

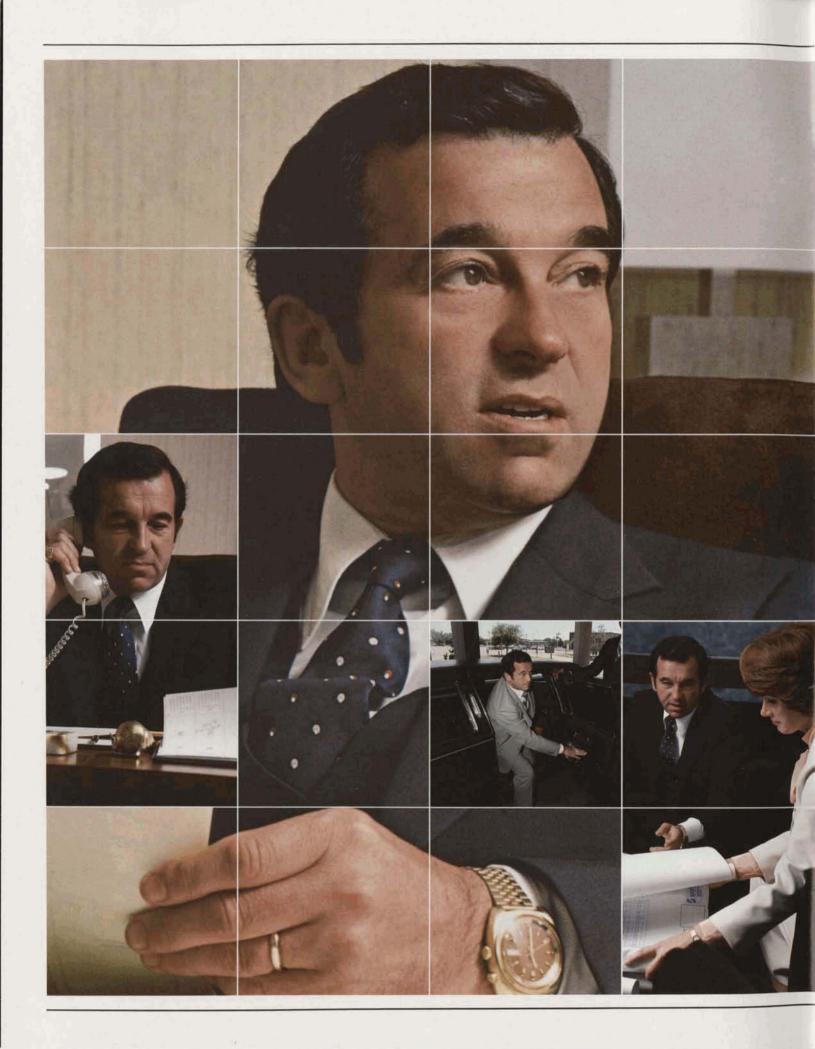
Creating the Future

About 1980 Julyon June 10 9-2004





Reston International Center 11800 Sunrise Valley Drive Reston, Virginia 22091 (703) 860-5050



Building for the Future

The independent software products industry today is a major factor in the tremendous growth of the entire data processing community. As an industry, we have advanced from an age where the computer reigned as undisputed master of the DP environment – to a time when the real power and control has returned to the hands of the end user.

In 1980, the revenue of independent software products companies passed the \$1 billion mark. This represented the first time our industry exceeded the software product sales revenue of computer manufacturers, such as IBM. With computer manufacturers playing a lesser role in the software products industry, we fully expect this trend to continue.

We now find ourselves in a period in which the EDP economy has undergone a major evolution. During the nineteen fifties, and into the late sixties, the data processing dollar was heavily weighted in favor of expensive computer machinery. A company's investment in manpower comprised only 20% to 30% of its total EDP budget. The key consideration in a firm's DP profile was how much processing power it could reasonably afford to maintain.

Through the last decade, this balance has changed dramatically. The cost of hardware, once the primary economic factor in every data processing decision, has dropped to a point where it now plays only a minor role in the planning of a specific DP environment. What costs a lot of money these days – up to 70% or more of many EDP budgets – is the highly skilled, technical people an organization must have on staff to develop, maintain, and support its data processing function.

This rapid shift in emphasis from machines to people was in part the catalyst which originally spawned the concept of pre-packaged software as a viable – and necessary – outgrowth of the data processing industry, both as a means to control spiraling costs, and to increase productivity.

Software AG of North America has been a dominant influence in the formation and growth of this new technology. Our company has played a significant role in actually developing many of the software products and conventions that are now standard in our industry. We have also taken a strong leadership position in translating the rapidly growing body of data processing theory into productive software innovations through which user companies can effect practical results immediately.

Since our company was first established in 1971, Software AG has enjoyed considerable success as a leading force in a healthy, developing software industry. We have built an integrated line of products that is "state of the art" in managing the complex interfaces between the computerized information resource, the communications network, and the end user in a centralized or distributed data processing environment. The primary design criteria of all our products are maximum ease of use, increased long-term personnel productivity, and the inherent flexibility to adapt economically to the technology of the future.

We have developed a substantial – and constantly growing – user base from all areas of public and private industry, including major universities, federal agencies, manufacturers, oil producers, banks, and

brokerage firms. Our on-going corporate goal is to provide continuing leadership both in easy-to-use, innovative products and highly efficient support services which effectively respond to our customers' expanding needs.

At Software AG, we expect to maintain our strong leadership stance in the independent software industry. We also expect to become a more powerful force in the future than ever before. One major reason for this optimistic prospectus is the high quality of the technical development personnel and highly professional business people in our company - people whom I consider to be among the most gifted and productive in our business. In fact, in an industry where personnel attrition rates of 30% and higher are commonplace. Software AG is below 5%.

