

# MEETING OR CONTACT REPORT

Date of Report: May 12, 1959

Organization & Location: General Telephone Company Santa Monica, California	Date: April 22, 1959
	Reported By: E. G. Law
Project:  7000X Applications	Department: 749
	Follow-up Date:

## PERSONNEL PARTICIPATING:

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

Mr. Jack Lord - General Telephone Company  
Mr. Dean Cameron - IBM Santa Monica Branch  
Mr. E. G. Law - IBM Product Planning

The General Telephone Company is, I believe, the largest independent telephone company not a part of the Bell Telephone System. Their headquarters are in New York City, but their first installation of stored program equipment is in Santa Monica, California. It consists at this time of a Model II 705. They have a Model III on order for delivery later this year. The machine is located on the first floor of a new office building. It is a very nice arrangement with quite an elaborate observation booth. The booth contains a detailed model with a recorded description of the machine during which the various components in the model light up as the particular unit is described.

Mr. Lord and Mr. Cameron gave me a description of their two largest problems. At present they're working two shifts installing a portion of their customer billing program. This is a very large application even for the limited segment of the company that it includes. It is made especially complicated by the fact that the primary control is customer phone number which changes frequently. Contrary to the Bell system which does not wish to consider any concentration of its customer billing, General Telephone top management has expressed their desire to concentrate their customer billing at the earliest time that equipment makes this practical. If a detailed application study

could establish the reasonableness of using a machine the size of the 7000X, we would be enclosing a far larger market area for that machine. General Telephone has agreed with the Bell system that it is not practical to concentrate customer billing with EAM equipment. A point of diminishing returns is too soon reached. Mr. Lord suggests that possibly a mistaken extension of this fact lead Bell to think that concentration will not pay under any conditions.

The program needed for customer billing is very large and elaborate. It exceeds the 40K capacity of the Model II 705. Natural extensions and enlargements will also strain the capacity of the 80K memory available with the Model III 705. There is a need for a very large Random Access device to store all of the information which must be retained during the month. Toll calls, for example, are added to the system during the month as they are made. A proportional amount of billing is done each day to even the load during the month. This means that some calls are in the system for a full month.

In addition to the customer billing application, General Telephone is programming a very large and complicated line assignment system. The complexity of line assignment in a telephone company has lead some experts who have studied it to the conclusion that it is not machineable. General Telephone feels that it is machineable given adequate equipment. As is the case with the customer billing application, the line assignment problem requires a large capacity machine. It also requires considerably more processing speed and ability than the customer billing problem. The use of a machine of the Stretch family might very well lead to new techniques for this problem. The customer would like inquiry station ability for this problem. Any other approach requires a very large amount of unnecessary advance calculation in an attempt to anticipate any combinations which might be requested. With interrupt facilities and the ability to very quickly calculate the best of all of the available combinations to satisfy the line assignment request, the assignment can be made at the time the inquiry is received. This would save a great deal of redundant effort.

General Telephone has recently acquired Sylvania Electric Company. The main purpose in this acquisition is probably to have the equivalent of Bell's Western Electric. However, since Sylvania has been active in the computer field, this move may result in an attempt to build special purpose equipment for the billing problem. This special purpose equipment will

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probably follow the decentralized approach to billing. Establishing the practical nature of concentrated billing based on a very large machine might forestall such a development. On the basis of General Telephone's stated desire to concentrate billing and line assignment, this company might make a very good applications studies for the 7000X. It represents a fresh applications area. The problem has interesting aspects to which Stretch logic might very well appeal.



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