

XEROX
BUSINESS SYSTEMS
Systems Development Department

To: Bill Lynch Date: 24 January 1979
From: Hugh Lauer Org: SDD Systems Software
Subject: Progress, Pilot Filed: <Ogawa>Pilot-JanProgress.bravo

The following is the status of the Pilot project as of this date.

PLANNING

Planning for Pilot 3.0 is nearly complete. The release date is set for June 15, 1979. Preference will be given to meeting the schedule rather than including all of the features.

Internal hearings (for the Pilot implementors) were held on January 12 and external hearings (for the Teak committee) were held on January 23. Priorities were assigned to all tasks. An updated task list will be circulated later this week.

Detailed task planning for Pilot 3.0 is in progress. Five milestones are identified:

- Pilot A -- February 15
- Pilot B -- March 15
- Pilot C -- April 1
- Pilot D (the alpha release of Pilot 3.0) -- May 1
- Pilot E (the Teak release of Pilot 3.0) -- June 15

A work plan identifying these detailed tasks will be done next week.

TECHNICAL

Technical details of software booting and microcode swapping for the debugger have been worked out.

The rigid disk driver for the Diablo Model 31 has been completely redesigned both to accommodate the new DiskChannel interface and to improve performance, structure, and maintainability. It is expected that this will serve as a model for other rigid disk drivers, which can be implemented primarily by editing this one.

General strategy for supporting the debugger on Pilot has been worked out. Supporting design and implementation are proceeding.

Several performance bottlenecks have been identified, both by members of the Pilot group and by J. Morrison and Product Software. These include:

- time to handle a page fault (1/3 second!)
- real memory allocator (consumes 12% of all processor time)

Space.Create (2.5 seconds, mostly in the allocator for placing a subspace within a space)
mapping data spaces (currently creates a new file for each space)

STAFFING

Randy Gobbel started on January 22.

We are still short of people. We need one very qualified person in a hurry and a second shortly thereafter, preferably before the summer.

Gobbel inherited Purcell's Alto. A new person will need an Alto as soon as he arrives.

The D0's in this building are a bare-bones minimum needed to support Pilot 3.0 and Pilot debugger development. I have agreed to share Burrito (formerly known as "Purcell's D0") with Wick. This will be moved into Johnsson's old office and Wick will come up with an Alto somewhere.

ISSUES

The impending departure of Carol Hankins has exposed a problem/risk area in the dependence of Pilot 3.0 on certain microcode support. In the short term we require at least the following that Carol would have done:

- Microcode files to be organized for software booting between Pilot and Debugger.
- Software booting function to be implemented (interim hack will do)
- I/O page to be moved (including CSB's for existing disk and display)
- Timer support in new I/O page (interim hack will do but time of day must be preserved across calls to debugger)

In addition, we expect Johnsson to help in the following areas:

- Adapting Snow's process microcode for PrincOps
- Running with MDS away from first 64K of VM
- Traps, page faults, etc.

All of this must fit into a fairly tight schedule if we are to meet Pilot B and Pilot C milestones on time.

A more global issue to resolve is the allocation of responsibilities for I/O device drivers, controllers, and certain utilities between IODU and Pilot. This should be discussed.