In my judgment, there can be only one reason for this incredibly low rate of attrition: the best people seek to establish themselves in the most desirable environment for professional growth and prestige.

During the past decade, Software AG has consistently and aggressively produced the most sophisticated, most reliable software products and systems in our industry. It is this well-earned reputation for success, leadership, and innovation which is the cornerstone of our foundation for the future.

Sincerely,

John Norris Maguire

President



Supporting the DP Environment

Software AG is a worldwide leader in sophisticated data base and data communications software. Our products are highly regarded in the data processing industry for their state-of-the-art technology, their exceptional quality, and their reliability. We offer software which is designed to simplify programming requirements, minimize necessary training, reduce the need for large numbers of highly technical development and maintenance personnel, and focus directly on user applications rather than on the products themselves.

Software AG provides on-going technical and business expertise, designed to facilitate significant increases in productivity for the entire DP community. We believe that reliability, corporate integrity, and continuing effectiveness in responding to customer needs is as important to our success as our superior product line. Customer service is the primary focus throughout our entire company, both in the development and enhancement of fine software products and the comprehensive support of our user community.

To these ends, we continue to enhance the productivity of our own highly skilled personnel. We have significantly expanded our Education Division facilities to effectively accommodate the training needs of our fast-growing user base. A special Software AG development facility in Seattle, Washington is now a center for major R & D activity. We also offer a comprehensive Consulting Division as well as a full-scale Computer Services Division. Both of these important user services specialize in our products. Through them, Software AG offers local and

remote computing and consulting capabilities which range from programming to systems design and specification.

The future expansion of data processing clearly will be the creation of a true "distributed" environment, i.e., a multiple network of computers which possess the ability not only to interface with a central processing unit, but to communicate with each other as well. One of the critical elements in the DDP equation is a practical, effective system of support.

Software AG now offers a unique capability known as "Instant On-site Support." This product provides remote support to our users for the diagnosis and resolution of software problems through a dial-up system linked directly to our regional support centers.

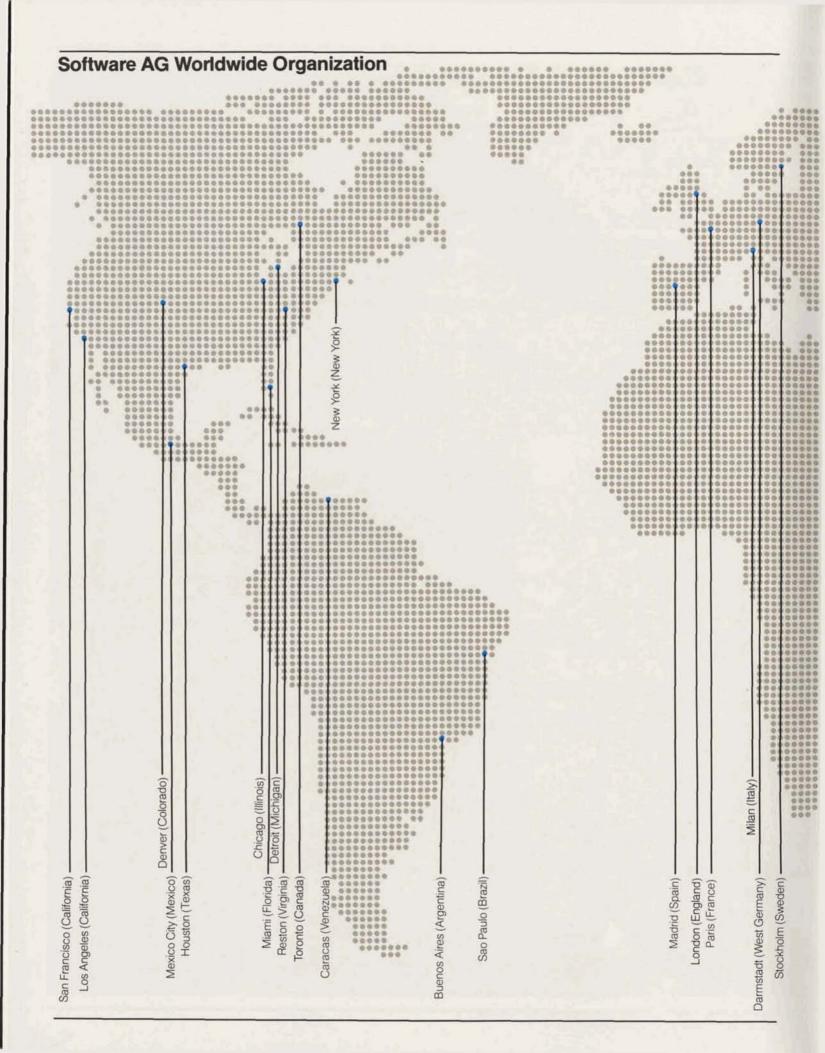
We believe this unique tool is critical in economically maintaining the data processing centers of the 80's. Instant On-site Support also provides a way to create a highly desirable "dispersed" processing environment - remote site computers interfacing with a central mainframe. with remotely implemented support. Instant On-site Support not only gives us the capability to remotely support our products, but - more importantly - provides the user with the capability of remotely installing and maintaining both operating systems and applications systems. We believe Instant On-site Support is the key to attaining the future objective of our industry: an economically feasible, fully supported distributed data processing environment.

