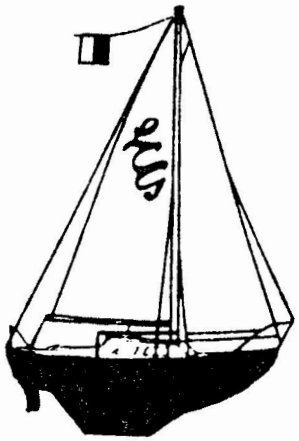
DECUS

LARGE SYSTEMS SIG DECUS U.S. CHAPTER

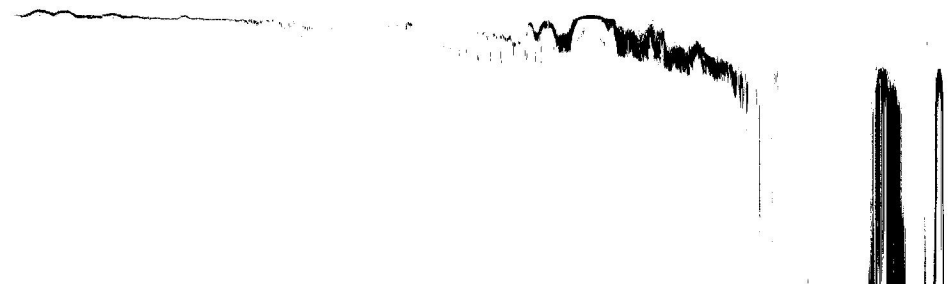
DIGITAL EQUIPMENT COMPUTER USERS SOCIETY

JUNE 1985



AT LARGE

The Newsletter of the Large Systems SIG



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Pre-Symposium Seminar

A Pre-Symposium Seminar on TOPS-20 Release 6.1 Internals was held at the New Orleans DECUS Symposium. The seminar was given by the Digital developers to provide an indepth look at the extensive changes to Release 6.x monitors. The topics covered included the common file system, Ethernet support for both DECnet and JCP/IP, and new JSYS calls.

The people attending were pleased with the depth and completeness of the information presented. The SIG is looking to sponsor several additional Pre-Symposia seminars at the Anaheim DECUS Symposia. The possible topics include: TOPS-10 7.03 Internals & Crash Analysis, TOPS/VMS Integration: Case Studies, and Micro/Mainframe Communication.

Integration Working Group Activities

The Large System SIG's Integration Working Group was hard at work again in New Orleans. Meeting with DIGITAL employees and interested large systems users (some VAX users too!), the working group discussed the requirements for a commercial version of VAX/VMS, and the improvement of the KL to VAX physical interface. A large block of time was spent discussing policy issues.

The major functionality enhancements to VMS, fell into three areas. The first area is the USER INTERFACE. This includes recognition, file name completion and inline help ("?"). The second area is in operations support. This includes tape and disk handling, operator interface, BACKUP support, and other lesser issues. The final area is operating system interface. This topic includes project accounting, tree structured user names, disk accounting, system manager utilities, class scheduling and adaptive scheduling (round robin ala 10/20), and a more friendly queuing system (ala QUASAR).

Other topics discussed included the need to improve the DECNET link between the VAX and the 10/20 machines. In particular, the CTERM protocol and data sharing through RMS over DECNET. There is a need for an EXCHANGE like utility to read DUMPER and BACKUP format tapes for the time when the KL is no longer around to read them. There is a need for some configuration guidelines on the 8600 when being used in a large commercial shop. DIGITAL has expressed a willingness to consider these and other improvements for a 4.X release of VMS.

The policy issues centered on cluster licensing for software, bug fix distribution, processor trade in programs, and documentation. DIGITAL has several programs in place right now to address these concerns.

The Integration Working Group solicits your participation in the integration / migration project. Please send your reasoned suggestions to any SIG officer, or to Mr. Berkley Shands or Mr. Osman Ahmed. If you have any utilities or command procedures you can share with the rest of the KL community, please send them into the TOOLS CLEARINGHOUSE! See you in Anaheim!!!

