, enter its number in the "support" section of the ballot. You may list from zero to fifteen SIR's in this section. To indicate your opposition to an SIR you consider detrimental, enter its number in the "oppose" section. You may list from zero to five SIR's in this section.

Please return your ballot IMMEDIATELY.

To allow time for DEC to respond, **BALLOTS RECEIVED AFTER AUGUST 31 CANNOT BE COUNTED.**

Any ballot not specifying a DECUS membership number will not be counted. Only one ballot per member will be accepted.

COMMERCIAL

SIR: F88-01

Abstract: Enhance the spooling / batch processors to provide OPCOM status messages.

Description: It is sometimes useful to have the operator informed of the status of queue progress. An OPCOM message indicating the *start* or *completion* of a job would help in getting time critical or priority information out to the user.

```
$ INITIALIZE/QUEUE/NOTIFY=(STARTING,ENDING)
```

The `STARTING` option would send an OPCOM message indicating `JOB <mumble> STARTING on QUEUE <mumble> at <time>`. The `ENDING` option would send an OPCOM message indicating `JOB <mumble> ENDING on QUEUE <mumble> at <time>`.

SIR: F88-02

Abstract: Enhance BACKUP to provide operator readable progress information.

Description: There is no easy way for the operator to know where BACKUP is in processing a SAVE-SET. Adding a `/PROGRESS` qualifier would allow the operator to query BACKUP as to the last file seen or processed. This could be via a "`^T`" trap for interactive work, and at each volume switch for BATCH work.

SIR: F88-03

Abstract: Update the FILES-11 disk system to provide "archiving".

Description: An archival system is an extension to the file system whereby files satisfying some criteria are allowed to be removed from disk and placed onto secondary storage. If a file is then "needed", the system would issue an OPERATOR request for the restoration of that file while the user (optionally) waits. This keeps valuable disk space free and automates the management of storage. With this system, the user is not required to make an effort (by spinning tapes) to reduce system usage. With SLS and the RV20 now available, the file system needs an update to "grow" with the hardware and user base.

INTERNALS

SIR: F88-04

Abstract: Null-terminated strings (ASCIZ) should be given descriptor classes and the VMSRTL modified to support them. Both static and dynamic classes should be provided.

Description: Dynamic strings for return data from the VMSRTL are often of limited use because the space allocated does not leave room for the terminating Null. The proposed ASCIZ and dynamic ASCIZ classes would go a long toward making C interface well with the VMSRTL.

SIR: F88-05

Abstract: Modify print symbiont / job controller to recognize DTR as printer ready signal.

Description: Currently, LP11 controllers and VMB 4.4 detect when a printer is not ready. This capability should be extended to terminal printers such as the LN03. Currently, users must turn on a printer before starting its queue.

SIR: F88-06

Abstract: `NCP> SET EXEC NODE` should work for terminal servers.

Description: Terminal servers are nodes on the DECnet network. As such, they should be accessible via the same mechanisms as VAX nodes, DEcnet Routers, and so on.

SIR: F88-07

Abstract: `$MONITOR CLUSTER` should be customizable like `$SHOW CLUSTER`.

Description: The system manager should be able to display what she con- siders to be important information. For example, the amount of memory currently used is practically a useless piece of information, while page fault rates are very important at most sites. The scheme developed for `$SHOW CLUSTER` is the model for implementing this.

SIR: F88-08

Abstract: Autogen should be able to configure system parameters related to the terminal server (LAT) environment.

Description: Autogen does some checks for drivers, and `NETCONFIG.COM` make additional modifications for DECnet. These should all be folded into Autogen, along with the LAT/VMS requirements for SRP's, IRP's, and non-paged pool.

SIR: F88-09

Abstract: VMS should permit the system manager to place the dump file on any disk volume.

Description: Now that we have VAX systems with large main memory configurations, it would be beneficial to implement this option. This feature would be especially useful for VAXclusters running on a common system disk – all nodes of which must now share the same dump file. The alternative of multiple system disks is unreasonable to management.

LANGUAGE AND TOOLS

SIR: F88-10

Abstract: Add an ".INCLUDE" directive to the VAX MACRO assembler.

Description: An ".INCLUDE" directive to include the contents of a separate file in an assembly would allow a small subsystem of a few MACRO modules to share a common set of definitions without requiring the effort to establish a macro library for one or two macros.

SIR: F88-11

Abstract: Enhance VAX MACRO string substitution and symbol handling.

Description: Currently the ".MACRO" directive creates alphanumeric symbols that disappear with the ".ENDM" directive. To build code generators (cross-assemblers, pseudo-compilers) the capability to define a symbol that is equated in one ".MACRO" and use its value in another ".MACRO" is extremely important.

SIR: F88-12

Abstract: Provide line-number support in TPU.

Description: TPU should be enhanced to provide line-number support. The following capabilities are needed:

1. A command to "go to" a desired line.
2. A command to return the current line number.
3. A command to sequence a file, similar to the EXIT/SEQUENCE command in EDT.

SIR: F88-13

Abstract: Increase the maximum record size to 65535 in TPU-based editors.

Description: The current maximum record size in TPU-based editors is 984. This should be changed so that a long-record-length file may be edited. Currently TECO must be used to edit files with long record lengths.

SIR: F88-14

Abstract: The overstrike mode in TPU should treat the tab characters as 8 spaces.

Description: When over writing tabs the "pseudo" spaces are eliminated. This is confusing and can cause the wrong data to be overwritten and margins to become unaligned.

SIR: F88-15

Abstract: EVE should repaint the screen less.

Description: Various commands cause EVE too perform to much screen updating. For example, "`REPEAT 1000`" followed by "`MOVE DOWN`" displays 1000 lines. This takes a long time even at 9600 baud. This example is useful for locating lines that are specified by various utilities and compilers.

MISCELLANEOUS

SIR: F88-16

Abstract: The VMS System Dispatch should be available as a text file.

Description: If the System Dispatch was distributed on tape, it would be available to everyone on the system who needs it. Problems with circulation and duplication would be eliminated. Furthermore, people could more easily search for keywords relating to particular problems.

SECURITY

SIR: F88-17

Abstract: LOGINOUT interface for site-specific authentication.

Description: Many sites have security requirements which cannot be met by traditional passwords, no matter how well protected. Some want a "something you have" component of authentication, whereby authorized users carry a device which gives them their personal "password of the minute" or assists them in answering authentication challenges generated by the host computer.

Adding such alternate authentication mechanisms to LOGINOUT (so that failures can go through the normal VMS breakin detection and reporting mechanisms) requires patching DEC-supplied images at present. DEC should supply a mechanism for sites to augment or replace (site choice) existing authentication mechanisms.

SIR: F88-18

Abstract: Change DECnet default to eliminate Task Object.

Description: The DECnet Task Object (0) is a potential security problem for some sites, as it allows remote users to execute programs of their own choosing over the network. It is messy to remove the Task object, as it cannot be simply removed once from the DECNET permanent data base but must be removed every time DECnet is started. By default, the DECnet Task object should be undefined, and system managers who wish to allow use of it should have to specifically define it.

SIR: F88-19

Abstract: Eliminate the automatic unsolicited ACE on file creation.

Description: When a user holding a rights identifier (with the RESOURCE attribute) creates a file in a directory owned by that rights identifier, an ACE is automatically added to the ACL for the created file. This unsolicited ACE gives the creator UIC full (READ, WRITE, EXECUTE, DELETE, and CONTROL) access to the file. This design feature was intended to insure that the creator of a file retains access and is used at some sites to set up a scratch area in which users can create temporary files. However, it causes problems for other sites in two ways. First, a number of users and system managers have been confused by the appearance of this unsolicited ACE. Secondly and more importantly, once a user creates a file in a project- owned directory and gets automatic CONTROL access to the file, it is very hard to revoke that user's access when the user leaves the project. Not only must the system/project manager remove the ACE that gives the user's UIC access to the file, but he must also carefully review the ACL to make sure that the user has not added other ACE's that give him access via other rights identifiers. When a large number of project-owned files are involved, this can become a very cumbersome operation.

It is proposed that the automatic generation of this unsolicited ACE be eliminated and that a new type of default ACE be defined to replace it. This new ACE might take the form (IDENTIFIER=$CREATOR$,OPTIONS=DEFAULT, ACCESS=whatever_is_desired). When placed on a directory that is owned by an identifier with the RESOURCE attribute, this ACE would cause an ACE to be place on each file created in that directory giving the creator UIC the specified access. This would allow sites that need this feature to request it explicitly without the confusion of an unsolicited ACE, and it would also allow other sites to give users less than complete access to project-owned files.

SIR: F88-20

Abstract: Prevent password reuse by users.

Description: The only way to prevent a user from keeping the same password is to require the use of the password generator via the GENPWD flag in the UAF. If users are allowed to change their own passwords, then when the password expires, they may change to a new password and then immediately change back to the old one. A way is desired to prevent users from retaining the same password for long periods of time without setting the GENPWD flag. One way to accomplish this would be to maintain a history of the last "n" passwords and to enforce a minimum password lifetime, so that the user could not quickly cycle back to his old familiar password.

SIR: F88-21

Abstract: Suppress login failure due to "Error reading command input".

Description: The number of login failures due to "Error reading command input" can be very large on some systems and do not normally indicate a security problem. In many cases they are associated with terminal problems or timeouts. However, the security alarms due to such errors can fill up the security audit log and obscure real security problems in the system. A mechanism is needed to suppress logging of the login failures due to "Error reading command input" while recording other "real" login failures, such as bad username/password or attempt to login from an unauthorized source.

SIR: F88-22

Abstract: Mechanism needed for file access via a user-defined image.

Description: Non-privileged users sometimes need to give other non-privileged users controlled access to data files through a program. Through this facility any user would be able to control who could access his data files and what kind of access they may have. In the current system, in order to allow another user to add a record to a file, that user must be given `WRITE` access to that file, which means he could alter existing data or delete records from the file.

Presently this requires the system manager to install the program with privilege, which is both an administrative nuisance and a security problem, as the privileged image would also have access to other system data files as well as the intended files. This mechanism should be under user control, i.e., the user should be able to determine which images could access a file. For example, the UIC of the image and data file could be required to match before access would be permitted. This feature could be implemented by allowing the system manager to install an image with a particular identifier. Then the user could set up the access control list for that file to permit access by that Identifier. This would be less flexible but would permit a user to allow access from images other than his own, e.g., a data base manager.

SIR: F88-23

Abstract: Security alarm messages to a file.

Description: Add an option to the Access Control Entries (ACE's) that specifies a file into which security alarms for that file/directory are written. This would allow a user to review security alarms for his own files, rather than depending on the system manager to perform the auditing. Of course, security alarms requested by the system manager via the `SET AUDIT` command should be written to the system-wide security log.

SIR: F88-24

Abstract: ACL class names needed for management of complex ACL's.

Description: ACL's are very flexible, but unfortunately a full ACL description must be stored on each file that is to be protected. Whenever the ACL's need to be changed on a large set of files in several directories, the process is time- consuming and error prone. Also, files restored from a previous backup after the ACL's have been changed revert to their original ACL's. If ACL class names were available, they could be redefined without necessitating a change in the ACL's on the individual files. References to ACL class names could be made via a special type of ACE.

SIR: F88-25

Abstract: End-to-end encryption of logical connections within DECnet-VAX.

