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Maintaining our leadership position

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The EO Computer Services Department:

Maintaining Our Leadership Position

Many people hate it; most people don't understand it. But the fact remains that there probably is no one alive in the United States today, and few enough in the world, whose life has not been touched by the computer.

In a philosophical sense, the computer may well represent man's most successful attempt to date to extend his ego, to increase his powers of memory and computation, even his ability to explore the universe around him, to a degree undreamed of only a few decades ago.

Whatever the philosophical implications, no one can deny that this is the Age of the Computer. Industrialized nations have become as dependent on computers as agricultural economies are dependent on climatic conditions.

If the fifteenth-century Venetian Luca Paciolo, author of the first printed treatise on bookkeeping, might be thought of as the patron saint of accounting, Janus, the double-faced Roman god, may well be the deity of electronic data processing, which has created almost as many problems for the accounting profession as it has helped solve.

"EDP has given many of our clients the ability to store vast amounts of financial, inventory and other information so that it is readily accessible, information that previously had been handled manually and therefore was not usable in making day-to-day decisions," observed Joseph D. Wesselkamper, partner in charge of the Executive Office Computer Services Department. "As these clients became more sophisticated in their use of computers, the public accounting profession found it imperative to devise its own techniques for obtaining ready access to the information we need to perform our services."

"You've got three basic factors to take into consideration," partner Richard A. Snyder added. "The first is the constant improvements in hardware technology, increasing the flexibility and capability of EDP systems. Second, the user is growing more expert in employing the computer in his own business. And third, the accounting profession has not only to stay abreast of these developments, but actually to keep ahead of them so that we can perform audit and other services from computerized records as accurately as we did in the past from those produced manually."

Dick has responsibility for the Professional Systems group of the department.

Under the Firm's organizational structure, the Computer Services Department reports to J. William Stewart, Jr., EO partner in charge of client services coordination. Broad policy decisions and overall
priorities are established by the Computer Applications Committee, made up of EO partners Bill Stewart, Charles G. Steele, Philip J. Sandmaier, Jr. and Kenneth W. Stringer.

Physically located at 2 Broadway in New York City, the Computer Services Department is organized into three major operational divisions. The first, under Dick Snyder, is Professional Systems. Prime concern of Professional Systems is the software used in the Firm’s practice, some of which is licensed for use by clients. In EDP terminology, hardware is the equipment and software is the programs, or instructions needed by the computer to perform one or more specific tasks.

The second operational group of the department is Administrative Systems. Headed by manager Bruce Johnson, this unit is concerned with the development and maintenance of systems to support the Firm’s internal operations.

Operations, the third group, is under the supervision of Joe Sullivan. The Operations group provides the practice offices with payroll checks and most of the client accounts and other necessary reports. Joe has a staff of thirty-three people and two Honeywell computers, plus IBM unit record equipment and a battery of twenty-one keypunch machines. Computer Operations is also responsible for maintaining the OS/2000 Honeywell Operating System, which is the software required to operate the computers.

Joe Wesselkamper has been involved in the Firm’s computer operations for more than twelve years. He came to EO for several months in 1965 on loan from the Cincinnati office as a senior accountant to work with Ken Stringer and others on the first version of Auditape. The following year he transferred permanently to Executive Office to assist in further development and enhancement (a computer-industry term for *improvement*) of the Auditape program.

(Additional historical background on the development of the Firm’s computer programs and systems was contained in the “People in H&S” profile of Ken Stringer which appeared in the summer 1977 issue of H&S Reports.)

Joe Wesselkamper and Dick Snyder, who transferred to EO from Minneapolis in 1969, are holders of the CDP, Certificate in Data Processing, as are several others in the department. To be eligible for a CDP, issued by the Institute for Certification of Computer Professionals, an individual must have a college degree or the equivalent background, have five years of experience in data processing, and pass a five-part, day-long examination.

Both Joe and Dick believe that a considerable amount of confusion exists in the mind of the layman because much has been written about the computer’s capabilities but little of its limitations. “Almost everyone knows that you can store vast amounts of data in a computer,” Dick said, “or that it can be used to perform in seconds or fractions of seconds calculations that would take a man working with pencil and paper hours or even days. But having vast amounts of information stored on tape is almost useless unless you can obtain those data in the form needed. The problem becomes even more complicated when you want to ask the computer to take data it has stored and apply these data to often complex mathematical equations or analyses. The computer is only a tool, and like any tool it has to be used properly if it is to produce the desired results.”

Exactly what this means becomes clear when one surveys the various operating units of the Computer Services Department.

Manager Dominick Angiulo, who heads audit software support, joined the New York office audit staff in June 1965. He was later assigned to the brokerage EDP audit group, a new unit formed at the time to specialize in computer auditing of brokerage clients. Before transferring to the EO computer group in 1974, Dom spent five years as an MAS consultant in EDP with the New York office. He holds a Certificate in Data Processing and received all his training in EDP while with Haskins & Sells.

