

CONNECTIONS

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WINTER ISSUE

NATURAL PROCESS Extends NATURAL to Operations Center



Jon Ebert
Product Manager

NATURAL PROCESS, an exciting new NATURAL extension unveiled at the 17th International Users' Conference, is being formally released

this month. NATURAL PROCESS provides access to various operating system services from the NATURAL environment. This allows your application developers to build highly sophisticated applications that directly interface to entities and functions that up until now were only available from lower level languages or prepackaged utilities. In addition, your operations staff will now enjoy the benefits and productivity gains that are available with NATURAL.

NATURAL PROCESS Functions

The following is an example of what can be done from a NATURAL program using NATURAL PROCESS:

- Retrieve address space and JES information
- Retrieve spool records for a specific job
- Alter status of a job in the JES queue
- Retrieve catalog information and perform catalog maintenance
- Return information on devices

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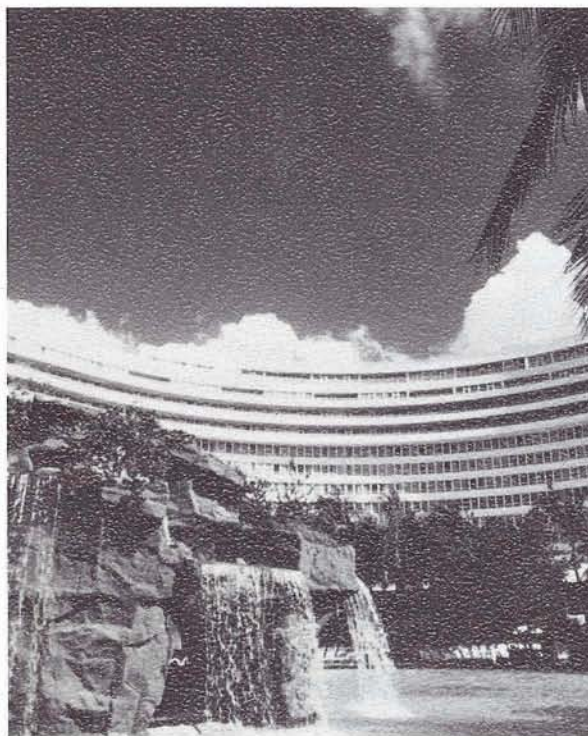
'87 Conference Makes Big Splash in Miami

Pam Ellis
Software AG

Software AG's 17th Annual International Users' Conference was held in Miami, Florida on November 1-5, 1987. The conference broke attendance records set in previous years, with approximately 2000 users and prospects convening. Users heard about Software AG's plans for the future; learned about new products and technologies; saw demonstrations of nearly 30 products; and exchanged information with other users through a variety of forums, including workshops, presentations, and meetings.

The annual Users' Conference also provides SAGGROUPE with an opportunity to elect new officers and representatives. This year, the Users elected seven people to various positions. In addition, many new Regional Representatives were elected, both in the United States and internationally. The listing of the current Executive Committee

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The Fontainebleau Hilton, Miami Beach, Florida, was the host hotel for the 1987 Users' Conference where approximately 2,000 people convened.

Conference Highlights

- 2000 attendees
- 30 products demonstrated
- Product Announcements:
 - ADABAS 5
 - NATURAL Engineering Series
 - 4 New VMS Products
- SAGGROUPE Elections
- Separate Executive Track Conference

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PRESIDENT'S MESSAGE



Carlo A. Scagnelli
Central Hudson Gas & Electric Corporation

During my past life, I always marveled at the number of people that each SAGGROUP president seemed to know. After finishing the Miami marathon, I find it wasn't who they knew but more importantly who knew them. Meeting each of you has to be one of the more satisfying parts of holding this position. I hope that in our exchanges I was able to help in some small way. I do know that I received much more from you than I was able to give in return.

I congratulate the new SAGGROUP officers: Bill Wagner, Vice-president; Bob Becker, ADABAS Product Representative; Ellen Birch, COM-LETE Product Representative and John Tomashunas, North American Area Representative. Each has had their baptism of fire during the last of our Committee sessions voicing your concerns to Software AG on a particular product announcement. I look forward to working with them in the coming months and judging from their professionalism and enthusiasm, you are well represented on the Executive Committee. But none of us work in a vacuum; let us know what's on your mind.

With John's election, the Executive Committee now has a member who can say he's had the TEMPTATIONS serve as his backup group. (John, though your debut was impressive, don't give up your present job just yet).

An era has ended with Ralph Jenks' resignation as Nominations/Elections Chairperson. Ralph provided SAGGROUP with years of service finding 'volunteers' for the Executive Committee. Though that friendly drawl will not be heard on the phone this coming year, it will be replaced by one no less stringent in its message; "GET INVOLVED!".

Ms. Colette Farabaugh, past North American Area Representative has accepted the position and will be seeking out the willing and the less courageous to fill the offices of President, Secretary, NATURAL Product Representative and PREDICT Product Representative.

Roy Richardson has resigned as Technical Survey Support Chairperson and has been replaced by Marty Henderson who served as Change/Enhancement Coordinator a few years ago. We offer Roy our best wishes for the future.

To Mr. Goichi Yoshizawa representing the Far East & Japan; Mr. Willem Swanepoel substituting for Bill McKimm of South Africa and Ms. Neide Suemi Minaguchi representing Brazil, my thanks for your participation in our Executive Committee meetings. Hopefully,

we'll have a larger international representation at our Nashville session and look forward to hearing from you in the interim.

The Executive Committee will be meeting in April. Any suggestions about this past conference which can be added to the discussions we had even before it closed are most welcome and can be addressed to me. Thought has been given to extending the conference or starting the formal proceedings on Sunday evening with the aim of providing more time for classes, tutorials and user exchanges.

And let's not forget Nashville in '88; it's a very short 10 months away. The 18 months between the last conferences may have made us a little complacent but the time to prepare for those presentations and workshops is now.

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INFORMATION REQUEST CARD

YES, Please send me additional information on:

- NATURAL PROCESS
- SUPER NATURAL SIG
- NET-PASS Version 2
- NATURAL ELITE Computer Based Training

Please Include me on the Customer Training Mailing List

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SUPER NATURAL Plans and Directions

Doug Wheeler
Product Manager

Since the release of SUPER NATURAL 2 in January 1987, we have been developing numerous plans for the future direction of SUPER NATURAL. The new functionality of NATURAL 2 has given the SUPER NATURAL development staff many new opportunities for further enhancing SUPER NATURAL. There are two releases of SUPER NATURAL planned for the December 1987 to June 1988 time frame and specifications are being written for future releases. As you can see, there is a great deal of exciting activity. Although, most of this information was presented at the International Users' Conference in November, I know many of you were unable to attend. Therefore, I would like to take this opportunity to explain where the product stands today and what Software AG has planned for the future.

SUPER NATURAL Version 2.1.1

With the release of SUPER NATURAL Version 2.1.1 in January 1987, Software AG evolved SUPER NATURAL from a simple reporting tool to a full functioning end user product. Among the most important functions released were:

- personal data base support
- full data maintenance
- support for VSAM
- the report editor
- PC upload
- generate prototype programs.

SUPER NATURAL Version 2.1.2

With the availability of NATURAL 2, SUPER NATURAL will have a phased implementation to fully utilize the NATURAL 2 features. This version, released in December, will allow you to run SUPER NATURAL under NATURAL 2 as well as under NATURAL 1.2.7 application.

SUPER NATURAL Version 2.2.1

As demonstrated at the 17th International Users' Conference, SUPER NATURAL 2.2 is the first release completely implemented under NATURAL 2. SUPER NATURAL 2.2.1 is solely written in NATURAL 2, and will offer a number of improved capabilities. Included in these capabilities are:

NATURAL 2 CODE GENERATION

SUPER NATURAL will generate NATURAL 2 code in report mode.

ADDITIONAL USER EXITS

NATURAL 2 programs and sub-programs may be called from SUPER NATURAL using the CALLNAT statement in addition to external calls to 3GL programs.

COMMANDS

Utilizing NATURAL 2 windowing, the SUPER NATURAL system provides a pop-up window when an incorrect command is entered.

SUPER FILES

SUPER FILES will be distinguished from regular files on the file selection screen.

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New Features in NET-PASS Version 2

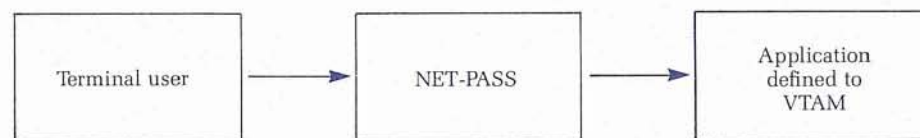
Pat Stroud
Senior Quality Assurance Specialist
Customer Service Division

NET-PASS is Software AG's multi-component session manager (Network Parallel Application Session System). NET-PASS runs on IBM or compatible mainframes that run ACF/VTAM and have MVS/SP, MVS/XA, VM/GCS and DOS/VSE SP1 or SP2 operating systems. It

In most environments, users can be divided into three categories: single session users, multi-session users, and special services users. NET-PASS has something for each type of user.

Single Session Users

Single session users, which make up about 70% of users in most



acts as an intermediary between terminal users and applications to enhance both user productivity and network performance and management. Users can access applications within a single domain or across domains.

environments, log onto a single application at the start of the work day and do not leave it until they log off at the end of the day. Users who do data entry work into a single application or who use one

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NET-PASS.

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application to retrieve information would fall into this category.

For these users, NET-PASS provides EASYLOG, a common entry point for all applications. All users will log on in the same way, regardless of which application they use. This means that they will not have to be retrained if there is a change in the application or they change work groups. In addition, EASYLOG provides a broadcast message, which can be seen regardless of the application the user logs onto, and a message facility which will queue messages for them until they return to NET-PASS at log off time. Once the user has logged on and has seen the broadcast information, the simple use of a PF-key will put him into his application.

Once the user has selected an application and pressed the PF-key, NET-PASS frees the resources used to communicate with the user. There is no operating overhead for EASYLOG users once they are in the desired application.

Multi-session Users

About 20% of users in most environments spend most of their time in a single application, but several times a day need to switch to one or two other applications. NET-PASS provides a low-overhead solution for multi-session users using the READ BUFFER method to switch between applications.

The multi-session user has the same facility for choice of application using a single PF-key as the EASYLOG user. In addition, NET-PASS can automatically start a multi-session user in several applications and place the user in the application he wants to use first, through the use of auto-logon and application dialogues. The user logs onto NET-PASS and is ready to work right away.

NET-PASS sessions are portable. NET-PASS users can disconnect and connect themselves at other terminals. This means multi-session users can suspend a session in the middle of an application, disconnect at one terminal, log on to another terminal, and resume the session where they left off, without having to log off from the application.

NET-PASS offers a screen-to-hard-copy facility available with all applications, so multi-session users can obtain a printout of a screen at the touch of a key.

Most important, multi-session users can move from one application to another with the use of a single key.

Special Services Users

A small number of users, perhaps 10%, will require some of all of the special services NET-PASS has to offer. Users such as the systems programming staff, who must switch back and forth among several applications many times during the day, would be special services users. For all special services users, NET-PASS uses the IN-CORE method to switch between applications.

Special services users may need to take advantage of NET-PASS's ability to transfer data across technologies, perhaps to create a user's manual for a new application, including actual screen images cut from the application in action, and pasted, using NET-PASS's Windowing facility, into the text processor.

Users in remote facilities can use NET-PASS data compression services to speed data transmission across remote lines. NET-PASS reduces line transmission time by using three techniques:

- Repeat-to-address
- Imaging field-by-field
- Imaging character-by-character

The imaging techniques compare old and new screens, transmitting only changed characters or fields, while the repeat-to-address technique counts the number of occurrences of repeated characters and transmits the number and the character, rather than all occurrences of the character. NET-PASS can reduce terminal data traffic by as much as 60% using these techniques alone.

An additional technique that reduces the use of the modified data tag with CICS screens can provide a reduction of terminal data traffic by as much as 90%.

Administrative Services

NET-PASS also offers a number of special administrative services to make life easier for the systems

programming staff. Among them are:

Response Time Monitor: Tracks terminal response times, and can calculate the sum of the application response time and the terminal response time, which closely resembles the effective response time experienced by the terminal user.

File Transfer Facility: Allows communication from an application session to another application session or with NET-PASS from within an application. This makes it possible to use output generated by one application as input to another application running under VTAM.

Show Screen (or softcopy facility): Allows a user to send the screens he is encountering in an application to another terminal. This facility is extremely useful for demonstrating a new application to numerous users at their terminals, and could also be used to establish a "help desk," allowing users who experience errors or problems that need interpretation to send the screens to a central terminal operator for help.

When Features and Flexibility Count

NET-PASS gives the systems programming staff full control of access to applications and to NET-PASS facilities through extensive customization features. For example, NET-PASS help screens can be fully customized. NET-PASS V2 also has multiple language support for customized command screens. Installations can make available several sets of NET-PASS screens in different languages or with different formats to suit the users' needs.

NET-PASS is a flexible and rapidly growing product. It incorporated the important features of other available session managers and Software AG's active development staff is constantly planning and adding exciting new features.

ADABAS 5: A Quality Release

Pat Stroud

Senior Quality Assurance Specialist
Customer Service Division

ADABAS 5 is such a complex product and its stability is of such importance to your organizations, you must be wondering what Software AG is doing to ensure that we release the highest quality product possible.

Not Just a Quality Assurance Task

Ordinarily, for an SM or a release of a less complex product, the Software AG Quality Assurance Group works closely with the appropriate development and support personnel to test the product and coordinate the components (tapes, release notes, manuals, last-minute product notes) and processes (alpha and beta testing, problem resolution, and distribution) leading up to product release.

Because of the magnitude of the ADABAS 5 task, individuals from ADABAS Product Support, Quality Assurance, Development, Documentation, Distribution, and Education have formed the ADABAS 5 release team, under the direction of Product Marketing's Mark Milne. The team approach helps to keep us abreast of issues that arise in the course of this long process and aids communications which keeps the efforts coordinated.