Description: The assumption made by DECnet that all nodes and communications paths are trustworthy is not viable in many environments. End-to-end encryption of the data por-

tion of network packets is required in these environments to assure that eavesdropping is fruitless, both in Local Area Networks (broadcast) and Wide Area Networks (multi-hop). This encryption should be implemented so as to be transparent to the application programmer and user, i.e., the mechanism should be located in the NSP (or OSI session) layer. New encryption keys should be generated for each logical connection between cooperating, encryption-capable processors. (Some nodes will not be capable of encryption and should be allowed to participate in the network without performing encryption.) Intermediate nodes should not be required to participate in, or be knowledgeable of, the key distribution/management or the encryption process. The DES algorithm should be utilized in the near term but should be readily replaced as NBS standards change. Provisions should be made for encryption hardware to boost performance where necessary.

SIR: F88-26

Abstract: Support DECnet proxy access for `SET HOST` command.

Description: When a user logs into a remote host via the `SET HOST` command and a DECnet proxy exists in the `NETUAF` on that host, the user should have the option of being automatically logged into that proxy account. This would be extremely helpful to less advanced users who switch frequently between systems. It would also reduce the chances of disclosing user passwords, since they would not be transmitted across the network if the proxy were used. A `/PROXY` qualifier could be added to the `SET HOST` command to allow the user to request proxy access.

SIR: F88-27

Abstract: Better control over DECnet remote file access.

Description: The RMS file protection defines `WORLD` access to include all those outside the owner's group. It would be useful to define several classes of users as follows:

1. All `WORLD` users on the local node.
2. All users local to this VAXcluster.
3. All users on nodes within this DECnet area.

LOGINOUT currently gives a process the Identifier `NETWORK` if that process is being created in response to a network request. It would be useful to get greater granularity of access control for network processes by having additional identifiers created based up the node, cluster, and area from which the access is being attempted. This capability might possibly be achieved by having the File Access Listener, LOGINOUT, or some other privileged image set up the additional process Identifiers.

SIR: F88-28

Abstract: Enhance `COPY` to copy ACL's.

Description: The `COPY` utility does not currently handle ACL's. It should be enhanced to propagate any ACL's from the source file to the destination file. However, there may be many times when a user is copying another user's file in order to modify it for his/her own purpose. It is likely that in such cases the user would not want to propagate ACL's from the

original file. Therefore, this capability should be available via an additional qualifier to COPY, e.g., /PROPAGATE.

SIR: F88-29

Abstract: Provide lexical function for getting RIGHTSLIST information .

Description: An F$RIGHTS lexical function should be provided to return the list of identifiers held by a user (similar to SYS$FIND_HELD). Also, an F$ACCESS should be provided to return a boolean logical value indicating whether access to an object is allowed given an input rights list.

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Mailer CBASIC2 Accts TREEDUPL Payable/Receivable McGraw-Hill Payroll SEDT: EDT/WPS Screen CLNDRS:
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CATALOG INSTRUCTIONS:

These corrections are to be made to the 1988/1989 Software Catalog.

DECUS No: V-SP-53, **Title:** KERMIT Distribution

Add (PB) to Media Service Charge Codes to read:
"Media (Service Charge Code): 2400' Magnetic Tapes (PB) **Format:** VMS/BACKUP, 2400' Magnetic Tapes (SB) **Format:** VMS/BACKUP...."

DECUS No: 11-725, **Title:** PASCAL Formatter

Change Media Service Charge Code from (EB) to (EA) to read:
"Media (Service Charge Code): Source Listing (BA), User's Manual (EA)....".

NEW LIBRARY PROGRAMS AVAILABLE FOR THE VAX/VMS FAMILY OF COMPUTERS

DECUS No: V-SP-75 **Title:** Symposium Collection from the RSX/PC/VAX SIGS, Spring 1988, Cincinnati Version: 1, June 1988

Submitted by: Glenn C. Everhart

Operating System: AMIGA DOS, IAS, MS/DOS, Micro/RSX, Micro/VMS, RSX-11M, RSX-11M-PLUS, UNIX, VAX/VMS **Source Language:** BLISS-32, C, FORTRAN IV-PLUS, MACRO-11, MACRO-32, PASCAL, VAX BASIC, VAX FORTRAN **Keywords:** Symposia Tapes - RSX-11, Symposia Tapes - VMS

Abstract: This tape is a collection of useful programs from the RSX, PC, and VAX SIGs compiled from material submitted at the Spring 1988 DECUS Symposium in Cincinnati. It is a separate DECUS Library item from the VAX SIG tapes due to the aggregate size of the distributions. Both items, DECUS No. V-SP-75 and DECUS No. V-SP-76, together contain the complete Spring 1988 VAX collection; DECUS No. V-SP-75 also contains the Spring 1988 RSX collection. (For a description of the VAX SIG tapes, see "Symposium Collection from the VAX SIG, Spring 1988, Cincinnati", DECUS No. V-SP-76.).

[VAX88A4]

[.SOFTWARE_TOOLS]	Software Tools user Group multinetwork mailer, in C, last PD version. Does multinetwork, store/forward mail and gateways, and has its own user interface if desired (much more powerful/complete than VAXMail).
[.TECOC]	Complete rewrite of TECO in C for VMS.
[.PCSIG_DECUS]	Large collection of MS-DOS and CP/M utilities contributed by the DECUS PC SIG. Many for Rainbow but many for IBM PC or generic MS-DOS or CP/M also.

RSX88A Tape Directories

[UIC]

[265,20]	MCE Command Line Editor from Hans Hamakers, Rotterdam, The Netherlands. Submitted by Alan Frisbie.
[373,310]	Files-11 ODS1 & ODS2 specifications, including RMS-11 Internals manual. Submitted by Alan Frisbie.
[351,144]	LBC - Logical Block Copy (disk-file, disk-disk, file-file). Submitted by Thomas Wyant.
[351,145]	TEM - Terminal Emulator. Submitted by Thomas Wyant.
[300,201]	RSX-11M-PLUS Queueing & Routing Software. Submitted by L.M. Cartwright.
[300,210]	LZYCLI - Command-line recall/edit and VMS-style symbols. Submitted by William Crocker.
[311,*]	LN03 control, COOKIE, DAMMIT, and other sayings; ECR - Command-line editing for IAS. Submitted by Frank Borger.

Complete sources not included.

Media (Service Charge Code): 2400' Magnetic Tape (PS) **Format:** VMS/BACKUP, TK50 Tape Cartridge (TC) **Format:** VMS/BACKUP

DECUS No: V-SP-76 **Title:** Symposium Collection from the VAX SIG, Spring 1988, Cincinnati **Version:** 1, May 1988

Submitted by: Glenn C. Everhart

Operating System: MicroVMS, RSX-11M-PLUS, VAX/VMS **Source Language:** BLISS-32, C, DCL, MACRO-32, PL/1, VAX BASIC, VAX COBOL, VAX FORTAN **Software Required:** Some programs need FORTRAN compiler. Most programs have executables. **Keywords:** Symposia Tapes - VMS

Abstract: This is the VAX SIG tape from the Spring 1988, DECUS Symposium in Cincinnati. The tape consists of two parts, spanning a total of four reels of tape. The first part is the VAX SIG tape on three reels. The second part, is the RSX/PC/VAX Collection on one reel. The RSX/PC/VAX Collection is split off in order to make distribution of the VAX tapes reasonable on TK50 media or on 1600 BPI magnetic tape. (See "Symposium Collection from the RSX/PC/VAX SIGS", DECUS No. V-SP-75 for a complete description of the RSX/PC/VAX Collection tape).

The following is a summary of the contents of the tape:

VAX88A1

[.ABEL]	Editing interface built on top of EVE. ABEL is the output of an L&T SIG effort to merge the many EVE supersets of recent years.
[.ANUNEWS]	Geoff Huston's Un*x NEWS rewrite for VMS. Allows any VMS site to participate in Usenet NEWS networks and manage newsgroups.
[.ATTC]	Cluster management tools.
[.BRYANT]	TPU enhancements (APLTPU). GBLSUBS - global substitute strings. GBLSEARCH - search for pattern in files.
[.BZL]	LSE templates for RUNOFF. Spell dictionary with most MACRO-32 instructions defined.
[.COY]	DM - Directory manager, windowing dir. management. SD -revised Set Default. WPE - WPS-Plus emulator for TPU. COLORS-Reset VTx4x colors. SHOWME -system or user status report. VAXNotes enhancers. Improved MON PROC/TOPC display.
[.CSDHBO]	XSHOW - show many things across cluster. (Files, holders of IDs, terminals, users, etc.).
[.DINKIN]	NAME - Find what terminal server and port a terminal is on.
[.DMILLER]	TPU enhancement. ALOCWAIT - allocate/wait. BBS - full function bulletin board system. CB -VAX CB radio simulator. ETAPE - Convert to/from EBCDIC etc. tape.
[.DOLGEN]	Proc to reorganize a whole disk and maintain master indexed files created with exact positioning.
[.DUMPER]	Utility to read TOPS-10 and TOPS-20 DUMPER tapes on VMS. Handles versions 5 and 6 DUMPER tapes now too.
[.FINGER]	Local or remote Show System/Users, name server, and mail querier. Major update of mail items.
[.FLOWERS]	Security audit on wildcard files. Checksums on sys$system. Account summary. Check login time. Allow use of old shared images.
[.GAMES]	Cribbage and poker games. Various authors.
[.GHC]	Rewrite of LIST/RSX for native mode VMS. Super multicolumn lister, many options.
[.GNUSOFTWARE]	Numerous GNU utilities including BISON (a YACC superset), AWK, Emacs, C++, Assembler, GDB, and Gnu C. Gnu C binaries for VMS are present also, providing a FREE, NATIVE-MODE C compiler for VMS. This compiler generates code which is generally superior to VAX-11 C's. It is however a beta version (until it finishes compiling all of Berkeley Un*X) and may still have some bugs. Even so it is quite usable.

VAX88A2

[.CAROSSO]	Kevin Carosso's latest PTY driver for VMS V4 and V5 plus a working PHOTO program using it.
[.DISM32]	Disassembler, converts .EXE to .MAR.
[.ISPELL]	Interactive spelling corrector for VMS. Extremely fast and powerful.
[.JLP]	William Wood's LIST file display/search utility updated for newer VMS versions. Zmodem code for VMS.
[.JMEADOWS]	STATUS monitor/finger type user/system display program. Will work over DECnet. Also SDL un-do'er for C and re releases of VERB, FILE, and FIND for decompiling DCL tables, changing RMS attributes, or finding files in indexf.sys.
[.JPRIGOT]	Master_Dist generates a mailing list of everyone in the UAF file.
[.JSCLUG]	MTG - meeting announcement bulletin board. USERLIST - several new format lists from SYSUAF. DAT. VC - VAX Calculator. Mail Util -examine if someone has read your mail. Calendar of events program. Compress someone else's mail. Front end to make remote network mail address fruit-salad invisible to users. WHOIS manager. PRIOMGR - adjust prio of compute bound jobs.
[.LILUG]	IDXTEX - Create index files from .IDX files. Grant ACL to others easily. WIN - multiple windows on screen. Test if your mail was read.

