MEETING OR CONTACT REPORT

	Date of Report: July 13, 1959
Organization & Location: San Jose Laboratory San Jose, California	Date: July 8, 9, 1959 Reported By: E. W. Coffin
Project: Binary Serial File	Department: 910 Follow-up Date:

PERSONNEL PARTICIPATING:
(Place asterisk next to those on distribution list. Other distribution show at end of report)

Mr. E. W. Coffin - Poughkeepsie
Mr. J. R. Lyons - Poughkeepsie
Mr. R. Golub - San Jose
Mr. C. Hester - San Jose
Mr. W. Dye - San Jose
Mr. R. Boenninghausen
Mr. W. Maseline
Miss M. De Coursey

I. Purpose of Visit

The general purpose was to discuss initial specifications for a Binary Serial File to be attached to binary Data Processing Systems in development.

II. Account of Meeting

The ADF and Parallel File were discussed with Mr. Golub. With regard to the Parallel File, a new head development program was discussed based on ideas presented by Mr. John Lyons. The expected result of this program will be elimination of the large skew register presently required in the High Speed Exchange.

A brief tour of the Million Character File was given by Mr. W. Dye and Miss M. DeCoursey. This file consists of an extra heavy Mylar belt with an oxide coating. The belt is attached between two end bells. One bell is driven the other is free running. The present system will have 50 heads which can be shifted over 10 tracks. Data is read serially per track. Present rotation speeds is 8000 rpm giving a rotation time of 7.5 ms. This leads to a data rate of 250 KC. Possibilities for providing parallel operation would probably require slowing down the drum rotation speed. This would require consideration of deskewing problems the exact nature of which is currently undetermined. However among other possibilities the use of 16 heads for data with 6 for ECC would provide a STRETCH word every 4 microseconds. Any such proposals will require extensive investigation.

A brief tour of the VLCM project was given by Mr. W. Maseline. This device selectively draws one of ten tape strips from a storage cell. A set of ten cells forms a bin. The set of cells may be moved to the right or left to position it with respect to two read-write drum mechanisms. The read-write drum has motion in the forward and aft directions. When a strip is selected it is wrapped around the drum surface and reading or writing can proceed. Access to various file items is spread over quite a range. Some fetches can require in the order of 1/2 second while others require times of 25 to 50 us. Completely random accesses would be at a premium. The VLCM is expected to be marketed with modules of 10 million character capacity increments.

General discussions with Mr. W. Dye on Binary Serial Files produced the following points of agreement.

1. Use of pure decimal files with binary systems imposes addressing restrictions.

2. A binary-decimal interchange system contains problems in mutual control with the definite possibility of relatively expensive adaption. Furthermore restrictions on each system can be expected.

3. Pure binary files can readily contain particular character configurations subsets.

4. Programming approaches to multi-system linkage appears to be more advantageous. Examples: SPACE, Tape Edit, 310, etc., connected to larger systems through programmed control in the large system memories.

5. Additional applications development must be specified before intersystem linkage through a file can be said to be feasible. At present applications appear to be based only on usage where the larger system uses the file for one shift and the small system uses the file for another.

A preliminary discussion of a possible configuration was discussed using suggestions in memo's written by myself and Mr. Dye both on July 2, 1959.

III. Conclusions

Preliminary discussions indicate the feasibility of producing a Binary Serial File from the current file programs. As indicated by Mr. R. Golub, a model file could be available for delivery on May 1, 1960 provided that a purchase order covering development, hardware, assembly and testing costs for the file is received prior to October 1, 1959. Such a program would appear to meet the needs of Project SABER.

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