New Applications

World’s Largest Message Switching System

Nearly 100 million messages a year can be speeded among more than 80,000 terminals by a new message-switching and processing facility demonstrated recently in Middletown, Va.

Designed, built and operated for the Western Union Telegraph Company by Teleprocessing Industries, Inc., the center is the world’s largest in terms of terminals it interconnects.

With three large-scale computers (Univac 1108s), three medium-size computers (Univac 418s) and more than 125 other pieces of major computer and communications equipment, the new facility enhances Western Union services and makes new ones possible.

Complex as well as massive, the fifty-million-dollar center is also unusual in that it was delivered on time, on budget, and within quality specifications, a performance more the exception than the rule in teleprocessing according to the company. All services planned for the system are being cut-over exactly as scheduled two-and-one-half years ago.

The System handles such major services as Western Union’s Telex, TWX, Mailgram, and telegraph messages, including high-speed telegraph traffic phoned into the Central Telephone Bureaus of the Western Union Telegraph Co. Other services, including Info-Com and international traffic, will be brought on to the system later.

The Information Services Computer System, as the Middletown Center is called, is some 90 miles west of Washington, D.C., in the Shenandoah Valley. Communications subsystems link the facility with Western Union’s national microwave network at the Romney, W. Va., junction station.

Computer Speeds Transactions At Refuse Transfer Stations

Two small computers in Seattle, Washington are helping speed up refuse disposal operations at the city’s two solid waste transfer stations.

Each IBM System/7 controls traffic lights that guide collection vehicles onto truck scales, calculates the net weight of each load and identifies and bills the private contractor through his credit card.

On peak days both stations handle up to 3,700 vehicles and 1,500 tons of waste. Seattle pioneered the transfer station concept of refuse disposal six years ago so residents and private contractors wouldn’t have to transport loads of trash to landfills outside the city.

Gerald B. Fairbanks, manager of solid waste utility for the city, expects the new systems to save Seattle $150,000 over the next ten years and keep pace with the increased number of credit transactions with the city’s 500 rubbish contractors. Such transactions account for 75 percent of each day’s tonnage at the two stations.

“We have achieved the goals established by our engineers by speeding up truck movements and bringing a new dimension of reliability to the entire operation,” Mr. Fairbanks said.

“Now, every step of the weighing operation is performed automatically, with each transaction taking less than 10 seconds. In the past the procedure has taken four times that long.”

For more information: E. D. Okun, (213) 382-7272.

Computer Helps Film Processor Provide 24-Hour Service

Computerized accounting is helping a Midwestern photographic film processor return finished work to its customers within 24 hours.

Harold’s Film Service in Sioux Falls, S.D., uses an IBM System/3 computer that has enabled them to ship a complete day’s processed film, instead of halting processing so bills can be prepared.

While photographic equipment can process film up to 15 feet a minute, unless an invoice is prepared for each customer’s film, it can’t be returned, according to Harold E. Hanson, the firm’s president.

“When you consider that 3,000 orders can come in on a typical day, and you promise 24-hour service, it’s mandatory that you have a good billing system,” said Mr. Hanson.

The firm processes invoices for an average day’s film work in 20 minutes on the System/3 Model 6 computer. Previous accounting machine methods took three hours.

The system produces daily invoices for some 150 dealers in South Dakota, Minnesota, Iowa and Nebraska who may send in several hundred customer film orders a day. Invoices for direct-mail envelopes are also produced on the computer, as well as monthly statements for merchandise sold to camera dealers.

Contact: Harold Hanson, (605) 336-2833.

“Wizard of Avis” Car Rental/Reservations System

“The Wizard of Avis,” a new, real-time computerized system designed to streamline and speed-up the entire car rental procedure, has been put into service by Avis Rent A Car System, Inc. The system, already in service in the Miami, Atlanta and Tulsa areas will be in operation throughout the United States by February, 1973.

According to Winston V. Morrow, Jr., Chairman of the Board and President of Avis, “Our Wizard system, in the developmental stage since 1965, at a cost of many millions of dollars, can today provide a virtually infallible source of car rental information, completely dependable reservations, unparalleled car control, efficient, legible rental agreements and 100 percent accounting accuracy.”

An added customer benefit provided by the Wizard of Avis is the new Wizard Golden File, a special feature for frequent renters.

“The Golden File,” Mr. Morrow said, “is the ultimate in car rental convenience, requiring only a one-time effort on the part of the customer. All he has to do is fill out a simple registration form, and he is assigned a Golden File number.

When he calls for reservations the next time he needs a car, he gives the rental agent his Golden File number and point, date and time of departure and return. The Wizard computer, which has all the other pertinent data on file — license number, car preference and so forth — does the rest. His contract will be waiting for him when he comes to pick up the car,” Mr.
Morrow said.