	REMINDOLD - tells if you have reminders outstanding. Group quota system.
[.LOMASKY]	The "ultimate" Set Default. Password change enforcement. SYSUAF report enhancements.
[.MAQDEV]	Queueing to/from global sections between processes, on either VMS or RSX-11M-PLUS and over DECnet. User written system services and queue managers.
[.MCM]	Code Management System to handle changes to any kind of source material. Also adds a BUILD facility. (A kind of free CMS/MMS).
[.MNVAX]	Force user to change his password. Become invisible to others on the system. Text library handling command proc, and editing/RUNOFF control program.
[.MOPAC]	LSE Templates for Rdb/VMS and slides for two DECUS talks.
[.NET_WHAT]	FAST Cluster and network wide SHOW Users (and more) type command.
[.NEWLON]	Create orderly SYSTARTUP.COM files.
[.NEWLZW]	Current versions of LZW compress/decompress utilities for VMS.
[.NFREED]	AUTOLOGOUT - logout inactive terminals. CRON - issue commands based on time. EVEEDT - EDT keypad on top of EVE. NODECHECK - allow and disallow access to various nodes in cluster driven by identifiers. Convert ASCII to Postscript. (Also does .MEM files). MAKE - from Todd Aven. Like Un*x MAKE (works off MMS files.).
[.NIELAND]	BULLETIN - Mark London' BULLETIN, a VAXNotes - like utility. CMD - DCL buffer recall utility. MANUAL - online VMS manual file. MENU - SMG based menu driver. MODIFY - global search/replace utility. SPELL - correction to Vassar SPELL utility. ZDEC - zero device error counter.
[.PAGESWAPPER]	Pageswapper back issues through May 1988.
[.PTIUTIUL]	Generate a hard BREAK signal on VAX terminal.
[.RAE]	MLR MACRO language, structured MACRO-32.
[.RHALL]	MPA - analyze memory performance (tuning aid).
[.RNOTODOC]	DSRtoSDML - Convert RUNOFF files to VAX Document format. Output in LN03, Postscript, or plain text.

VAX88A3

[.DTRSIG]	DATATRIEVE SIG items:Convert VMS Accounting to DTR format. Get DTR to access ALL-IN-1 logging/data files. Corporate Phone directory. User defined DTR functions. Back newsletters. Additional DTR Plots. Command line recall. Symposium sessions. System mgr utils.
[.RCAS88]	AnalytiCalc spreadsheet update; now can call unchanged subroutines. DBAG - src only for dBaseIII clone. FORCE - force commands on other terminals. MENU building aids. PLOTIT - presentation graphics for AnalytiCalc or standalone. Search multiple words. Command frontend to VMS. NETS88 - MANY invaluable items from ARPAnet mail including BOSS (multiple sessions at a single terminal) and matching PTY drivers and MUCH, MUCH more.
[.RPI]	MODPARAMS manager - build MODPARAMS.DAT for a cluster. Screen Dump filter (VAXstation to print). SETUP - avoid zillions of DCL symbols at login. WATCHER - idle job killer; works with LAT.
[.SDE]	Software Development Environment complete procedure using CMS and MMS.
[.SUM]	SUM - Show Users More; shows users and LAT location info.
[.TPUSPELL]	Spell checker in TPU; check words in the editing buffer interactively.
[.WENTZ]	ALL-IN-1 system mgt. utilities. BECOME another user utility. Utilities for developing BLISS source code. Show Proc/continuous which shows all quotas also. More.
[.WORLTON]	DOCUMENT - get documents from src files. GPLOT - routines to make it easier to use VAX GKS. MODIFY - replace strings, detab, etc. files; global search/replace.
[.XEVE]	Extended EVE with features from many of the EVE extended editors of earlier tapes. Spelling checker.

Complete sources may or may not be included.

Media (Service Charge Code): 2400' Magnetic Tapes (PD) **Format:** VMS/BACKUP, 2400' Magnetic Tape (SD) **Format:** VMS/BACKUP, TK50 Tape Cartridge (TD) **Format:** VMS/BACKUP

DECUS No: VAX-340 **Title:** Queueing/Routing **Version:** 2.5, May 1988

Author: Earl Lakia

Submitted by: Neal Schmidt, Inland Steel, E. Chicago, IN

Operating System: VAX/VMS V4.4 - V4.7 **Source Language:** MACRO-32, VAX FORTRAN **Software Required:** DECnet for Routing **Keywords:** Data Communications, Device Handlers

Abstract: This software provides the ability to transfer data between processes similar to VMS mailboxes with the addition of a global section file that saves individual messages during a reboot or crash. There is also a routing application (MA_ROUTER) that allows messages to be transmitted over DECnet to a MA_ROUTER on other VAX or PDP-11 systems. The MA_ROUTER allows both multiple message id's (i.e. individual queues) to be connected to a particular MA_ROUTER and also allows connections to many MA_ROUTERS on various systems.

The queueing mechanism uses user-written system service routines to read and/or write to the global section file in memory. These routines are located in the SSDISP.EXE image and are installed with privileges on the system. The messages are checkpointed to disk by a detached process (QUEUE_CHKR) that is notified by the application program from calls to the user-written system service routines. If checkpointing to disk is not necessary, QUEUE_CHKR can be rewritten to exit after it creates the global section file in memory.

Besides the user-written system service routines (SSDISP), the queue checkpointing process (QUEUE_CHKR), and the routing process (MA_ROUTER), there are various utilities to help manage the "queuer". The MENU utility allows you to test the functioning of all of the various routines and allows the system manager to dynamically add/delete message ids in memory. The Q_UTL utility allows the system manager to create a new global section file, dump an existing global section to a sequential file, and add/delete message ids to the permanent message id database. The QUEMON utility will display messages ids with current queued messages above a prompted threshold. The NRBDMP utility displays the MA_ROUTER's internal control blocks and displays which messages ids and which systems the MA_ROUTER is currently connected to. With the current implementation of the MA_ROUTER, adding/deleting new routes to the routing database is not a dynamic process. However the router does handle the loss of connections to another system and will re-establish connections when the remote MA_ROUTER attempts to reconnect. There are also utilities to build the route database.

This saveset is a backup of the development environment for the product. The command procedure "BLDMA_QKIT.COM" in the kit directory will build a backup saveset into a format that can be used by VMSINSTAL.COM. This allows the system manager to "drop" the QUEUEING/ROUTING software onto many different systems on their network.

Notes: Operating system VMS V4.4 is required. Order DECUS No. 11-903 for the PDP-11 version.

Media (Service Charge Code): 600' Magnetic Tape (MA) **Format:** VMS/BACKUP

DECUS No: VAX-342 **Title:** IIT **Version:** 4.7, May 1988

Submitted by: C.J. Chapman, Philips Defence Systems MEL, Crawley, Sussex, England RH10 2PZ

Operating System: MicroVMS V4.7, VAX/VMS V4.7 **Source Language:** MACRO-32 **Memory Required:** 13KB Virtual Allocation **Keywords:** System Management - VMS, Utilities - VMS

Abstract: IIT (Idle Interactive Timeout), Security timeout is a systems management tool that will terminate idle interactive processes in the event of users leaving terminals unattended. Interactive processes are considered idle if they use less than two hundred milliseconds, twenty tic's of CPU time and no buffered or direct I/O's within the default timeout period of ten minutes. These values can be adjusted to suit your site. Parent processes will not be considered idle if any subprocess is active. Timeout is very efficient in its own CPU usage, typically it will consume about three minutes of CPU time per month on a system supporting between forty to sixty user processes twelve hours a day.

Features include:

- Process notification before termination.
- Dynamic adjustment of timeout period.
- Process priority override.
- Very low CPU usage.

Release notes are distributed with each order.

Media (Service Charge Code): 600' Magnetic Tape (MA) **Format:** VMS/BACKUP

DECUS No: VAX-343 **Title:** X Windows 11 Release 2 **Version:** May 1988

Submitted by: Glenn C. Everhart

Operating System: UNIX **Source Language:** C **Software Required:** C Compiler **Keywords:** Editors

Abstract: X-Windows 11 Release 2 contains the entire X Windows Version 11 Release 2 collection translated from TAR to VMS/BACKUP format but otherwise unchanged.

The Andrew toolset, complete with its multi-media editor is included.

Notes: Will need customization for use on some systems.

Media (Service Charge Code): 2400' Magnetic Tape (PA) **Format:** VMS/BACKUP

DECUS NO: VAX-344 **TITLE:** SD: The Ultimate "Set Default" Utility **Version:** May 1988

Submitted by: Brian Lomasky, Teradyne, Inc., Boston, MA

Operating System: VAX/VMS V4.2 **Source Language:** MACRO-32, VAX BASIC **Keywords:** File Management, System Management - VMS

Abstract: SD is the "Ultimate SET DEFAULT Utility". After installing SD, simply use the symbol "SD" instead of the words

"SET DEFAULT" when setting your default directory.

In addition to setting your default directory, SD will:

- Verify for the existence of the new default directory.
- Display information showing your switch between directories.
- Remember the last 20 directories you've set your default to. (Use SD * to display the list). (Use SD nn to set your default to line nn's directory).
- Display a help form. (Use SD HELP).
- If you have SETPRV authorized, automatically sets your UIC to the owner of the directory you set your default to, thereby eliminating all protection violations when you create a file in another user's directory which is accidently owned by you. Note that this enables you to leave all of your advanced privileges (i.e. BYPASS, etc) turned off while you set your default to any directory on any disk.
- Automatically correct for almost all typing errors when you specify a directory. It will insert "[" and "]" where required. It will automatically translate logical names. It will assume a trailing colon for logical names which have none and do not match a directory name. . Easily toggle you between your current and previous directory with one keystroke. (Use SD {).
- Let you set your default to a parent directory by using one backslash per level. (Use SD).
- Automatically execute environment-setting files as you enter or leave a directory. When using SD to change your default directory, SD will execute the contents of any SDLOGIN.COM file it finds in the new default directory. Additionally, SD will execute the contents of any SDLOGOFF.COM file it finds in the current default directory, before changing your default to the new default directory. (SD HELP displays text concerning SDLOGIN.COM and SDLOGOFF.COM). This is most useful in order to change your default protection to include W:RE upon entering a directory where created files must be world readable and then turning it off when you set your default away from that directory. SDLOGOFF.COM can also be very useful to ensure that when you leave a directory (via SD), that all files have the correct protection assigned to them. Note: Be sure that there can be no errors in the SDLOGIN and SDLOGOFF command files, as SD will not properly work if it encounters any errors while executing these files.
- (Optional). Automatically change your VMS prompt to the node::device:[directory] where your default is currently set to, and to use any one of Digital Equipment Corporation's video attributes to display it. Enable this feature by defining the SD__PROMPT logical name in your LOGIN.COM file in one of five methods:

- $ASSIGN NL: SD__PROMPT !Uses normal video for prompt.
- $ASSIGN REVERSE: SD__PROMPT !Uses reverse video for prompt.
- $ASSIGN BOLD: SD__PROMPT !Uses bold video for prompt.
- $ASSIGN BLINK: SD__PROMPT !Uses blinking video for prompt.
- $ASSIGN UNDERLINE: SD__PROMPT !Uses underline video for prompt.

Notes: Operating system V4.n or later is required. Privilege to read SYS$SYSTEM:SYSUAF.DAT to run SYSUAF report is required.

Media (Service Charge Code): 600' Magnetic Tape (MA) **Format:** VMS/BACKUP

DECUS No: VAX-345 **Title:** SYSUAF Reporting Utility **Version:** May 1988

Submitted by: Brian Lomask, Teradyne, Inc., Boston, MA

Operating System: VAX/VMS V4.2 **Source Language:** MACRO-32, VAX BASIC **Keywords:** System Management - VMS

Abstract: SYSUAF Reporting Utility is a reporting program for the SYSUAF and RIGHTSLIST data files.