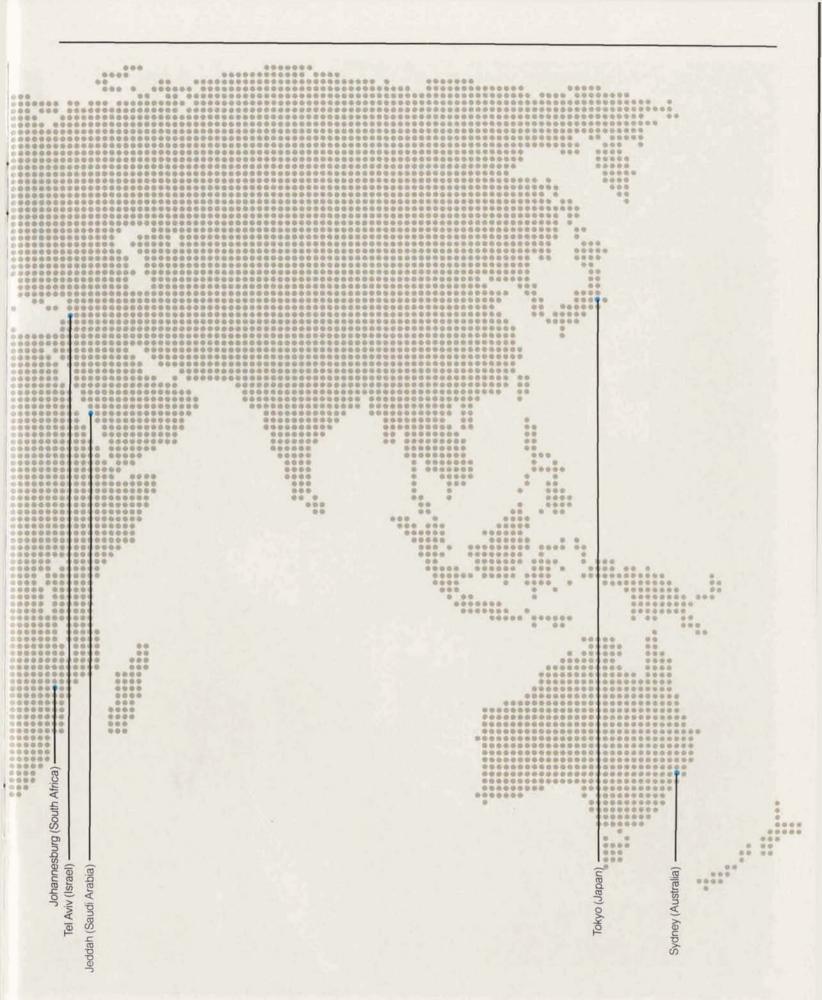
Software AG is currently enjoying one of the most intense periods of growth in our company's history. The increased overall economic advantages of obtaining prepackaged software products is partly responsible for this growth. Equally significant, however, has been Software AG's continuing role in directly influencing the rapidly evolving state-of-the-art in high technology software products and services. It is in this way that we fulfill our ongoing commitment to our users: to provide them with continued maintenance, protection, and support for their important data processing investment.

Sincerely,

Kenneth D. Rardin Executive Vice President

Kenneth D. Rardin







ADABAS

The Adaptable Data Base System

The general purpose data base management system, or DBMS, is a large-scale, data storage/retrieval system designed to facilitate the sharing of important information. ADABAS, Software AG's highly flexible DBMS, fulfills the data base management needs of today's most sophisticated processing environments with outstanding effectiveness.

Ease of Use

ADABAS is designed to insure maximum ease of use for both programming specialists and non-technical staff. The ADABAS system can actually be installed and files loaded with inquiries made and reports generated in the first week. Once the system is running, data base applications are in full operation within a few months.

With ADABAS, the need for highly skilled – and very costly – technical personnel for system development and maintenance is greatly reduced. DP problems can be solved with a minimum of education and training. And an English-like query language used with ADABAS makes information readily available to all personnel within a company who have a need to know – includ-

ing non-technical end users. Thus, total staff productivity increases significantly.

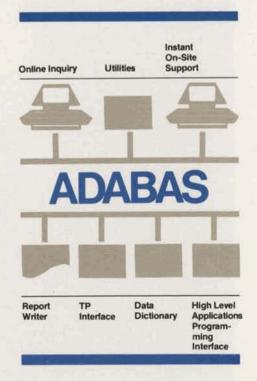
Adapting to the Future

The future of data base management systems lies in a relational-like architecture, specifically designed to accommodate growth and change. The facilitation of "ad hoc" applications – end user data manipulation which responds directly to real world corporate demands – is fast becoming critical to top executives in companies who must respond quickly to new directions in the marketplace.

ADABAS has employed a highly flexible inverted list architecture from its inception – a generation ahead of comparable data base systems. "Inverted list" gives a data base manager DBMS independence. The DBA need not decide precisely how the DBMS will be utilized prior to its installation on site.

ADABAS permits a "heuristic," or learning process, approach to using the DBMS. This dynamic, management-oriented method is unburdened by the rigid, unbending conventions of many data base sys-

tems which may not be able to adapt to reevaluations in corporate goals. With the heuristic approach, employed in ADABAS, changes can be assimilated in the analysis phase rather than after system implementation.





Comprehensive Data Management Facilities

The ADABAS system provides a full range of capabilities designed to permit more ready access to, and control of, necessary data. Included among these are the following:

Online Inquiry: ADASCRIPT+

An inquiry and reporting language which features an English-like syntax designed for non-programming personnel, for "ad hoc" query in batch or online environments.

Report Generation: ADACOM

The ADABAS report writer permits batch generation of reports from ADABAS or other files.

Online Data Dictionary

A powerful tool actually stored in the data base which contains information about the data base environment including its available data, personnel, processing entities and interrelationships. The ADABAS Data Dictionary is specifically designed to meet necessary requirements in all phases of system development, production and maintenance.