Town Meeting - Menu Items

At the Town Meeting held in New Orleans menu items were presented by category: Marketing; Monitor/Network; Layered Products; Integration. The items were submitted throughout the week by those attending the symposium. Here are the results presented by category in order of votes:

Marketing

Votes	
42	Liscense TOPS-10/20 for third party hardware at a reasonable cost.
42	Extend KL trade-in offer to other parts of the system.
40	Reduce HSC-50 price for TOPS customers.
37	When TOPS-20 development ends provide sources to all customers.
36	Strong national or regional sales support for LCG in lieu of local sales support.
35	Provide EXEC sources to all customers.
28	Extend KL trade-in offer annually.
26	Bring back the RP07. Reason: persformance.
25	Local sales staff need configuration tools, esp. for large VAXes.
13	TOPS-20 source sites should get sources promptly.
4	Separate charges for memory controller/power supply from MF20 memory itself.

Monitor/Network

51	Spend one or two years polishing TOPS after final freeze.
33	Allow TOPS systems to boot from and swap to RAxx disks.
32	DELETE on -20 should allow DIRECTORY-like selection.
31	Implement COMPIL-class commands in VMS.
27	Improve tape/disk management in VMS.
26	Supply MIC and PCL sources to source sites.
26	Partial recognition of leading parts of filenames.
25	Extend VMS usernames to 39 characters.
25	UDA-50-type interface for KL'S; cheaper than HSC.
25	Relative directory addressing in TOPS-20.
25	Network support for COPY command on -20.
24	Prevent ^C or modification of LOGIN.CMD on -20.
23	Provide for EXEC choice based on username when directory is created.
20	DEC-supported TCP/IP on VMS.
20	Implement a TOPS-20-like CLI in VMS.
20	Provide time stamps in VMS batch log files.
19	Implement global ENQ/DEQ on cluster -20 systems.
15	Add /COLUMN, /LINE, etc. to TYPE on -20.
15	Project accounting on VMS with independent billing ID's.
14	Enable VMS-MAIL capability to send to tree-structured usernames.
13	User groups on 20 as SIXBIT words instead of integers.
13	Enhance date-time parsing in TOPS-20 to equal of TOPS-10.
12	Don't drop FACT files in TOPS-10.
11	Enhance VAX TYPE command to include line and column ranges.
9	Finish DECnet-10 device inplementation to save DN20 cost.
9	Accounting functions on -10 should be kept in a single program.
9	TA78 support from TOPS-20 clusters.
5	Add workload capability to SPM.

Layered Products

35 Create a GALAXY for VMS.
32 Autopatch should have REL files for vanilla sites.
30 Multiforking DDT for TOPS.
28 Provide system call interfaces for high-level languages.
25 Create an archiving facility on VMS.
22 CATALOG command for GALAXY-20 similar to GALAXY-10.
21 Provide support for long symbols in TOPS-compilers.
18 Extended addressing for TOPS-10 utilities such as SORT, LINK, DDT.
16 Extended addressing for TOPS-10 COBOL and FORTRAN.
15 Provide watch-points (as in SET ADDR BREAK) in DDT-20.
14 COBOL/FORTRAN language-sensitive editors for TOPS similar to VMS COBOL editor.
13 Make a native-made LINK-20.
12 COBOL-8x on TOPS-10.
5 Provide structured programming constructs in COBOL-10.
4 Add DAP support to RMS-10.

Integration

45 Create a COMND JSYS equivilent as part of VMS.
38 Support a foreign tape utility for VMS.
38 Produce an Integration Planning Guidebook.
29 Create a HELP system on VMS based on TOPS keywords.
15 Develop and support a TOPS-to-ULTRIX integration effort.

Comparison IBM vs DEC 5 Year Costs

Premise:

- Spend $1,000,000 a year for five years for Central Computing
- Include:
    - Acquisition of all Hardware and Terminals
    - Software (Try to use comparable products)
    - Used MVS not VM
    - Systems Support Staff
- Ignore:
    - Room Construction
    - Electrical
    - Air Conditioning
    - Paper, Tapes, etc.
    - Operators
    - Applications Staff
    - User Services
    - Management

Actual Approach:

Tried to do it, BUT!

