MEETING OR CONTACT REPORT

	Date of Report: October 22, 1957
Organization & Location: Los Alamos Scientific Laboratories Poughkeepsie, New York	Date: October 17-18, 1957 Reported By: E. F. Codd
Project: 7000 Mathematical Planning Committee Meeting #10	Department: 749 Follow-up Date: October 24, 1957

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

LASL

Messrs: B. Carlson
R. M. Frank
M. Goldstein
R. B. Lazarus
E. L. Voorhees
M. B. Wells
D. F. Wood
W. J. Worlton

IBM

Messrs: G. A. Blaauw *
F. P. Brooks *
W. Buchholz *
J. Cocke *
E. W. Coffin *
S. W. Dunwell *
P. S. Herwitz *
F. E. Johnston *
H. G. Kolsky *
B. Moncrieff *
D. W. Pendery *
D. W. Sweeney *
E. F. Codd *

Discussion

The subject of formats was the focal point of discussion throughout both days. The position of Los Alamos may be summarized as follows:

1. Los Alamos indicated a strong desire for more than four bits in the index address and for this address to have an optional geometric interpretation for instructions of the floating point type. Two sets of instruction formats dated October 11, 1957 were presented. In each set the index address was six bits in length.

2. Los Alamos stated that the half-word index represented an inadequate use of the bits in an index address. Instead, a full word should be referenced.

After a presentation of the current IBM scheme based on half-word instructions and half-word indices, a comparison was made between the various schemes. It was generally agreed that the six bit index address in either of the Los Alamos schemes was desirable. It was also recognized that the price paid for this advantage in the full-word Los Alamos scheme was reduced bit efficiency and in the half-word Los Alamos scheme reduced vocabularly (particularly, indexable modification of indices.)

Conclusions

1. IBM agreed to modify its current scheme for instructions and indices to accommodate the full-word index quantities requested by Los Alamos. Index words are to take the form V_{25} C_{18} R_{18} or V_{25} X_{25} (where X is interpretable as a count, increment, limit or reset address, according to the operation specified.)

2. IBM offered to make a serious attempt to produce an instruction and indexing scheme with index addresses expanded to five bits, but retaining such essential functions as indexable modification of indices. Los Alamos indicated that they would prefer IBM to make an intensive, comparative study of the full-word Los Alamos scheme (October 11) and the half-word IBM scheme (October 14) revised to include full-word indices. This study would be aimed at measuring the bit efficiencies of the two schemes on a variety of sample problems. IBM agreed to undertake this study and invited a Los Alamos representative to stay in Poughkeepsie and participate. Los Alamos will be contacted not later than Thursday, October 24, by which time the results of the study should be available.

3. The option of leaving or resetting the bit tested by bit-controlled branch instructions will be changed to leaving or conditionally inverting.

4. The next meeting will be held on Thursday, November 14, 1957.