Systematic Approach

To ensure that all aspects of the product are covered in testing, ADABAS Product Support's R. J. Thomas has developed a comprehensive test matrix. Each category within the matrix has been assigned a number (for example, util-

ities are 51.20) with subcategories assigned additional two-digit numbers.

The matrix covers everything from the functionality of particular components to identifying minimum and maximum values acceptable for parameters, to testing compatibility of installation and execution with other Software AG products, different TP monitors, and different operating systems.

Early Testing

During the latter phases of ADABAS 5 development, internal testing began on portions of the nucleus. By the time the first alpha test tape was released, the entire nucleus had undergone extensive internal testing. Problem areas were identified, fixes developed, and corrections made.

Internal Testing

ADABAS Product Support also became involved in testing before the alpha test phase. As new load libraries became available from our Development group, new tests were developed and run, and tests developed for previous load libraries were re-executed. The results were carefully monitored to determine whether a fix to one area resulted in an error in another area.

In addition to testing, the ADABAS Product Support Group also supports the alpha and beta test sites and provides overall direction to the testing and problem resolution effort.

The next phase in the internal test effort has been the involvement of our System Support Representatives (SSRs) from our field offices. This adds a highly-skilled test resource to the release team. Coordination of testing by SSRs is being handled from Reston by Quality Assurance.

Affiliates of Software AG of North America also have a valuable role to play in testing ADABAS 5. Like the SSRs, they acquire valuable skills and understanding of ADABAS 5 during their stays in Denver, where their testing is di-

Elite Authoring Tips and Techniques: Increasing Learning Retention

Maggie Geiser

Manager, Instructional Technology
Customer Service Division

Recently, I read an article about learning management which stated:

"The average adult professional receives hundreds of hours of instruction. But few people have ever been taught how to study."

All companies are faced with the problem of providing good training to their employees. In the area of Computer-Based-Training (CBT), NATURAL ELITE authors especially need to keep this in mind. How often have you read a technical article, only to forget it by the next week? Or the next month?

How can we as trainers ensure retention of the concepts and skills our students are learning? To address this problem, we need to review some basic adult learning concepts and learn to incorporate these into the NATURAL ELITE courses we author.

Importance of Analogies

In the late 60's, psychological and learning research made a significant discovery regarding how our brains deal with different types of mental activity. In most people, learning is divided into two distinct areas: left-brain and right-brain.

The left side deals with logic, language, sequential processing, reasoning, numbers, linearity, and analysis. Accordingly, the right side deals with intuition, parallel processing, daydreaming, rhythm, music, images, color, and pattern recognition. Remembering someone's name is a function of the left-brain memory, while remembering her face is a right-brain activity. Understanding the syntax of NATURAL is a left-brain activity, while knowing how to create or debug a program is a right-brain activity.

To maximize learning, NATURAL ELITE authors need to coordinate and stimulate both sides of a student's brain, as well as their own. Unfortunately, most of the educa-

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Service/Connection: A New Way To Communicate

Simon Kane

Service Development Group
Customer Service Division

A prototype version of Service/Connection was demonstrated at the 17th International Software AG Users' Conference in November 1987. Survey forms were distributed to everyone who attended one of the demonstrations or the associated presentation. The results of this survey, and answers to some of the many questions that have been asked, are presented below.

For those of you who were unable to attend the Conference, here is a short description of Service/Connection:

Service/Connection will be an on-line, customer-accessible system that will provide the customers of Software AG with various functions intended to improve service levels. It is intended to be a supplement to, not a replacement for, existing support procedures.

The initial system plan includes four basic functions:

- User profile system
- Electronic mail and bulletin boards
- Search and retrieval of Software AG supplied documents
- Search and retrieval of product fixes and updates.

Features identified for possible inclusion in later versions are:

- Online registration for customer training
- Online document ordering
- Access to Technical Support System data extracts
- Entry of customer requests (TSS logs)
- Enhanced customer interaction on customer requests
- Communication with other Software AG departments

Access to Service/Connection will be via dial-up telephone lines from a customer-supplied personal computer. The system will run under

NATURAL 2, NATURAL CONNECTION V3, and CON-NECT 2 with special CON-NECT application programs added as necessary.

Some of the advantages to providing this type of service are as follows:

- Service levels will be increased by having information available when needed, regardless of office hours, acts of nature (eg. blizzards), resource limitations, or time zones.
- Information will be available to all customers of Software AG simultaneously. Delays due to distribution limitations, mail service, etc. will be reduced or eliminated.
- Through the use of NATURAL CONNECTION, Service/Connection users will be able to download/upload data necessary for stable operation of their Software AG environment without the risks inherent with human intervention.

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ADABAS 5

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rected and coordinated by ADABAS Product Support. Their skills and enthusiasm have made a very valuable contribution to the test effort.

Documentation Testing

ADABAS documentation is such an integral part of the product that it cannot be tested separately. Early in the alpha test phase, preliminary documentation was reviewed for readability. As conflicts and inaccuracies have been discovered during the course of testing, the Documentation Group has been responsible for coordinating changes.

Education Testing

In addition to their role in internal testing, SSRs who were in Reston for testing during the week before the Users' Conference attended the beta test of our Customer Training Department's newly-developed course for ADABAS V4 users interested in the differences between

the two versions. This gave Customer Training a chance to test the class and find out what areas were likely to provoke questions. Sue Karlin, Manager of ADABAS Product Support, was able to attend some segments of the class and provide additional insight into both ADABAS 5 operation and what users were likely to want to know, based on her experience with Users' Groups.

Iterative Testing

All jobstreams built to test ADABAS 5 are designed to be easy to re-execute. These jobs are re-run against every significantly different load library and will form a valuable tool for efficient testing of ADABAS 5 SMs and releases.

Subsequent Releases

As functionality is added to ADABAS 5, whether in ADABAS Online Services, ADABAS 5.2, or with the appearance of ADANET and the NET-WORK 5 product, test jobstreams will be added to the

testbed. Where possible, tests for problem resolution after release will also be collected so that with each subsequent release, ADABAS will be more and more thoroughly exercised.

External Testing

Customer beta test sites have also been working hard to become familiar with ADABAS 5 and identify areas which could be problems for them. Test sites were each given an area of the matrix for which to build and execute test jobs. Beta sites have been requested to convert a subset of their major ADABAS applications to ADABAS 5 and compare execution with ADABAS 4 to see how ADABAS performs in the real world. A resolution after release will also be collected so that with each subsequent release, ADABAS will be more and more thoroughly exercised.

This complex Quality Assurance process allows Software AG to provide the highest quality product to our users.

NATURAL 2: SM03 Storage Control

Chris Yandall

*NATURAL Systems Support Specialist
Customer Service Division*

When Software AG's Jon Church started toying with the idea of stealing the task of storage management away from CICS and began dreaming up the now grandparent components of the current NATURAL 2 Storage Control System, he envisioned a day when NATURAL would celebrate performance benefits unparalleled by any other complex 4th generation software tool.

Well, that day has come. It took some doing to get users to uncover the myriad of bugs awaiting to chew through the terminal screens and manifest themselves in the form of abundant incident reports (logs), but it appears the worst is over.

With the help of Software AG United Kingdom, Ltd.'s Mike Meehan, the current author and new torch bearer for the Storage Control System, NATURAL is now outperforming its great-granddaddy, NATURAL V1.2, in whopping strides. Most of the blatant software slip-ups have been mopped up and now the true NATURAL nucleus is surfacing to shine as a new dimension in software solutions—thanks to Mike's genius and determination.

Included in SM03

Here are a few of the major enhancements and features included with Mike's new System Maintenance 03 (SM03):

- By popular demand, the ability to share Threads and Roll files across multiple NATURAL nuclei under one CICS session or with MRO has been restored as in SM01. Therefore, the System Control Block is now a separate entity and will require its own PPT entry. With this restoration, multiple nuclei may be added without concern of reinstallation of Threads and Roll files. Concern only is warranted when new systems demand more resources due to a sizable increase in system activity.
- The Thread allocation/selection algorithm has been improved since SM02. With SM03, a user

count field has been added per thread, which will reduce the number of physical roll-ins from disk.

- The Thread contents are now compressed before rollout, reducing disk I/O for roll out and roll in (fewer records written and read). European sites which are beta testing SM03 have seen a 50% reduction in I/O during their initial testing. The NATURAL nucleus is also performing compression on data streams internally, which will allow even more performance savings.
- SM03 includes a facility that detects NEWCOPIES for the NATURAL nucleus, which in the past usually resulted in a DFH0602 or some other fatal CICS session abend. Therefore, user sessions managed by the

old copy would be detected and terminated. This must be done because the Roll Files are reset whenever the System Control Block is refreshed. So, whenever NATURAL is NEWCOPIED, the current sessions will be terminated to avoid conflicting usage of the active RESIDENT PPT.

All in all, the best is yet to come. Development on Storage Control is a never-ending battle to ensure all code becomes bulletproof. There is even talk of a NATURAL that will never bring down CICS—no matter how poorly an application is coded.

For now, let's just be pleased that we have a viable structure that can be built on for the future generations of applications and releases of CICS.

AMI2SQL: Converting ADAMINT to ADABAS SQL

Ken Marcum

*ADABAS Product Support Representative
Customer Service Division*

With all of the talk and planning regarding ADABAS 5, many of you may be wondering—even fearing—about the future of applications using ADAMINT. Well, wonder and fear no more. AMI2SQL will allow users of ADAMINT to migrate easily to ADABAS SQL with minimal conversion effort and expense.

With ADABAS SQL, the new functionality in ADABAS 5 may be utilized by the applications programmer. ADAMINT will execute under ADABAS 5, as it does with ADABAS Version 4; however, ADAMINT will not be enhanced to incorporate any new features found in ADABAS 5. After converting the existing ADAMINTs using AMI2SQL, the power of ADABAS 5, PREDICT, and SQL will be realized.

How does AMI2SQL work? It reads an entire ADAMINT source partitioned data set (PDS) and creates COBOL programs with embedded

ADABAS SQL statements for each member within the ADAMINT PDS. The generated COBOL/ADABAS SQL programs are then preprocessed through ADABAS SQL, compiled, and link-edited. The new COBOL/ADABAS SQL subprogram(s) may then be dynamically loaded or statically link-edited to the user program in the same manner as ADAMINT.

AMI2SQL does not modify the user program in any way. Rather, AMI2SQL simply replaces the ADAMINT subprogram with a COBOL subprogram with embedded ADABAS SQL statements. After conversion, this source is fully maintainable by an application programmer.

AMI2SQL converts nearly 100% of all ADAMINT source modules. The following considerations may necessitate user application program or ADAMINT source modification:

- A maximum of 2,000 members to be translated may exist in the ADAMINT PDS.

NATURAL ELITE

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tion we receive comes from left-brain types who, in turn, produce more left-brain types. The computer functions as a gigantic left-brain capable of performing left-brain tasks millions of times faster than humans possibly can. Consequently, computers are replacing left-brain intensive jobs, and employers are needing right-brain intensive workers who are nowhere to be found.

As NATURAL ELITE authors, we must include more right-brain stimulation to increase the overall learning level. One method of implementing this is to use more images (verbal and visual), analogies, and stories—rather than just providing lists of facts and abstract ideas.

For instance, give examples of how someone solved a NATURAL application development problem and what his thoughts and feelings were as he solved it. This is a technique we are currently using in the development of our Advanced NATURAL Tips and Techniques courseware for the NATURAL 2 Structured Mode Series. So far, it is working well and the concepts are well received by alpha testers.

Trainers should encourage students to use their imagination and contemporary problem-solving techniques, as well as the traditional systems approach, when confronted with design and structural problems. Analogies, parables, and metaphors offer a powerful means for establishing a right-brain picture.

There are a number of ways you can use analogy. For example, when describing the concepts of database files, fields, and records, we draw a picture of a file cabinet and draw the analogy between the cabinet as the database, the drawers as the files, the individual folders as the records, and the information with the folders divided into fields. This works very well because all students seem to have a common reference in using a filing cabinet. This direct analogy approach uses and encourages right-brain activities.

Besides using direct analogy, there are a number of other types of analogies that are useful, as well. Let's take the example of learning to use a Personnel File Maintenance system for each of these types of analogies:

Analogy Type: Personal

Description: Author describes a personal experience in learning the project or subject.

Example: When I first learned about File Maintenance, I thought it only meant keeping my drawers clean.

Analogy Type: Fantasy

Description: Describes how you wish the product worked.

Example: I wish all software used PF12 as HELP, but they don't. This one uses PF1. However, at least they caught the first digit right.

Humor also works as a form of analogy. Whenever appropriate, I may interject a little humor into the learning process. Humor helps to create a relaxed learning atmosphere, thereby decreasing stress and increasing retention. However, you should avoid jokes. Instead, present a situation (direct analogy) which in the telling can be humorous or light if the students wish to view it that way.

For example: In our recent release of the NATURAL 2 for the Business Professional course, we explained a menu-driven system by using the analogy of a restaurant menu. A part of the story discussed ordering from a French menu and getting snails because you didn't understand what you were selecting. The menu concept is a direct analogy. The humor relates to the concept, but is not a joke—only an amusing incident, if the student desires to see it that way.

Primacy, Recency, and Repetition

Several of you have probably played a game at parties where you are asked to listen to a list of words and then repeat them back. A typical list might be as follows: book, the, cat, went, work, of, start, the, of, while, paper, Walla Walla, skill, light, own, note, rode, of, will, home, time.

The game has one person read one word from the list every two seconds. Then you ask the players to list all the words they remember. What usually happens is everyone remembers the first word or two (primacy), the last word or two (re-

gency), and any words which are repeated. Finally, everyone remembers any unusual words, like Walla Walla (humor). So, what does this mean to NATURAL ELITE authors? Each module must take into account this phenomenon.

In the design of a lesson, those things that are most important to learn need to be indicated at the beginning and end of the lesson, and/or reinforced several times during the lesson. At Software AG, we certainly pay close attention to this in our course development. The beginning of every lesson states objectives for learning and describes any new concepts (primacy). Throughout the lesson, we reinforce the important learning concepts and skills through testing and simulation—creating a situation of learning mastery (repetition). Finally, at the end of the lesson, we summarize what was taught and reiterate important concepts (recency and repetition).