High level programming language interface: ADAMINT

Provides programmers with a high level call capability for writing applications in most programming languages. ADAMINT insures data independence since programmers can change or add fields without changing entire programs.

Utilities

ADABAS includes a comprehensive set of utilities for such functions as loading, saving and restoring the data base, and security. The system provides outstanding data protection and security features as well as efficient back up and recovery. An optional bill of materials processor called ADABOMP is also available.

Instant On-site Support

A unique facility which provides immediate support for resolving software problems. Instant On-site Support gives Software AG technicians the ability to dial directly from our support centers to a user site to remotely diagnose problems and to apply the necessary solutions instantly.

ADABAS has been a member of the prestigious Datapro Software Honor Roll for several consecutive years. At present, the system is found in every major area of data processing activity, including government, manufacturing, banking and finance, education, transportation, insurance, and utilities.

The ADABAS System runs on IBM 360, 370, 303X, 4300 or compatible mainframes under all IBM operating systems. Interface to all major teleprocessing monitors, including Software AG's own COM-PLETE, is available.



COM-PLETE

TP Without Complexity

COM-PLETE is Software AG's teleprocessing and interactive program development system. COM-PLETE was developed to provide the data processing community with an efficient, people productive, and economically supportable teleprocessing system.

COM-PLETE is designed for maximum productivity, reliability, and ease of use in online transaction processing and interactive program development. COM-PLETE's bold new architecture minimizes the need for direct user interaction with the system, permitting full concentration on the desired application results, rather than on the monitor.

In today's highly sophisticated data processing world, a TP system must be designed to support a multi-user, multi-application environment in order to be economically feasible and acceptable to the DP community.

COM-PLETE is a multi-thread TP system which integrates all teleprocessing functions into one unique software package. COM-PLETE provides a broad range of capabilities through which users can implement initial systems as well as future modifications quickly and simply, with a minimum expenditure of both computer and personnel resources.

Fast Installation, High Productivity

COM-PLETE can be installed on site, and operational within a few hours. Minimum training is required to insure significant programmer productivity and exceptional cost efficiency in every phase of development, coding, testing and parallel implementation. With COM-PLETE, stability and reliability are superior, online response time is consistently fast, hardware overhead is low, and system support requirements are minimal.

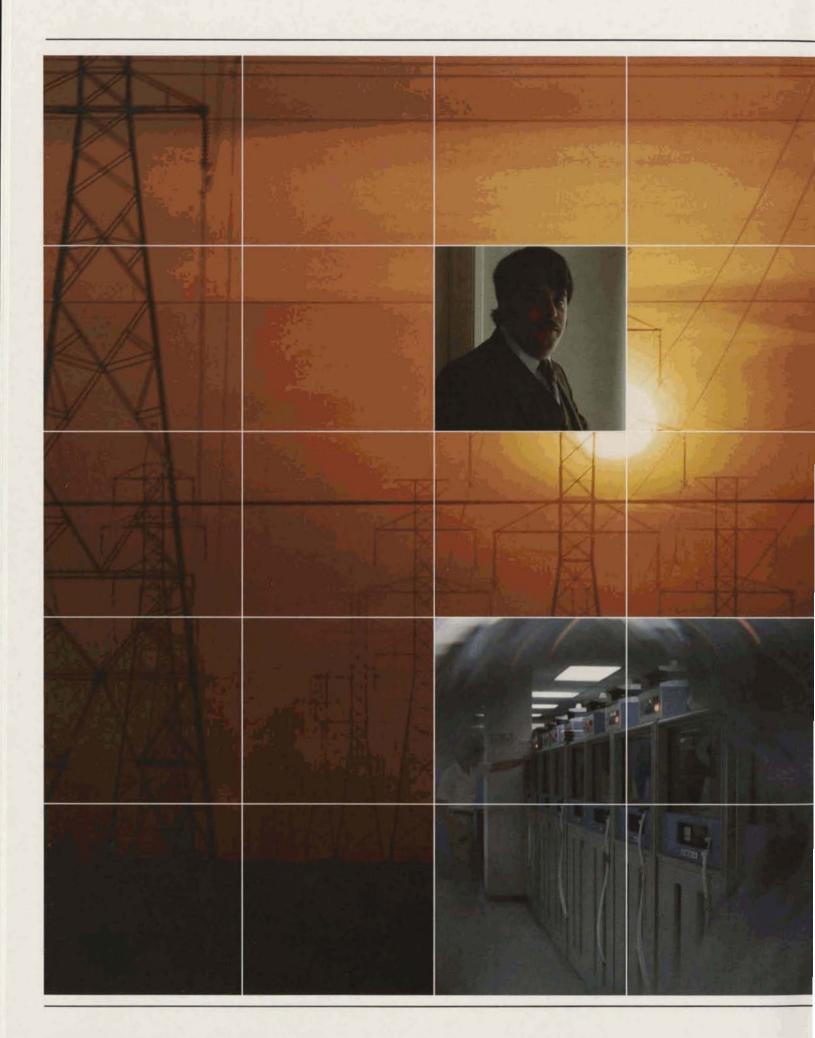
A Comprehensive Solution to TP Effectiveness

COM-PLETE provides a broad. comprehensive selection of data communications facilities to meet today's complex teleprocessing needs - and to anticipate future developments in the state-of-the-art. COM-PLETE's capabilities include interactive program development, remote job entry and inquiry, system maintenance and computer operations, data base and file management, batch processing, and online testing, file security, message switching, and COM-PLETE also provides hardware storage protection, i.e., full isolation of TP programs from the monitor as well as all other

programs. And like ADABAS, COM-PLETE features Instant Onsite Support – a remote dial-up support capability for diagnosing and resolving software problems.