- IBM approach using 4381's not practical, (IBM doesn't support Clusters).
- Makes more sense to start with 3081-CX0 and build it.
- 4381 Approach costs even more in software!
- Had to spend $1,867,098 the first year.
- IBM Total for 5 years $6,305,805.
- Now the DIGITAL goal is, spend less than IBM.
- DIGITAL was $6,239,893.

Results

- Over the period were able to buy 5 VAX 8600's and only upgrade the 3083 to a 3083-EX2 24MB.
- 192 vs 256 terminals
- Added All-in-One
- Price per VAX 780 (MIP) very attractive
- DIGITAL has a long way to go to reach the maturity in a number of areas:
    - Maturity of Sales force
    - Software maturity, many products are closer to PC software than large mainframe. CICS vs TDMS.
    - Hardware reliability
    - Interface with Customer Top Management.
    - Marketing

Results Cont.

- Net result, if DIGITAL can really do it, it will be less expensive and less painfull.
- But, there are environments where an IBM system will swamp 5 8600's. Try to do airline reservations, or substantial disk/data base operations.

Tape Submission

At each DECUS Symposium, the Large Systems SIG compiles a TOPS-20 SIG tape which contain submittals from different sites. The SIG sends the tapes to the National LUG Organization. From there you can request a tape thru your LUG. A copy of the SIG tapes is also submitted to the DECUS Library.

Starting with the New Orleans Symposium, TOPS-20 tape copy is going to try a new method of locating material to be included on the SIG tape - to para-phrase a well known saying:

> We are going to ask you not only what you have to GIVE to the SIG, but also what it is you WANT from your SIG.

We would like for people to let us know what it is they want. These requests can be in any of three forms:

1. You know the product exists but you don't know how to get it. We'll try to track it down for you.
2. You know the product exists and you know who has it. You feel that it would be of general value as well as value to your site. This should be on the SIG tape. We'll contact the site and see if we can get them to release it.
3. You don't know if a product exists. What you have is a problem in search of a solution. Anything is better than nothing. ("Does anyone have a program to drive device FOO so that it does CONSBAR?")

As in the past, voluntary submittals are welcome from all sites and individuals. All submittals must be accompanied by a properly completed tape copy form and cannot include ANY proprietary material. If what you have is a "hack" to proprietary code, please send SOUP/REDIT correction files, FILCOM/SRCCOM differences files, etc. Be sure to indicate the version that you started with, preferably the distribution version with or without autopatch tape "N".

Submitting your programs to the DECUS Library is the way to obtain the widest distribution of your software. If you have spent the time developing a nifty utility, chances are excellent that others would be interested in using it. Please submit to the Library.

The deadline to get material on the Spring 1985 TOPS-20 SIG tape is July '85. The tape should be available to your LUG in August '85. The tape will be submitted to the DECUS Library at the time it is sent to the NLO.

Let us know what you want - we'll try to get it.

If you have something, we'll try to make it as effortless as possible to get it on the SIG tape.

Back TOPS-20 SIG tapes are available from the DECUS Library.

Steve Attaya
SIG TOPS-20 Tape Copy Coordinator
LOT-A-LUG Librarian

Wiener Enterprises
P.O. Box 23607
Harahan, LA 70183

5725 Powell Street
Harahan, LA 70123 (note different zip code)

Alice's PDP-10

Rob Austein

;;; With thanks (and apologies) to Chris Stacy, Alan Wechsler, Noel
;;; Chiappa, Larry Allen, and of course Arlo Guthrie, and particularly
;;; to Ann Marie Finn who is a kind soul and not at all like the
;;; person portrayed herein. --sra 3 May 85

This song is called "Alice's PDP-10". But Alice doesn't own a PDP-10, in fact Alice isn't even in the song. It's just the name of the song. That's why I called this song "Alice's PDP-10".