Simply turn on READALL (or equivalent) privilege and run SYSUAF.EXE. (Do NOT install this program with privilege; otherwise, any user could execute it). A menu of seventeen reporting options will be displayed. The best way to see what is available is to try them and see what data is displayed. Then use the ones that suit your purpose. You can print reports either to the screen (formatted for 80 columns) or to a data file (SYSUAF.LIS; formatted for either 80 or 132 columns, depending on which report option is selected). (Note that some of the options create SYSUAF.LIS as a DCL command procedure which can then be easily edited and then executed).

- SYSUAF.BAS is the source code (written in VAX BASIC V2.4).
- SYSUAF.EXE is the executable file.

You should not need to recompile or relink SYSUAF.EXE unless you need to change the features of the program. (Instructions for compiling and linking SYSUAF are contained at the beginning of the source code). Note that this program might not work properly on VMS V5.0 or later.

Notes: Operating system V4.n or later is required. Privilege to read SYS$SYSTEM:SYSUAF.DAT to run SYSUAF report is required.

Media (Service Charge Code): 600' Magnetic Tape (MA) **Format:** VMS/BACKUP

DECUS No: VAX-346 **Title:** VMS V5 Set Password Emulator **Version:** May 1988

Submitted by: Brian Lomasky, Teradyne, Inc., Boston, MA

Operating System: VAX/VMS V4.2 **Source Language:** MACRO-32, VAX BASIC **Keywords:** Emulators

Abstract: VAX system managers are usually bothered by numerous phone calls from users who have either ignored or forotten to change their password when they receive the:

- "WARNING - Your password has expired; update immediately with SET PASSWORD!" message when they log in.

This is fixed in VMS V5 which, by default, throws the user into SET PASSWORD when they log in if their password(s) are expired. This program emulates this V5 feature.

When executed at login time via SYLOGIN.COM, the program will see if the UAF for the username running the program has any expired passwords. If so, the user will be automatically forced into SET PASSWORD, and will rerun SET PASSWORD until the user has made a successful password change.

Primary, secondary, and generated passwords are automatically handled. An explanatory help screen is always displayed prior to running SET PASSWORD. Additionally, both CTRL/C and CTRL/Y are disabled while running the program, to ensure that the user MUST change their expired password(s).

The program requires no privileges in order to execute (although INSTALLing it /OPEN/HEADER/SHARE is recommended for performance reasons). It requires VMS V4.4 (or later), so that the $GETUAI system service is available.

Notes: Operating system V4.n or later is required. Privilege to read SYS$SYSTEM:SYSUAF.DAT to run SYSUAF report is required.

Media (Service Charge Code): 600' Magnetic Tape (MA) **Format:** VMS/BACKUP

NEW LIBRARY PROGRAMS AVAILABLE FOR THE PDP-11 COMPUTER FAMILY

DECUS No: 11-SP-101 **Title:** Symposium Collection from the RSX SIG, Spring 1988, Cincinnati **Version:** 1, June 1988

Submitted by: Glenn Everhart

Operating System: IAS, Micro/RSX, RSX-11M, RSX-11M-PLUS **Source Language:** Various **Keywords:** Symposia Tapes - RSX-11

Abstract: This is the RSX SIG tape from the Spring 1988, DECUS Symposium in Cincinnati. Following is a brief description of the contents of the tape.

[UIC]	
[265,20]	MCE Command Line Editor from Hans Hamakers, Rotterdam, The Netherlands. Submitted by Alan Frisbie.
[300,201]	RSX-11M-PLUS Queueing and Routing Software. Submitted by L.M. Cartwright.
[300,210]	LZYCLI - Command-line recall/edit and VMS-style symbols. Submitted by William Crocker.
[311,*]	LN03 control, COOKIE, DAMMIT, and other sayings; ECR - Command-line editing for IAS. Submitted by Frank Borger.
[351,144]	LBC - Logical Block Copy (disk-file, disk-disk, file-file). Submitted by Thomas Wyant.
[351,145]	TEM - Terminal Emulator. Submitted by Thomas Wyant.
[373,310]	FILES-11 ODS1 & ODS2 specifications, including RMS-11 Internals manual. Submitted by Alan Frisbie.

Complete sources may or may not be included.

Media (Service Charge Code): 600' Magnetic Tape (MS) **Format:** BRU, TK50 Tape Cartridge (TC) **Format:** BRU

DECUS No: 11-905 **Title:** EXTCMD: IND Control File **Version:** 1, May 1988

Submitted by: R.W. Barnard, BIO/Comp Applications, Albuquerque, NM

Operating System: RT-11 V5.4 **Source Language:** IND **Software Required:** EthereXchangE (product of Omnex Corporation). **Hardware Required:** DEQNA, DELQA, etc. **Keywords:** Data Communications, Networking

Abstract: ETXCMD.IND is a specialized version of the IND control files CMD.IND and CSICMD.IND to permit "wild-card" transfers of files using the EthereXchangE Ethernet file transfer product of Omnex Corporation. Information on CMD and CSICMD may be found in the file CMDIND.DOC.

The EthereXchangE control-node program ETHERX-.SAV may be run from an RT-11 or TSX-PLUS command file. This command file can contain the files to be transferred to the server node from the control node. ETX-CMD will construct such a command file on the control node. ETXCMD allows you to issue a single command on the control node to transfer all files which can be described by an RT-11 DIRECTORY command (including DIRECTORY switches). Restrictions: If your network consists of RT-11 control node(s) and a VMS server node, then ETXCMD, Version 1, can only send files from a control node to the server node. If your server node is a TSX-PLUS system, EXTCMD can be modified to work in the opposite direction (i.e., sending files from the server to the control node). The files CSICMD.IND and CMDIND.DOC discuss the logic necessary to make this work. ETX-CMD.IND will not work under VAX/VMS. At the present time, ETXCMD cannot select files on the server node for transfer to the control node.

Media (Service Charge Code): One RX50 Diskette (JA) **Format:** RT-11

DECUS No: 11-906 **Title:** LBC: Logical Block Copy For RSX **Version:** 88.126, May 1988

Submitted by: Thomas R. Wyant III, E.I. duPont de Nemours & Co., Richmond, VA

Operating System: RSX-11M-PLUS V3.0 **Source Language:** FORTRAN 77, MACRO-11M **Memory Required:** 30KW **Keywords:** Utilities - RSX-11

Abstract: LBC provides a non-structured disk copy facility for direct-access media under RSX. All or part of a disk (mounted foreign) or a file may be copied to another disk or file, or to another location on the same disk or file. In the case of file-to-file operations, the attributes of the input file can be preserved. Because up to 64 blocks are moved at a time, performance is reasonable. Error recovery is done by reducing the number of blocks per QIO and retrying the operation; if a single-block QIO fails, the error is logged and a block is skipped on both input and output.

LBC can be invoked in any of the standard ways for an RSX utility. The command interface is DCL-like, and includes prompts for missing information.

Full default file name support as documented requires the PRMS$ directive (ie - RSX-11M-PLUS V3.0 or greater). Older RSX-11M-PLUS systems or RSX-11M systems, require more typing but should work otherwise.

Media (Service Charge Code): One RX01 Diskette (KA) **Format:** RT-11, 600' Magnetic Tape (MA) **Format:** DOS-11

REVISIONS TO LIBRARY PROGRAMS

DECUS No: VAX-336 **Title:** FTX **Version:** 4.7, June 1988

Submitted by: C.J. Chapman, Philips Defence Systems MEL, Crawley, Sussex, England, RH10 2PZ

Operating System: MicroVMS V4.7, VAX/VMS V4.7 **Source Language:** MACRO-32 **Memory Required:** 61KB Virtual Allocation **Keywords:** System Management - VMS, Utilities - VMS

Abstract: FTX - Foreign Tape Extension utility is a systems management tool that enables ASCII or EBCDIC data files to be written, or read from unlabelled magnetic tape using combinations of block and record format.

Features include:

- Automatic tape mount and dismount with no unload.
- Forward tape mark skipping before read begins.
- Full wild card file processing.
- Record padding and stripping.
- Read while spooling option.
- Data I/O checking.

Release notes are distributed with each order.

Notes: Operating System VMS V4.0 or later is required.

Changes and Improvements: New release.

Media (Service Charge Code): 600' Magnetic Tape (MA) **Format:** VMS/BACKUP

DECUS No: 11-750 **Title:** TEM: A Terminal Emulator for RSX-11 **Version:** 88.104, May 1988

Submitted by: Thomas R. Wyant III, E. I. du Pont de Nemours, Richmond, VA

Operating System: RSX-11M V4.2, RSX-11M-PLUS V3.0, VAX-11 RSX **Source Language:** MACRO-11 **Memory Required:** 16KW **Hardware Required:** Dial-out Modem **Keywords:** Data Communications, Emulators, Utilities - RSX-11

Abstract: TEM provides "dumb" terminal emulation over a full duplex TT: line. It allows the user to "become" a terminal on a remote system, and to do ASCII file transfers between systems. TEM has been used to communicate with RSX-11, VMS, RSTS and TOPS-20 systems, as well as non-Digital Equipment Corporation equipment. It requires no software on the remote system (and therefore has no error checking).

In addition to the basic functionality, TEM can automatically issue canned commands to smart modems at the beginning and end of a session. The user can also select from the following features:

- Local Echo.
- Automatic line feed on carriage return.
- Translation of inbound control characters to ASCII abbreviations.
- Passthru of control/s, control/q, control/o and control/x to the remote system.
- User selectable attention and end-of-file characters.
- Inbound and outbound character mapping.
- Specifiable record delay and prompt character for file transfer.
- Parity generation and checking.

TEM requires at least RSX-11M-PLUS V2.0, VAX-11 RSX V2.0, RSX-11M V4.0 or RSX-11S V4.0. If running under RSX-11M or RSX-11S, it requires the full-duplex TT: driver, get/set multiple charac-teristics, and unsolicited input AST's. Correct access of named directories and files numbered in decimal requires the FEAT$ directive. The GIN$ directive is used to prevent nonprivileged users from using TEM to read files that are none of their business (e.g. LB:[O,O]RSX11.SYS). An attempt has been made to conditionalize TEM for RSX-11M V3.2, but it has not been checked. TEM can be initiated from and communicate with any reasonable serial device, but there may be restrictions if not being used on a TT:-type device.

Changes and Improvements: Some extended logical name support; works under RSX-11M.

Media (Service Charge Code): 600' Magnetic Tape (MA) **Format:** DOS-11

DECUS No: PRO-142 **Title:** IND Control Files **Version:** May 1988

Submitted by: R. W. Barnard, BIO/Comp Applications, Albuquerque, NM

Operating System: RT-11 V5.0 **Source Language:** IND **Keywords:** File Management

Abstract: Included are UP.IND and DOWN.IND, which allow you to move among RT-11 subdevice files. DOWN will search for the file on a predetermined list of devices, mount it and assign a logical name. Nested subdevices are supported by DOWN. UP returns from a lower nesting to a higher one, and reassigns any logical names done with DOWN.

NEWLD.IND creates a new subdevice file for use by UP and DOWN. File size may be specified either by a number of blocks or by "disk size" (RX01, RX02, RX50, etc).

INCBUP.IND is an incremental backup program which can create "savesets" of the backed-up files. It will catalog the files in the saveset for rapid location.