COM-PLETE operates as a standalone system, or interfaced through a simple application with ADABAS. COM-PLETE can be used with all TP networks having IBM 360, 370, 4300, 303X and compatible mainframes running on most IBM operating systems.





ADABAS-M

DBMS for the Minicomputer

ADABAS-M is a fully integrated data base management system developed by Software AG for today's minicomputer DP environments. ADABAS-M is an easy to use, efficient DBMS which provides users with a full range of data base management services for minicomputer systems.

The design of ADABAS-M employs the same state-of-the-art technology which made ADABAS one of today's most desirable data base management systems for mainframes. This highly successful DBMS approach has been effectively utilized to create a system which takes full advantage of today's minicomputer capabilities, and responds definitively to the needs of this specialized end-user community.

ADABAS-M's inverted list architecture permits relational, multiple-criteria data access, maximum efficiency storage capacity (including dynamic space reclamation), and on-going adaptability to the changing information requirements of growing organizations.

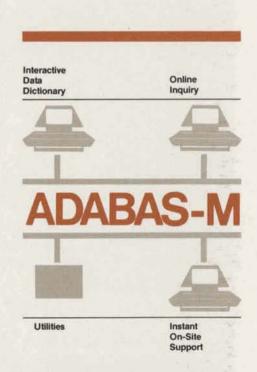
User interaction with ADABAS-M is facilitated through the system's integrated Data Dictionary. Creation

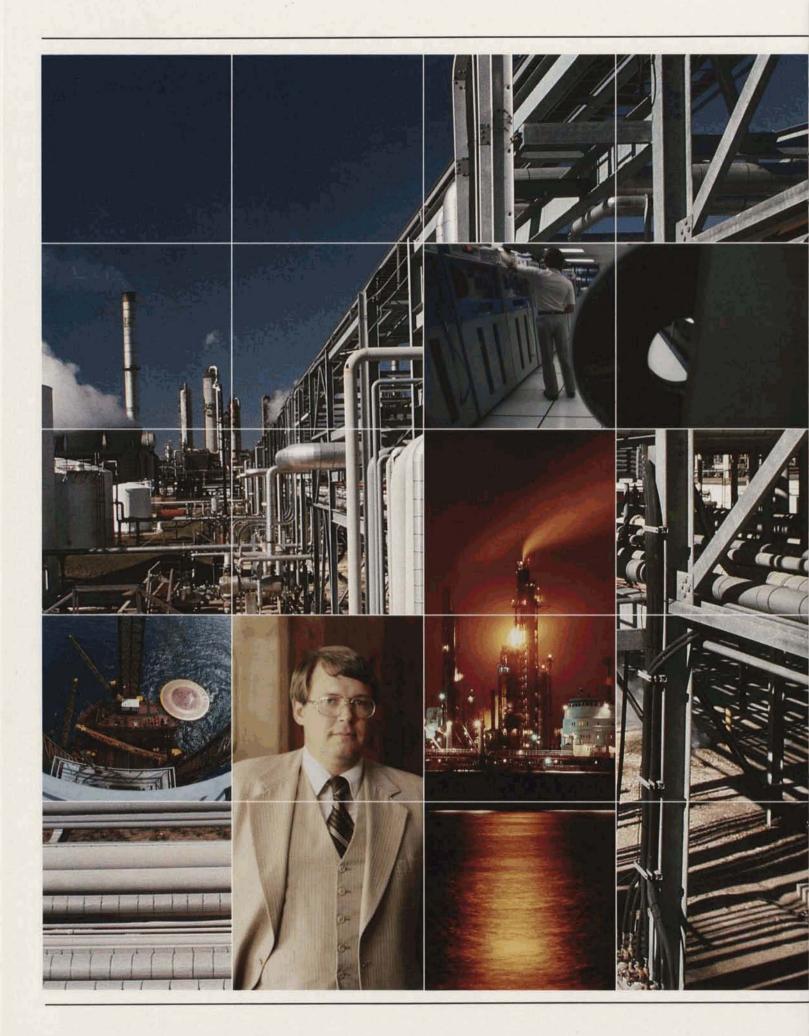
and maintenance of Dictionary content as well as data base definition and status report generation occurs through ADABAS-M utilities and systems control facilities.

ADABAS-M functions both through existing application programs or end-user interaction at the terminal. Standard calls are processed by the system's program interface. Multiple end-user retrieval and up-date requests are supported simultaneously through the ADABAS-M multithread nucleus. ADASCRIPT-M, the ADABAS-M query and reporting facility, provides an easy to use, English-like syntax for all "ad hoc" and production interaction with the data base, in either an online or batch environment.

Complete data base security and protection is controlled by the ADABAS-M Data Dictionary, which automatically insures integrity of the data resource.

ADABAS-M currently operates on many DEC minicomputers under most DEC operating systems.





NATURAL

Instant Online Applications

NATURAL is a unique interactive programming language, developed by Software AG to further enhance ease of use and productivity in the ADABAS environment. Since NATURAL is easy to learn and use for both the programmer and enduser, it represents a major advancement over the cumbersome programming languages of the past.

Programs written in NATURAL provide a level of efficiency equivalent to those written in conventional languages like COBOL or PL/1, with the added benefit of line-for-line syntax checking. And with NATURAL, program development time can be reduced 50% to 90%. Because NATURAL eliminates the need for time-consuming "mechanics" such as file definitions, OPEN's and compilations.

NATURAL is designed for maximum ease of use in performing such tasks as data base "ad hoc" inquiry, generating reports, creating terminal formats, and entering data on predefined screens. Whether in the hands of highly skilled or non-data processing personnel, NATURAL insures fast, efficient communication with the data base.

