Inter-Office Memorandum

To	David Liddle	Date	September 19, 1977
From	Charles Simonyi	Location	Palo Alto
Subject	Progress Report	Organization	SDD/SD

XEROX

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Prototype Software (Charles Simonyi)

Programming of the Diamond Recompilation, Service, and Test Modules has been progressing well. The total size of these programs is now 29500 lines. All of the code has been converted to Mesa 3. The Recompilation Module is nearing completion. There were some difficulties in binding the Service Modules. A minor simplification has been defined to solve these problems. The Test Module is working well, but it still needs to be integrated with the Service Modules.

The Mesa group has been briefed about the details of these activities. A demo of the Test Module was given as part of this briefing. It is hoped that improved communication about our problems and about our approaches to solving them will lead to increased coordination and cooperation.

A valuable opportunity was exploited by a two man-week study of the Mesa microcode to find out if Butler Lampson's original implementation ideas, which had the potential of doubling the current execution speed, can be made to fit the available space. The original sketches were microcoded and a number of space-saving ideas were contributed. The results are not only that the fast microcode can be fitted, but also a fair amount (about 50-80 words out of 1K) of microcode space will be left for future developments. These results were handed over to Roy Levin of CSL for further optimization and implementation. With the new microcode, Diamond will have the potential of outperforming Bravo even on the Alto.

Copies to: Bergsteinsson, Heinrich, Irby, Lynch, Metcalfe, Shultz, Szelong, Stottlemyre, Townsend, Weaver