PARSE.IND is a comprehensive filespec parser, and READLD.SAV will write a file containing logical disk assignments and the associated logical names.

These files have been extensively improved and enhanced since their previous submission.

Notes: Does not work perfectly under operating system TSX-PLUS. This is documented.

Changes and Improvements: Extensive improvements and enhancements.

Media (Service Charge Code): User's Manual (EA), One RX50 Diskette (JA) **Format:** RT-11

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VOLUNTEER COORDINATOR
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(703) 620-0900

ASSISTANT VOLUNTEER COORD.
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Ontario, CA 91764
(714) 988-6481

SEMINARS COMMITTEE REP.
Dana Schwartz
15719 Millbrook Lane
Laurel, MD 20707
(301) 859-6277

SESSION NOTES EDITOR
Bernadette Reynolds
City of Ontario Police
200 N. Cherry Avenue
Ontario, CA 91764
(714) 988-6481

SUITE COORDINATOR
Bert Roseberry
Commandant (G-APA-1)
2100 2nd Street, S.W.
Washington, DC 20593-0001
(202) 267-2629

FEATURE EDITOR
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Consulting Engineer
3011 N. Mount Curve Ave.
Altadena, CA 91001
(818) 791-0945

DEC COUNTERPARTS
Mary Ann Fitzhugh
110 Spit Brook Road
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FOCUS WORKING GROUP CHAIR
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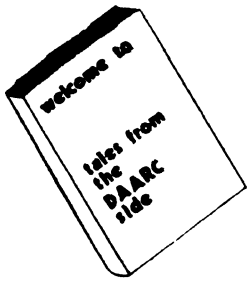
Boston, MA 02199
(617) 421-7910



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12800 Publication Dr., Suite 108
St. Louis, MO 63131
(314) 957-2029

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JCC
P.O. Box 463
Granville, OH 43023
(614) 587-0157

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2 W Washington St., Suite 600
Indianapolis, IN 46204
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(413) 788-8411

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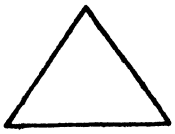

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(205) 727-8242

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Chicago, IL 60616
(312) 791-2515

WHIMS COORDINATOR
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(215) 674-7154

SESSION NOTES EDITOR
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AUSTRALIAN L&T INTERFACE
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Bldg. 180 Labs Area
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Box 2151 GPO
Adelaide, S.A. Australia 5001
(61)(8)259-6119

INTERSIG COORDINATOR
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49 Showers Drive #451
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(415) 948-1003
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EUROPEAN METHODS
L&T INTERFACE
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Box 660023, MS 53730
Dallas, TX 75266-0023
(214) 272-0515 x4319

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Fairfield CT 06432
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3700 San Martin Drive
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(301) 338-4901

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P.O. Box 3999, MS3C-24
Seattle, WA 98124
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P.O. Box 5519
Hilton Head Is., SC 29938
(803) 686-1204

SEMINAR COMMITTEE REP.
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330 E. Jefferson
Box 7
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(219) 232-3992

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Digital Equipment Corp.
ZK02-3/N30
110 Spit Brook Road
Nashua, NH 03062

DIGITAL COUNTERPART
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ZK02-3/Q08
110 Spit Brook Road
Nashua, NH 03062

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CHAIR

E.F. Berkley Shands
Washington University
Department of Computer Science
P.O. Box 1045
St. Louis, MO 63136
(314) 889-6636
UUCP:BERKLEY@WUCS.UUCP
BITNET: Berkley@Uunet

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Clyde T. Poole
The University of Texas at Austin
Department of Computer Sciences
Taylor Hall 2.124
Austin, TX 78712-1188
(512) 471-9551
ARPANET/CSNET:ctp@sally.utexax.edu

36 BIT SYSTEMS

Clive Dawson
Microelectronics & Computer Technology Corp.
9430 Research Blvd.
Echelon Bldg. #1, Suite 200
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(512) 343-0860
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ARPANET:CC.KASSEBAUM@A20.CC.UTEXAS.EDU

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(201) 428-4242
ARPANET:SIT.MCQUEEN@cu2OB.COLUMBIA.EDU

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P.O. Box 23607
Harahan, LA 70183
(504) 733-7055
ARPANET:G.ATTAYA@R20.UTEXAS.EDU

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Ralph Bradshaw
Johnson & Johnson
Research and Scientific Services
Management Information Center
Raritan, NJ 08869-1489
(201) 685-3434

DEC COUNTERPARTS

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Marlboro, MA

Rich Whitman
Digital Equipment Corporation
Marlboro, MA

Reed Powell
Digital Equipment Corporation
Marlboro, MA

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P.O. Box 8744
La Jolla, CA 92038
(619) 488-6193

NEWSLETTER EDITOR
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Mark J. Hyde
Advanced Computing Services
209 Ardsley Drive
DeWitt, NY 13214
BITNET: MJHYDE@SUNRISE
INTERNET: MJHYDE@SUNRISE.ACS.SYR.EDU
(315) 446-7223

SYMPOSIUM SCHEDULER

Brad Hanson
Group Health, Inc.
2829 University Ave., S.E.
Minneapolis, MN 55414
(612) 623-8427

LIBRARY REPRESENTATIVE
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43 Bradford Street
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(617) 369-3566

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Edward Woodward
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10260 Campus Point Drive MS42
San Diego, CA 92121
(619) 535-7210

CAMPGROUND COORDINATOR
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Jerry Hsu
Rubicon Corp.
1200 E. Campbell
Richardson, TX 75083
(214) 231-6591

SESSION NOTES EDITOR

Paul A. Price
SciCor, Inc.
2643 Rand Road
Indianapolis, IN 46241
(317)244-8811

PAST CHAIR
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Mark Berryman
Digital Equipment Corp.
3 Results Way (MR03-2/H7)
Marlborough, MA 01752
(617) 467-4875
BITNET: BERRYMAN@DSM.DEC.COM

DEC COUNTERPART

Dave Smith
Digital Equipment Corp.
2 Iron Way (MR03-2/H7)
Marlborough, MA 01752
(617) 467-2397

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129 Parker Street (PK02-1/M23)
Maynard, MA 01754
(617) 493-9077

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10100 Burnet Road
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(512) 471-2416

SEMINARS COMMITTEE REP

Jeffrey Snover
47 Walden Pond Dr.
Nashua, NH 03060
(508) 256-6600

STANDARDS REP

Jim Ebright
Software Results Corp.
2887 Silver Drive
Columbus, OH 43211
(614) 267-2203

COMMCOMM REP

Allen Jay Bennett
Logisticon, Inc.
1551 Alexander SE
Grand Rapids, MI
(616) 452-1823

NEWSLETTER EDITOR

Judi Mandl
University of Conn. Health Center
263 Farmington Ave.
Farmington, CT 06032
(203) 674-3912

SESSION NOTES EDITOR

Mary Marvel-Nelson
General Motors Research Lab.
Warren, MI 48090
(313) 986-1382

WISH LIST COORDINATOR

Stuart L. Labovitz
USAF AFWAL/AADM-2
Bldg 620 Area B
WPAFB, OH 45433-6543
(513) 255-7680

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Bill Brindley
HDQ Naval Security Group Cmd.
(202) 282-0527

TECHNOLOGY COORDINATOR

Bill Hancock
ERI Training
P.O. Box 13557
Arlington, TX 76094-0557

MEMBER-AT-LARGE

Sandy Traylor
Target Systems
21063 Carlos Rd.
Yorba Linda, CA 92686

DEC COUNTERPART

Monica Bradlee
Digital Equipment Corporation
550 King St. LKG2-1/U2
Littleton, MA 01460
(508) 486-7341

OFFICE AUTOMATION SIG

(*) CHAIR
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Nielsen Media Research
375 Patricia Ave.
Dunedin, FL 34698
(813) 734-5473 x 2438

(*) VICE CHAIR
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Johnson and Johnson
Route 202
Raritan, NJ 08869-1489
(201) 685-3434

SIR PROGRAM ADMINISTRATOR
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VAX Systems Manager
BellSouth Services
1876 Data Drive, Room N204
Birmingham, AL 35244
(205) 988-6800

LUG COORDINATOR & OASIG FOUNDER
Tom Orlowski
American Council on Education
One Dupont Circle (Suite 110)
Washington, DC 20036
(202) 939-9371

OASIS ADMINISTRATOR
Dale E. Coy
E-8, MS/J957
Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, NM 87545
(505) 667-3270

OASIS ASSISTANT ADMINISTRATOR
LIBRARY REPRESENTATIVE
Bob Hassinger
Liberty Mutual Research Ctr.
71 Frankland Road
Hopkinton, MA 01748
(508) 435-9061

SUITE COORDINATOR
Jeanne Ward
State University of New York at Stony Brook
Stony Brook, NY 11794-3499
(516) 632-7795

ASSISTANT SUITE COORDINATOR
Mary L. Keenan
State University of New York at Stony Brook
Stony Brook, NY 11794-2400
(516) 632-8053

(*) SYMPOSIA COORDINATOR
Mitch Brown
Bank of Boston
Central Systems, 99-02-07
Box 2016
Boston, MA 02106-2016
(508) 434-1587 / 6318

ASSISTANT SYMPOSIA COORDINATOR
Lynda L. Peach
Mustang Energy Corp.
1100 First National Center East
Oklahoma City, OK 73102
(405) 272-9471

ROADMAP/PUBLICATIONS COORDINATOR
Scott McClure
Office Systems Senior Analyst
Industrial Tape Division/3M
220-8E-01 3M Center
St. Paul, MN 55144-1000
(612) 736-4297

SESSION CHAIR COORDINATOR
Dee Wade
Office Automation Specialist
Silicon Systems
14351 Myford Road
Tustin, CA 92680
(714) 731-7110

SPEAKER COORDINATOR
Monica Falk
MIF Enterprises
3260 S. Irving Street, Suite C202
Englewood, CO 80110
(303) 781-5726

CAMPGROUND COORDINATOR
LT. Scott Cline
AFWAL/AATC
Wright-Patterson AFB, OH 45433-6543
(513) 255-5623

(*) COMMUNICATIONS COMMITTEE REP
Mary-Jane Bolling
Foreign Mission Board
3806 Monument Avenue
Richmond, VA 23230
(804) 353-0151

NEWSLETTER EDITOR
Therese LeBlanc
T.M. LeBlanc & Assoc.
275 London
Wheeling, IL 60090
(312) 459-1784

TAPE COORDINATOR
Roger Bruner
Foreign Mission Board
3806 Monument Avenue
Richmond, VA 23230
(804) 353-0151

STORE COORDINATOR
Ellen Shields
E-Systems
P.O. Box 12248
St. Petersburg, FL 33733
(813) 381-2000 x2010

ASSISTANT STORE COORDINATOR
Linda A. Peters
E-Systems
P.O. Box 12248
St. Petersburg, FL 33733
(813) 381-2000 x3517

SIG 'EFFECTS' COORDINATOR
Robert O. Wilkinson
Naval Underwater Systems Center
Code 301
New London, CT 06320
(203) 440-4654

SESSION NOTES EDITOR
George Bone
Code 2301.2 mailstop T-11
Mare Island Naval Shipyard
Vallejo, CA 94592-5100
(707) 646-2531

SIG PERQS COORDINATOR
Enid Woods
Word Processing Coordinator
Crowe, Chisek and Company
330 E. Jefferson Blvd.
P.O. Box 7
South Bend, IN 46624
(219) 232-3992