Power of Association

The power of association—the ability to identify with a topic—is another key factor in improving one's memory. Once a student "owns" or accepts a concept, he is reminded every time when even a part of the concept enters his world of input. For example, once a student believes and selects a particular way of structuring and organizing applications, the student will also relate that same organization to other situations. Furthermore, the student will react positively to any other people who follow a similar philosophy. This increases retention because "ownership" of concepts is carried from the learning environment into the working environment and becomes an integral part of the individual. By building these associations and encouraging student "ownership," the NATURAL ELITE author will enhance both student interest and retention.

Screen Design

Now that you have all of these wonderful ideas for enhancing student learning and retention, you need somehow to translate them onto a screen in NATURAL ELITE.

Here are some brief tips about how screen design may help you to focus your efforts and ensure the points are well made. Three major

design areas are important to consider: data display range, emphasis signals (highlighting and icons), and graphics.

Data Display Range: Most students find it easier to read and assimilate short sentences, short paragraphs, and short column widths. Because of this, the line and paragraph lengths on a screen are important. At Software AG, we have recently implemented recommendations to indent all screens on both sides (making line lengths approximately 60 bytes, instead of 80), and to keep paragraphs short (four to five lines). Additionally, we try to limit the total number of informational lines on a screen to only eight to ten. This seems to be about the comfortable maximum a student can assimilate at one time.

Emphasis Signals: Emphasis of key concepts and points is one of the easiest places a NATURAL ELITE author can really make his or her courseware shine. Highlighting words or symbols is, of course, the easiest way to provide emphasis. Additionally, you can develop a set of icons which the student associates with particular concepts or areas of emphasis (i.e., pointing arrows, highlighted asterisks, boxed concepts, etc.). Our current courseware uses a variety of these techniques to place the emphasis on particular concepts or skills.

Graphics: Although the main-frame environment is not as conducive to building graphics as the PC, it is still useful and meaningful to include some graphics within a NATURAL ELITE course. Each student learns in a different way. Where a verbal explanation of a concept works for one student, another student may only grasp the idea through the use of a graphic representation. Because graphics are time-consuming, you may wish to keep a catalog of all screen graphics developed in a course, so they may be copied and used again and again. To emphasize a point even further, the combination of graphics, highlight-

ing, and explanations may be the best solution.

Productive Learning Management

Learning management is an exciting and rewarding skill. By becoming aware of how people learn, you can create or modify courses to increase the quality of training and learning retention. By implementing some of these techniques, you will assist your students to be more productive in managing the company's most valuable asset—their employees' ability to learn.

SUPER NATURAL

continued from page 3

ENHANCED REPORT OUTPUT

The definition of report outputs that are 250 column wide will be possible. In addition, scrolling left, right, up and down will be provided. This extended report size will not yet be available in the report editor.

ENHANCED "VA" COMMAND

When specifying the VA command, a column has been added to show the number of levels for each occurrence of a Periodic Group.

The key developments of SUPER NATURAL 2.2.1 have been the rewrite of this product in NATURAL 2 and the generation of NATURAL 2 code. This gives us a foundation from which we can further develop and enhance SUPER NATURAL using the full power of NATURAL 2. In addition, this version will also take advantage of the performance improvements offered with NATURAL 2.

We expect SUPER NATURAL 2.2.1 to be released by the second quarter of calendar year 1988.

SUPER NATURAL: Future Development

Beginning with SUPER NATURAL 2.3 major development enhancements utilizing NATURAL 2 will be provided. We are currently compiling the specification for future releases of SUPER NATURAL. These specifications will include new features with prototypes and associated priorities. From these specifications, we will determine which

enhancements will be included in future releases. We hope to publish these specifications and distribute them to you in the first quarter of calendar year 1988. The new enhancements that are currently being considered are:

ENHANCED USER INTERFACE

1. The user interface will be enhanced using the new functionality made available with NATURAL 2. A question mark entered in any field within SUPER NATURAL will display a pop-up window with appropriate choices. Our goal is to eliminate re-input messages.
2. A review function will be added to allow the user to obtain the status of their transaction.
3. The help system will be improved to provide a page driven online user reference manual that can be modified by the user.
4. A new main menu structure will be added that will simplify the use of all SUPER NATURAL facilities.

REPORT EDITOR

The report editor will be enhanced to provide full support of reports 250 characters by 250 characters, scrolling, movement of fields, table output support, labels and much more.

USER APPLICATIONS

Users will be able to generate menus that combine multiple SUPER NATURAL transactions, thereby providing user application support.

DATA MODIFICATION

The data editor will be enhanced to provide add, update and delete capabilities from a full screen editor. The generation of full data modification transactions will be developed so that a user can specify that an add, update, delete and inquiry transaction be generated together.

A NEW LIBRARY TYPE

Currently, SUPER NATURAL libraries may be either private or public. A third library "type"

continued on page 10 9

SUPER NATURAL

continued from page 9

will be added. This "common" library will allow users to exchange transactions without DBA intervention. At the same time, the DBA will have the capability to copy "execute only" transactions into public libraries.

NEW DESTINATION OPTIONS

1. SUPER NATURAL will be enhanced to include new destination options for the popular statistical and data modeling packages. Currently both SAS and System W are being evaluated. When available, these interfaces will be additional cost items.
2. Destination options for CONNECT will be provided so that SUPER NATURAL reports can be saved as documents and distributed electronically.
3. A destination option for NATURAL SPREADSHEET will be developed so that results from a SUPER NATURAL transaction can be sent to a mainframe spreadsheet. NATURAL SPREADSHEET currently in development, will be an additional product that contains mainframe spreadsheet capabilities for large spreadsheet processing.

NOTEPAD

A note pad facility will be available from anywhere within SUPER NATURAL for general purpose use or for identifying/documenting specific transactions.

WORK POINTS

Using the recording feature in NATURAL 2, SUPER NATURAL will allow a user to set-up a "work point" which suspends the transaction and allows for the user to start at that point at a later time.

MASS UPDATE FACILITY FOR ADMINISTRATORS

A mass update function will reduce the amount of SUPER NATURAL maintenance. These

functions will allow any existing user profile to be copied and user/file options to be selected for inclusion or elimination in another user's profile.

These are just a few ideas that are currently being investigated by the SUPER NATURAL development team. As you can see we are at a point where SUPER NATURAL will be able to grow significantly.

SUPER NATURAL Special Interest Group

Given the continued growth and expanding role of SUPER NATURAL, we are in desperate need of a Special Interest Group. There are many successful shops who are more than willing to share their experiences with new users and support the SIG. In addition, Software AG is willing to support the SIG with presentations and an informative newsletter. One additional benefit of joining the SUPER NATURAL SIG will be direct input into the SUPER NATURAL planning guide. This planning guide will serve as a focus for future developments of SUPER NATURAL and be available for all SIG members.

However, the first step is to form the SIG. If you want to be a member or volunteer to chair the SUPER NATURAL SIG, please fill out the reply card in this newsletter or call Morag Lucas, User Liaison, Software AG at 703-860-5050. Act now!

SUPER NATURAL at the 17th International Users' Conference

If you missed the Users' Conference or did not get a chance to attend the SUPER NATURAL presentations, there were two SUPER NATURAL presentations—A SUPER NATURAL Story by Susan Cover, the Student Information Systems Manager at the University of Delaware and SUPER NATURAL Directions Workshop by Klaus Kern, SUPER NATURAL developer from Software AG of Darmstadt. Both presentations are on tape and may be ordered from InfoMedix. (See the order form located in the back of Connections. They are tapes T302-24 and T302-50, respectively.)

Over the next year, we will be developing a number of programs

such as the development and distribution of specifications, planning guides, demonstration diskettes and articles like this to open the communications between all SUPER NATURAL users. We are very excited about the development possibilities that are now available for SUPER NATURAL because of NATURAL 2, and the opportunities we will have to meet with you and discuss SUPER NATURAL through a Special Interest Group.

NATURAL PROCESS

continued from page 1

- Return attributes of a specific dataset
- Display the members of a PDS
- Read and write records to a sequential dataset or PDS
- Allocate a new dataset on disk
- Read VTOC information and perform VTOC maintenance
- Send a message to a COM-LETE or TSO user
- Run IDCAMS, IEBCOPY, AMASPZAP
- Execute VTAM operator commands

Since NATURAL PROCESS sends and returns everything from a NATURAL program, users with NATURAL CONNECTION, NATURAL GRAPHICS, NATURAL VSAM, SUPER NATURAL, etc., can use these products with NATURAL PROCESS. For example, you could retrieve your batch job from JES and download the output to a PC with NATURAL CONNECTION. With NATURAL GRAPHICS you could graph the contiguous space on your disk packs or from SUPER NATURAL you could browse through members in a PDS.

Using NATURAL PROCESS

NATURAL PROCESS functions are invoked by using one of the following NATURAL statements:

- FIND—Select operating system information
- READ—Read operating system information
- PROCESS—Perform operating system activities

These statements are used in conjunction with NATURAL PROCESS views to access or process specific operations. The NATURAL PROCESS views are delivered with the product and appear to the NATURAL user as any other data

view (ex. a DDM for an ADABAS or VSAM file) would appear. For example, the NATURAL program listed below will display the job name, number, class, type, queue, status, and whether or not the job is held.

```

READ JES-QUEUE BY
JOB-NAME
DISPLAY JOB-NAME
JOB-NUMBER CLASS TYPE
QUEUE STATUS HOLD
END

```

The following NATURAL program will list the volser, cuu, device type, number of free cylinders, and number of contiguous cylinders for every on-line DASD volume.

```

FIND DEVICES with CLASS =
'DASD' and DEVICE-STATUS =
'ONLINE'
DISPLAY VOLSER UNIT SERIES
FREE-CYLINDERS
CONTIG-CYLINDERS
END

```

This example shows the use of the PROCESS statement to release a job from the JES queue.

```

PROCESS JES-UPDATE
using FUNCTION = 'RELEASE'
and JOB-NAME = 'AR1601A'
and JOB-NUMBER = '1429'

```

Installation

NATURAL PROCESS can easily be installed in several hours. An IPL is not necessary as long as several cylinders are available in a APF authorized library. The installation can be summarized as follows:

- 1) Unload Tape
- 2) Edit NATURAL PROCESS Nucleus Parameters
- 3) Assemble JES2 Interface
- 4) Start NATURAL PROCESS Nucleus
- 5) Edit and Assemble Existing Natparm Module
- 6) Re-link NATURAL with NATURAL PROCESS Module
- 7) INPL NATURAL PROCESS Programs and DDM's from Tape
- 8) NATURAL PROCESS is now Available

NATURAL PROCESS can be installed in any transaction processing environment that supports NATURAL including batch. Repeat steps 5 and 6 to make NATURAL PROCESS available from other NATURAL environments.

Security

All NATURAL PROCESS functions

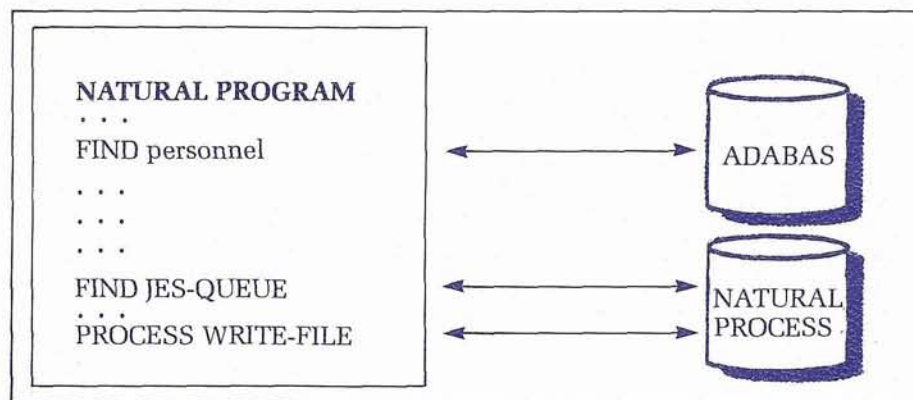
are implemented through a dictionary view. User views can be created from these views so that only a subset of the fields are available. Both the views and user views are controlled through NATURAL SECURITY so you can restrict access to individual users or groups of users. In addition, NATURAL PROCESS will check the RACF, ACF2, and TOP SECRET for authorization.

Distribution

NATURAL PROCESS is integrated with Software AG's NET-WORK product (ADABAS/VM, CTCS, ADABAS VTAM). The NATURAL PROCESS nucleus is assigned a node id similar to a database id in ADABAS. When NATURAL issues

a NATURAL PROCESS request for a node that does not reside in the local environment, NET-WORK will automatically route the request to the appropriate node. This makes it extremely easy to issue operating requests to a remote machine or transfer files between two machines.

NATURAL PROCESS can be licensed for \$19,200-\$24,000 and is currently available for MVS and MVS/XA under any teleprocessing environment supported by NATURAL. Contact your Software AG representative for information on how you can immediately enjoy the benefits of NATURAL PROCESS in your organization.



NATURAL 2: NATURAL Advanced Facilities SM03

Chris Yandall

NATURAL Systems Support Specialist
Customer Service Division

The latest version of NATURAL Advanced Facilities (NAF) SM03 add-on for our 4th generation software under CICS is a fully functional integrated printing facility. As you know, NAF consists of a spooling system, remote job entry, and paging facility as in the V1.2 release. All three areas have been enhanced.

Many thanks to Markus Klein, Software AG Darmstadt, who has diligently worked long hours to get the following information to me.

Here are some of the new features and enhancements of NAF SM03:

1. NATAF Interface Enhancements

NATAF is the Assembler interface that intercepts true NATURAL WRITE requests to a designated/pre-defined spool. It generally controls START printer tasks, LOCATE

printer, and WRITE on printer.

It has been completely rewritten using the CICS Command level programming interface. Implementation of NATAF in Command level allows NATSPOOL to be consistent with the NATURAL interface, NAT-CICS. In addition, it provides compatibility with the CICS Multiple Region Option and the debugging utility, CEDEF.

