

To  
R. Spinrad  
ITG/SDD  
El Segundo

From  
D. Liddle  
SDD/SD  
Palo Alto

C: SD-MGLS

Subject  
Progress Through January 20, 1977

Date  
January 20, 1977

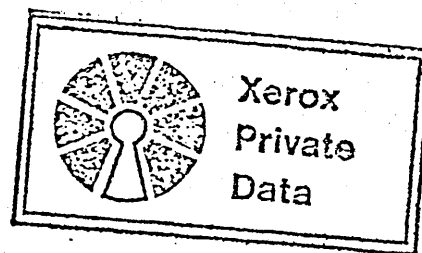
### Processor Architecture

Version 1.3 of the OIS Processor Principles of Operation was released for SDD and EOD Review on January 7. It includes complete descriptions of the I/O and Virtual Memory facilities. A final version will be issued on 14 February.

Critical structural and performance specifications for  $D_0$  were transmitted to EOD on January 7. Progress continues on design of the  $D_0$  breadboard/engineering models. Design review and finalization for the  $D_1$  continues to be slow due to the diversion of resources to  $D_0$  tasks. Progress on the  $D_0/D_1$  microassembler has been good. The design automation software has been augmented to support incremental changes to boards during debugging. Excellent progress was made on the Image Processing breadboard this month, with the ROS Adapter being completely debugged and tested. In particular, the error control design was verified; diagnostics were run transmitting over ten million command and status packets with no errors.

### System Software

The System Software Section was reorganized into four principle groups, allowing a better distribution of responsibilities and management capabilities, and recognizing the mature status of several projects and the emergence of several others; the details are described in an SDD announcement. Staffing has been going very well, and we are holding to our ambitious plan, although it is placing a considerable burden on the managers to maintain technical progress and program schedules while interviewing at the current rate.



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The very successful collaboration with PARC/CSL in building and releasing an Alto/Mesa system was completed at the end of 1976; future Mesa development and maintenance will be done by SDD, with the PARC/CSL contributors acting in a consulting and advisory capacity, and actually working only on special projects. A joint SDD-PARC task force is currently working to prioritize and recommend changes, additions, or improvements, and determine a timetable for them.

The Pilot (Operating System) Functional Spec has been released, and review comments are expected. A second release is planned for April and final issue in June, at which time it will become a formal document subject to change control procedures.

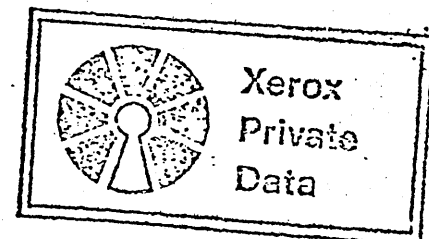
The User Interface group sponsored a one-day joint workshop for ABC/OIS, PARC and SDD personnel on "Desk-Top Concepts and Display Windows," which featured demonstrations and discussion of the appropriateness of various approaches to the user interface for DWP and subsequent OIS Products. Major emphasis is currently on completion of the site visits and user scenarios and of specification of an initial user interface for the Diamond prototype.

#### Janus (DWP) Applications Software

Good progress has been made on the Applications Software Requirements Spec and Functional Spec Outlines have been developed and made consistent with the rest of the software specification activity. Progress was made on the major sections toward an April release of the requirements spec.

Progress has been very good on the Janus prototype software (Diamond). This effort is now producing a large amount of relevant experience and data on using Mesa in a typical application; this has resulted in several useful proposals for improvements. Also, the first critical timing and performance data on the inner loops of Diamond are now being acquired and analyzed for inclusion in processor and system performance specs.

Staffing has continued to proceed on plan and is a major management priority during the first quarter.



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Communication Systems

The OIS Protocol Functional Specification, Xerox Wire Functional Specification and Pilot Communication Facilities Functional Specification were all released in December 1976. EOD has begun Xerox Wire transceiver design after reviewing the Functional Spec. A series of parameter measurements of bandwidth, number of tabs, and cable length have been completed and transmitted to EOD.

Staffing continues to be below plan due to the scarcity of appropriate candidates, although several offers have recently been made following intensive interviewing. Outlook is that we will reach plan by June or July.

*Dave/g*

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