People without the Golden File can also virtually complete the rental agreement over the phone. Mr. Morrow pointed out, but have to provide the following additional information: name, type of car, license number, type of credit identification, name of company and person making the reservation, telephone number, billing address, airline and flight number (if departing from an airport).

Contact: Frank Beudert, (516) 222-3314.

Mini-Based Telex Exchange

The first of a fully automatic minicomputer-based family of Telex exchanges designed to replace higher-priced, less-reliable electromechanical systems in one-tenth the space, has been announced by Frederick Electronics Corporation. Designated the ELTEX II, the system can handle up to 2016 lines or trunks, and uses dual PDP-11/05 minicomputers manufactured by Digital Equipment Corporation, Maynard, Mass., as control elements. Either of these two computers can control the whole exchange; the two together form a redundant system to provide continuous service. ELTEX II is designed to function as a concentrator, local exchange, trunk-transit exchange, international gateway exchange, or any of these in combination.

The high-performance ELTEX II features software call processing for flexibility in the operation and control of alternate routing, automatic digit addition/deletion/translation, and abbreviated dialing. The system provides greater flexibility of subscriber line types, automatic message accounting for toll recording and traffic logging, multi-line hunting groups, and the ease of configuring these features to particular applications. Codes of up to eight data bits and speeds up to 200 baud are accommodated. The system conforms to all CCITT recommendations.

Contact: Howard Steiner, (617) 897-5111, x3056.

Natural Resources System

Plans for an information system for use in management of natural resources are being developed for the U.S. Department of the Interior by Raytheon Company's Automatic Operation, Wayland, Massachusetts.

The system, known as NRIS for Natural Resource Information System, is expected to provide means for processing and making available data from a wide range of sources for effective use in planning and managing natural resource related activities.

The U.S. Department of the Interior (USDI) is responsible for about 25 percent of the land area in the United States. USDI groups involved are the Bureau of Mines, Indian Affairs, Outdoor Recreation, Land Management, Reclamation, and Export Fisheries and Wildlife, as well as the Geological Survey and National Park Services.

The year-long, $200,000 program covers five major tasks: development of computer software for the system, digitizing source information, surveying potential areas, and developing management decision models, configuration of the ultimate NRIS network, and demonstration of a prototype system.

The NRIS development program, as planned by USDI, is the forerunner of a nationwide system to aid the department in all its current natural resource planning and management work.

The system would provide to planners and managers in USDI bureaus and in other government agencies information in easily accessible and highly usable form so that they can make sound decisions concerning resource use with economic and ecological effects taken into account.

In a typical application, land use planners would be able to determine what effect the formation of a recreational site might have on an area by use of computer-based manipulative processes that would digitally interrelate pertinent information about the area.

Information on investment in facilities for different projected usages, right of way costs, and economic impact on the local area would be available in map graphic form by exercising the system.

The system would be used to aid in making decisions about such other resource usage as management of timber, agriculture, and water resources to optimize income; distribution of irrigation and grazing allotments; evaluation of impact of flood control measures and damming plans on areas; selection of corridors for national trails; and a variety of other applications as required by various USDI bureaus.

Contact: John E. Severance, (617) 862-6600, x413.

IBM Computer Helps Doctors With "Bedside Teaching"

A computer at the Ohio State University College of Medicine is starting to assist doctors with their "bedside teaching."

Under the program, patients seat themselves at computer terminals in hospitals and communicate with an IBM computer to receive instruction that might otherwise be provided by physicians, nurses, or allied health professionals.

The system, for example, might be used by the patient to learn about post operative activities and restrictions, what to expect after surgery, or—in the case of diabetics—the recommended diet and practical day-to-day information that will be useful to the patient and his family.

"This type of instruction," said Jim Griesen, director of research in medical education, "is a very necessary part of the total medical program, since certain procedures must be followed by the patient to avoid future complications."

"Since the patient is actively involved in each learning exercise, the information provided via the computer terminal can be individualized—taking into account, for example, the patient's particular medical problem, sex, family status, and type of employment."

Contact: Dr. Jim Griesen, (614) 422-6446.

Honeywell Gives Computer To Bay State Prisoners

A new "inmate" has been welcomed to Massachusetts maximum
Computer Goes to Jail

security prison. The new resident of the prison is a computer to be used by prisoners who study computer programming.

The computer was formerly in the custody of Honeywell, Inc., the company that is lending the machine to the inmates. Volunteers from the company began teaching programming courses at the prison in 1967.

State Corrections Commissioner John O. Boone praised the computer program as being one of the rehabilitation programs in the country with a record of success. He said that the recidivism rate for inmates involved with the program is only 4% percent, while the national return rate approaches 70 percent.

Ben DeChristoforo, inmate coordinator of the computer program, noted that his programmers have already produced more than $900,000 worth of programming work for various state departments. He said, "Having our own computer will mean that we can do more work and more kinds of computer work, including processing the inmate payroll, compiling mailing lists for inmate organizations such as the Lifers Group, and doing statistical work that will help modernize this state's parole laws.

