

# MEETING OR CONTACT REPORT

Date of Report: May 15, 1959

Organization & Location: Lockheed Aircraft Company Burbank, California	Date: April 22, 27, May 6, 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. N. Decker - IBM National Account Manager  
Mr. M. Franklin - IBM Glendale Branch  
Mr. E. G. Law - IBM Product Planning  
Mr. E. Mallory - Lockheed Aircraft Company  
Mr. W. Simonet - Lockheed Aircraft Company

This report contains information gained from four separate contacts. The subject of discussion was the same at each. For the sake of brevity, they will all be summarized here.

One of the most important considerations which Lockheed considers in evaluating any piece of equipment is unit cost in doing the job. A very large configuration offers lower unit cost only if it is loaded sufficiently. Lockheed is not concerned about being able to load more than one STRETCH machine over a period of time, but is concerned about being able to load one quickly enough to not lose the profit for several months. They are presently finding their cutover from the Model II 705 to the Model III even easier than they had originally thought it would be. Any conversion to a non-compatible machine will be a different matter however. They feel that it will be absolutely essential to have some kind of machine conversion program. They recognize that it probably will not be possible to write a program which will accomplish all of the details of the conversion. Nor will it make efficient enough use of the new machine to make the automatic conversion long standing. Nevertheless, they do feel the machine conversion

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program can do most of the work associated with the conversion, and at the same time make that conversion progress with the necessary speed. Even with such automatic assistance in making a conversion, they maintain that IBM is going to have to give some kind of rental concession during the period of the conversion. Such a concession might take the form of reduced rental on either the machine being converted to or the machine being converted from during the period of conversion. It is difficult to know just how serious they are on this point, but I'm sure they can be counted on to make some kind of issue on it.

In their own words the Lockheed attitude is not "will be get a STRETCH", but rather "when shall we get one". They feel that this "when" rather than "if" attitude is very widespread. They compare IBM's caution in marketing STRETCH to our caution in originally marketing the 701. A great many people then wondered whether there would be enough work to keep such a machine busy. It certainly wasn't very long before companies were ordering a second 701 to supplement the first. These people feel that the very same thing may be true of STRETCH. They think we are going to see important effects in the next few years from the movement into upper management of some of the data processing pioneers. This is happening at Lockheed and probably elsewhere as well. These pioneers know what data processing can do for them. They have a realistic evaluation of its limitations as well as its advantages. They are moving into positions where they will determine the extent of their company's use of data processing equipment. It was felt that this factor will produce a significant upturn in the rate of increase in new applications for large scale systems.

Each one of these four people made a separate statement concerning the importance of adequate Applied Programming support for any commercial STRETCH program. It was stated that this is particularly true of a commercial package as well as a complete computing utility package. Mr. Decker stated that he was very fearful of a repeat on the SCAT situation. He does not want to discuss the machine with Lockheed at all until he can tell them exactly what the plans are for an entire system which will include Applied Programming support as well as the hardware. Lockheed would probably be willing to do some of the programming but Mr. Decker said that it was very important that schedules be adhered to and that it be completely and clearly understood just who was responsible for accomplishing which portion of the program.

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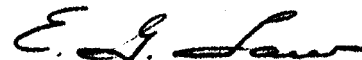
Mr. Frank Carlin of Lockheed's California Division is now working on an assignment for corporate Lockheed management concerning very large data processing machines. He is evaluating STRETCH, LARC, and certain other very large systems for possible future application at Lockheed. It was stated that he is having some difficulty in getting all of the information that he would like for this report. It would certainly seem to be in our interest to check into this and make certain that he has all of the information he needs concerning STRETCH.

Like North American Aviation, Lockheed management deplors the necessity for one line of equipment for commercial work and another for scientific work. They would like very much to use a single machine type on which it would be practical to do both types of work. They are also beginning to feel more strongly about the high cost of being a pioneer in the use of a new machine or system. This hasn't always been the case. There have been some outstanding examples in the past of their being willing to pioneer in the use of a new machine or system. It was stated that this is no longer true. They feel they simply cannot afford to be pioneers without completely adequate support. On the other hand, Lockheed is not afraid of a "one of a kind" situation. In fact, they have on occasion avoided acquiring a second machine of a type in order to keep pressure on machine availability. Certain of the people responsible for running the Lockheed installation felt that it was necessary to keep the pressure on in order to insure that unnecessary applications would not too easily go onto the machine. Conversion to a new machine also represents an opportunity to eliminate relatively unprofitable applications.

In terms of machine time consumed, the two largest engineering applications at Lockheed's California Division are as follows: The first is an optimization of aircraft design. Starting with design and performance objectives, the program yields a complete configuration. It is actually a synthesis of the best configuration for the particular design performance objectives. Lockheed is very proud of this application and feels that it is way ahead of the rest of the industry. The second largest application in terms of machine time consumed is a relatively standard vibration and flutter analysis.

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Commercial applications presently being converted from 705 Model II to 705 Model III include payroll, labor distribution, production order writing, material control of purchased parts, and a file maintenance group. Applications presently in the system study stage include a spares program which will consume half a shift of 705 time when it is on the machine, a quality assurance application, a job shop simulation application, and an information retrieval problem involving the researching of management directives to search for effects of new directives prior to their issuance. The spares application will use a RAMAC as well as the 705. The half shift of 705 time will be used for daily batching and the RAMAC will be used to answer inquiries. Communication between the two machines will be by tape. The quality assurance application is a very large historical records problem. Its growth is regarded as being almost unlimited if the early use shows it to be profitable. The job shop simulation application will be an analysis rather than a synthesis at this time. Various assignments of available shop facilities will be analyzed for their effect on resulting production. The management directive researching application has several interesting aspects. The various management directives of the company have reached a volume where it is no longer practical to have experts who know the directives well enough to realize that there are conflicts with new directives just being issued. Management is evidently willing to spend quite a bit to avoid the embarrassing situation of issuing directives which are in conflict with earlier directives still in force.



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