(*) SPECIAL PROJECTS COORDINATOR
Katherine Trimm
PIVOTAL, Inc.
6892 Dorado Ct.
Tucson, AZ 85715
(602) 886-5563

SECURITY WORKING GROUP CHAIR
Ray Kaplan
PIVOTAL, Inc.
6892 E. Dorado, CT
Tucson, AZ 85715
(602) 886-5563

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OASIS (OA SIG NOTES CONFERENCES)

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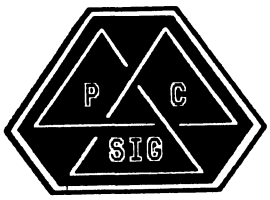

PERSONAL COMPUTER SIG

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San Diego Union-Tribune Pub. Co.
350 Camino de la Reina
San Diego, CA 92108
(619) 293-1130

WORKSTATIONS/MACS/PRO
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Univ. of Florida
IFAS Computer Network,
Bldg. 120
Gainesville, FL 32611
(904) 392-5180

VICE, CHAIR RAINBOW W/G CHAIRMAN
Lynn Jarrett
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P.O. Box 191
San Diego, CA 92108
(619) 299-3131 x1130

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901 Elmgrove Road, D345-LP
Rochester, NY 14650
(716) 253-2363

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Stony Brook, NY 11794

LIBRARIAN Rep.
Ron S. Hafner
Hafner and Associates
P.O. Box 2924
2499 Wellingham Dr.
Livermore, CA 94550
(415) 422-2149

COMMUNICATIONS REPRESENTATIVE
Kenneth LeFebvre
Sytek, Inc.
19 Church St.
P.O. Box 128
Berea, OH 44017
(216) 243-1613

NEWSLETTER EDITOR
Gary Rice
McDonnell Douglas
5555 Garden Grove Blvd.
MS: K200 77/200
Westminster, CA 92683
(714) 952-6582

RAINBOW/DECmate W.G. CHAIR
Vince Perriello
Crosfield Composition Systems
One Crosfield Ave.
West Nyack, NY 10994
(914) 353-4000

SYMPOSIA COORDINATOR
Jimbo Wilson
Natl Tech. Inst. for Deaf
Rochester Inst. of Tech.
P.O. Box 9887
Rochester, NY 14623
(716) 475-6241

SESSION NOTES EDITOR
Dr. Tom. Warren
Oklahoma State Univ.
Dept. of English
Dir. Tech. Writing Program
Stillwater, OK 74078
(405) 624-6138

PCSA WORKING GROUP CHAIRMAN
To be announced

MEMBERS-AT-LARGE

Michael Bowers
Univ. of California
Animal Science Department
Davis, CA 95616
(916) 752-6136

Theodore Needleman
Odea Tech.
67 W. Burda Pl.
Spring Valley, NY 10977
(914) 250-100

DEC COUNTERPARTS
PERSONAL COMPUTING SYSTEMS GROUP

Anita Uhler
Digital Equipment Corporation
LJ02/13
30 Porter Road
Littleton, MA 01460
(617) 486-2397

PRO

Jeff Slayback
Digital Equipment Corp.
ML021-2/U12
146 Main Street
Maynard, MA 01754
(617) 493-9340

BUTTON COORDINATOR

Ken Stricker
Martin Marietta Aerospace
P.O. Box 5837 MP 320
Orlando, FL 32855
(305) 356-6589

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(216) 875-1431

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Ed Beadel
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S.U.N.Y. College at Oswego
Oswego, N.Y. 13126
(315) 341-3055

SYMPOSIA COORDINATOR

Glenn Dollar
Digital Computer Consultants Inc.
21363 Lassen St., Suite 205
Chatsworth, CA 91311
(818) 341-9171

ASS'T SYMPOSIA COORDINATOR

Dan Stoller
Natural Country Farms
P.O. Box 758
58 West Road
Rockville, CT 06066
(203) 872-8346

NEWSLETTER EDITOR

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Department of Computer Science
2641 Kennedy Blvd.
Jersey City, NJ 07306
(201) 435-1890

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MEMBERS-AT-LARGE

Edward F. Beadel, Jr.
Manager
Instructional Computing Center
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Oswego, NY 13126
(315) 341-3055

Mark Hartman
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546 W. Katella Avenue
Orange, CA 92667
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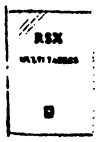
Information Design & Management, Inc.
31 Hopedale Street
Hopedale, MA 01747



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(404) 231-1484

STANDARDS COORDINATOR
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(301) 227-1724

MACRO CONTACT
Nick Bourgeois
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Albuquerque, NM 87154
(505) 298-2346

NEWSLETTER EDITOR
TECO CONTACT
PRODUCT PLANNING CONTACT
John M. Crowell
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2121-B Second St. Suite 107
Davis, CA 95616
(916) 756-3291

NETWORKING CONTACT
Jim Crapuchettes
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2483 Old Middlefield Way
Mountain View, CA 94043
(415) 966-8400

WISH LIST CONTACT
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Bradford Lubell
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10833 Le Conte Avenue
Los Angeles, CA 90024-1760
(213) 206-6119

TSX & C CONTACT
Jack Peterson
Horizon Data Systems
P.O. Box 29028
Richmond, VA 23229
(804) 740-9244

RUNOFF CONTACT
John Davis
Naval Ship Research Center
Code 2960
Bethesda, MD 20084
(301) 227-1592

LUG CONTACT
Ned Rhodes
Software Systems Group
2001 North Kenilworth St.
Arlington, VA 22205
(703) 534-2297

PERSONAL COMPUTERS
Dennis V. Jensen
AMES Labs. ISU/USDOE
310 Metallurgy
Ames, Iowa 50011
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4335 N.W. Loop 410, #209
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BASIC CONTACT
Ralston Barnard
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Sandia Labs
Alburquerque, NM 87185
(505) 844-5115

PRO RT-11 & HARDWARE
Bill Walker
Monsanto Research Corp.
P.O. Box 32, A-152
Miamisburg, OH 45342
(513) 865-3557

FORTRAN CONTACT
Robert Walraven
Multiware, Inc.
2121-B 2nd St. Suite 107
Davis, CA 95616
(916) 756-3291

OTHER LANGUAGES
Gary Sallee
19912 Ferngien Drive
Yorba Linda, CA 92686
(714) 970-2864

SITE SIG

CHAIRMAN
Timothy Fraser
Specialized Bicycle Components
15130 Concord Circle #77
Morgan Hill, CA 95037
(408) 779-6229

SYMPOSIA COORDINATOR
Sue Abercrombie
48 Malilly Rd.
Portland, ME 04103
(207) 772-2837

SESSION NOTE EDITOR
LARGE SYSTEMS SIG LIAISON
Gary Bremer
Emerson Electric Co.
8100 W. Florisant
St. Louis, MO. 63136
(314) 553-4448

NEWSLETTER EDITOR
NETWORKS SIG LIAISON
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Gregory N. Brooks
Washington University
Behavior Research Labs
1420 Grattan St.
St. Louis, MO. 63104
(314) 241-7600 ext. 257

HARDWARE COORDINATOR
HMS SIG Liason
Emily Kitchen
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1211 Sherwood Ave. RT-2
Richmond, VA. 23220
(804) 257-2925

COMMUNICATIONS COMMITTEE REPRESENTATIVE
AI SIG Liason
Terry C. Shannon
Digital Review
160 State St.
6th Floor
Boston, MA. 02109
(617) 367-7190

PRE-SYMPOSIA SEMINAR COORDINATOR
Phillip Ventura

STAFF MANAGEMENT
Adam Zavitski
Simmonds Precision ICD
3100 Highland Blvd.
Raleigh, NC. 27625
(919) 872-9500

MEMBERS-AT-LARGE
Ann Goergen
Texas Instruments
13510 N. Central
M/S 437
Dallas, TX. 75266
(214) 995-4629

HMS SIG Liason
RT SIG Liason
David Hunt
Lawrence Livermore National Lab
MS L-230
P.O. Box 808
Livermore CA. 94550
(802) 656-3190

Gary Siftar
Digital Equipment Corporation
Tulsa, OK.

DEC COUNTERPARTS
Joe Allen
Stow MA.

Lil Holloway
Bedford MA.

Susan Porada
Marlboro, MA.

UNISIG

CHAIRMAN
Kurt L. Reisler
Hadron Incorporated
9990 Lee Highway
Fairfax, VA 22030
(703) 359-6100
decvax!seismo!hadron!klr

SYMPOSIA COORDINATOR
Sam Kimery
Purdue University Math Dept.
Math Science Bldg.
West LaFayette, IN 47907
(317) 494-6055
ucbvax!helicon.math.purdue.edu!kimery

SESSION NOTES EDITOR
William Cheswick
New Jersey Institute of Tech.
Computing Services
323 Martin Luther King Blvd.
Newark, NJ 07102
(201) 596-2900
bellcore!njitcccc!bc

NEWSLETTER EDITOR
Sharon Gates-Fishman
NDC Corporation
730 E Cypress Avenue
Monrovia, CA 91016
(818) 358-1871
!amdahl!cit-vax!ndc!sgf

COMMCOMM REPRESENTATIVE
James W. Livingston, Jr.
Measurex Automation Systems
10411 Bubb Rd
Cupertino, CA 95014-4150
(408) 973-1800 x 766
ihnp4!mas1!jwl

ADMINISTRATIVE DAEMON
Dorothy A. Geiger
The Wollongong Group
49 Showers Drive, #451
Mountain View, CA 94040
(415) 948-1003
ihnp4!decwrl!dgeiger

TAPE LIBRARIAN
Carl Lowenstein
Marine Physical Laboratory
Scripps Institute of Oc'graphy, P-004
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(619) 294-3678
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USENET LIAISON
STANDARDS COORDINATOR
Ed Gould
Mt. Xinu
2910 7th St.
Suite 120
Berkley, CA 94710
(415) 644-0146
ucbvax!mtxinu!ed

MINISTER WITHOUT PORTFOLIO
Norman Wilson
Bell Laboratories, 2C-529
600 Mountain Avenue
Murray Hill, NJ 07974
(201) 582-2842
[decvax,ihnp4]!research!norman

SEMINARS COORDINATOR
Steven Stepanek
Computer Science Dept.
School of Eng. & Computer Science
18111 Nordhoff St.
Northridge, CA 91330
(818) 885-2799 or 3398
ihnp4!csun!sgs

DEC COUNTERPART
Gary Oden
Digital Equipment Corporation
Continental Blvd, MK02
Merrimack, NH 03054
(603) 884-5111
decvax!oden

VAX SYSTEMS SIG

CHAIRMAN
Susan T. Rehse
Lockheed Missiles & Space Co.
0/19-50, B/531,
P.O. Box 3504
Sunnyvale, CA 94088-3504

EXECUTIVE COMMITTEE
David Cossey
Computer Center
Union College
Schenectady, NY 12308

Jeffrey Jalbert
J C C
P.O. Box 381
Granville, OH 43023

Betsy Ramsey
American Mathematical Society
P.O. Box 6248
Providence, RI 02940

David Schmidt
Management Science Associates
6565 Penn Avenue
Pittsburgh PA 15206-4490

Al Siegel
Battelle Memorial Institute
505 King Avenue
Columbus, OH 43201-2693

David Wyse
Projects Unlimited
3680 Wyse Road
Dayton, OH 45414-2539

SYMPOSIA COORDINATOR
Betsy Ramsey
American Mathematical Society
P.O. Box 6248
Providence, RI 02940