For Dom there is no question of EDP’s place in the accounting profession. “EDP is integral to auditing,” he said. Most of his time is concentrated on Auditape, which he describes as a set of generalized computer programs for audit and management. Auditape is designed to perform three broad functions: arithmetic calculations; special analyses, such as reports prepared for management or information required for audits and not available from regular reports; and application of the H&S Statistical Sampling Plan. His group also provides support for EO departments such as SEC, mergers and acquisitions, and research.
“Our group receives approximately 3,500 telephone calls and letters a year requesting what we call support—that is, assistance—from our practice offices, clients and licensees,” Dom pointed out. “In addition, advances are constantly being made in hardware and various operating systems, so each year we spend a five-to-six-month period enhancing the Auditaape system on the basis of evaluations of user requests and hardware developments.”

Because the Auditaape system has proved so valuable, it is widely used by some 3,000 licensees. Under present licensing agreements, clients and universities are provided with Auditaape packages consisting of a manual, a reel of tape with the system and a set of specification sheets for each of the routines. (A routine is one or more programs performing a desired task.) Telephone support is provided at no cost. A nominal fee is charged to nonclients and other CPA firms wishing to use the Auditaape system.

A series of four or five training seminars on the use of Auditaape and its applications is held annually in various parts of the country. These are open at a fee to actual or potential users. College professors who want to learn it for college-level applications attend at no cost. The Computer Services Department also holds special seminars for clients that may want to train a number of their own people in the system.

“One of the reasons Auditaape has been so successful and widely accepted,” Dom said, “is that it can handle virtually any audit or audit-related problem. An interesting development of the Firm’s Auditaape program, too, has been the increasing level of sophistication of the questions we get from practice offices and users. I think this reflects not only the fact that we’ve been successful in our program of increasing the system’s versatility and flexibility, but that the end user is becoming more adept at employing the system to its maximum potential.”

In the book Information Processing, author Marilyn Bohl defines timesharing as “a technique or system for supplying computing services to a number of users at geographically scattered terminals, providing rapid responses so that each user appears to be the only one using the system.”

For senior Gene Fisher, who heads Timesharing Support under Dick Snyder, much of the beauty of timesharing lies in the easy access the system provides to a computer, usually called a CPU, or central processing unit. “All you need is a terminal, some of which are portable and hardly larger than an attache case, a regular power source and a telephone. To access—or connect with—the computer, all you have to do is put the telephone handset on the terminal cradle, dial the number to connect you to the computer, and then punch in the proper identification number. You’re then ready to use the CPU.”

Gene, who studied EDP in college before joining the Boston audit staff, came to the Computer Services Department in November 1975. “Most of our timesharing activities are handled through a General Electric computer in Ohio. The system operates at such a high speed that although it’s actually working on any number of problems for different users, in effect electronically shuttling back and forth from problem to problem, the results come through so fast that it appears you are the only person using it,” Gene said.

The flexibility of timesharing is evident in the number and types of professional timesharing systems developed by H&S. Among those used the most are:

EPS, for calculating the primary, fully diluted and supplemental earnings per share in accordance with APB Opinion No. 15 and its interpretations.

FALCON, which accepts summarized trial balances and operating statistics from up to 2,500 remote locations, collects and balances the data, and prepares financial statements and schedules from the data in a wide variety of formats.

FORECAST, a companion system to FALCON that allows the user to express planning assumptions in an accounting-oriented language and to produce financial statements and schedules reflecting those assumptions.

STAR, Statistical Technique for Analytic Review, which applies statistical analysis to analytic review and provides an objective method for identifying items requiring further audit investigation.

According to Gene, it is preferable that any client questions about timesharing systems be channeled through the local practice office. “One of our people in the office usually can answer the question right then. We’ve simply found it most efficient to encourage clients to refer requests for materials or questions to the practice office first and for the PO to bring it to us if our support is necessary.”

Although most of Gene’s efforts are in the area of professional systems, he, like Dom Angiulo, does work with various EO departments requiring special assistance.

Rounding out Dick Snyder’s Professional Systems group is the Professional Systems Development unit headed by senior Tom Ranney. Tom joined the audit staff of our Newark office in July 1973, but for the next three summers was on loan to the EO Computer Services Department. “I took most of my minor credits in EDP while at the University of Illinois,” Tom said.
"and, in fact, worked my way through school as a programmer.

"My primary emphasis at present is in developing new programs and routines to meet the needs of users as early as possible. The problem—if you can call it that—is the dynamic nature of the EDP field itself. There are new developments constantly being introduced in both hardware and software. Inevitably there is a lag in time between introduction of something new and the ability of the user to take full advantage of that development.