2. NATSPOOL in MRO Environments

CICS contains a facility, called Intercommunication Support, which allows different CICS regions to share resources in the "resource owning" or "remote (terminal)" region with the "application owning" or "local" region. MRO Multiple Region is a CICS facility which provides communication between other CICS regions on the same processor.

Using this approach, it is possible to "FUNCTION SHIP" a START

NATURAL ADV. FACILITIES

continued from page 11

request of the asynchronous NAT-SPOOL printer task to a remote region providing the devices to support the SPOOL request. In a heavily-used CICS environment using MRO, it is common to have a specific TERMINAL region supporting all or most devices used by one or more application regions.

3. NATSPOOL in Batch

The current release of NATURAL AF V1.3 already supports BATCH NATSPOOL. From batch, reports may be written to the NAF spool file. The START task to the CICS-owned printer may only be commenced from NATURAL running as a CICS-owned task. If a printer task is printing at the same time as the print SPOOL created from batch with the same DEST/FORM, the print QUEUE will print; otherwise, it takes on the TO BE PRINTED status. The specifications of the PRINTER parameter can be overwritten by the DD statement for CMPRT##.

If the SPOOL file is an ADABAS defined file, NATSPOOL can be invoked under CICS and BATCH concurrently. Under certain circumstances, the same job number may then be assigned by NATSPOOL to different printout queues. However, this symptom causes no problems and can be ignored.

If the spool file is a VSAM data set, creation of queues in batch is only possible if control has not been given to CICS (i.e., CICS has not opened the file for update). This is due to VSAM provisions for controlling data sharing in a single-system environment (SHAREOPTION).

NATBATCH, when relinked, must contain NATSPOOL and NATPARM containing the necessary SPOOL parms, such as FSPOOL and PRINTER, or they may be specified dynamically. NSPPARM must also be linked to provide the print work area. The parms NATPCT, NATPPT, TRACE, and TRANP are ignored in batch.

4. DYNAMIC System File Specification

By specifying any of the parameters DBID, FNR, FNAT, FSEC, and

FSPOOL dynamically (i.e., when starting a NATURAL session, the corresponding system file(s) in NATPARM can be overwritten by the user), the actual values will then be transferred by the originating terminal task to the printer task. It should be noted that in order to override FSPOOL, only FSPOOL may be specified as an overrider. DBID and FNR will not point to the correct SPOOL FILE.

Once the printer task has been started, it will observe these parameters as long as the printer task is active. Queues will only be printed from the file defined by the active FSPOOL. This is true even if there are queues with the same DEST/FORM on another FSPOOL. In this way, a unique CICS printer task is able to manage queues created on different spool files under the same CICS (e.g., for production or test processing). The implementation of this new feature requires AUX Temp Storage.

5. DEFINE PRINTER Statement

This statement may be used to control the allocation of a report to a logical printer. The OUTPUT operand is taken as a logical PRINTER PROFILE name. The logical printer profile name must be pre-defined to SYSPPOOL, but need not be equal to the current PRINTER PROFILE in use. Remember: A user profile is comprised of a set of logical printer profiles. A NATURAL program may contain as many DEFINE PRINTER statements as logical printers in the active user profile.

6. New Printer Status

The printer status FREE and BUSY are well-known to NAF users. To assist in detecting physical printer problems, the following additional status TYPEs have been defined: HELD, HUNG, WAIT.

HELD: The printer had been issued a "HALT" from SYSPPOOL.

HUNG: A START request for a printer task was issued, but failed.

WAIT: A START request was successfully executed, but after logon to SYSPRINT an error was detected that the printer is no longer available (invalid terminal ID) or terminal status (TCTTETS) of the printer was greater than 15.

BUSY: The printer has been locked by operator command (SET BUSY) or a START request for a printer task has been issued by operator command (START PRINTING) or by the NATSPOOL nucleus. This status is also set when CICS is no longer polling the device (out-of-service).

OUTS: This status is assigned if the printer is designated by CICS as out-of-service (i.e., if the printer is not polled by CICS).

It should be noted that each status above is defined to NATSPOOL. In other words, NATSPOOL may show a printer as FREE after FREEing it while CICS has it as out-of-service.

To assist in detecting logical problems in user programs, the following additional queue status has been defined: NOT CLOSED. This status is assigned if NATURAL is not at ET status when closing printout queues. The most probable reason for this to happen is an UPDATE statement not followed by an ET.

Queues with status of NOT CLOSED are not printed, but backed out from the SPOOL file at NATURAL session end. This backout may be overridden by placing a non-blank character in the "REC" field of the EDIT Printout Queues screen. This will force status "TO BE PRINTED." It should also be noted that NOT CLOSED queues will be backed out if the clear key is used. These queues may be recovered by entering a non-blank character in the REO field of the queue status menu.

7. User Exit for NATRJE

A user exit capability for NATURAL Remote Job Entry has been developed to allow processing each Job Control statement before being passed to the internal reader (POWER/JES). The following data is available to the exit:

- The JCL card to be submitted
- A return code field
- Name of NATURAL program being executed
- The CICS operator identification
- Work area

This exit is only supported for VSE/SP2, MVS/SP, and MVS/XA. VS1 is not supported.

8. Screen Paging

As in the V1.0 release, the same paging commands are used. The implementation has changed as screens are written to the NATURAL System File instead of CICS AUX TEMP STORAGE. When suspending transaction mode and entering paging mode (%E), a list of all screens written to the system file is displayed, including Page Number, Time of Creation, and Mapname of the map used.

There are numerous other enhancements to NAF that have been planned. Look to the release notes for NAF that will include further discussion on enhancements to NSS interfacing, BOLD CON-FORM control statements support, New Function code/key usage, ADABAS ET/BT processing with NATSPOOL and detail on the discussed topics.

Additional Notes

- NATSPOOL between V1.2 and V2.0 can execute in parallel under the same CICS session.
- NATRJE, on the other hand, cannot. Separate unique PPT entries must be made.
- For NATURAL Security, the printout QUEUE MANAGEMENT has been extended. The selection of queues may now also be restricted to certain groups. To allow this, two additional input fields (GROUP-ID and ADMINISTRATOR) have been included on the "Select Printout Queues" screen. Group-ID must be a group defined in SYSSEC.

To Register For
Software AG
Training Classes

Please Call
Our Training
Registrars At:
703-648-2482

How Does Customer Support Handle Documentation Issues?

Susan Elrod
Manager, Documentation

After a few initial questions, some support calls can come down to the following question:

"Is there something going on with the software or is the documentation wrong?"

Sometimes the representative can handle the request directly. Resolving the request has no impact on the documentation.

In other cases, part of handling the request is to identify and recommend what information must be added or changed in the documentation. When this occurs, the log is passed to the documentation group. The documentation specialists review the logs and include them in the documentation update cycle for the next revision (often associated with an SM distribution). During the update process, the documenta-

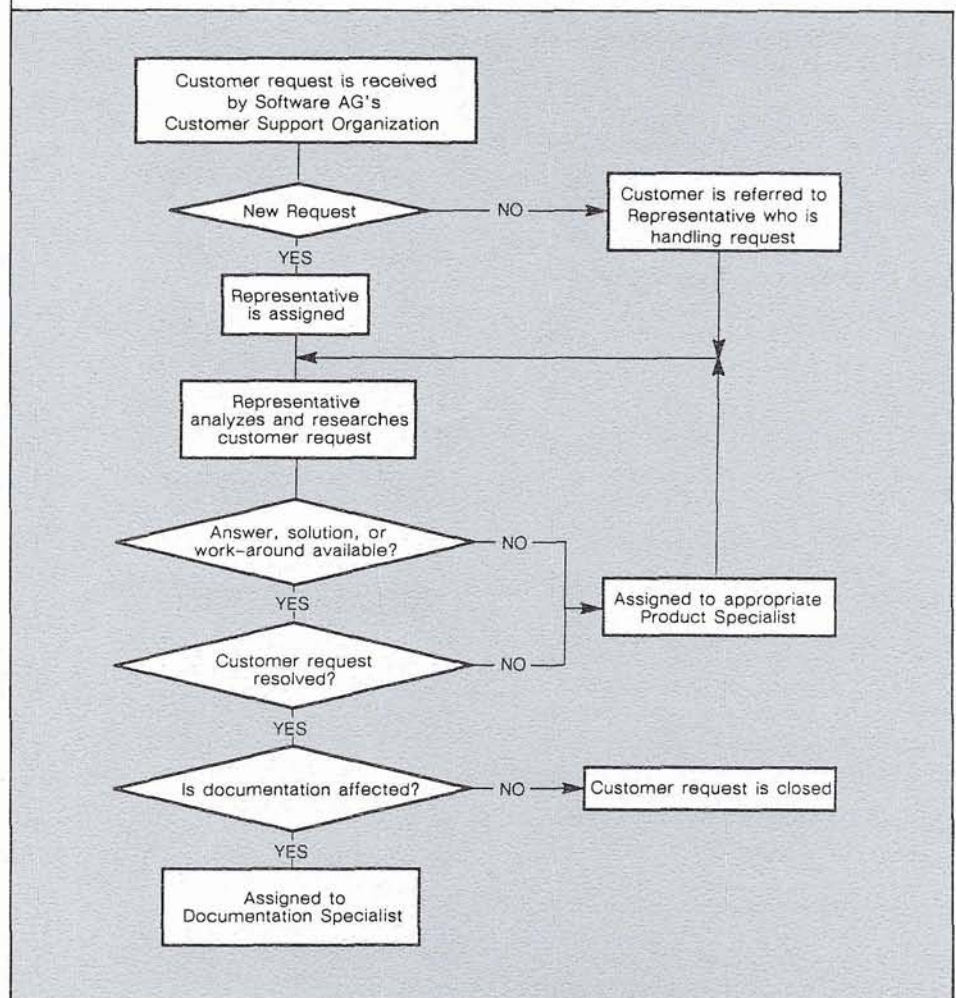
tion specialist may confer with the support person who initially referred the request.

After the revision cycle is completed and updated documentation is distributed, the log is closed. If the request was not addressed at the most recent update cycle, it remains as an open request so that it can be submitted for the next update.

The chart below illustrates the way documentation updates fit into the customer support cycle.

(See attached chart)

In addition, the User's Comment Form located in the back of every Software AG manual is a way all customers can submit documentation requests directly. These comments are evaluated and included in the same documentation update cycle described above.



AMI2SQL

continued from page 7

- Each ADAMINT source module may not exceed 380 lines.
- Generation of ADABAS SQL syntax requires full ADABAS field names. Currently, a 50-line limit per ADABAS SQL syntax statement exists. Therefore, it may be necessary to limit the size of field names in PREDICT to a minimum so this restriction is not exceeded. You can, however, create userviews for conversions that exceed this ADABAS SQL restriction.
- FLDMODE = DYNAMIC is not supported; however, syntax will be generated for full record access and update for the ADAMINT entry point converted. It will be necessary for modification of user programs if FLDMODE is used for update entry points.
- READR = entry point names may not be duplicated. In other words, two FINDSETs may not reference the same READR entry point name. This will cause duplicate entry points to be created in the generated COBOL program.
- File COUPLING will not be supported. AMI2SQL assumes one file per userview module.
- Literals, spacing, and MU/PE interleaving (PEGROUP and ENDPG notation) will not be supported. You may modify the generated program to pass information as required in the linkage section.
- The special character "(" or ")" should not be used in comments within an ADAMINT entry point.
- COBOL reserved words are prohibited in PREDICT field definitions.
- The ADAMINT ONEP MODULES statement must reflect the member names of the USERVIEW modules within the PDS.
- For CICS, the application DWA must be large enough to store the generated COBOL DWA. The DWA must be saved and restored correctly by the user application between returns to CICS (pseudo-conversational).

- CHFILE macro is not supported. This functionality is not provided in ADABAS SQL.
- All macro parameters dealing with cluster users are not supported.

By creating the COBOL/ADABAS SQL program as a subprogram, the calling user program is not "garbage-d-up" by duplicated record buffer areas, duplicated data names, etc., which would require manual intervention to correct. Also, all programming languages that call ADAMINT may have their ADAMINT programs converted to ADABAS SQL.

AMI2SQL serves as an instructional tool for understanding the relationship between ADAMINT and ADABAS SQL. AMI2SQL documents the ADAMINT source statements within the generated COBOL source for this purpose.

By converting all of the ADAMINTs at one time, it is possible to keep ADABAS SQL cursor names (ADABAS CIDs) unique. This is

important for problem determination and command log analysis.

AMI2SQL will convert both batch and CICS ADAMINTs. The appropriate SAVE and RESTORE ADABAS SQL commands are generated for pseudo-conversational CICS programs.

AMI2SQL requires ADABAS SQL Version 1.2 or higher, and PREDICT Version 2.1 or higher.

In Summary

For those of you who are tired of the ADAMINT maintenance nightmare, or for those who are considering converting ADAMINT applications to ADABAS SQL, or those who wish to enhance existing ADAMINT applications by using the new features of ADABAS 5, AMI2SQL is the tool for you.

Price and availability of AMI2SQL are to be determined. Your Account Representative will contact you when more information is available.

APPLICATION CALLING ADAMINT SUBROUTINE

```

USER APPLICATION
...
call 'lokex1' using search-criteria,rspcd.
...
    
```



```

ADAMINT MODULE
...
entry lokex1
call 'adabas' ,(parameter list)
mvc results to user program ...
    
```



```

ADABAS
    
```

APPLICATION CALLING COBOL SUBROUTINE WITH ADABAS SQL

```

USER APPLICATION
...
call 'lokex1' using search-criteria,rspcd.
...
    
```



```

COBOL/PLI
ADABAS SQL MODULE
...
entry 'lokex1' using search-criteria,rspcd.
exec adabas
  open xxxx
end-exec
move data to user program ...
    
```



```

ADABAS
    
```




Highlights from the 17th Annual International Users' Conference November 1-5, 1987 Miami, Florida

John Maguire, Chairman of the Board, opens the General Session for the 17th International Users' Conference.



Peter Pagé, Executive Vice President, Software AG Darmstadt, speaks on ISA, Software AG's Open Integrated Software Architecture.



