

INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

Applications System Support Operations

Type of Industry Food Processing

Name of User General Mills
Minneapolis, Minn.

Equipment Used Univac 1004-II Card Processors

Synopsis

In addition to its main data processing system consisting of Honeywell 200 and Honeywell 1800 computers, General Mills, Inc., is using two Univac 1004-II card processors for supplemental and supporting operations.

The 1004s are used in four major areas - special reports, intermediate systems, balancing and small systems.

At General Mills' flour division an intermediate system is handling the processing of some 200 to 250 orders a day for 500 products. In addition, the system performs payroll functions as well as sales accounting.

Installation of a computer does not obviate the need for punched card systems. In fact, the opposite may often be true.

At General Mills, Inc., in Minneapolis, two Univac 1004-II card processors are used to support and supplement the operations of its two computers -- a Honeywell 200 and an H-1800. Installation of the card processors effectively doubled punched card processing capacity. Fifty percent of this increased capacity is used for new work. The remainder has absorbed all the work previously handled by conventional punched card equipment, which consisted of four accounting machines, a calculator and two reproducers.

This doubled productivity is actually achieved at less cost because the two card processors each print-out at 600 lines per minute, four times faster than General Mills' previous 150-line-per-minute accounting machines. In addition, the units simultaneously calculate, print and punch as they process cards. Previous punched card machines were accumulators only.

General Mills has six divisions - grocery products, refrigerated foods, flour, chemical, specialty products and international. Sales in 1965 totaled more than \$558 million.

Robert M. Weller, assistant manager of the firm's data processing center, cites four major areas in which General Mills uses the card units to support and supplement operations of its large scale computer systems: special reports, intermediate systems, balancing, and small systems.

The value of special reports often is dependent on their timeliness. Information is available on cards but it may lose its significance if it cannot be analyzed and reported immediately.



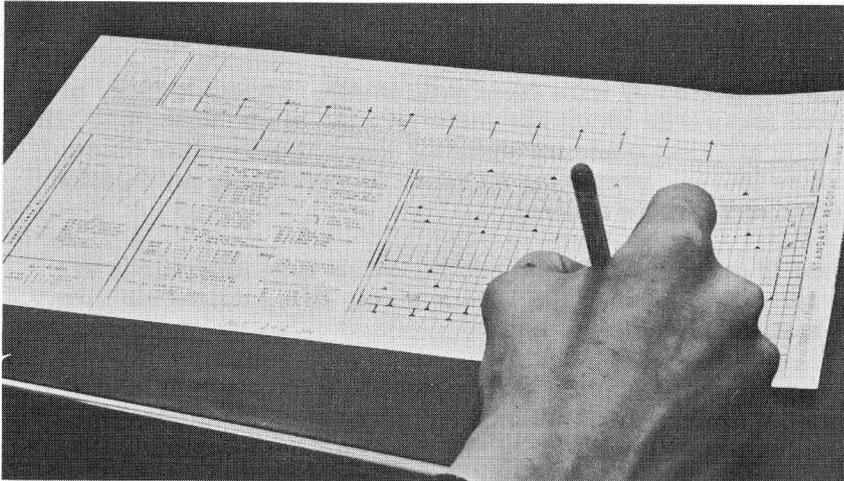
UNIVAC 1004-II CARD PROCESSORS
EACH PRINT-OUT 600 LINES
PER MINUTE -- FOUR TIMES
FASTER THAN GENERAL MILLS'
PREVIOUS CONVENTIONAL
PUNCHED CARD UNITS.

By means of a report generator panel on its card processors, General Mills can produce a special report in as little as half a day. The data processing department is called upon to produce hundreds of different special reports. Many of these reports fill "one time" requests for information from management personnel in the accounting, sales, marketing and other areas of the company.

The report generator panel makes it possible to set up jobs quickly and easily. A deck of 29 cards, each of which defines a specific portion of the program, is all that is required to run a job. More than 50 percent of all reports General Mills now produces on its card processors are run on this single panel. This speeds up operations and set-up time.

Intermediate systems refer to jobs which appear to be computer applications but for which specific program objectives are not clear. Such jobs are tested on the 1004 units prior to computer conversion.

