ADD COMPUTER SERVICES NEWSLETTER

SEPTEMBER 1991 EDITION

ISSUE 3

CSMs NOTE

There have been several changes in the division since the last newsletter, the most significant of which from my point of view, must be the departure of the Support and Applications Software Group (SASG) and with them, Mary McKinlay.

For those who are not aware, Mary and two of her lads have gone to FCD to work on 777, six of the group have gone to CSD and the rest have been re-deployed within the division.

This loss of expertise will lead to a change in direction for the division in the way that we use computers and my team will be moving to fill as much of the void left by the SASG as we can. In particular, I will be trying to find a better way of liaising with the people using the systems.

Within my group, there have also been a few changes:

- Kevin Earl now reports to me but not as part of the CSG and retains all current responsibilities.
- George Samme has joined the group and will be moving into the support of DOS based applications.
- Rob Andrews will be working with us until April on PMS, after which time he is scheduled to move to CSD.
- Melanie Brown has joined in a technical support role and is currently helping out with the operations backlog.
- Elaine Kenny has left to join a bank and is sorely missed by everybody in the group.
- Michelle Morley has left to pursue a career in agricultural engineering and long term leisure consultant (fruit picking on the dole).
- Unfortunately, the division was not able to offer a place to Mark Goggins, our final year apprentice and all our best wishes go with him in finding a new job.

And just in case anybody starts asset counting, all the equipment which has become free from the recent moves, has already been re-allocated, so the vultures can get back to the branch!

FAREWELL TO ADD01V

The time has come to scrap the oldest of our VAX systems, the 11/780 (ADD01V). It is costing us a bomb to maintain and is hardly the swiftest processor this side of the Pecos.

All the applications from 01V will be moved to ADD18V, which will become the new general purpose VAX. It is quicker than 01V, much cheaper to run and a lot smaller.

My plan is to replace this with a DECsystem 5500, running UNIX which is 24 times more powerful and will pay for itself in the first two years.

Its main uses will be:

- General purpose UNIX file server, which will provide a central integration platform for all of our current UNIX work and provide a springboard for a lot of the future projects.
- Most of the existing PCSA/Pathworks services will be moved to the new system, which should speed them up considerably and provide a bit more space.
- The system comes with a CD-ROM drive and the long term plan will be to use this to provide all the DEC manuals available as an on line service.
- The system also has the option of a re-writeable optical disk and so this would be available to anybody in the division as an alternative archive to mag tape.
- It will also be possible to use the system as a computer!!

Some applications run better under UNIX than VMS anyway and so will be transported.

All in all, we should be getting a much better deal from this system and the good news to the company is that it is (a lot) cheaper than what we are currently using. If, however, the name UNIX strikes fear and loathing to the very depths of your soul, don't worry about it, DOS came from UNIX and if you can use DOS then UNIX could soon become second nature.

I will be starting the CPA for this in the next few weeks and will keep you posted of progress.

Any comments on anything in this newsletter are always welcome, so please let me know if you have any alternative ideas or views that may be of interest, but please bear in mind that the order of the day is that computer systems should save money and that what might seem like a good idea, can only be pursued if it can be shown to pay for itself. (Please find Comment Return Slip on Page 8).

S B Rainsbury

CSG RE-ORGANISATION

I know it seems that we change the CSG family tree every year but this will be the last one (until the next time!).

After the change in structure last year to remove the old barriers of hardware and software, we decided to build upon that change by splitting the group into projects.

The main aim of this was to provide a structure that would allow the department the flexibility it needs to meet the changing needs of the users and to provide an environment where we can come up with better ideas and meet our deadlines more successfully.

Hopefully, as the users, you will only see an improvement in services. Behind the scenes, the change for the CSG will be greater.

In the past, a job such as operations would be a full time one. Now one of the CSG staff may spend 3 days a week on operations duties with the other 2 days spent on system management.

By spreading the knowledge within the group, it will also help to provide greater support by not always having to rely on only 1 or 2 people. Also anyone from the group can work within any project, again removing the final barriers which has in the past restricted the service we can provide.

Briefly, the projects are organised as follows:

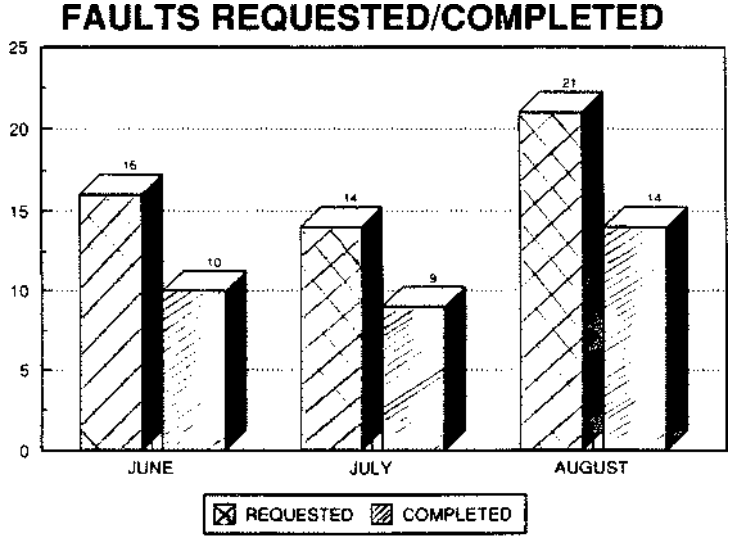
Operating Systems	- Support and installation of VMS, UNIX, DOS, OS/2
Computer Hardware	- Support and repair for VAXs, PCs, Computer Room
Peripherals	- Repair and installation of terminals, printers
Applications	- Support and installation for Interleaf, Applicon, MASS11, 2020
Communications	- Support and installation for X400, X25, EMail, LANS, WANS
Daily Operations	- Support for VMS, UNIX
Special Projects	- Short term goals not part of any other project

In the near future, a new family tree will be produced which will explain further this new re-organisation.

HELP DESK NEWS

Whilst we are finding a replacement for Elaine,please bear with us if the response to the Help Desk number is a bit slow. It literally is all hands to the pump at the moment.

This issue's chart shows the number of faults we have dealt with over the months of June, July and August. As expected, this number remains consistent but we will be re-visiting this every couple of issues to see if our work-load is increasing or decreasing.



Of more interest, we have analysed the most common type of faults and have found that a majority of terminal faults (an average of 35 per month) are problems which could be fixed by the users themselves. To help reduce the number of unnecessary faults logged with the group an article will be included in the next issue giving some advice on simple checks the users can perform themselves before they need to raise the issue with us.

REDUCING MAINTENANCE COSTS

To help keep down our overall computer maintenance bill, it is planned to take the DECserver 100 to 200 terminal servers of the annual DEC maintenance contract.

As a user, you should see no change in overall service concerning these devices but we are expecting to save at least 8,000 pounds per year. Although this is a relatively small amount compared to the overall maintenance budget, every little helps.

D P Crouch

PRINTERS

The CPA for the Industrial Laser Printer in Publications is back in the loop and has 'High Expectations'. Once it is approved, (note the confidence) there will be a general shuffle of printers within the division, as follows:

- Two of the existing postscript printers will be moved from publications and the current plans are:
  - One will be going to Production Engineering to improve efficiency.
  - The other to the CAD room as part of the new BRAVO system.
- The OPUS2 from the CAD room is going to Logistics.
- Many of the older LN03s are going off to be re-furbished, which should improve reliability in the long term.

20/20 VERSION 2.5

We have just taken delivery of the latest version of 20/20, which largely speaking is not much different to the last version, except that both VMS and DOS versions have the same binary format, ie. files can now be directly shared around the division without having to convert them first.

The bad news is that there is a known bug in the graphics drivers on the DOS version, so we will not be installing it until the bug is removed, the VMS version should be installed in the next few weeks.

APPLICON (CAD) UPGRADE

The current ADD CAD system is based upon software and hardware supplied by Schlumberger. The hardware element of this system consists of:

- 1 * VAX 11/730
- 1 * VAX 11/751
- 1 * MicroVAX II
- 1 * PDP 11
- 10 * Schlumberger workstations.

This system is at the end of its useful life being unable to support upgrades of the operating system and Schlumberger software. It is also suffering from a decrease in reliability and an increase in maintenance costs.

The long term goal is to move towards a UNIX solution for the CAD system as UNIX 'boxes' tend to offer increased price/ performance over VMS 'boxes'. However, we have a large investment in the current Schlumberger software in terms of drawing libraries etc. and require a compatible system capable of using these libraries.

Schlumberger have recently ported their CAD system to the DEC ULTRIX environment and moving to this system would allow us to maintain our investment in the current libraries. However, with the large capital outlay required to move to the ULTRIX solution, it was considered too early to move to unproven software.

On top of this long term aim, the hardware maintenance quoted by Schlumberger for this year was considered extortionate and prompted us to look for a replacement to the current system hardware for a period of 12 months. The system had to be capable of running the Schlumberger VMS software and to allow us the freedom to review the ULTRIX version of the software when it is a more mature product in 12 months time.

After obtaining several quotes for rental of VMS kit, we have now rented a system comprising:

- 1 * MicroVAX 3500
- 7 * VAXstation 3200 with graphics tablets
- Exabyte tape drive and controller.

This system was received on Friday 19th July and was shipped up to the CAD area in Tower 1 the following week.

The PDP system was decommissioned and the hardware comprising the PDP 11 processor and disk drive was moved out of the CAD computer room to make space for the new MicroVAX 3500. This will act as a boot node and disk server for the new LAVC to be created.

The MicroVAX 3500 was installed in the space vacated by the PDP system and the process of installing VMS was started.