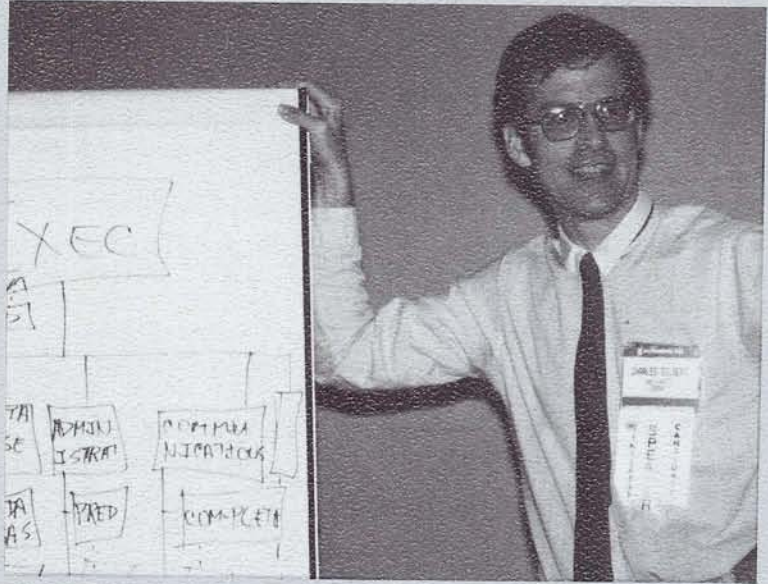
Lin Pearce (right), Executive Vice President of Sales and Marketing, greets an Executive Track attendee.



Carlo Scagnelli, SAGGROUP President, presents the candidates for the Executive Committee election.



Stu Miller, President and Chief Executive Officer, Software AG of North America, presents "Your Partner For Software Success."



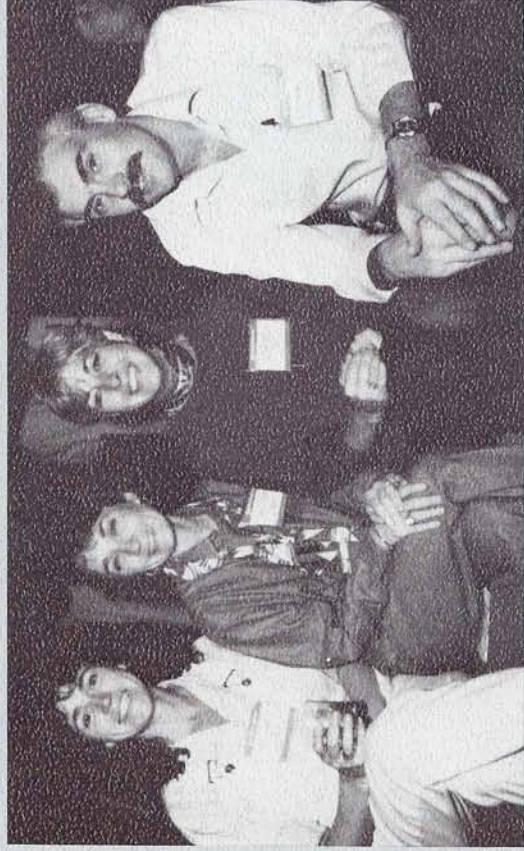
Software AG User, Chip Gilbert, Martin Marietta Aerospace, shared his experiences with high speed communications between IBM and VAX data bases.



Peter Schnell, President, Software AG, Darmstadt, presents an "ADABAS Experience and Outlook."



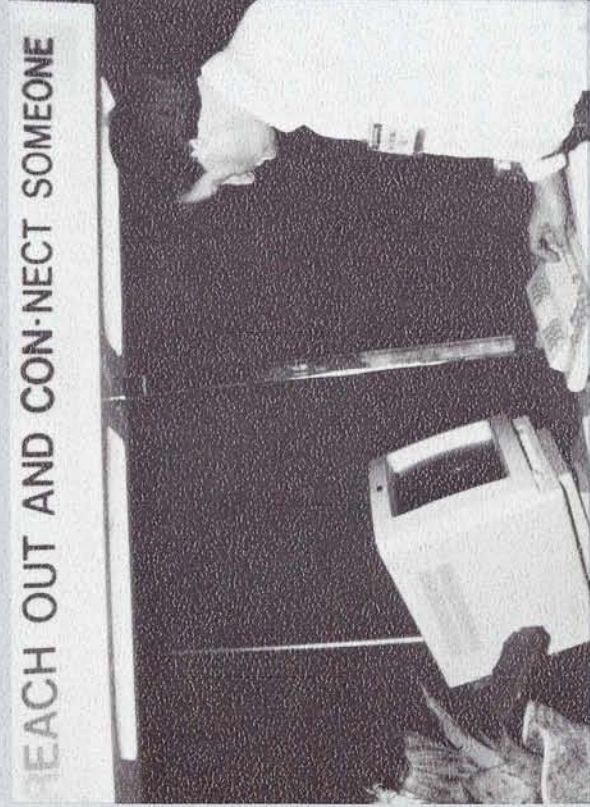
Software AG's affiliate from Panama was represented at the 17th International Conference.



Users enjoying one of the many festive evenings.



Martin Henderson, Marathon Oil Corporation, was recently elected to the Executive Committee to the Technical Support Evaluation post.



Users were able to "Reach out and CON-NECT" other users at the 1987 conference.



Larry Jayne, Manager, Customer Relations, demonstrates one of Software AG's product capabilities.

Conference Material Available

Larry Jayne

Manager, Customer Relations

Proceedings from the 17th International Users' Conference are available as well as audio tapes. The proceedings contain papers presented at the recent Users' Conference in Miami Florida. Cost for this publication is \$50.00. To obtain a copy, request the 1987 International SAGGROUP Users' Conference Proceedings and send your order to:

Software AG
Publications Distribution
Department
1922 Isaac Newton Square, West
Reston, VA 22090

For your convenience a form to order the audio tapes from the Miami Beach Users' Conference is located in the back of Connections. Simply complete the form and mail it to Info Medix as requested on the form and they will process your order.

CONFERENCE

continued from page 1

and Regional Representatives are located in the back of Connections.

In concurrence with the conference, a separate Executive Track Conference was presented to management level attendees. Approximately 150 executives from various organizations attended this three day conference. The speakers included: Vaughan Merlyn, President of Merlyn Consulting, with over 20 year's of experience in the software industry; William Synnott, Senior Consultant for the Yankee Group, who coined the term "chief information officer"; and Edward de Bono, world authority on conceptual thinking, who originated the concept of "lateral thinking." Presentations were also given by Software AG's executives during this forum.

New Technologies Announced

The 1987 users' conference was marked by the announcement of several new products and technologies. Many of these are significant not only for their immediate and beneficial impact on our users, but also for the long-range effect they will have on the development of many future technologies.

A principal example is ADABAS 5, a substantial advancement of our data base management system (DBMS). Its immediate benefit will be in higher levels of performance in relational processing and transaction throughout; its long-term, strategic benefits derive from its support of emergent technologies in information management, such as distributed data base processing, integrated text and document-based processing, knowledge-based management systems, alternate data models such as Entity Relationship Attribute (ERA), as well as extensive support of SQL, the standard language for relational data models.

Another significant announcement described the NATURAL Engineering Series, a new line of integrated CASE (Computer-Aided Software Engineering) products to provide automated support for the entire "life cycle" of applications development. The first two products of this series, NATURAL CONSTRUCT, an application generator, and PREDICT CASE, a mainframe CASE repository and specification tool, are built on the foundations provided by NATURAL, Software AG's fourth generation applications development system, and PREDICT, an active data dictionary.

NATURAL CONSTRUCT was also one of many products announced to users of Digital Equipment Corporation's VAX computers during the quarter. In September, we announced the availability of the PREDICT active data dictionary, the SUPER NATURAL end user application development system, and the NET-WORK communication system for VAX/VMS users.

At our Users' Conference, we also announced the availability of VMS-compatible versions of several products: ADABAS SQL, an SQL interface to ADABAS for third generation languages; NATURAL GRAPHICS, which allows extraction of information from large data bases for inclusion into a wide range of graphic formats; NATURAL ELITE, a computer-based training system; and WORKBENCH, an interactive, menu-driven system which forms an integrated outer shell for all of Software AG's VAX products.

These products join a family of technologies of more than 35 tools now offered by Software AG, designed to provide an integrated ap-

proach to the present and future information management needs of our users.

On to Nashville

The 17th Annual International Users' Conference proved to be an informative and exciting conference. The host hotel, Fontainebleau Hilton, offered world class facilities and fine food. The nightly festivities, especially the performance by the TEMPTATIONS, were enjoyed by all. User feedback has been exceptional and many of you have offered personal thanks to our conference coordinators, Karen Taylor and Larry Jayne and their staff for doing such a monumental job so well.

The 18th Annual International Users' Conference is just around the corner, on September 25-29 at the Opryland Hotel in Nashville, Tennessee. We'll plan to see you there!

Tools Tapes Available

Larry Jayne

Manager, Customer Relations

Have you ever wished that you had a specific tool available to help you get a job done but you didn't have the time to develop it? Well, there are numerous tools available to you through the DBA Tools and COM-LETE Tools tapes from Software AG.

The tools on the tapes are a collection of programs and documentation submitted by users of Software AG products in an effort to share common solutions to meet common needs. They are collected by a central repository, namely, the DBA and COM-LETE Tools Special Interest Group (SIG) Chairpersons listed in the Software AG Connections newsletter. The tools are then sent to Software AG for worldwide distribution, upon request, to all licensed users and approved vendors and consultants.

There are currently 28 different tools available (12 DBA and 16 COM-LETE). For a current listing of all tools, simply call 703/648-2438 and ask for a copy of the Tools Tapes lists. To order the actual tapes you may use the order form in the Software AG Connections newsletter and send it to us as described on the form.

The Coastal Corporation Relies on Software AG's Customer Support.



Ralph Jenks, Manager of Corporate Data Administration, The Coastal Corporation, Houston, Texas.

The Coastal Corporation's numbers are impressive.

Coastal is a Houston-based diversified energy firm with \$7.6 billion in assets. With principal operations in natural gas transmission and storage, gas and oil exploration and production, refining and marketing, coal and trucking, Coastal has over 17,000 employees worldwide. That ranks Coastal at number 57 on Fortune magazine's 1987 list of the 500 largest industrial corporations in the United States.

To help process the data needed to run a corporation of such enormous proportions, Coastal has the products of Software AG of North America, Inc. in use at three mainframe computer locations in Houston, Detroit, and Colorado Springs. Together, those three sites average 19 million calls per day to their production mainframe data bases, with occasional peaks reaching up to 50 million calls per day.

With volume of such magnitude, Coastal's Information Systems personnel do not want to wait when they need help. That is why they have come to rely on the technical expertise available from Software AG's Customer Support.

Customer Support the Software AG Way

According to Ralph Jenks, Manager of Coastal's Corporate Data Administration, one incident points out

especially well how Coastal depends on quick and accurate answers from Software AG.

One recent weekend, Coastal's Detroit staff made a mainframe switch from a single to a dual processor. The following Monday afternoon, the staff encountered attached buffer problems that prevented their nightly batch jobs from running. A Coastal employee call Software AG's Customer Support, and was immediately put in touch with a Support Representative. The Representative first supplied a "work-around" solution that allowed Coastal to continue processing batch jobs through the night in a serial fashion, rather than in their normal concurrent manner.

Next, Software AG's Support Representative consulted a co-worker who checked on the status of a fix tape which was in a final test phase at several customer sites. Although not yet ready for distribution to all Software AG customers, the Representative knew the tape could be modified and used to solve Coastal's attached buffer problems. The Representative made the modifications, then sent the tape to Coastal via overnight mail.

The following morning, still working hand-in-hand with Software AG's Support Representative, Coastal installed the fix tape. After running tests to be sure everything was functioning normally, Coastal went "live" with the fix tape and their

Detroit operation was soon running smoothly again.

Jenks says, "We were thoroughly impressed—not only with the speed of Customer Support's response to our crisis, but also with the level of expertise and professionalism of the Software AG Support Representative who helped us. He was extremely knowledgeable and helpful."

Depending on Software AG's Customer Support

To provide some perspective of the magnitude of that particular problem, Jenks points out that their Detroit operation, in addition to many other functions, is responsible for computing and sending an average of \$5 million in invoices per day to Coastal customers. Having their Detroit data processing operation out of business would have meant huge—and costly—problems for Coastal.

Because Coastal is a long-time user of Software AG products, Jenks says many of their Information Systems employees have a great deal of experience and a high level of expertise with the Software AG products in use at Coastal. Nevertheless, Coastal depends on Software AG's Customer Support for three kinds of help: for answers to questions that come up in the normal course of a day, for confirmation that a particular plan they have in mind is the best course of action, and for help in times of crises.

No matter how Coastal's Information Systems employees choose to take advantage of the services offered by Customer Support, they all have one requirement: they must have accurate solutions supplied quickly.

"I can't say enough good about Software AG's Customer Support," says Jenks. "We run a tight ship here, so an accurate and speedy answer to a question is almost always the only kind which is acceptable to us. And that's exactly what we get whenever we call Software AG's Customer Support."

SERVICE

continued from page 6

Survey Results

Sixty-five percent of the survey forms distributed at the Conference were returned. This indicates a high level of interest in Service/Connection. A summary of the survey is presented below.

Software AG products in use:

All of the respondents are ADABAS, NATURAL, and PREDICT users. Forty-four percent also use COM-LETE or COM-POSE, 42% are SUPER NATURAL users, and 31% use NATURAL CONNECTION.

Dial-up terminal/PC availability:

78% have access to an IBM-compatible personal computer with high-speed (1200bps or more) dial-up capability and hard disk. 11% are willing to acquire one in order to be able to access Service/Connection.

Response: IBM-compatible personal computers will be the only supported means of accessing Service/Connection. If enough demand exists, other terminal types will be considered in the future.

Anticipated frequency of use:

Daily	3%
Daily-to-weekly	14%
Weekly	50%
Weekly-to-monthly	11%
Monthly	6%

Types of information desired in Service/Connection:

Fixes, EWs, release notes	100%
Customer profiles	92%
Document master index	89%
Other product data	81%
Searchable document text	78%

Response: The first version of Service/Connection will contain product fixes, Early Warnings, release notes, and other technical information. The User Profile system will also be available. Document indices and keyword searchable text may be added in the future.