An example is the firm's design for a complete, integrated data processing system for its flour division. This system will handle order processing, invoicing, sales contracts, warehouse inventories, accounts receivable, daily costs, sales statistics and delivery statistics. Data will flow from sales districts to data collection centers, where a by-product punched paper tape will be created for transmission by Teletype to Minneapolis for computer processing. Presently, decentralized, unstandardized manual processing methods are used.



A PROGRAM FOR CREATING A CARD DECK IS BEING WRITTEN. CREATION OF A DECK OF 29 CARDS IS ALL THAT IS REQUIRED TO RUN A JOB ON REPORT GENERATOR PANEL. MORE THAN 200 CARD DECKS ARE STORED IN THE TWO FILE DRAWERS.



While it is a major step to go from manual methods to an integrated large scale computer operation, the development of an intermediate system has several advantages. Mechanization can begin approximately two years earlier. Collection centers can be established and put into operation with less than the full load. The intermediate system provides first-hand knowledge of exceptions and problems, which must be considered in design of the computer system, making it possible to standardize practices and procedures which will make the computer system more efficient and effective. Changes in data processing methods and approaches can be made faster, easier and less expensively on a punched card system. The need for such changes is anticipated because of the newness of data processing methods to the people in the field who will be using them. Final start-up of the completed system will be greatly facilitated.

THE SYSTEM

The intermediate system which General Mills now operates for its flour division involves the use of 58 different card types (categories of information) to process 200 to 250 orders per day for 500 products.

Orders received at 26 sales locations are sent to regional data collection centers, which create 10-part order sets and by-product punched tapes. The tapes are mailed to Minneapolis where they are processed through standard computer conversion routines, punched out as cards, and turned over to the 1004 system.

A run on the card processors is made to check for the six basic card types required for an invoice. In addition, as much of the bill of lading as possible is prepared in advance.

Each morning, shipment notices are received by wire from mill points. These notices, plus data provided by sales offices, are punched into cards which are matched against an "unshipped" file to pull orders for invoicing. Additional runs are then made for updating shipped order line items; validating; invoicing; preparing a daily sales journal; preparing an accounts receivable notification sheet; preparing a daily draft advise report; and invoice control.

On a monthly basis, a sales journal is prepared. Concurrently, detail line-item cards are converted into delivery statistics format for direct input to the 1004 system, thus facilitating automatic preparation of monthly and annual statistical sales reports.

All card input to the large scale computer systems is first balanced on the card processors. This procedure saves time and money as well as improving effectiveness of computer utilization.

A typical example is the balancing operation for General Mills' weekly payroll of 3,500. This involves 43 payroll locations and about 15,000 to 20,000 detail cards.

Time cards are received in Minneapolis each Tuesday from 8:00 a. m. to 1:30 p. m. Payroll data is keypunched into cards, which are listed on card processors and checked to control totals. Corrections are keypunched and relisted. Cards are balanced and released to computer operations by Tuesday afternoon at 4:00 p. m. Checks are mailed out the same evening. As a result of this balancing procedure, less than five checks a week must be manually prepared because of improper punches, failure to establish employees in the computer master file or errors in master file data.

There are many small systems which cannot justify large scale computer "make ready" costs. General Mills has found it more efficient and economical to run these small systems on comparable-size processors.

For example, sales accounting for all of the Chemical Division industrial chemicals is handled on the 1004-II units. This operation involves 200 products and 1,500 to 2,000 detail cards per month. Input card decks include monthly details, last month's summaries, last year's summaries, customer masters, and territory header masters.

Output is in the form of eight different recaps: product by customer by territory; product by key customers; commercial development products by product by customer; and product by family group by territory, district, division, state and end use. Reports show three months' prior statistics in units; current month's statistics in units and dollars; cumulative statistics with the cumulative program (budget) at intermediate and major total levels.

General Mills runs 15 to 20 other small jobs on its card processors. "Many firms, even the giants, have jobs which are not big enough to justify the use of a computer system," Weller states. "The jobs simply are not large enough to make possible the recovery of 'make ready' costs. So there is a continuing need for fast, efficient punched card and paper tape input systems to support and supplement the operations of large scale computers."

RESULTS

General Mills' use of two Univac 1004-II card processors to support its computer operation has doubled punched card processing capacity, with half of this increased capacity being used for new work. The 1004s also handle all the work previously performed by conventional punched card equipment.

With the Univac 1004 units, intermediate systems can now be developed prior to conversion to a computer. This not only saves time but also provides valuable knowledge of problems which must be anticipated in the design of a computer system.