You see, it all started about two incompatible monitor versions ago, about two months ago on a Tuesday, when my friend and I SUPDUP'd over to MIT-OZ to pick up some hackers to go out for a Chinese dinner. But AI hackers don't live on MIT-OZ, they live on various assorted lispms and such, and seeing as and how they never log in except via the file server, they hadn't gotten around to doing filesystem garbage collection for a long time.

We got over there, saw 600 pages free, 10000 pages in use on a 5 pack PS:, and decided it would be a friendly gesture to run CHECKD for them and try to reclaim some of that lost space. So we reloaded the system with the floppies and the switch registers and other implements of destruction, and answered "Y" to RUN CHECKD?

But when we got the system up and tried to release all the lost pages there was a loud beeping and a big message flashed up on our screen saying:

PERMISSION DENIED BY ACJ

Well, we'd never heard of a version of ACJ that would let you go into MDDT from ANONYMOUS but not run CHECKD, and so, with tears in our eyes, we headed off over the Chaosnet looking for a filesystem with enough free pages to write out the LOST-PAGES.BIN file. Didn't find one...

Until we got to XX-11, and at the other end of XX-11 was another MIT Twenex, and in PS:<OPERATOR> on that MIT Twenex was another LOST-PAGES.BIN file. And we decided that one big LOST-PAGES.BIN file was better than two little LOST-PAGES.BIN file, and rather than page that one in we thought we'd write ours out. So that's what we did.

Went back to OZ, found some hackers and went out for a Chinese dinner that couldn't be beat, and didn't get up until the next morning when we got a SEND from Ann Marie Finn. She said, "Kid, we found you initials in SIXBIT in the right half of a POPJ at the end of a two megaword core dump full of garbage, just wanted to know if you had any information about it". And I said, "Yes ma'am Ann Marie, I cannot tell a lie, I put that XUNAME into that halfword".

After talking back and forth with Ann for about 45 messages we arrived at the truth of the matter and Ann said that we had to go rebuild the bittable and we also had to come down and talk to her in room NE43-501. Now friends, there was only one of two things that Ann could of done with us down at room 501, and the first one was that she

could have hired us on the spot for actually knowing enough about Twenex to screw it up that badly, which wasn't very likely and we didn't expect it, and the other was that she could have bawled us out and told us never to be seen hacking filesystems again, which was what we expected. But when we got to room 501 we discovered that there was a third possibility that we hadn't even counted upon, and we was both immediately de-wheeled. CD%DIR'ed. And I said "Ann, I don't think I can rebuild the bittable with this here FILES-ONLY bit set." And she said "XOFF, kid, get into this UDP packet" and that's what we did and rode up to the square bracket asciz slash scene of the crime slash close square bracket.

Now friends, I want to tell you about the ninth floor of building NE43 where this happened. They got three KL10s, 24 LISPMs, and about 32 VAXen running 4.2 unix. But when we got to the square bracket asciz slash scene of the crime slash close square bracket there was five twenex hackers past and present, this being the biggest lossage yet by an RMS clone and everybody wanted to get in their suggestion for a new system daemon that would have kept it from ever having happened in the first place. And they was using up all kinds of debugging equipment that they had lying around on V3A SWSKIT tapes. They were doing DSs, MONRDs, and RSTRSHs, and they made 27000 pages of core dumps and photo files on an RP06 with comments and -READ-.-THIS- files to be used as evidence against us.

After the ordeal, Ann took us back downstairs and left us with the CLU hackers. She said "Kid, I'm gonna leave you with the CLU hackers. I want your jsys manual and your ROLM DTI". I said "Ann, I can understand your wanting my jsys manual so I won't remind the CLU hackers of grody things like operating systems, but what do you want my DTI for?" and she said "Kid, we don't want any VTS errors". I said "Ann, did you think I was going to try to crash the system for littering?" Ann said that she was making sure, and friends, Ann was, 'cause she cleared all my left-hand privs bits so I couldn't logout. And she disabled the TREPLACE command so I couldn't crock in an XCT [0] instruction, cause an illegal instruction interrupt to MEXEC, and sneak into MDDT. Yeah, Ann was making sure, and it was about four or five hours later that Chiappa (remember Chiappa? This song's never even mentioned Chiappa) Chiappa came by and with a few gratuitous insults to the CLU hackers bailed us out of there, and we went out and had another Chinese dinner that couldn't be beat, and didn't get up until the next morning when we all had to go to LCS Computational Resources staff meeting.