As a parallel operation, the disks which were to be used for user data (minimum of 1.2GB of storage was required) were being freed up from our existing RA81 disks in the main computer room. We required three RA81 drives to be shipped up to the CAD computer room in a single three high cabinet. The CS operations team was tasked with the job of moving user groups to free up the three RA81s and then moving the data from whole disks to obtain the required three high rack with three empty RA81s. These disks were then moved to the CAD computer room.

Also, during this time the network team were putting in the required Ethernet network to allow the VAXstations to talk to the MicroVAX 3500. This involved some re-configuration of the network in Tower 1, Floor 3 to free up existing network kit. The main requirement of the new network is that all the LAVC traffic in the CAD area should remain local to the CAD LAVC ad not propagate to the main ADD network.

Once VMS was installed on the MicroVAX (ADD46V) and the system and network set up, the process of configuring the system to look and feel like all our other systems was begun. This involved copying our system start-up files from one of the other clusters and making the necessary alterations for the new

system. The required system root for each of the VAXstations was then created (ADD48V and ADD54V) and the necessary- customisation applied to each of these roots.

Now we have a working cluster consisting of the boot node and one VAXstation, the process of installing the Schlumberger BRAVO software has begun. To date some of the BRAVO base system has been installed and the editor has been started on both the MicroVAX and the VAXstation.

We did experience a hardware fault failure on the RA70 system disk on the MicroVAX and this has now been replaced. Although this delayed the project slightly, we were able to perform a stand-alone backup of this disk and so did not lose any of the data.

P E Sandeman

PERIPHERAL GROUP NEWS

The IFT is no more and we now come under the dubious title of "The Peripheral Group".

Apart from the various moves and relocations which are happening this month, we now have a special project to deal with which involves installing a new structured cabling system in the computer room foyer. What is a structured cabling scheme? you are probably asking yourselves. Well, here is a short description and explanation.

A need has arisen in the computer room offices to rewire the area due to a couple of new arrivals to the group. So it has been suggested that we rewire the area using Unshielded Twisted Pair (UTP) cables. This is a relatively new technology. It involves Flood-wiring an area with lots of outlets (similar to telephone points) and running all of the

cables back to a central patching panel. This would usually be in one of the communications cabinets. The cables can run any type of service ie. Ethernet, RS232, also telephone if required.

This system has several advantages over traditional cabling schemes, these are as follows:

- All services can be run over one type of cable, whereas with traditional systems, Ethernet has to use Coax cable, RS232 has to use 5 core Data cable.
- Once the system is installed, there should not be a need to make any further additions, as the area is saturated with outlets.
- There are low maintenance costs, as services can be changed over in a matter of minutes rather than incurring the time penalty of running entirely different cables.
- Reliability is higher as maintenance is minimal.
- Apart from the advantages mentioned above the system will give us:
    - Experience of installing this type of cabling system for when we eventually put it into other areas.
    - A show-piece for people to see the system firsthand.

We will keep you informed of any further developments.

G Jacques

GLOSSARY OP TECHNICAL TERMS

Asynchronous Communications

Data transmission mode where each transmitted character has integral start and finish - start and stop bits - so that the character can be sent at an arbitrary time and separate from any other character.

Balun

A transformer for levelling out impedance differences so that a signal generated onto co-axial cable an transfer onto twisted pair. Baluns are often used so that IBM 3270 terminals can run off twisted pair or to allow coaxial Ethernet to be operated over UTP.

Baseband

A means of data transmission, typically for a LAN, where the information is modulated onto a single carrier frequency. Ethernet is a baseband network.

Baud

This is a unit of signalling speed which is expressed in terms of the number of discrete conditions or signal events per second. It is only the same as bit/s, when one discrete signalling condition is used to transmit a single bit of data.

Carrier Sense Multiple Access with Collision Detection (CSMA/CD)

A leading LAN control access method used in Ethernet. In Ethernet all the nodes are attached to a single cable, eg. coaxial cable. When another node transmits data onto the network it raises a carrier and modulates the data onto the carrier. The other nodes detect the presence of the carrier (Carrier Sense) and listen to see if the information is intended for them. If it is, they listen to the information. When the nodes want to send, they all have access to the network (Multiple Access) and can send when they see no other transmission taking place. However, more than one node can statistically send at the same time and so when two nodes transmit simultaneously, they detect that this has happened (Collision Detect) and both retry at random intervals.

Cheapemet

Colloquial term for thin wire Ethernet.

DECnet

Proprietary peer-to-peer network technology originally developed for use in wide area networking by the Digital Equipment Corporation (DEC) and evolved to include significant Ethernet-based LAN capabilities. It is the implementation of the Digital Network Architecture (DNA). Present implementation stands at DECnet Phase IV which is being evolved to incorporate OSI in DECnet Phase V.

Drop cable

A cable that links a network adapter to an external transceiver attached to a co-axial LAN, eg. Ethernet.

If you have any comments to make, you can either telephone the Main Computer Room, on extension 3055 or 4350, or fill in the slip below and again return it to the Main Computer Room.

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NAME	DEPT	EXTN:
COMMENTS:		