SYMPOSIA COORDINATOR, ASST.
Michael Carullo
Westinghouse Electric Corp.
10120 Kings Bench Court
Ellicot City, MD 21043

SESSION CHAIRMAN COORDINATOR
Elaine Hall
Westinghouse
P.O. Box 746
M/S 432
Baltimore, MD 21203

SEMINAR COORDINATOR
Robert McQueen
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30 North Jefferson Road
Whippany, NJ 07981

LIBRARY COORDINATOR
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25 Sleigh Ride Road
Glen Mills, PA 19342

COMMUNICATIONS COORDINATOR
David Wyse
Projects Unlimited
3680 Wyse Road
Dayton, OH 45414-2539

NEWSLETTER EDITOR
Clyde T. Poole
The University of Texas at Austin
Department of Computer Sciences
Taylor Hall 2.124
Austin, TX 78712-1188
ARPANET/CSNET:ctp@sally.utexas.edu

PAGESWAPPER VAX MANAGER
Lawrence J. Kilgallen
Box 81, MIT Station
Cambridge, MA 02139-0901

SESSION NOTES EDITOR
Ken Johnson
Meridien Technology
P.O. Box 2006
St. Louis, MO 63011

SYMPOSIUM HANDOUT
BOOTBLOCK EDITOR
John L. Prather
Technicon Instruments Corp.
511 Benedict Avenue
Tarrytown, NY 10591

STORE COORDINATOR
G. Beau Williamson
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1200 N. Alma Road
MIS 406-280
Richardson, TX 75081

MASTER'S LIST COORDINATOR
Carl Friedberg
Seaport Systems
165 William Street, 9th Floor
New York, NY 10038-2605

SYSTEM IMPROVEMENT REQUEST (SIR)
David Schmidt
Management Science Associates
6565 Penn Avenue
Pittsburgh, PA 15206-4490

VOLUNTEER COORDINATOR
Elizabeth Bailey
222 CEB
Tennessee Valley Authority
Muscle Shoals, AL 35661

WEST COAST VOLUNTEER COORDINATOR
Ron Tencati
Jet Propulsion Lab
4800 Oak Grove Drive
MS:602-145
Pasadena, CA 91109

CAMPGROUND COORDINATOR
David Paul
Shell Oil Company
MS:D2145
P.O. Box 1380
Houston, TX 77251-1380

SUITE COORDINATOR
Open

WORKING GROUP COORDINATOR
Jeffrey Jalbert
J C C
P.O. Box 381
Granville, OH 43023

COMMERCIAL WORKING GROUP CHAIR
E.F. Berkley Shands
Washington University
Department of Computer Science
P.O. Box 1045
St. Louis, MO 63136

DECNET SECURITY WORKING GROUP CHAIR
Ron Tencati
Jet Propulsion Lab
4800 Oak Grove Drive
MS:602-145
Pasadena, CA 91109

HIGH-END VAX SYSTEMS WORKING GROUP CHAIR
Al Siegel
Battelle Memorial Institute
505 King Avenue
Columbus, OH 43201-2693

INTERNALS WORKING GROUP CHAIR
Carl Friedberg
Seaport Systems
165 William Street, 9th Floor
New York, NY 10038-2605

MICROVAX WORKING GROUP CHAIR
David Mehren
Pivotal, Inc.
6892 East Dorado Court
Tucson, AZ 85715-3264

MIGRATION AND HOST DEVELOPMENT
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Ann Arbor, MI 48106

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Data Metrics Systems Inc.
5270 Lyngate Court
Burke, VA 22015

PERFORMANCE WORKING GROUP CO-CHAIR
Louise Wholey
Measurex Corporation
One Results Way
Cupertino, CA 95014

REAL TIME/FOREIGN DEVICES WORKING GROUP CH
Larry Robertson
Bear Computer Systems
56512 Case Avenue
North Hollywood, CA

SECURITY WORKING GROUP CHAIR
C. Douglas Brown
Sandia National Labs
Division 2644
P.O. Box 5800
Alburquerque, NM 87185-5800

SYSTEM MANAGEMENT WORKING GROUP CHAIR
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251 Mercer Street
New York, NY 10012

VAXCLUSTER WORKING GROUP CHAIR
Thomas Linscomb
Computation Center
University of Texas
Austin, TX 78712

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Jamie Hanrahan
Simpact Associates
9210 Sky Park Court
San Diego, CA 92123

ADVISORS
Joseph Angelico
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National Data Buoy Center
NSTL Station, MS 39529-6000

Jack Cundiff
Horry-Georgetown Tech. College
P.O. Box 1966
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Don Golden
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MS:D2145
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Houston, TX 77251-1380

Marg Knox
Computation Center
University of Texas
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Mitre
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The purpose of HARD NEWS, the HMS SIG newsletter, is to serve as a forum to share information related to DEC hardware with the members of the SIG. As such, the existence of the newsletter is entirely dependent on your contributions. If you have an HHK item, a better or safer way to do something, product news, a tutorial article of general interest, etc., we would like to publish it in the newsletter. We hope that HARD NEWS will be published at least six times a year.

You can submit material to the editor, Carmen Wiseman, or to the HMS SIG chair, Bill Walker. We can accept submissions in a wide variety of formats:

- Items can be sent to the editor on VMS-format RX50s, TK50 cartridges, or IBM PC format 5 1/4" floppies. The SIG chair prefers RT-11 floppies but can handle any reasonable media.

- Hard copy, like cash, is always acceptable. Camera-ready copy will save us a lot of typing, but we don't insist on it. You can also use the Hardware Submission Form in the "Questionnaires" section of the combined SIGs Newsletters.

- Those of you with access to DCS can send things to WALKER or WISEMAN. DCS is usually checked on a daily basis.

- You can reach the SIG chair on CompuServe as "Bill Walker 71066,24" or via EasyLink mailbox 62752448 or MCI Mail account 333-1675. You can reach the editor via EasyLink mailbox 62960090 (be sure to say ATTN: or TO: Carmen Wiseman somewhere in the body of the message).

If you have anything to submit, send it! If it is a mess, but we can read it, we will get it into the newsletter somehow. Finally, if you have any questions about submitting material, call one of us. The telephone numbers are listed below.

Contributions can be sent to:

William K. Walker
Monsanto Research Corp.
P.O. Box 32 A-152
Miamisburg, OH 45342
(513) 865-3557 (work)
(513) 426-7094/0344 (home)

OR

Carmen D. Wiseman
Digital Review
Prudential Tower, Suite 1390
800 Boylston Street
Boston, MA 02199
(617) 375-4361 (work)

Ask the WOMBAT WIZARD
Submission Form

To submit a problem to the WIZARD, please fill out the form below and send it to:

WW Editor, Philip A. Naecker
Consulting Software Engineer
3011 North Mount Curve Avenue
Altadena, CA 91001
USA

Name:_____ DECUS Membership No. _____

Affiliation:_____

Address:_____

_____

_____

Telephone Number:_____

Statement of Problem:_____

_____

_____

_____

_____

_____

Please following the following guidelines when submitting support material:

1. If you are trying to demonstrate a method or a concept, please simplify the procedures, records, and other information to the shortest form possible.

2. Annotate your attachments. Simple comments or hand-written notes ("Everything worked until I added this statement.") go a long way toward identifying the problem.

3. Keep an exact copy of what you send. And number the pages on both copies. But send everything that is related to your question, even remotely.

4. If you would like a direct response or would like your materials returned, please don't forget to include a stamped, self-addressed envelope large enough to hold the materials you send.

DATATRIEVE/4GL SIG
Product Improvement Request Submission Form

Submittor: **DECUS Membership Number:**
Address: **Firm:**

Phone: **Product or Products:**

How to write a PIR

A PIR should be directed at a specific product or group of products. Be sure to give the full name of the product(s) and version numbers if applicable. Describe the functionality you would like to see in as complete terms as possible. Don't assume that the PIR editors or software developers know how it is done in some other software product - state specifically how you want the software to function. Provide justification of your request and give an example of its use. If you can, suggest a possible implementation of your request.

Abstract: (Please limit to one or two short sentences.)

Description and Examples: (Use additional pages as necessary.)

[Put my name and address on reverse side, thus:]

PIR Editor, Philip A. Naecker
Consulting Software Engineer
3011 North Mount Curve Avenue
Altadena, CA 91001
USA

H M S S I G

HARDWARE SUBMISSION FORM -- A SIG INFORMATION INTERCHANGE

Message

Contact
Name

Address

Telephone

Type of equipment

SUBMIT ANY TYPE OF HARDWARE PROBLEMS AND/OR FIXES.

SEND TO:

William K. Walker
Monsanto Research Corp.
P.O. Box 32 A-152
Miamisburg, OH 45342

OR

Carmen D. Wiseman
Digital Review
Prudential Tower, Suite 1390
800 Boylston Street
Boston, MA 02199

MASTERS APPLICATION

Name: _____ **Title** _____

Company: _____

Address: _____

_____

_____ **Phone:** ( ) _____

Network Address: _____ **Date:** _____

The Languages & Tools SIG has established the designation "LANGUAGES AND TOOLS MASTER", to be applied to selected, qualified people willing to share their expertise in various subjects with others. Masters are people who are knowledgeable enough in one or more languages or tools to be comfortable answering questions about them. The qualifications of an L&T Master are: expertise in a specific area, a willingness to have his/her name published as a Master, and a willingness to volunteer services in different ways. Each product may have several Masters, and there is an overall Masters Coordinator who is a member of the L&T Steering Committee.

Masters are asked to serve other users (and, under some circumstances, DEC), as a resource on products within their competence. In addition to being listed in the L&T Masters Directory (published in the newsletter) as available for occasional telephone consultation, Masters may act as 'Doctors' at Symposium Clinics, present Symposium sessions on the products of interest to them, field test products, interact with DEC product managers when appropriate, or act as a reference for a product for Digital salespeople. Especially on mature products, the SIG is anxious for knowledgeable users to offer product tutorial sessions at Symposia, and Masters can be of great help here. At Symposia, Masters will wear an identifying button bearing the legend "Ask Me About....." and the name of the language or tool in which he/she specializes.

If you'd like to serve as an L&T Master, please mark the products on which you are willing to answer questions with an "M" (for Master). Please mark any other products running at your site with an "A" (for "also running") to provide users with a broader picture of your facilities. (Although not an L&T product, Mumps is included here at the request of the Mumps SIG as a service to Mumps users). You may request removal of your name from the Masters Directory at any time, although you may continue to be listed for a month or two, because of publication lead times.

I am qualified to act as an L&T Master for the following products: ☐ Mumps

☐ Debug	☐ Bliss	☐ CMS	☐ TPU	☐ C	☐ Test Manager
☐ Pascal	☐ Basic	☐ MMS	☐ EVE	☐ Ada[1]	☐ Runoff & DSR
☐ Fortran	☐ Cobol	☐ LSE	☐ EDT	☐ APL	☐ TEX & LATEX
☐ Document	☐ Dibol	☐ SCA	☐ TECO	☐ RPG	☐ Cobol Generator
☐ VAX Notes	☐ Emacs	☐ PCA	☐ PL/I	☐ Scan	☐ Software Project Mgr

Briefly describe your experience with those you checked. _____

_____

_____

_____

How long have you held your present position? _____

Are you able to attend at least one symposium each year? _____

Users are encouraged to seek assistance with products by calling appropriate Masters listed in the Directory. As a Master, your name and telephone number will be published in the Masters Directory, and users will call on you for limited help from time to time. Please check, below, any additional activities you might do:

☐ Field-test new versions of your product at your work site.