"We're in the process of mapping out what to me will be a very exciting project," Tom said. "We're presently studying the feasibility of a new approach to the Audita program that will give it more flexibility and increase the number of computers on which Audita operates as well as the number of jobs Audita can do for users.

"The direction we're considering now would involve our meeting with people in our practice offices, industry specialist groups, and client users to try to get a fix on exactly how we can help them. If we can determine early enough what their needs are, we can reduce the time lag considerably in many cases, if not almost eliminate it in others. In effect, we want to look at the whole question from a different perspective. Rather than react to new EDP developments, we want to start with the needs of our people and clients and then determine how we can best satisfy their requirements with existing technology. Naturally this will mean monitoring new hardware and software developments to see if and how they can be used in our program.

"The one point I would like to emphasize," Tom said, "is that we're most interested in hearing from any of our people who might have ideas on how the computer could be of help to them. We think that the experiences and problems of our people in the practice offices can provide a very real basis for new ideas that will let us expand EDP services to the Firm in the direction they are most needed."

Bruce Johnson is an industrial engineer and holder of the CDP who left a position with IBM to join the Detroit office of H&S as an MAS consultant in 1970. Originally part of a team charged with studying the Firm's use of data processing, Bruce transferred officially to the Computer Services Department in April 1976.

As head of the Administrative Systems unit, Bruce supervises a group of twelve programmers, systems analysts and project leaders, most of whom were with the Firm's Financial Department before the Computer Services Department and the Financial data processing section were consolidated at the 2 Broadway location earlier this year.

The Administrative Systems unit is divided into three areas of responsibility: Financial Systems, headed by Louis Cavaliere; Personnel Systems, under Frank Noodt; and Practice Office Support Systems, headed by Barbara Bennett. The unit's team of application programmers, working under the supervision of Walter Hermansen, is assigned as needed to specific projects within these three areas.

"Our concern in Administrative Systems," Bruce said, "is with all internal uses of EDP. We have systems processed with our in-house equipment and systems using outside timesharing services. The in-house systems range from client accounting, payroll and payroll taxes to Firm accounting, continuing-education training-status reports, and various statistical and special reports. In all, we have some four hundred programs for the in-house systems.

"In the timesharing area we have PLAN, Practice Office Financial Forecast; RECRUIT, Staff Recruiting Control System; and RESCHED, Staff Rescheduling System."

Not unexpectedly, because so many internal procedures are computerized, Bruce's group provides heavy support for a broad range of users, primarily the Financial and Personnel Departments, but also departments such as Continuing Education, Recruitment and College Relations, Administrative Services, Research, Practice Development, SEC and International Operations. Additional assistance is rendered to our practice offices as requested.

The common denominator of all the Computer Services Department's operating groups is a drive to broaden the usefulness of the systems we presently have and to expand the Firm's ability to employ electronic data processing in new directions. For Bruce this has narrowed down not so much to the accumulation of data as to the storage of data so that it can be used most effectively.

"Gathering data is not a problem for us," he said, "particularly since most of it comes from sources within the Firm. If we have any problem there, it's getting the data recorded accurately. And that is what we're working on right now. We want to simplify as many forms as possible so that our
We want to establish closer communications with the end user because it is vital that we understand not only his needs but what he wants to do with the information.

End users are the ones who are directly affected by the data and information that is generated and processed by the computer systems. To ensure that these systems meet the needs of the end users, it is crucial to have a strong understanding of what they want to do with the information. This includes understanding not only their current needs but also their future requirements and how these needs may evolve over time.

By establishing closer communications with the end users, organizations can gain valuable insights into their information needs and preferences. This can help in tailoring the systems and processes to better meet the needs of the end users, leading to increased satisfaction and productivity.

To facilitate this, it is important to involve end users in the design and development phases of the systems. This can be achieved through regular feedback sessions, user testing, and collaboration with end users throughout the project lifecycle. By doing so, organizations can ensure that the systems are not only technically sound but also user-friendly and aligned with the end users' objectives.

In summary, establishing closer communications with the end users is a critical aspect of ensuring that computer systems meet their information needs. By understanding what the end users want to do with the information, organizations can design and develop systems that are not only efficient and effective but also aligned with the end users' expectations and requirements.

Joe Sullivan, manager of Computer Operations, discusses numbers that are staggering even in the Age of the Computer. “We deal with large volumes of data, both input and output,” he said. “Each biweekly period the Computer Operations group processes almost every source document submitted by the practice offices. Our job is to transcribe the data from the source documents into punched-card format, process the data through the computer, and get the output, in the form of computer reports, to the offices on time. This is a large mass-production effort.”

To maintain peak efficiency, Joe has divided Operations into three areas of responsibility, with Denis Boyle supervisor of the computer room, Hattie Gamble supervisor of the keypunch section, and Dolores De Vito, a systems programmer, responsible for maintenance of the operating system and providing technical support to the Administrative Systems group.