NATURAL is the first interactive programming language designed specifically for the data base envi-

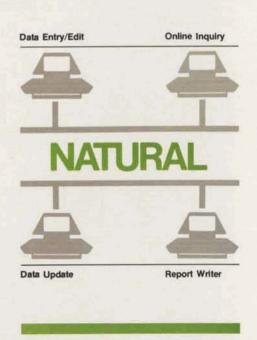
ronment. It can be integrated with the ADABAS Data Dictionary or user-supplied ADABAS file. NATURAL programs can be stored in the Data Dictionary for subsequent execution or dynamic modification either in source or object code.

NATURAL permits a user to form logical relationships from data stored in several different files – or from a single file viewed in various ways. NATURAL automatically facilitates this relational data base environment through logical coupling.

NATURAL has a powerful mapping facility that is totally independent of the teleprocessing monitor and the terminal. Thus, users can develop almost any desired individual TP screen configuration for a specific application in a fraction of the time and programming effort generally necessary with conventional languages and TP mapping systems.

NATURAL is a truly revolutionary, easy to use language that saves time and cost, while greatly improving productivity. With NATURAL, necessary personnel training time is minimal – 2 to 3 days for people with general programming experience. New development projects take days instead of months to complete. And updates are effected

with equal speed. Since NATURAL programs are literally crashproof – with instant diagnoses on failure – testing is faster, and TP is far more stable.





Distributed Data Processing

The Future State of the Art

Data processing technology has undergone a very definite evolution in arriving at the way it serves business and industry today. Originally, DP functions were almost exclusively clerical in nature. The computer made this monotonous, timeconsuming work faster and easier to accomplish. Gradually, however, it was found that computers could be programmed for developing data that would actually assist in the corporate management process. Today, it is commonplace for executives on every corporate level to make "ad hoc" requests for important information from end user oriented DBMS resources such as ADABAS in order to make clearer, better informed business decisions.

As companies have grown and diversified, so have their requirements for a constant flow of information, and for more economical means to maintain and support complex data processing systems.

Unattended Computer Centers

Software AG is now developing the technology to implement a decentralized corporate data processing environment – one or more remote processors connected to and fully

supported by a central computer site. We call this "dispersed processing."

With dispersed processing, corporate computer power is brought closer to the end user. And because all operating systems are maintained through one central source, the otherwise enormous cost of multiple operating system support is minimized.

Software AG's Instant On-site Support feature, an important part of the dispersed processing equation, eliminates the need for effecting costly staff increases to support this decentralized processing environment. Instant On-site Support actually permits users to install application programs and software products remotely. Files and data bases, operating systems and utilities can also be remotely installed using this unique capability. All systems maintenance can occur remotely along with hardware operations and control.

Dispersed processing can significantly increase a company's capacity, can greatly enhance system reliability and responsiveness, and can bring about major increases in overall DP cost effectiveness almost immediately.

Distributed Data Processing

With the dispersed processing environment on the verge of becoming a practical reality, the next developmental step for Software AG is the creation of Distributed Data Processing: a network of computers connected by communications facilities for the purpose of achieving transparent communication between individual mainframes and minicomputers, and/or between one regional computer and another - with fully integrated remote installation maintenance and operations/control support. In the true DDP system, processing tasks can be performed locally, or globally within the geographically distributed processing environment. Specialized individual micro-processors may be utilized to perform various functions which facilitate entire DDP networks.

It is the current objective of Software AG to develop a DDP environment in modular fashion – with minimum modifications to our existing software products. This will permit the highest possible degree of flexibility in allowing for future technological innovation. It will also provide users with the opportunity to enter a DDP testing phase with minimal cost expenditures.



Technical Support

Quality Assurance

Building user confidence starts with superior product development, documentation and education. Once a new Software AG product, system modification, or updated product release has gone through these initial phases, it must be cleared by the Technical Support Division.

The product is first carefully tested and debugged. Once the decision has been made that the product is fully "supportable" by the Technical Support Division, i.e., it meets the Division's rigid quality assurance standards – only then is it distributed and installed at the customer site.

Fast Resolution of Problems

No matter how well a software product is designed, minor problems are bound to occur. In order to arrive at the quickest possible resolution to such problems, Software AG provides users with a multilevel, technical support system.

Field Support

A user's primary contact is the field technical representative. Software AG maintains a staff of highly skilled DB/DC experts throughout the country in a network of local support centers. These technical specialists are available to provide fast answers to problems.

