IBM CONFIDENTIAL

November 21, 1973 Scientific Center 2670 Hanover Street Palo Alto, CA 94304 8/624-3165

Advanced Technology Activity for SCAMP A CONTRACTOR OF THE PARTY OF TH

Ser a meriora of a

Kr. Pat Rickert GEDHQ-Atlanta

The Palo Alto Scientific Center is interested in maintaining a productive role in the development of SCAMP. We foresee the need of various project activity which is highly desirable but which may not comfortably fit into your present SCAMP development plans because of time or headcount constraints. This ad. tech. activity would be aimed at producing and evaluating various new programs and hardware modules for use in the SCAMP program. Specifically, the following activities are suggested:

### SCAMP DISK 1)

- Install a mini disk on SCAMP prototype in Los Gatos.
- Prepare programs to support disk I/O (preferably as an extension to the present SCAMP 1130 emulator).

#### SCAMP GRAPHICS 2)

Program support D. Roberson's experimental graphics device, allowing APL users to access the graphics display.

## SCAMP APL INTERPRETER 3)

- Modify the APL/1130 Program Product to run on SCAMP (with disk).
- Evaluate performance and function (Note 1: this could be an extremely important activity which develops a backup or alternative approach to the SCAMP 1 or 2 APL interpreter. (Note 2: this 1130 APL system offers larger workspace, full APL operator set, no restriction on vector size, and increased precision of 9 digita).

# SCAMP-ORIENTED LANGUAGE PROCESSING ARCHITECTURE

Develop and test an intermediate meta machine architecture for supporting language processors. Specifically supported would be APL and BASIC, although other languages such as RPG or COBOL should be also supportable.

This meta machine (N-Machine) approach will be designed in such a way as to minimize the effort needed to transport APL and BASIC from one machine environment to another. Thus it may be practical to comsider writing one more APL interpreter and one more BASIC system which could be "transplanted" into various machine environments over the span of many years and at a considerable savings in cost, gain in development speed and flexibility, and increased product reliability.

- 5) HIGH PERFORMANCE SCAMP ENGINE
  - Develop and install a CEH engine in SCAMP prototype.
  - Write GEN programs to emulate 1130 (including disk file and graphics support).
  - Evaluate performance.

# RECOMMENDATIONS

- In order to accomplish all or any of the above activities, it is 1) recommended that a small group of 2-4 college student programmers be hired on a part-time basis. These people would report to the Scientific Center in the usual manner, and would work with Roy Harper's engineering group and our staff mombers in accomplishing the above project activity.
- GSDMQ should cover the expenses for this activity which are roughly 2) as follows:

10 hrs./mo. 145 time x \$60/hr. = \$ 600/month computing TOTAL

88 hrs./mo. x \$3.95/hr. x 4 m \$1,390/month salaries, plus \$1,990/month

Roy Harper's group also desires the services of one or two technicians to aid in fabricating SCAMP 1/0 and GEM hardware. Their Notes expense was not added into the above cost estimate.

Please let me know whether the above plan meets your objectives and, if so, when you wish to start.

the manufactor to the first program broduct to man on duting ( its civi).

Paul J. Friedl the purformance and function e is said about be an estrumely important activity which down a P. LaVeau - GSDHQ Atlanta ve approach to the FLAST 1 or 2 at a free real and H. Platt - PASC

R. Harper - SDD Los Gatos los ou vector sirà, and inquessed proviet a ci

bcc: P. Smith - PASC LANGUAGE PROGRADING ERCHITECTURE

W1/2

two tree and test at Lubble of Late for a media of the court for our exting imposes promote the forestaicethe magnitud would be the state of the state of the language and the state of t te also engrounded la

this works machine (selection) symmetrically be dust med in such a now so to residence the differt needed to throughout his and laste from or or mailling confirmable to expense, which is har be proceeded to a sewider writing and more Art interpreter and one more name secure that could so "transplented" this various markton environment. each the open of many years and at a considerable smaleys in cost, on in Govelopment speed and flexibility, and large west product collability.