We walked in, sat down. Ann came in with the RP06 disk pack with the 27000 pages with the comments and the -READ-.-THIS- files and a two liter coffee mug, sat down. Esther Felix comes in says "All rise", we stood up, Ann stood up with the 27000 page RP06 pack, and Dave Clark comes in with an IBM PC. He sits down, we sit down, Ann looks at the IBM PC. Then at the 27000 page RP06 pack, then at the IBM PC, then at the 27000 page RP06 pack, and began to cry, because Ann had come to the realization that it was a typical case of 36%8==4 and that there was no way to display those last four bits, and that Dave wasn't gonna look at the 27000 pages of core dumps and photo files on the RP06 pack with the comments and -READ-.-THIS- files explaining what each one was to be used as evidence against us.

And we were permanently assigned to the batch dregs queue and had to rebuild the bittable (in the batch dregs queue). But that's not what I came here to talk about. I came here to talk about DEC.

- - - - - - - - -

They got a building up there in Marlboro where you walk in and get averted, diverted, inverted, reverted, and perverted. I went up there one day to pick up a new copy of the tools tape. Drove down to Philly for a Greatful Dead concert the night before, so I looked and felt my best when I went in that morning. 'Cause I wanted to look like a real live twenex hacker from MIT. I wanted to feel like, I wanted to be a real live twenex hacker from MIT. I walked in and I was hung down, brung down, hung up, and spaced out. The receptionist hands be a piece of paper saying "Kid, the EDIT-20 maintainers are polling user opinions today and would like you to stop by room 604 while you're here."

I walked in there and I said "Droids, I want to lose. I mean, I want to lose. I want to see line editors on CRTs and nulls in my files. Write 36 bit ascii that can't be read except with the monitor filtering it. I mean LOSE, LOSE, LOSE!" And I started jumping up and down yelling "LOSE, LOSE", and Kevin Paetzold came in wearing his moose ear hat and started jumping up and down with me yelling "LOSE, LOSE", and a DEC sales rep came over, put an arm around my shoulder, and said "How'd you like me to show you a *real* editor that has macros and things like that? We have one, it's called TV...."

Didn't feel too good about it.

Proceeded on down the hall getting more diversions and perversions. Man, I was in there for two hours, three hours, four hours, I was in there for a long time, and they was doing all kinds of mean nasty ugly things, and I was just having a tough time there. They was diverting and inverting every single part of me and they was leaving no bit untouched.

Finally I got to the very last office (I'd been in all the rest), the very last desk, after that whole big thing there, and I walk over and say "what do you want?" and the man says "Kid, we only got one question: have you ever been dewheeled?"

So I proceeded to tell him the story of the 10600 page five pack PS: with full orchestration and five part harmony and other phenomena and he stopped me right there and said "Kid, did you ever get hauled on the carpet for it?"

So I proceeded to tell him about the 27000 page RP06 pack with the comments and the -READ-.-THIS- files and he stopped me right there and said "Kid, I want you to go sit over there on that bench marked Large Systems SIG. NOW, KID!"

I, I walked over to the bench there... See, the LCG group is where they put you if they think you may not be compatible with the rest of DEC's product line.

