

### **UNIX Project Funding Imminent**

It is expected that a project on the Berkeley Campus will be funded soon by the Federal Government to provide a Standard VAX UNIX system for use by various government contractors. The project will be under the direction of Computer Science Professor Bob Fabry.

A major factor in attracting these funds was the excellent reputation of the current Berkeley VAX UNIX system, the first to take advantage of the paging mechanism of the VAX to facilitate programs requiring a very large memory. The paging facilities were developed by students Bill Joy and Ozalp Babaoglu under the direction of Computer Science Professor Domenico Ferarri.

The system which will be developed will be an enhancement of the current Berkeley VAX UNIX system. File access will be improved by allowing files to be logically coupled into the address space of a process. Pages of such files will be brought into memory only as they are used. If several processes are using the same page of a file, there will be only one copy of the page in memory; changes made by one process will be available immediately to the other processes.

A major effort will be mounted to improve the UNIX interprocess communication mechanism. The current "pipe" mechanism is considered inadequate. The mechanism to be implemented will facilitate message-oriented applications while still being compatible with the current stream-oriented programs. Processes will be able to communicate without taking into account whether they are on the same system or are communicating over a network. Additional networking options will also be provided. Local high speed networks as well as new ARPANET software being developed at Bolt, Beranek, and Newman, Inc. will be incorporated.

Because applications expected for the system include VLSI circuit design, image processing, large LISP programs, and so on, a number of performance enhancements will be made to improve the response time for large applications.

Bill Joy will be playing a central role in the project which is budgeted for about two thirds of a million dollars over the initial period of eighteen months. This amount includes the cost of a medium size VAX system which will be used for the development work. In addition to staff members and faculty, the project is expected to support a number of graduate students. Students whose background and interests make them suitable for working with the project are encouraged to contact Professor Fabry or Bill Joy.

The resulting system is expected to be available to all VAX UNIX Licensees for a nominal fee.

(VAX is a trademark of Digital Equipment Corporation and UNIX is a trademark of Western Electric Company.)

--Bob Fabry