Other functions desired:

Electronic mail to	
Software AG	92%
Customer Support	83%
Local Sales Office	64%
Customer Training	61%

Professional Services	28%
Corporate Sales/Mktg	22%
Custom Solutions	17%
Bulletin board to	
all users	78%
Electronic mail to	
other users	69%

Response: CON-NECT 2 already provides electronic mail and bulletin board capabilities for users of Service/Connection. The impact of sending electronic mail to Software AG departments is being evaluated.

Information desired in the Customer Profile:

Software AG products used	97%
Operating system/ TP monitor	94%
Applications languages used	89%
Types of applications	64%
Self-maintenance of profile	97%

Response: The initial release of the customer profile system will provide the ability to search on the first three items. Due to the extremely diverse number of application types, these will not be searchable in the first release, but may be possible in the future. There are many implications involved with online maintenance of Customer Profiles. It is currently under study.

Other possible functions:

Status inquiry of CSG requests	94%
Online entry of CSG requests	89%
Online responses to requests	86%
Customer training registration	67%
Document ordering	64%

Response: The systems currently in use by Service Division do not support these functions. They will be considered for inclusion in future versions of those systems and Service/Connection.

COMMONLY-ASKED QUESTIONS

Many questions and comments have been returned on the survey forms. Here are the most common, and their answers as of this time:

- Q. When will Service/Connection be available?
A. The actual date is not yet determined, but at this time we're anticipating general availability in mid- to late-1988.

Q. How much will it cost?

A. This has not yet been determined.

Q. What do I need to have to use it?

A. An IBM-compatible personal computer with a modem that has sufficient memory and storage to run NATURAL CONNECTION Version 3. A single copy of NATURAL CONNECTION PC software, customized for Service/Connection use, will be supplied as part of the Service/Connection package. You will not need any specific Software AG products installed on your host system, although NATURAL 2 and NATURAL CONNECTION host support may be necessary to take full advantage of all Service/Connection functions (e.g., uploading of fix data).

Q. Will participation in the User Profile System be mandatory?

A. No. However, if you wish to use the User Profile System to locate other users, you may first be required to supply information about your own environment. In order for the profile system to be effective, it has to be a two-way street.

Q. Will host-to-host access (e.g., VTAM LU 6.2) be made available?

A. There are no plans to support any application-to-application access. However, if your host can emulate a PC running NATURAL CONNECTION, it should be able to access Service/Connection. If there is sufficient demand for other forms of access, it will be considered in the future.

Q. Will I be informed when something I have downloaded is found to be in error or otherwise changed?

A. Service/Connection will attempt to keep track of what items have been downloaded by a given user. Every effort will be made to ensure that updated versions of these items are automatically sent to you, but due to several factors, no guarantees can be given. You will be able to search for items by date, thereby providing an alternate method of checking for changed items.

- Q. Will I be able to download all items for a given product at once?
- A. This is currently being investigated.
- Q. Will I be able to upload problem-related data (e.g., sample programs, screen images, batch reports, dumps) into Service/Connection so that the Customer Support Center can examine it?
- A. If/when online entry of CSG requests can be supported, this function will be considered.
- Q. Will Service/Connection support VAX users?
- A. Information regarding Software AG VAX products will be included in the Service/Connection database. Full functionality will not be available until NATURAL CONNECTION is available in the VMS environment.
- Q. Will DBA tools and similar programs be made available?
- A. This item is under consideration.
- Q. Will I be able to upload programs and data for access by other users?
- A. This item is under consideration.
- Q. I have an Apple Macintosh PC. Can it be used with Service/Connection?
- A. If NATURAL CONNECTION becomes available for the Mac, Service/Connection should operate with it without problem.

To receive additional information about Service/Connection, please send your name, company, and address to:

Simon Kane

Software AG of North America, Inc.
300 Union Blvd., Suite 600
Lakewood, CO 80228

Internal Format Buffer Pool

Peter Bickerton
Australian SAGGROUP Chairman

Due to the importance of reducing the number of Format translations and overwrites, I believe it is worthwhile to try to create a summary of Internal Format Buffers (IFB's), and the associate Internal Format Buffer Pool (LFP). The information contained in this paper has been primarily sourced from various papers, manuals, etc.

Internal Format Buffer

The Internal Format Buffer (IFB) specifies the field(s) to be read/updated during the execution of an ADABAS read/update session.

For READ commands, the values of the fields specified in the IFB are returned by ADABAS in the RECORD BUFFER (RB).

FORMAT BUFFER

AA	BB
----	----

name of the field to be read

RECORD BUFFER

value field AA	value field BB
-------------------	-------------------

field values returned by ADABAS

For ADD/UPDATE commands, the new values for the fields specified in the FORMAT BUFFER are provided by the user in the RECORD BUFFER.

FORMAT BUFFER

XX	YY
----	----

name of the fields to be updated

RECORD BUFFER

value field XX	value field YY
-------------------	-------------------

field values provided by the user

For information on the Format buffer syntax, refer to page 38 of the ADABAS Command reference manual (primarily for direct call users).

Internal Format Buffer Pool

The LFP is used to store the IFB's used with the READ or UPDATE commands. Each internal Format Buffer Pool entry requires $24 + (18 * n)$ bytes where n equals the number of fields referenced in the command.

Entries in this pool are automatically overlaid by ADABAS based on a least used algorithm. ADABAS estimates the space to hold the IFB's on the following formula:

Space required = MINIMUM of either $(2 * FBL) + 200$, or 2000 bytes

If this is not enough space, then ADABAS allocates 1.5 times the first try (this is where the first overwrite occurs), if this is still not enough, then try, try, try again until the translation fits. When this space is being allocated, it may use up space by other IFB's and thus cause them to be translated next call.

Remember: High overwrites also cause a high number of translations (due to the writing over existing IFB's that must be retranslated upon the next call).

IFP Performance Considerations

Firstly, what is a format translation (FT)? An FT is the process of changing a program's view of the fields they require to be accessed or updated (termed external format) into the format required internally by the ADABAS nucleus (internal format). The external format is a succession of characters that are scanned to separate each field and its characteristics (ADABAS name, length, etc). Each field and its associated attributes are scanned for validity.

Translation of user's external format buffers into the IFP's used by the ADABAS nucleus is a major nucleus activity that consumes CPU time.

It is important that CPU time performing this activity can be reduced wherever possible. Look into the following areas:

- a) When to use blank or non-blank command-id's. It is important unnecessary translations of external formats do not occur for formats that are used a number of times; or conversely use blank command-ids with format buffers that are used only once, so the IFP entries are released after use. (applicable for direct calls only)

Customer Training Schedule February—May 1988

Registration: 703-648-2482

Mainframe Curriculum

ADABAS Fundamentals: A one-day introductory course which covers concepts and features of ADABAS inverted list architecture, relational-like processing, access methods, data structures, and restart/recovery concepts. \$250 public; \$3,000 on-site. Prerequisite: Data processing knowledge or experience.

February 8	Washington, D.C.
February 15	Los Angeles
February 22	New York
March 7	Washington, D.C.
March 14	Dallas
March 21	New York
April 4	Washington, D.C.
April 11	Denver
April 18	New York
May 2	Washington, D.C.
May 9	Los Angeles
May 16	New York

ADABAS Physical File Design: This one-day course presents basic ADABAS physical file design considerations, with emphasis on trade-offs in alternative design strategies. Covers single versus multiple files, field placement, and descriptor selection. Intended to be taken after ADABAS Fundamentals. \$300 public; \$3,000 on-site. Prerequisite: ADABAS Fundamentals.

February 22	Washington, D.C.
March 21	Denver
April 25	Los Angeles
May 9	Washington, D.C.

ADABAS SQL Programming: This two-day course forms the basic training for all programmers working with ADABAS SQL in a conventional programming language on the ADABAS data base. \$600 public; \$5,000 on-site. Prerequisite: ADABAS Fundamentals.

March 7-8	Los Angeles
May 2-3	Washington, D.C.

Data Base Administration Series: Ten days, two parts. This series is a must for all new Data Base and NATURAL Administrators. Provides the skills necessary to install, control, and monitor ADABAS 5, NATURAL 2, and PREDICT environments. Introduces students to the basics of physical file design, restart/recovery, security, and performance considerations.

Part I: This five-day course, the first in a two-part series, covers ADABAS 5 planning and installation, file management, monitoring, PREDICT, and restart/recovery. \$1,750 public; \$13,500 on-site. Prerequisites: ADABAS Fundamentals and NATURAL 2 Programming Fundamentals.

March 14-18	Washington, D.C.
April 18-22	Washington, D.C.

Part II: This five-day course, the second in a two-part series, covers NATURAL 2 planning and installation, file design, security, managing NATURAL 2, and basic performance tuning. \$1,750 public; \$13,500 on-site. Prerequisite: Data Base Administration, Part I.

March 21-25	Washington, D.C.
April 25-29	Washington, D.C.

ADABAS Direct Calls: A one-day course which provides students with detailed information on access to ADABAS using direct call commands. Designed for Data Base Administrators, as well as Application Programmers (NATURAL or ADABAS SQL), to gain a deeper understanding of ADABAS access, performance, and debugging. \$300 public; \$3,000 on-site. Prerequisite: ADABAS Fundamentals.

February 15	Washington, D.C.
March 7	New York
March 21	Washington, D.C.
April 18	Denver
May 2	New York
May 16	Washington, D.C.

ADABAS 4 Internals: This two-day course presents experienced Data Base Administrators with internal, behind-the-scenes information about ADABAS. Strongly recommended for Data Base Administrators and Systems Programmers to further their effective use of ADABAS. \$700 public; \$6,000 on-site. Prerequisites: ADABAS Fundamentals, ADABAS 4 DBA Skills, ADABAS Direct Calls.

February 16-17	Washington, D.C.
March 8-9	New York
March 22-23	Washington, D.C.
April 19-20	Denver
May 3-4	New York
May 17-18	Washington, D.C.

ADABAS 4 Performance and Tuning: A two-day course which presents an in-depth understanding of the factors and areas that influence ADABAS performance and the means that can be used to gather, analyze, and react to available information. An enlightening course for those directly involved in ADABAS performance. \$700 public; \$6,000 on-site. Prerequisites: ADABAS Fundamentals, NATURAL 2 Programming Fundamentals, ADABAS 4 DBA Skills, ADABAS Direct Calls, ADABAS 4 Internals, and experience with ADABAS and performance tuning.

February 18-19	Washington, D.C.
March 10-11	New York
March 24-25	Washington, D.C.
April 21-22	Denver
May 5-6	New York
May 19-20	Washington, D.C.

ADABAS 4 DBA Skills: A five-day intensive course which covers all basic tools needed by Data Base Administrators. Lecture/workshop format allows hands-on experience in the day-to-day activities of an ADABAS DBA. \$2,250 public; \$13,500 on-site. Prerequisites: ADABAS Fundamentals and knowledge of NATURAL programming.

February 22-26	Washington, D.C.
March 14-18	Los Angeles
April 4-8	Dallas
May 2-6	New York
May 16-20	Washington, D.C.

ADABAS 5 Capabilities (for ADABAS Version 4 DBAs): Two days of intensive training for ADABAS Version 4 Data Base Administrators and Systems Programmers responsible for ADABAS support. Covers new features and enhancements of ADABAS 5. With continual emphasis on Version 4 knowledge, introduces students to new on-line services, new and enhanced utilities, command and nucleus enhancements. \$700 public; \$8,000 on-site. Prerequisite: Knowledge of ADABAS Version 4 at a Data Base Administrator level.

February 1-2	Washington, D.C.
February 29-	Denver
March 1	
March 7-8	Washington, D.C.
March 21-22	Los Angeles
March 28-29	New York
April 11-12	New York
April 25-26	Washington, D.C.
May 9-10	Denver
May 23-24	Los Angeles

NATURAL 2 Programming Fundamentals: This four-day introductory course, the first in a three-part series, provides students with a working knowledge of NATURAL 2 programming with primary emphasis on NATURAL's report mode. Combination lecture/workshops allow students hands-on experience with the product. ADABAS concepts and basic data processing concepts are essential in order to gain the most from this course. \$1,000 public; \$7,000 on-site. Prerequisite: ADABAS Fundamentals.

February 9-12	Washington, D.C.
February 16-19	Los Angeles
February 23-26	New York
March 8-11	Washington, D.C.
March 15-18	Dallas
March 22-25	New York
April 5-8	Washington, D.C.
April 19-22	New York
May 3-6	Washington, D.C.
May 10-13	Los Angeles
May 17-20	New York

NATURAL 2 Intermediate Programming: This five-day course, the second in a three-part series, builds upon students' knowledge of NATURAL. Provides strong focus on NATURAL's structured mode. Students learn to develop a sample NATURAL application in the daily workshops. \$1,500 public; \$11,000 on-site. Prerequisites: ADABAS Fundamentals and NATURAL 2 Programming Fundamentals.

February 8-12	Dallas
February 22-26	New York
March 14-18	Washington, D.C.
April 4-8	Los Angeles
April 18-22	New York
May 9-13	Washington, D.C.
May 16-20	New York

NATURAL 2 Advanced Programming: This three-day course, third in a three-part series, is for students thoroughly familiar with the NATURAL 2 environment and programming language. Concentrates on advanced programming techniques, and demonstrates innovative uses of the NATURAL 2 language. \$900 public; \$7,000 on-site. Prerequisites: NATURAL 2 Intermediate Programming or NATURAL 2 Programming Enhancements, Parts I and II.

February 15-17	Washington, D.C.
April 4-6	Denver

NATURAL Security System: A one-day course which provides Security Administrators with a comprehensive view of the NATURAL Security System (NSS). Covers the full security environment provided by NSS, a practical procedure for students to design their own security environment, and use of the maintenance tools provided in NSS. All Security Administrators will benefit from this course. Experience in managing the NATURAL environment or maintaining a security environment is recommended. \$300 public; \$3,000 on-site. Prerequisite: NATURAL 2 Programming Fundamentals.