Honeywell said that the value of the computer was about $55,000. The company also stated that it will train inmates to service and repair the computer as well as operate it.

APPLICATION BRIEFS

TYMSHARE Inc. has established a transatlantic computing service for multinational firms. Telephone facilities between New York and Paris were established in September. These, combined with computing and communicating network facilities make it possible for users in most major U.S. cities and several major European cities to have local telephone call access to data bases, computers and programs for immediate processing. Contact Alden Heintz, (408) 257-6550.

STUDENTS at New York University registered this fall with the aid of eight photophysics 45 copier/terminals located throughout the course registration halls. Student class cards were photo-printed in seconds directly from the computer. Contact Phil Friedman (415) 969-9500.

AN EARTHQUAKE risk analysis (ERA) system is being marketed by Bob New, Inc., in Glendale, California. ERA creates a mathematical model of a building, feeds it into a computer, imposes a variety of quake simulations on the model, and comes out with precise analysis of the physical damage that the building would suffer in a quake.

A BUBBLE MEMORY has been delivered by North American Rockwell's Electronics Group to the Air Force Avionics Laboratory at Wright Patterson AFB. The memory consists of a 64 bit shift register - complete with data control and magnetoresistive detection, housed in an operational demonstration structure and driven from a programmable memory exerciser. Contact: Mike Sanders, (714) 632-4195.

DEC COMPUTERS will be a part of one of the largest bubble chambers at CERN - the European Organization for Nuclear Research - located in Geneva, Switzerland. Contact: Ralph Campbell, (617) 897-5111, x 4036.

THE COUNTY of Riverside, California, has awarded an $899,000 contract to Trans-A-File Systems Company for an all-digital automated document filing and retrieval system. Contact: J. Edwin Saunders, (408) 732-9600.

BY EXTENDING the power of an existing IBM System/370 computer by means of highly advanced programming, the government of Johnson County, Kansas has been able to improve its services at no increase in cost to its taxpayers. The new programming system, Operating System/Virtual Storage 1 was supplied by IBM at no charge. Contact: Ronald B. Paul (913) 782-0230.

A FREEWAY TRAFFIC-control system contract has been awarded by Donovan Construction Company to Honeywell's Systems and Research Center in Minneapolis. Honeywell will be responsible for all systems integration of all equipment for the freeway surveillance and control system which is to become operational next year. Contact Roger Hammer (612) 331-4141.

THE U.S. ENVIRONMENTAL Protection Agency has awarded a $67,000 contract to Systems Control, Inc., for a nine-month study to adapt mathematical computer models to the Spokane River in western Idaho and Washington. According to Dr. E. John Finnemore, SCI's principal investigator for the project, the models will allow federal, state and local planners to better understand the water quality of the region with respect to future waste-water treatment and control facilities to be built in the basin. Contact Dr. Finnemore at (415) 327-9333.

DIGITAL EQUIPMENT Corporation has been selected by the National Science Foundation and the Huntington Two computer project as exclusive publisher of all materials for the project. The project consists of a series of computer simulations in biology, chemistry, earth science, physics, and social studies geared to high school students and college freshmen. Contact Alan Shulman (617) 897-5111, x 4037.

CLASSIFIED ADS

Rates
Minimum charge - $30.00 up to 10 lines, average of six words per line; $3.00 per line thereafter. Add $5.00 for box number. No ad shall be longer than 30 lines. Payment with order, due the first of the month prior to month of publication.

Exceptions - IEEE Computer Society member ads for positions wanted: $10.00 up to 10 lines; $1.00 per line thereafter. Situations wanted ads for unemployed Society members are run free. Include IEEE member number in either case.

Help Wanted
Science Writers -

Our office has immediate need for a writer who is competent in the preparation of news releases on the subjects covered by Academy reports. We would appreciate your passing this information along to anyone you know who might be interested.

The work involves reading reports in draft form to determine news value, Writing news releases that say precisely what they mean and accurately reflect the content of the reports, answering inquiries of reporters, and assisting in the management of press conferences and press rooms during meetings. This is an established position in which the starting salary will range between $10,000 and $12,000. No technical training is required, but we prefer applicants whose experience demonstrates their writing ability and their familiarity with or competence in handling scientific subjects. We would like to receive biographical data, a few representative clippings, and other information that will help us make a preliminary judgment of an applicant's suitability prior to interviews. All replies will be treated confidentially, and clippings will be returned.

Contact: Brad Byers, Public Information Officer, National Academy of Sciences, National Research Council, 2101 Constitution Avenue, Washington, D.C. 20418.

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Extensive experience in a wide variety of technical writing including technical advertising copy, promotional brochures, and operation and maintenance manuals. Past experience in design drafting and layout. Current experience in instructional-program writing, self-instructional course curriculum research and development.

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