Regional Technical Support Operations Centers

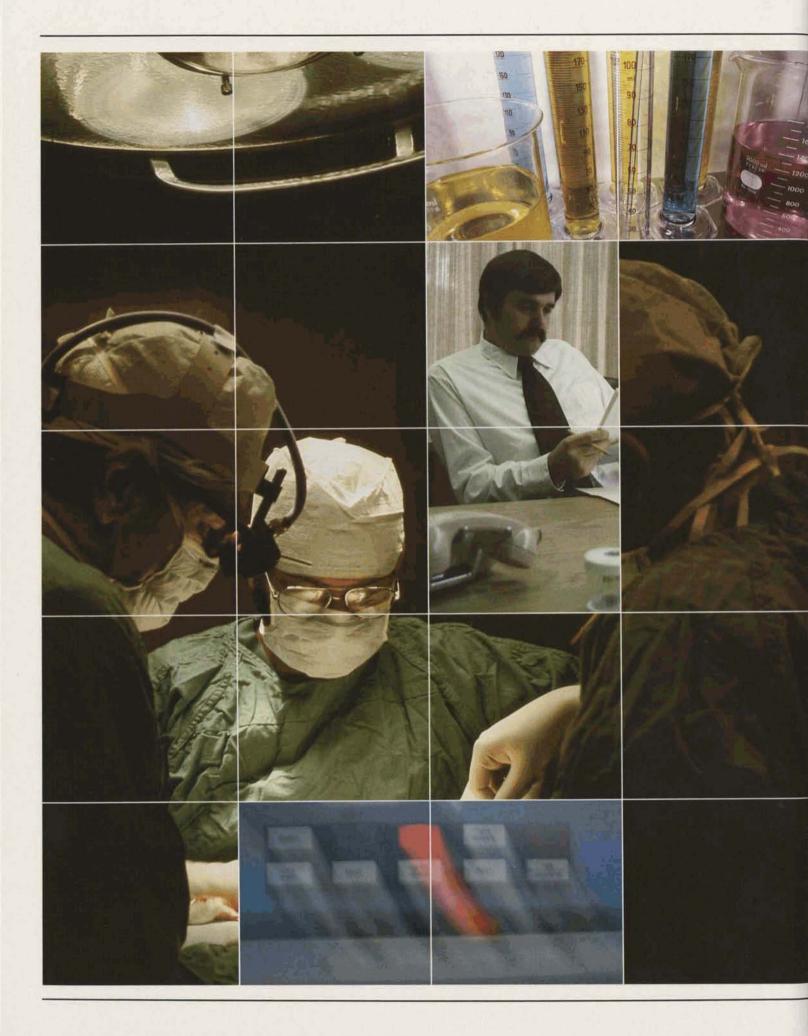
Software AG provides "hot line" back-up support for field technical representatives through our regional Technical Support Operations Centers. TSOP Centers coordinate with field support personnel to dispatch emergency service from any support center in the country, if necesary. These Regional Support Centers also have specialists in each Software AG product on staff to insure maximum responsiveness.

Instant On-site Support

When an unusual problem is encountered, Software AG can put a user in touch with the most competent technical expert on our staff immediately – even though that expert may be hundreds of miles away. This is accomplished through Instant On-site Support, an exclusive Software AG support service through which we can dial in to a remote user facility for online problem diagnosis and resolution.

Technical Support System

Software AG has developed an online Technical Support System (TSS) in which recurring user problems – and their appropriate solutions – are logged into a special system. Through TSS, our technical staff is able to facilitate the errordetection/solution process.



Research and Development

Emphasis on Innovation

Software AG is recognized in the data processing community as a leader in end-user oriented products and capabilities which stress ease of use, maximum productivity and outstanding cost efficiency. To maintain our position in the marketplace, and to keep our product line technologically superior, Software AG places major emphasis on a vigorous, on-going research and development effort.

Software AG product managers pay special attention to the wide range of factors affecting changes in our user requirements. These factors include software trends, applications, interfaces to software products, and enhancements suggested by our active user community.

The dynamic growth of today's computer environment also necessitates constant monitoring of hardware and systems software changes as well. New machine announcements such as the IBM 4300 series, the many advanced peripheral devices, and enhancements to standard operating systems all offer our users attractive alternatives for the future.

Software AG is committed to immediate compatibility of our products with this ever-changing DP environment in order to maximize our company's competitive edge in the data processing community.

In order to provide the best possible environment for a creative research and development program, our entire North American R & D Division has been centralized in its own special headquarters in Seattle, Washington. This facility, which acts as headquarters for a large staff of technical development personnel, contains large-scale mainframes and minicomputers, plus Software AG's full product line. All staff and machines are dedicated exclusively to the R & D function.

The purpose of this centralized research and development center is to isolate the research function from other corporate responsibilities such as marketing, support, and consulting. In this way, a pure product development atmosphere is created, enabling the Research Division to fulfill its goal of on-going, state-of-the-art innovation in software products and enhancements.



Education and Documentation

Comprehensive Training Program

Software AG provides comprehensive on-site training for new users of our products, as well as for existing customers who require in-house familiarization on significant product releases. We also schedule a full curriculum of public education courses related to all aspects of our product line.

The thrust of our entire educational effort is to anticipate and respond to the needs of our user community. Our on-going goal is to thoroughly familiarize them with everything they need to know about our products in the most effective way possible, with maximum convenience to their busy schedule. To this end, we offer a full scale education/training program which:

- serves as an introduction to individual Software AG products for in-coming personnel
- provides more technical depth for new user programming staff
- acts as an effective follow-up program for users who may wish to supplement our on-site training
- assists potential users in evaluation Software AG products as related to their DP environments.