March 7	Denver
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NATURAL Administration: A four-day course which presents NATURAL system information useful in the effective management of the NATURAL environment. Topics include logical system file usage, installation options including related sub-systems, and buffer pool management. \$1,400 public; \$11,000 on-site. Prerequisites: ADABAS Fundamentals and NATURAL 2 Programming Fundamentals.

March 8-11	Denver
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SPL's Fourth Generation System Design: This five-day course examines system design with a practical perspective of needs and techniques, designer objectives and responsibilities, and deep understanding of all the factors involved in designing systems. Offered by Systems Programming Ltd. through Software AG. SPL is experienced in system design and familiar with fourth generation language tools. \$1,500 public. Prerequisite: No technical expertise is required; however, three years of data processing experience in analysis, programming, and design are useful.

April 11-15	Washington, D.C.
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NATURAL 2 Programming Enhancements Series: This two-part series introduces experienced NATURAL Version 1.2 Programmers to NATURAL 2. Part I covers basic application development tools and features; Part II covers all major tools and features. Note: Ideally, students should complete Part I, then allow some time to practice NATURAL 2 programming before enrolling in Part II.

NATURAL 2 Programming Enhancements, Part I (for NATURAL Version 1.2 Programmers): This three-day course, the first of a two-part series, introduces experienced NATURAL Version 1.2 Programmers to the NATURAL 2 environment and NATURAL 2's features. Provides students with fundamental knowledge of application development, tools, and features of NATURAL 2. \$900 public; \$7,000 on-site. Prerequisite: NATURAL Version 1.2 programming experience.

February 22-24	Los Angeles
March 21-23	New York
April 18-20	Washington, D.C.
May 16-18	Dallas

NATURAL 2 Programming Enhancements, Part II (for NATURAL Version 1.2 Programmers): This two-day course, the second of a two-part series, takes experienced NATURAL Version 1.2 Programmers through the remainder of NATURAL 2's features. Intended for experienced Programmers who do not need any review of NATURAL. \$600 public; \$5,000 on-site. Prerequisite: NATURAL 2 Programming Enhancements, Part I.

February 25-26	Los Angeles
March 24-25	New York
April 21-22	Washington, D.C.
May 19-20	Dallas

NATURAL 2 Capabilities Seminar (for NATURAL Version 1.2 DBAs): A two-day course which provides information for students to implement NATURAL 2 successfully and understand the NATURAL 2 environment. While some programming enhancements are discussed, this course is not intended for NATURAL Application Programmers. \$700 public; \$8,000 on-site. Prerequisite: Sound knowledge of NATURAL Version 1.2.

February 8-9 New York
May 4-5 Washington, D.C.

NATURAL Version 1.2 Applications: This three-day introduction to NATURAL is taught using NATURAL Version 1.2, and should be taken only by those students who plan to use NATURAL Version 1.2 for an extended period of time. Familiarizes students with NATURAL and programming facilities, and uses on-line workshops to reinforce newly-learned skills. Students completing this course will be able to use NATURAL to develop on-line reporting and interactive systems. \$750 public; \$5,500 on-site. Prerequisite: ADABAS Fundamentals.

February 9-11 Washington, D.C.
April 12-14 Denver

NATURAL Version 1.2 Advanced Techniques: A three-day course which covers the more complex NATURAL facilities by using innovative programming techniques in pragmatic examples and program tuning and performance. Highly recommended for experienced NATURAL Programmers, Data Base Administrators, NATURAL Administrators, and NATURAL Systems Designers. \$900 public; \$7,000 on-site. Prerequisites: ADABAS Fundamentals, NATURAL Version 1.2 Applications, and 3-6 months of NATURAL programming experience.

February 15-17 Denver
April 4-6 Washington, D.C.

PREDICT Concepts and Facilities: A one-day introductory course which provides students with the background necessary to become an effective user of PREDICT. This course is a prerequisite for the advanced level PREDICT and Data Dictionary Usage. Note: Graduates of ADABAS DBA Skills or Data Base Administration Series should not attend. \$300 public; \$3,000 on-site. Prerequisites: ADABAS Fundamentals and NATURAL 2 Programming Fundamentals.

February 23 Washington, D.C.
March 22 Denver
April 26 Los Angeles
May 10 Washington, D.C.

PREDICT and Data Dictionary Usage: This three-day course explores the full capabilities and usage of the PREDICT data dictionary. For students who need an in-depth knowledge of the PREDICT system, PREDICT file structure, and usage. Students are provided with information to tailor PREDICT to their own organizations. \$1,050 public; \$8,500 on-site. Prerequisite: PREDICT Concepts and Facilities or ADABAS 4 DBA Skills or Data Base Administration Series.

February 24-26 Washington, D.C.
March 23-25 Denver
April 27-29 Los Angeles
May 11-13 Washington, D.C.

ADABAS Data Modeling: This five-day course, presented by William G. Smith and Associates, emphasizes the three-phase approach to data modeling: conceptual, logical, and physical. It incorporates the disciplines of entity/relationship modeling, data analysis, bubblecharting, normalization, dataview integration (canonical synthesis), usage analysis and physical data base design to prepare students to design effective ADABAS data structures. The physical portion of the course is applicable specifically to ADABAS. \$1,500 public. Prerequisite: ADABAS Fundamentals.

March 28-1 Washington, D.C.
May 23-27 Denver

COM-LETE Concepts and Facilities: A two-day introductory course which gives Programmers and Data Base Administrators a working knowledge of COM-LETE and its facilities. Students learn COM-LETE's features as a teleprocessing monitor, program development and execution under COM-LETE, and utilities for program development and system information. \$600 public; \$5,000 on-site. Prerequisite: Sound knowledge of data processing programming and data processing concepts.

Schedule: Please call Registrar at (703) 648-2482

COM-LETE Systems Programming: This five-day course provides students with a reference frame and practical guide to perform the systems programming function for COM-LETE. Covers internal design of COM-LETE and introduces students to COM-LETE debugging. \$1,750 public; \$13,500 on-site. Prerequisites: COM-LETE Concepts and Facilities and basic understanding of operating systems and ASSEMBLER language.

Schedule: Please call Registrar at (703) 648-2482

VAX/VMS Curriculum

ADABAS (VMS) Fundamentals: This one-day introductory course, which covers concepts and features of ADABAS (VMS) inverted list architecture, relational-like processing, access possibilities, data structures, and restart/recovery concepts, is a prerequisite for all Software AG courses for the VAX/VMS products. \$250 public; \$3,000 on-site. Prerequisite: Technical data processing background is assumed.

March 14 Washington, D.C.
May 9 Washington, D.C.

NATURAL (VMS) Programming Fundamentals: This three-day introductory course provides students with a solid working knowledge of NATURAL (VMS) programming. Combination of lecture/workshops allows hands-on experience with the VAX/VMS product. ADABAS (VMS) concepts and a basic data processing background are essential to gain the most from this course. \$750 public; \$5,500 on-site. Prerequisites: ADABAS (VMS) Fundamentals and knowledge of DEC's VAX editor "EDT".

March 15-17 Washington, D.C.
May 10-12 Washington, D.C.

VMS Data Base Administration Series: Nine days, two parts. Provides the skills necessary to install, control, and monitor ADABAS (VMS), NATURAL (VMS), and PREDICT (VMS) environments. Introduces students to the basics of physical file design, restart/recovery, security, and performance considerations. This course is a must for all new Data Base Administrators.

Part I: A five-day course, the first in a two-part series, in which students learn to plan, install, and control ADABAS (VMS), NATURAL (VMS), and PREDICT (VMS). Extensive workshops on dedicated DEC VAX equipment include product installations, PREDICT (VMS) usage, and ADABAS (VMS) file loading. Students are encouraged to take Part II immediately after successfully completing this course. \$1,750 public; \$13,500 on-site. Prerequisites: ADABAS (VMS) Fundamentals and NATURAL (VMS) Programming Fundamentals.

February 8-12 Washington, D.C.
April 4-8 Washington, D.C.

Part II: A four-day course, the second in a two-part series, in which students learn to manage the NATURAL (VMS) environment, covers the basics of data base physical file design, data base restart/recovery, performance tuning, and ADABAS (VMS) security. Frequent terminal workshops reinforce topics covered. \$1,400 public; \$11,000 on-site. Prerequisite: VMS Data Base Administration, Part I.

February 15-18 Washington, D.C.
April 11-14 Washington, D.C.

ADABAS (VMS) Direct Calls: This one-day course provides students with detailed information on access to ADABAS (VMS) using direct call commands. Designed to give Data Base Administrators, as well as NATURAL (VMS) and ADABAS SQL (VMS) Programmers, a deeper understanding of ADABAS access and debugging. \$300 public; \$3,000 on-site. Prerequisite: ADABAS (VMS) Fundamentals.

March 21 Washington, D.C.
May 16 Washington, D.C.

NATURAL (VMS) Advanced Programming: This two-day advanced course covers the more complex NATURAL (VMS) statements and concepts by using innovative programming techniques in pragmatic examples, as well as program tuning and performance. Highly recommended for experienced NATURAL (VMS) Programmers, Data Base Administrators for VAX/VMS products, NATURAL (VMS) Administrators, and NATURAL (VMS) System Designers. \$600 public; \$5,000 on-site. Prerequisites: ADABAS (VMS) Fundamentals, NATURAL (VMS) Programming Fundamentals, and three to six months of programming experience.

March 22-23 Washington, D.C.
May 17-18 Washington, D.C.

SAGGROUP UK Conference

The SAGGROUP of the United Kingdom held their annual conference on September 30-October 1, 1987. During the main conference a joint conference was also held for users of Software AG's VAX products. The conference was held at the Excelsoir Hotel in Heathrow, London. Approximately 200 people were in attendance with 80 different companies represented as well as Software AG personnel.

Mr. Keith Wederell, Prudential Corporation, is chairman of SAGGROUP UK and presided over the conference. Highlights of the conference are as follows:

New Management SIG—participation by all SAGGROUP UK members is encouraged

Product Releases—Mr. Brent Wherry updated the schedule of products to be released

New Price Schedule—presented and discussed

Software AG Company Report—presented by Mr. Max Broehl

Software AG Architecture—development and aspects of the architecture were discussed

Software AG Future Directions—short term and medium term developments and strategies were presented by Mr. Clive Hutchinson

Software AG Presents—various product presentations were given on CMS ledger packages, CON-NECT 2, and NET-PASS

SAGGROUP UK Presents—various presentations were given by customers highlighting NATURAL programs, corporate databases, PC/Host, TRS and PREDICT.

The conference proved to be very informative with many ideas exchanged. The conference was closed by Mr. Keith Wederell.

Utilities Companies BIG Meeting

Mel Hill
Northeast Utilities

The Utility Business Interest Group met during the 17th International Software AG Users' Conference. The meeting was held on November 3rd at 5:30 p.m. with 32 attendees representing 14 utilities. Two new utility members were in attendance: Public Service of New Mexico and Gainesville Regional Utility.

Introductions were made and topics were discussed. A discussion was held regarding application development activities at each member site. Also, the Utilities Company BIG newsletter was talked about. Contributions are needed from members in areas ranging from software development to experiences in the installation and migration to NATURAL 2. A newsletter will be developed and distributed after sufficient contributions are received. Another issue presented was the PC Bulletin Board. Orland Utilities will provide the information necessary to establish and access a PC Bulletin Board.

The election for chairperson was held and Mel Hill of Northeast Utilities was re-elected.

Responses to this year's installation questionnaire were distributed to the members in attendance and it will be mailed to the other members not at the meeting.

SAGGROUP EXECUTIVE COMMITTEE MEETING

Steve Bradley
SAGGROUP Secretary

The SAGGROUP Executive Committee meeting was held at the Fontainebleau Hilton in Miami, Florida in conjunction with the International Users' Conference. Meeting highlights are included for your information. Should you require additional information or clarification on these or other topics, please write me at the address in the back of the newsletter and a detailed answer will be provided either directly or in future issues.

Annual International Users' Conference

The 1987 conference was expected to have 1700 attendees. The actual count was over 2,000. In the Executive Track there was an expected attendance of 50 to 75 people. However, the actual count was 184. There was discussion about the size of the conference and format. A survey for users' input into the conference structure was distributed and the results will play an important part in the format of next year's conference.

Next year's conference will be held at the Opryland facilities in Nashville, Tennessee. The expected attendance is 2300+. This will have an affect on the length and format of the conference.

One of the additional concerns about the conference was the Companions' Program. Your input to the Executive Committee on all aspects of the conference will be reviewed at the interim Executive Committee meeting in April.

Executive Committee

The newly elected SAGGROUP officers are:

Bill Wagner, Vice-president
Bob Becker, ADABAS Product Representative
Ellen Birch, COM-LETE Product Representative

Additional thanks goes to those nominees who were not elected at this time. Remember, it is your willingness to help that makes the Executive Committee effective.

As the number of Software AG products continues to increase and diversify across product lines (IBM, VAX), there has been identified a

need to investigate the structure of the Executive Committee in addressing problems, issues, and overall support for the various products and product lines. In response, a special committee, chaired by Bob Becker, presented a new structure for the Executive Committee to review and upon which to make recommendations. The proposal, as presented, will be modified slightly to address the SIG and BIG representation. Bill Wagner will now be responsible for defining the implementation of the new structure. Since this item requires a Constitution amendment, the voting information will be available before the Nashville conference.

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Understanding ADABAS SQL Cursors

Ruth Pacheco
Software AG User

One of the more difficult concepts the new ADABAS SQL programmer must understand is what a cursor is and how cursor commands work. In order to understand a cursor, one must understand the ADABAS SQL approach to record retrieval.

Embedded SQL

The subset of SQL commands that are available in ADABAS SQL are often referred to as "Embedded SQL." Embedded SQL is the subset of SQL syntax that may be placed inside a third generation language program in order to access a data base. Data base requests often result in the retrieval of multiple logical records. Third generation languages do not have the syntax for operating on a set of records that are selected by one request. SQL provides the means to manipulate the selected records.

