A panel session—Distributed systems—A challenge to management

SESSION CHAIRMAN—GEORGE M. CRANDELL, JR.
McKinsey & Company, Inc.

Panel Members
Lester Stubbs—Mattel Toys
Michael C. Dowling—Fireman’s Fund Insurance Company
Mario Calderin—Aratex, Inc.

PANEL OVERVIEW—George M. Crandell, Jr.

This session addresses the management issues and decisions that concern MIS directors, project leaders, and users in the implementation of distributed systems. The panelists, who have been selected to provide a cross section of industries, will briefly describe their distributed systems and then focus on the most significant managerial/organizational challenges encountered during implementation. The pros and cons of alternative approaches will be evaluated, and mistakes as well as successes will be discussed.

Areas to be explored include:

1. Considerations and caveats in allocating responsibilities between headquarters and local MIS personnel, users, hardware vendors, and software houses/consultants
2. Approaches for carrying out system design, development, implementation, training, maintenance and trouble handling
3. Lessons learned by the panelists from their experiences, and their suggestions for avoiding potential pitfalls.

There will be considerable time for questions and general discussion following the presentation.

INSTALLING IBM 3790's IN A MANUFACTURING ENVIRONMENT—Lester Stubbs

During the last two years Mattel Toys has installed various phases of its new manufacturing system utilizing the IBM 3790 in a distributed processing environment. Each installation has been extremely smooth and relatively error-free. Besides having luck on its side, Mattel used a project management approach throughout the development and implementation process that contributed greatly to this success. This presentation is centered around the actual implementations and the planning that went into them.

There are two extremely important factors that must be continually evaluated for any new system being developed. The first is constant review to make sure that the system will meet the end-users' needs and that the end-users can effectively work with the system in a production environment. The second factor is selecting and tailoring the equipment so that it will perform properly when in production. A closer look at how Mattel approached these two factors will be presented.

As installation nears, there is system testing, user testing, acceptance testing, system documentation, equipment installation and conversion. How Mattel approached each of these tasks will be reviewed. The project management approach used will be emphasized and the critical factors will be evaluated.

Finally, there is the day of installation. If properly planned, this event can be very anti-climactic. The first few weeks of production will be reviewed with emphasis on Mattel's warranty period concept.

Everyone hopes to install a system that is a glowing success, and, through personal experiences and the experiences of others, system installations can result in rewarding experiences for all. Hopefully, this presentation, and others like it, will help.

DISTRIBUTED DATA PROCESSING IN A CLERICAL ENVIRONMENT—Michael C. Dowling

Fireman's Fund direction and plans in distributed data processing must be taken in the context of the nature of its business, its field organization, its current data network, its relationship to American Express Data Processing, and its view of the business process and its role in the marketplace over the next 10 years. Given our structure and business needs we sought a means of reducing our operating expenses while improving the quality and speed of services we provide, i.e., insurance policies, quotes, and loss payments. Data processing and improved manual procedures provided a basis for achieving this business objective.

In the data processing area, we looked at the technology
available and found that three fundamentally different approaches were available:

1. Batch store and forward
2. On-line processing
3. Local processing.

Our research into the business needs indicated that to reduce cost and improve service we should use all three approaches in an optimum mix. Thus we are aggressively pursuing the development of systems utilizing all three fundamental approaches. From a strategic point of view, we intend to place computing power in the hands of our local offices while retaining full control of programming and program version release at the central site.

In order to adequately address the new business and systems environment of remote computers and computer processing in essentially clerical offices, we established a Distributed Systems Department. This department is responsible for all local applications and the local portion of batch store and forward applications. The department reports to the Senior Systems Executive and is essentially a microcosm of the total systems organization.

Not only did the systems organization undergo substantial revision, but new user departments were created and an extremely active and important executive steering committee was established. The business executive was made responsible for priority setting, business definition, systems justification and establishment of a responsive Business Systems Plan.

As our systems become an integral part of our daily field operations, we are learning what manufacturing companies with computer assisted production have known for some time: that a new level of responsiveness to system problems is required. We have been deeply committed to this task for the last two years and we have learned lessons in every area from equipment selection to field implementation. Most importantly, however, we have developed from our experience seven postulates for effective distributed system development:

1. Demand user participation
2. Insure management commitment
3. Maintain high visibility
4. Fund development on a step by step basis
5. Define accountability
6. Balance technology with business needs
7. Integrate manual systems planning with EDP systems planning.

**DISTRIBUTED SYSTEMS IN RETROSPECT:**
**LESSONS WE LEARNED THE HARD WAY**—Mario Calderin

Aratex, Inc., an Encino, California based textile rental company, installed one of the first 3790 distributed processing networks in the country. Running under the Systems Network Architecture (SNA), the 3790 has brought new data processing capabilities to the company’s remote locations.

At each of Aratex’s 35 locations across the country, plant personnel using 3271 display terminals linked to a 3791 controller, which acts like a small computer with its own locally stored data, constantly update and interrogate data regarding Customer Billing, Accounts Receivable, Payroll, Sales Analysis, and Inventory Control. All data is checked for validity using extensive edit programs. Since the system is installed at locations where there is no EDP expertise, all transactions are checkpointed to provide automatic restart capability.

At the end of the day, all pertinent data is transmitted unattended to a 370/148 at the Encino National Data Center. After the necessary processing is performed, approximately 500,000 lines of output is transmitted back to the remote locations daily, where it is printed on the 3790 printer. A 3790 system is also installed as part of the network at the company’s Central Warehouse facility in Fresno, California. The system accepts on-line order entry transactions from 3790’s at any plant in the network and produces order status, packing slips, shipping confirmation, and invoices at the warehouse, as well as assigning goods for replenishing random locations, and regulating the warehouse work schedule based on order arrival frequency.

The entire system is comprised of over 400 programs developed over the last two years. As one of the first companies in the United States to deal extensively with distributed processing, we have developed expertise in the control aspects. Our experience indicates that the most important areas to consider are:

1. Control of programs at remote sites
2. Data synchronization between remote sites and central data bases
3. Communication programs to allow simultaneous transmissions to and from the host system by multiple users
4. User backup and recovery in case of down-time
5. Response to user questions while operating the system
6. Centralized problem determination for both hardware and software
7. User training
8. System installation guidelines.