

PS COMPUTER USER'S COMMITTEE

Summary of meeting No 6 - April 30, 1974

Present : O. Barbalat, G. Baribaud, H. van der Beken (part-time),
M. Bouthéon, H.E. Davies, J. Gruber, A. Krusche, J.H.B. Madsen,
H. Riege, D. Simon, U. Tallgren, H. Ullrich

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The minutes of meeting No 5, MPS/DL/Min. 74-12, were approved without comments.

1. Computer System Configuration

A draft prepared by H.E. Davies was circulated. It complements an earlier paper (still fully valid) on this subject which was discussed in February (CUC meeting No 2). It deals this time with both the front-end and the "laboratory" computers (2 units already ordered by LI and AE groups).

a) Hardware

It is proposed that these computers should have a standard configuration (cost 100 to 150 kFr) :

- PDP 11/10 processor with 16K memory,
- DEC writer,
- 1,2 Mword disc pack (probably fixed head disc on front-end computers),
- Tape cassette system (optional),
- Standard CAMAC interface,
- Optional access devices :
 - . Tektronix T40-10 terminal
 - . Shaft encoders
 - . Push-buttons (or touch panel) for option selection.

b) Software

A standard software was also proposed :

- The operating system would be an extended version of MINIMON*;
- The interpreter will be a version of ESAU (son of ISAAC and MPS form of NODAL which is the SPS interpreter);
- Subroutine library for accessing CAMAC modules.

The development of all the desirable features of MINIMON will require about 2 man-years while another man-year is required for ESAU. However, limited facilities will be available much sooner.

It was again asked whether time and effort could be gained by going directly to NODAL. Discussions continue with Lab.II for sharing the costs of developing a NODAL interpreter for the PDP-11/10 (cost : 100 to 150 kFr).

c) Tasks of front-end computers

- Provide interface to CAMAC and perform data acquisition and control on a cycle to cycle basis.
- Parameter surveillance.
- Special programs such as closed loop control.

d) User access to front-end computers

The following points emerged from a long discussion on this subject.

- "Active" control (i.e. parameter modification) from the local console should not be possible without clearance from the MCR when that particular computer is on-line.
- Local access on single parameters (both for acquisition and for active control) when the system is on-line was strongly required by several users. The difficulty to implement this facility is related to the organization of the data base. Opinions differ yet as to how easy it is to have a subset of the data base in the front-end computer and then how data protection can be achieved. An additional difficulty is that the local use of a subset of the data base might not be possible until the whole data base facility is implemented. It was agreed that further study on this subject will take place (after A. Daneels' return) with the aim of finding an acceptable compromise solution.
- From the system design's point of view, it would be much easier to implement general access facilities via consoles attached to the central PDP-11/45 where full data protection can easily be insured rather than through the local consoles acting on the PDP-11/10. Users were also invited to plan their applications by taking more into account the

* MINIMON (MINIcomputer MONitor?) is an operating system for the PDP-11/10 initially developed by B. Carpenter and which is being extended. The system can organize up to 250 different tasks, allows communication between tasks and scheduling of the different tasks according to interrupt priorities. The complete specification of the extended MINIMON will appear in a separate note.

computing power of the PDP-11/45 rather than thinking too exclusively around a stand alone PDP-11/10 front-end subsystem.

- Some users would like "additional facilities" to allow limited operation of the process connected to the front-end computer when the central computers or its transmission system is down. It was asked whether the amount of effort required to cater for such a relatively unlikely situation in view of the system redundancy is justified. However, according to some people, this effort is relatively modest.

e) Conclusions

From these remarks, it is clear that although this outline represents a possible approach more discussions are still necessary. In particular, detailed specifications of some of the software facilities and the various stages of their implementation are still needed.

The CCI group has accepted to present, towards the end of June, a global view of the whole future PS control system, with all its hardware (including all the foreseen front-end machines) and software aspects and the required resources (staff and money) on the basis of the various previous CUC discussions. This should allow the MAC to take the necessary policy decisions.

It can already be said that the facilities of the whole system are not likely to be available before two years.

2. Transfer of PDP-11/45 to 3 MeV Linac

In view of the extensive measurement programme to be carried on the 3 MeV Linac from this Summer onwards and the impossibility to use the Unibus extender developed by NP (as initially planned), it was agreed to move the "Linac" or B PDP-11/45 to the 3 MeV Linac for the duration of this measurement programme. Other users of the B computer will continue to have access to that machine for their programme development work.

In the meantime we have heard that the C or "Booster" computer (PDP-11/45) will be delivered in June already, it can consequently be installed straight in the 3 MeV area without need to move the B computer.

3. Agenda of Future Meetings

- CAMAC - discussion of MPS/CCI/note 74-14 and 74-15 and related topics
- Data base.

O. Barbalat

Distribution

PS Scientific Staff
PS Programmers.

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