There was all kinds of mean nasty ugly people there on the bench... Chaosnet designers... Lisp hackers... TECO hackers. TECO hackers right there on the bench with me! And the meanest one of them, the hairiest TECO hacker of them all was coming over to me. And he was mean and nasty and horrible and undocumented and all kinds of stuff. And he sat down next to me and said:

```
[1:i*^Yu14<q1&377.f"nir'q1/400.u1>8
.-z(1702117120m81869946983m8w660873337m8w1466458484m8
)+z,.f^@fx*[0:ft^]0^\
```

And I said "I didn't get nothing, I had to rebuild the bittable in queue six" and he said:

```
[1:i*^Yu16<q1&77.+32iq1f"l#-1/100.#-1&7777777777.'"#/100.'u1r>6c6
.(675041640067.m6w416300715765.m6w004445675045.m6
455445440046.m6w576200535144.m6w370000000000.m6),.fx*[0:ft^]0^\
```

And I said "Littering". And they all moved away from me on the bench there, with the hairy eyeball and all kinds of mean nasty ugly stuff until I said "and making undocumented gratuitous changes to the default EMACS key bindings". And they all came back, shook my hand, and we had a great time on the bench talking about Chaosnet hacking and Lisp interpreters written in TECO, and everything was fine. And we were eating Peking ravs and smoking all kinds of things until the guy from DDC came over, had some paper in his hand, said:

```
KIDS-THIS-SPR-FORM-HAS-FIFTY-EIGHT-LINES-THIRTY-SEVEN-BOXES-AN'-
SIXTY-EIGHT-QUESTIONS-WE-WANT-TO-KNOW-THE-DETAILS-OF-THE-BUG-THE-
LOAD-FACTOR-WHEN-IT-HAPPENED-AND-ANY-OTHER-KIND-OF-THING-YOU-GOT-
TO-SAY-WE-WANT-TO-KNOW-THE-F-S-GUY'S-NAME-AND-HOW-MANY-TRACKS-ON-
YOUR-TAPE-DRIVE-AND-ANY-OTHER-KIND-OF-THING-YOU-GOT-TO-SAY-
```

and he talked for forty-five minutes and nobody understood a word that he said or why we were doing this but we had fun filling out the forms in triplicate and speculating on why we were filling out SPRs on unsupported products.

I filled out the special form with the four-level macro defining macros. Typed it in there just like it was and everything was fine. And I put down my keyboard, and I switched buffers, and there ... in the other buffer... centered in the other buffer... away from everything else in the buffer... in parentheses, capital letters, in reverse video, read the following words:

"Kid, have you taken the 'VMS for TOPS-20 managers' course yet?"

I walked over to the man and I said "Mister, you got a lot of damned gall asking me if I've taken the 'VMS for TOPS-20 managers' course yet. I mean... I mean... I mean, I'm sitting here on the bench, I'm sitting here on the LCG SIG bench, 'cause you want to know if I'm braindamaged enough trade my PDP-10 for partial credit on a system that doesn't even handle filename completion after being a litterbug."

He looked at me and said "Kid, the front office don't like your kind, so we're going to put you on our VAX/VMS mailing list." And friends,

somewhere down in the NE43 receiving room is a large trash barrel with a big sign on it that says "VAX/VMS documents".

And the only reason I'm singing you the song now is that someday you may know somebody in a similar situation... or you may be in a similar situation. And if you're in a situation like that there's only one thing you can do, and that's call up the Digital Educational Services office nearest you and sing "You can hack anything you want with TECO and DDT" and hang up.

You know, if one person, just one person, does it, they may think he's really dangerous and they won't take his machine.

And if two people do it, in harmony, they may think they're both ITS hackers and they won't touch either of them.

And if three people do it! Can you imagine three people calling up, singin' a bar of "Alice's PDP-10" and hanging up? They may think it's an re-implementation of the Chaosnet protocol.

And can you imagine fifty people a day? I said FIFTY people a day, calling up, singin' a bar of "Alice's PDP-10" and hanging up? Friends, they may think it's a MOVEMENT, and that's what it is: THE 36-BIT ANTI-LOSSAGE MOVEMENT! And all you gotta do to join is to sing it the next time it comes up to the head of the GOLST.

With feelin'.

You can hack anything you want, with TECO and DDT.
You can hack anything you want, with just TECO and DDT.
$U in and begin to hack.
Twiddle bits in a core dump and write it back.
You can hack anything you want, with TECO and DDT.
(But be careful typing <RET>)
Just with TECO and DDT!

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