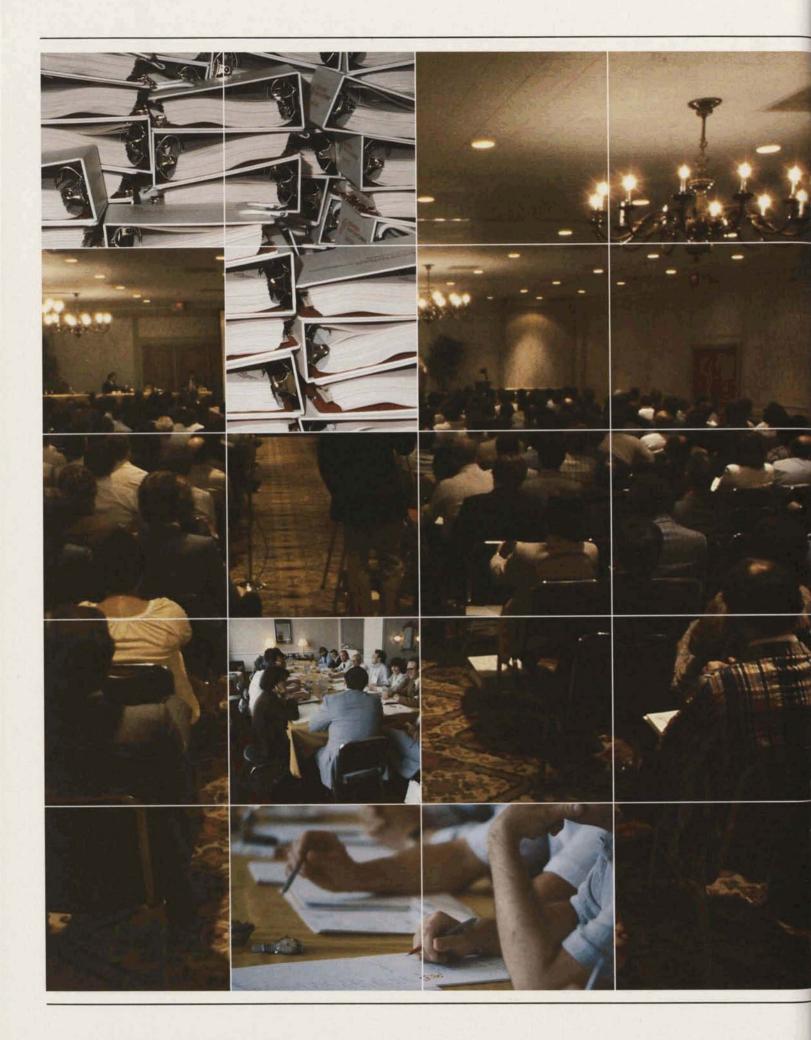
Classes are scheduled on a regular basis at convenient locations throughout the world, including our fully-equipped, multi-media education centers at corporate headquarters in Reston, Virginia, as well as in our West Coast training and consulting center in Seattle, Washington. These specialized education facilities are designed to maximize training effectiveness. All classes are geared to combine lecture/demonstration techniques with hands-on workshop experience with the products.

Our highly skilled, technical training staff offers a wide-range of experience in programming, systems analysis, data base management systems, and teleprocessing systems.

The need for education and training in all phases of data processing is growing at an unprecedented rate – along with the development and enhancement of new hardware and software products and services. Software AG is developing training programs which will offer a wider scope of DP education both to our users, and to the entire data processing community – to help them keep pace with the rapid expansion in state of the art technology.

Documentation

Software AG generates a wide variety of technical reference material for our users, including detailed documentation for all aspects of our products. In order to give all users the necessary means to effectively use our products, documentation is always developed for managers, data base administrators, end users, applications programmers, operations personnel, and systems programmers. A printing facility is maintained in-house. Dissemination of materials is handled through an online order entry system.



International Users' Group

A Forum for the Exchange of Information

The Software AG International Users' Group (SAGGROUP) is a sophisticated, independent organization consisting of companies which use Software AG products in their data processing environments. This active, well-organized group provides Software AG users with a powerful forum for the exchange of information and ideas about our products and services.

The Users' Group conducts an extensive series of regional meetings during the course of the year. The main purpose of these meetings is to exchange individual experiences with our software, in order to help users better utilize Software AG products.

Each year, an annual International Users' Conference is also held. This four-day event includes presentations by users, workshops, Software AG product announcements and enhancements, and seminars by leading industry experts. Conference proceedings are published for the benefit of Software AG users.

The Users' Group compiles formal user recommendations for changes and enhancements to our products. These are designed to make our products more beneficial to the user community. Once the recommendations are agreed upon and placed in priority sequence by the Users' Group, they are presented to Software AG for consideration and possible implementation.

The Users' Group publishes the proceedings of its regional meetings in a quarterly Newsletter. This Newsletter also serves as a vehicle for special interest group reports. Software AG product announcements, corporate news, and an updated public education schedule. The Newsletter is produced by Software AG's in-house staff with editorial content provided by individual members of SAGGROUP. Members of SAGGROUP have found that the exchange of applications information is most useful. As a result of this need, Software AG provides applications catalogues on a regular basis. An online User's Profile System is also being updated constantly, and sent to participating Software AG users - to provide up-to-date information on what other users of our products are doing in comparable environments.

The Software AG International Users' Group benefits customers by providing them with a general platform for the on-going interchange of valuable information about our products and services. This important organization is also highly beneficial to Software AG. It provides us with the critical insight necessary to develop and enhance a product line which is more responsive to the current and future needs of our user community.

Consulting and Computer Services

Programming / Design and Remote Time Sharing Capability

Consulting

Software AG's Consulting Service specializes in our own product line. We offer a full range of consulting services including on-site programming and design, fixed-price projects, and applications evaluations. Software AG consulting specialists are a group of highly skilled professionals who have broadbased experience in the business world and in our products. This permits us to provide well-informed consulting expertise for virtually any type of business.

Computer Services

Software AG's Computer Services Division offers a full range of remote time-sharing capabilities for permanent and temporary users through our computer center in Reston. We can assume the DBA function and/or the systems programmer function for almost any size company through this division.

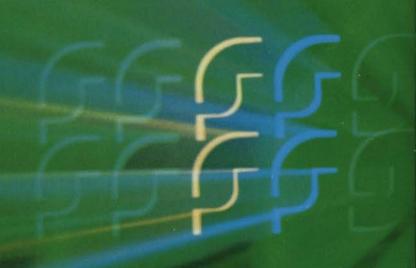
Remote computer services available include:

 Evaluation of Software AG products without interfering with inhouse computer function.

- Off-loading applications for temporary additional computer power.
- Online program development without the danger of bringing the existing system down.
- Readily available computer resources while waiting for hardware delivery.

Software AG's Computer Services Division utilizes IBM System 370, 4300 plug-compatible, and DEC computers. We offer remote time-sharing services in batch or online through our ADABAS DBMS, our COM-PLETE TP system, and our NATURAL interactive programming language.

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