☐ Provide feedback on the product when needed by its DEC product manager.

☐ Act as a reference for the product at the request of Digital Sales or Marketing people.

Mail to: **George Scott, L&T SIG Masters Coordinator, Computer Sciences Corporation, 304 West Route #38, P.O. Box N, Moorestown, NJ 08057.**

[1]Ada is a trademark of the DoD

Languages & Tools SIG

WISHLIST QUESTIONNAIRE

Name: _____ **Title** _____

Company: _____

Address: _____

_____

_____ **Phone:** ( ) _____

Network Address: _____ **Date:** _____

The Languages & Tools SIG is principally concerned with the DEC and public domain software products listed below. If your request directly involves one of these products, please check which one (if you have more than one request, please use a separate form for each):

☐ Debug	☐ Bliss	☐ CMS	☐ TPU	☐ C	☐ Test Manager
☐ Pascal	☐ Basic	☐ MMS	☐ EVE	☐ Ada[1]	☐ Runoff & DSR
☐ Fortran	☐ Cobol	☐ LSE	☐ EDT	☐ APL	☐ TEX & LATEX
☐ Document	☐ Dibol	☐ SCA	☐ TECO	☐ RPG	☐ Cobol Generator
☐ VAX Notes	☐ Emacs	☐ PCA	☐ PL/I	☐ Scan	☐ Software Project Mgr

If your request or suggestion doesn't relate to one of the products listed above, check which one of the following Language & Tools SIG topics it concerns:

☐ Newsletter	☐ Symposium Sessions	☐ Pre-Symposium Seminars
☐ Masters Program	☐ Working Group Activities	☐ Session Notes
☐ Information Folder	☐ SIG Tape	☐ DECUS Store Item
☐ Other L&T SIG topic: _____		

Wish List Request—brief description: _____

_____

_____

_____

Complete description—please explain your request thoroughly; don't assume we know details of other products or services; give examples. _____

_____

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Mail to: **Shava Nerad, L&T Wishlist Coordinator, MIT, 77 Mass Ave. W91-219A, Cambridge, MA 02139**; (617)253-7438

[1] Ada is a trademark of the DoD

DATAGRAM

DATAGRAMs are short messages, comments, requests, or answers that are published in NETwords. Please fill in the sections below and send the DATAGRAM to:

JUDI MANDL
UCONN HEALTH CENTER
263 FARMINGTON AVENUE, BLDG. #19
FARMINGTON, CT 06032

Title: _____

Message: _____

_____

_____

_____

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_____

_____

_____

_____

_____

_____

Your Name: _____

Address: _____

_____

Telephone: _____

If this is a reply to a previous DATAGRAM, what #? ___

Signature: _____ **Date:** _____

Place
Stamp
Here

JUDI MANDL
UCONN HEALTH CENTER
263 FARMINGTON AVENUE, BLDG. #19
FARMINGTON, CT 06032

Fold Here

OFFICE
AUTOMATION
SIG

SYSTEM IMPROVEMENT REQUEST BALLOT

DECUS
membership
number

INSTRUCTIONS: System Improvement Request (SIR) ballots allow you, the user to assist in the priortization of the submitted SIR's before they are forwarded to DEC. The total number of points you may allocate on this ballot may not exceed 100 points (absolute value). No more then 10 points may be given to any single SIR. Your ballot must be received by Sept. 3 to be counted.

SIR NUMBER POINTS SIR NUMBER POINTS

Send To:

Edward L. Bowen
1876 Data Dr. Rm N-204
Birmingham, Al.
35244

BellSouth Services

RT-11 WISH LIST SURVEY

Name (optional) _____

Address (optional) _____

_____

_____

DECUS Number (optional) ----------

1.1	___	3.1	___	3.7u	___	3.13a	___	5.1b	___
1.2	___	3.2a	___	3.7v	___	3.13b	___	5.2a	___
1.3	___	3.2b	___	3.7w	___	3.13c	___	5.2b	___
1.4	___	3.2c	___	3.7x	___	3.13d	___	6.1	___
1.5	___	3.2d	___	3.7y	___	3.14	___	6.2a	___
1.6	___	3.2e	___	3.7z	___	3.15	___	6.2b	___
1.7a	___	3.3a	___	3.7aa	___	3.16	___	6.2c	___
1.7b	___	3.3b	___	3.7bb	___	3.17a	___	6.2d	___
1.8	___	3.3c	___	3.7cc	___	3.17b	___	6.3	___
1.9a	___	3.3d	___	3.7dd	___	3.17c	___	6.4a	___
1.9b	___	3.4a	___	3.7ee	___	3.17d	___	6.4b	___
1.9c	___	3.4b	___	3.8a	___	3.17e	___	6.4c	___
1.9d	___	3.4c	___	3.8b	___	3.17f	___	6.4d	___
1.10	___	3.5a	___	3.8c	___	3.18	___	6.5	___
1.11	___	3.5b	___	3.9a	___	3.19a	___	6.6a	___
1.12	___	3.6a	___	3.9b	___	3.19b	___	6.6b	___
1.13	___	3.6b	___	3.9c	___	3.19c	___	6.6c	___
1.14	___	3.6c	___	3.9d	___	4.1	___	6.6d	___
2.1	___	3.6d	___	3.9e	___	4.2a	___	6.7	___
2.2	___	3.6e	___	3.9f	___	4.2b	___	6.8a	___
2.3	___	3.6f	___	3.9g	___	4.3	___	6.8b	___
2.4	___	3.6g	___	3.9h	___	4.4a	___	6.8c	___
2.5	___	3.7a	___	3.9i	___	4.4b	___	6.8d	___
2.6	___	3.7b	___	3.9j	___	4.5a	___	6.8e	___
2.7	___	3.7c	___	3.9k	___	4.5b	___	7.	___
2.8	___	3.7d	___	3.10a	___	4.6	___	8.	___
2.9	___	3.7e	___	3.10b	___	4.7a	___	9.1	___
2.10	___	3.7f	___	3.10c	___	4.7b	___	9.2a	___
2.11	___	3.7g	___	3.10d	___	4.7c	___	9.2b	___
2.12	___	3.7h	___	3.10e	___	4.7d	___	9.3a	___
2.13	___	3.7i	___	3.10f	___	4.7e	___	9.3b	___
2.14	___	3.7j	___	3.10g	___	4.7f	___	10.1	___
2.15	___	3.7k	___	3.10h	___	4.7g	___	10.2	___
2.16	___	3.7l	___	3.10i	___	4.7h	___	10.3	___
2.17	___	3.7m	___	3.10j	___	4.7i	___		
2.18	___	3.7n	___	3.10k	___	4.7j	___		
2.19	___	3.7o	___	3.10l	___	4.7k	___		
2.20	___	3.7p	___	3.10m	___	4.7l	___		
2.21	___	3.7q	___	3.10n	___	4.7m	___		
2.22	___	3.7r	___	3.11a	___	4.7n	___		
2.23	___	3.7s	___	3.11b	___	4.7o	___		
2.24	___	3.7t	___	3.12	___	5.1a	___		

Send Responses to: RT-11 Wish List Survey
Multiware, Inc.
2121-B Second St. Suite 107
Davis, CA 95616

VAX Systems SIG Fall 1988 SIR Ballot

DECUS membership number_____(six digits)

Our site uses the following VAX cpus (check all that apply)

11/730,11/725	☐	11/750	☐	11/780,785	☐	6200 series	☐
8500 series	☐	8600 series	☐	8700/8800	☐	8200/8300 series	☐
MicroVAX I,II	☐	MicroVAX 2000, VAXstation 2000	☐	MicroVAX 3000 series	☐	Other:	

We use VAX's in the following applications (Check all that apply)

Business EDP	☐	Software Development	☐
Education	☐	Computer Science Research	☐
Data Acquisition/Control	☐	CAD/CAM	☐
Service Bureau	☐	Hardware Development	☐
Scientific/Engineering	☐	Office Automation	☐
Telecommunications	☐	Other:	

I support the following as the most important System Improvement Requests. (List from zero to fifteen SIR's):

SIR Number:

_____

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I oppose the following SIR's as detrimental. (List from zero to five SIR's):

SIR Number:

_____

_____

_____

_____

_____

Mail to:

Dave Schmidt
Management Science Associates
6565 Penn Avenue
Pittsburgh, PA 15206-4490

Reminder:
To be counted, your ballot must be received by August 31.

VAX Systems SIG
System Imporvement Request Submission Form

Submittor: Firm:

Address: Phone:

How to write an SIR:
Describe the capability you would like to see available on VAX systems. Be as specific as possible. Please don't assume we know how it's done on the XYZ system. Justify why the capability would be useful and give an example of its use. If you wish, suggest a possible implementation of your request.

Abstract (Please limit to four lines):

Description and examples (uese additional pages if required):

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Amount $ _____

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DECUS

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Telephone: Home ( ) _____ Work ( ) _____

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1 ☐ ANOTHER DECUS MEMBER	4 ☐ DIGITAL SALES	13 ☐ LOCAL USERS GROUP
2 ☐ SYMPOSIA	5 ☐ HARDWARE PACKAGE	14 ☐ SPECIAL INTEREST GROUP
8 ☐ DECUS CHAPTER OFFICE	6 ☐ SOFTWARE PACKAGE	7 ☐ SOFTWARE DISPATCH (Digital Newsletter)
10 ☐ DIGITAL STORE	12 ☐ ADVERTISING	

Do you wish to be included in mailings conducted by Digital (for marketing purposes etc.?) ☐Permission ☐Refusal

Type Of Digital Hardware Used: Please Check Those Applicable To You.

20 ☐ DECMATE	52 ☐ LSI-11	21 ☐ PROFESSIONAL	5 ☐ WPS-8
82 ☐ DECSYSTEM-10	3 ☐ PDP-8 FAMILY	22 ☐ RAINBOW	51 ☐ WPS-11
83 ☐ DECSYSTEM-20	50 ☐ PDP-11 FAMILY	54 ☐ VAX FAMILY	

Major Operating Systems? Languages Used: Please Check Those Applicable To You.

1 ☐ ADA	26 ☐ CORAL-66	47 ☐ FOCAL	67 ☐ OS/8	109 ☐ RT-11
2 ☐ ALGOL	28 ☐ COS	48 ☐ FORTRAN	68 ☐ PASCAL	97 ☐ TECO
5 ☐ APL	34 ☐ DATATRIEVE	51 ☐ GAMMA	72 ☐ PL-11	70 ☐ TOPS-10
7 ☐ BASIC	35 ☐ DBMS	110 ☐ IAS	92 ☐ RPG	71 ☐ TOPS-20
17 ☐ BLISS	38 ☐ DECNET	53 ☐ IQL	81 ☐ RSTS/E	111 ☐ ULTRIX/UNIX
19 ☐ C	43 ☐ DIBOL	58 ☐ MACRO	83 ☐ RSX	104 ☐ VMS
22 ☐ COBOL	45 ☐ DOS-11	65 ☐ MUMPS	91 ☐ RMS	107 ☐ WPS-8

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DEC	P/0S	VAXcluster
DECalc	Rainbow	VAX DATATRIEVE
DECmate	RSX	VAXstation
DECnet	RT-11	VMS
DECUS	RX02 (et. al)	WPS-PLUS
FMS		

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