SELECT Statement

The SELECT statement indicates what fields one wishes to retrieve

from a data base file. It does not indicate how the data is to be retrieved. In ADABAS SQL, the ADABAS retrieval statement (READ LOGICAL, FIND, etc.) will determine how the data is physically accessed.

The SELECT statement may result in the retrieval of one logical record or a set of logical records based on the selection criteria. In ADABAS SQL, one may specify either single record processing mode to retrieve a single record or multiple record processing mode to retrieve all the records that meet the selection criteria.

Cursors

The cursor is the mechanism that was devised to handle the processing of a set of records inside a third generation language program. It serves as a label for the SELECT statement so that other statements may refer back to it. It identifies the set of records to be selected and it

keeps track of positionality in the set of records. As each member of the set is FETCH'ed, the cursor advances to the next member of the set. The "CURRENT OF cursor" syntax allows one to refer to the current record of the set.

A cursor is defined with the DECLARE statement. In ADABAS SQL, the cursor name becomes the ADABAS command ID unless you are using the global DYNAMCID.

Cursor Commands

OPEN

The OPEN of the cursor activates the cursor and positions it at the beginning of the set of selected records. In ADABAS SQL, the OPEN also initializes ADABAS variables. It should never be assumed that this command makes any data available to you.

FETCH

The FETCH of a cursor retrieves data into user variables and advances the cursor to the next record in the set. In ADABAS SQL, the data is returned to the ADABAS record buffer. All record processing logic should be built around the first FETCH.

CLOSE

The CLOSE statement deactivates the cursor. It releases the records and any resources attached to the cursor. It should be executed after the last FETCH in the processing loop. In ADABAS SQL the CLOSE generates an ADABAS RC command.

After a CLOSE of a cursor, the original SELECT statement may be used again with the same cursor name and different selection criteria to select a different set of records.

Single Record Processing in ADABAS SQL

In single record processing, the SELECT statement is executable and there is no need for cursor commands. You may still declare a cursor if you want to be able to refer back to the statement using "CURRENT OF cursor" syntax. You may sometimes want to declare a cursor to force a non-blank ADABAS command ID.

This article has been intended as a follow-up article to the one that appeared in the August issue entitled "Converting Existing ADAMINT Programs to ADASQL." It is my hope that the reader will now have a clearer understanding of ADABAS SQL cursors.

Communication Products: User's Update

Ellen M. Birch
Price Waterhouse

This is the first of a regular series of articles I will be writing to foster information exchange among users of the Software AG communications products. First, I want to thank you all for giving me this opportunity to represent you and your concerns to Software AG and the Executive Committee as the COM-LETE Product Representative. I was very honored by your selection of me, and hope I will fulfill your expectations. I also want to thank Ron Hoover for the excellent job he has done in this position. I was very encouraged to see so many of you at the conference—it was a good representation of the communications user community.

I also want to make a request of all of you—that you think of me as your voice to Software AG and other users. Please call or write me (a note on a postcard would be just fine) if you have concerns or information to pass on or if you're looking for other users with similar problems or environments. I will be passing on these questions, tips, or information in this column. Please let me know if you are interested in any of the current SIGs (Performance and Tuning, Technical Support, and COM-LETE Tools) or if you are interested in starting any other SIGs. We are especially looking at the level of interest in the Technical Support SIG, which recently lost its chairman, Jim Lee.

I want to urge all of you to become more involved with SAGGROUP—it can only help you with the quality of your Software AG products and with how effectively you're using them. Please call or write to me (my phone number and address are listed in the back of this issue), even just to chat about what you're doing. I'm looking forward to hearing from you!

OVERVIEW OF SQL APPROACH TO RECORD RETRIEVAL

Record Selection:

SELECT Statement: Request a record or a set of records that meet given search criteria.

Cursor: Mechanism to keep track of a set of records that are selected.

Cursor Commands:

OPEN: Activate the cursor; position at beginning of set.

FETCH: Advance the cursor to the next record in the set; retrieve data into user variables.

CLOSE: Deactivate the cursor; will no longer be associated with the set of records that were selected.

BUFFER POOL

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- b) Use group field notation rather than individual fields to result in shorter LFP entries (again for direct calls only). Using element occurrences greatly increases the size of each IFB (size = 18 * each field + 24).
- c) Ensure the LFP is big enough to hold sufficient IFB's for the number of active tasks or user's.
- d) Application programs which set IFB lengths in the ADABAS control block that reflect actual IFB lengths rather than external format lengths where short external format buffer lengths must be expanded to long IFB's (usually for MU or PE group processing).
- e) Reduce the amount of data required by each program (split large programs where ever possible).
- f) Only OBTAIN the required occurrences (as a general rule OBTAIN the number of occurrences used more than 50% of the time, higher if possible), also use GET SAME logic for additional occurrences, or 2nd OBTAIN for the rest of the occurrences.
- g) ZAP the space allocated to input a new IFB into the LFP. This zap forces ADABAS to increase the initial IFB space allocation. The drawback with this approach is all IFB's will now be the Zapped size regardless of how many fields are required, and means you could be wasting much of LFP.

ADABAS ADARUN LFP Considerations

How large should the LFP be set? The following tables gives an indication of the LFP setting (dependent on the IFB size).

Largest IFB Size	Minimum LFP Value
2,000	4,000
3,000	5,500
4,500	10,000
6,750	16,000
10,125	27,000

As a general rule, make the LFP at least 3 times the value of the maximum IFB being used (note: the maximum size of an IFB is 32k).

Keep the number of format overwrites low (under 3% of the format translations should be aimed at).

Keep the number of format translations low (dependent on the use of MU's and PE's).

SAGGROUP

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Software AG

Hilary Reilly reported on Software AG of North America's use of their own products. Hilary has been responsible for designing and implementing an ISD organization within SAGNA. She is responsible for operational services, technical services, internal customer support, office automation, and application development for SAGNA. Her focus has been the integration of Software AG products into the business functions of SAGNA.

One of the benefits of Hilary's group is that they relate more to the client than to the developers. This may even lead to user papers from Hillary's group at the conference from a user perspective. It may also lead to Change/Enhancements from her area.

At the conference, each client organization was asked to review their organization's information. This will be used to update the SAGNA Customer Information System. This database will be the basis for all business functions of SAGNA. The sales offices will be responsible for maintaining the accuracy of the client information on this database.

Product Support

Service Connection

Service Connection is currently in a Developmental Project status. This means that Software AG is actively pursuing the analysis of what would be required to make Service Connection a reality. As many of you know, Service Connection was demoed at the conference. It is hoped that this will be the first release version of Service Connection. The release may address the

following areas: User profiles, Electronic mail, Search and retrieval of Software AG supplied documents, and Search and retrieval of Software AG files. The questionnaire that was at the demo will help determine the priority of these and additional functions of Service Connection. If you have additional input, contact the Executive Committee and this information will be passed on to Software AG.

Certification of Software AG Security Products

As reported in the previous minutes, the Executive Committee had requested that Software AG certify their Security Products with an outside certification organization. SAGNA has agreed to certify their products as part of their annual audit. This will help all of us who have auditors.

Products and Product Releases

This year at the conference, almost 20 new products were demoed. Therefore, only highlights from the Executive Committee are presented here.

ADABAS

ADABAS 5 has recently completed alpha testing. At this time, Beta test preparations are being made.

ADABAS VMS

Software AG plans by release 2 of ADABAS VMS that the two product lines, both IBM and VMS will eventually be in sync.

ADABAS/DL1 Bridge

There is a need to find test sites for this product. The current situation is that there is a limited number of users of both ADABAS and IMS. Bruce Mancinelli, Vice President, Market Development, indicated that the test site(s) will in most likelihood be new users.

The bridge is running in production in Germany. SAGNA is currently looking for IMS/CICS sites for testing and the IMS/DC test sites should follow in 60 to 90 days.

NATURAL

SM2 has been released and for all users who have not received NATURAL 2, SM2 will be the release that they receive. NATURAL SECURITY is not on the tape. Software AG is currently working

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SAGGROU**P**

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on a synchronization schedule for Security. TSO support is on the tape with the exception that 3279 extensions are not supported. Also, there will be an SM3 tape.

NATURAL/DB2 is currently installed at a single site in the U.S. and two sites in Europe. The SQL/DS implementation of this product will be staggered by 90 days from the NATURAL/DB2 implementation.

NATURAL VMS is at version 1.3. Software AG intends to have the VMS version in sync with the IBM version by early 1989.

Newsletter

Several actions have been taken to improve CONNECTIONS. It now provides more information from Software AG, it has been enhanced to allow for reader response via response cards, and now is on a more timely production and distribution schedule. Pam Ellis is the new editor of CONNECTIONS.

Some improvements that were suggested by you were presented. They included adding end-of-article indicators, better placement of the page numbers, limiting the number of breaks or skips to one, reorganizing the Product Status report section, and updating the class schedule to include the next six months' schedule.

It was noted that user submitted articles should be submitted to the SAGGROU**P** Product representatives to ensure the quality and accuracy of the articles. Also, when submitting long articles, please indicate logical breaks so that these articles might be spread across more than one issue of CONNECTIONS.

Those attending the conference received a copy of the new publication *Software Report*. This publication will be produced on a quarterly basis with articles relating to Software AG products and user stories from around the world. The design strategy is to make this publication look like other industry software magazines.

User Survey

Roy Richardson has resigned. Marty Henderson will now be responsible for the User Survey committee.

Change/Enhancement Committee Report

The Change/Enhancements presented at the conference did not have Software AG's response due to untimely correspondence problems.

There were 96 ADABAS CEs, 44 COM-LETE CEs, 288 NATURAL CEs, and 98 PREDICT CEs received as of September 1987.

The handling of the Change/Enhancements will be modified to allow for the processing of fewer CEs on a monthly and quarterly basis. It was also suggested that the CEs be presented at regional meetings so that they can be prioritized quarterly instead of once a year. This was requested by SAGNA to help them prioritize the changes that could be made.

For international users, it was requested that in addition to sending your Change/Enhancements to your affiliate, that you also send a copy to Kelly Jones, Change/Enhancement Coordinator.

Education/Documentation

At the conference, the 1988 Education curriculum was given out as a part of the registration packet. Also included was the class schedule for the first half of 1988. Please read over the curriculum before registering for classes to ensure that you have the proper prerequisites and knowledge base for the course you wish to register. There has been concern expressed from other students about people who are unprepared for the class taking up valuable class time. Be considerate of your classmates when deciding on a class.

Joe Barker, senior staff member in the Education Department, is now teaching in the VAX environment and is helping to improve the quality of the VMS curriculum.

As noted in the previous minutes, there is a change in the copyright privileges. Be aware that there will be a policy statement forth coming from Software AG. At the present time, please refer requests for copyright privileges to your account representative. For those of you who have this privilege as part of your contract agreement, please review it to make sure you are in compliance with your contract.

User Panels

Because of recent changes in the NATURAL and the PREDICT Product Representatives, reports on all the user panels were not available. If you have questions or comments for the user panels, please contact one of the Product Representatives, and they will see that you are put in contact with the correct user panel chairperson. The Product Representatives are:

Bob Becker ADABAS
Ellen Birch COM-LETE
Jim Wisdom NATURAL
Francis Osteen PREDICT

The following is the status of the user panels that were reported on at the Executive Committee meeting:

ADABAS Features User Panel:

Dwight Izaga has resigned. Currently looking for a new chair.

Documentation User Panel:

This panel is starting to be formed. It will consist of beta site participants.

COM-LETE Futures User Panel:

Met at the conference. The results of that meeting will be passed on by Ellen Birch.

PREDICT User Panel:

Chip Gilbert is the chairperson. Buck Shaw and Chip have been meeting with those interested in participating on the panel in order to establish the issues that the panel will address. The panel hopes to meet before the April meeting of the Executive Committee and report their status then.

Please note that the user panels are requested to meet in the interim between conferences.

Editorial Deadlines For Connections:

May 1988 Issue—
March 15th
August 1988 Issue—
June 15th

Send materials to
Pam Ellis, Software AG
11800 Sunrise Valley Dr.
Reston, VA 22091

REGIONAL REPORTS

NEW ENGLAND REGION

Vaughan Merlyn Presents on "Transition to CASE"

The first meeting of the 1987-88 season of the New England Software AG Users' Group was held on September 29, 1987 at M.I.T. This meeting was officially dubbed as the meeting "Jim Wisdom took off his hat twice". Our thanks to Mary Albano, Buck Shaw, and M.I.T. for the continued availability of their facilities . . . the baby grand is a nice touch.

Jim Wisdom opened the meeting with announcements of the "proposed" meeting dates and topics for the coming season.

Dates: December 8, 1987
Calendar year 1988—February 11, April 21, and June 9

Topics: Post conference mini-follow-up, NATURAL 2 experiences, ADABAS 5, Communications & Networking, PREDICT and data administration issues

Also, Jim has some ADABAS papers prepared by Sue Karlin of Software AG which he thinks are "some of the best around" and a collection of standards and guidelines papers from different shops. Anyone interested in copies should contact Jim.

The SIG workshops held at Boston University on July 30th were well attended and very informative. Our thanks go out to the SIG chairpersons. Also, a special thanks to Richard Wolverton, who is leaving us, for all his help as the ADABAS SIG Chairperson. Good Luck, Wolvie. And our thanks to Andrew Forbes for volunteering to take over this position.

Our guest speaker, Vaughan Merlyn, gave a very interesting presentation on the "Transition to CASE". We hope to have copies of Vaughan's notes and foils at the next meeting. Some of the highlights were as follows:

- What is CASE? Computer Aided "Software Engineering or "Systems" Engineering?
- Before CASE, we must standardize our manual procedures
- The need to transition in harmony
- Tendency to address symptoms rather than problems
- View code as an asset vs. a liability
- Our failure to treat application development as an application
- We need to look at change as a process not an event
- Must have a plan—a transition strategy that involves the right people from top management to technical support

A panel discussion followed dealing with programming and analysis tools and productivity issues. The panel consisted of Vaughan Merlyn, Merlyn Consulting; Rodger Mattlage, Adept Inc.; John Moylan, Boston University; and Lew Levy, Marshalls. They addressed some of the following issues:

- The use of tools to provide a better solution to our users
- The need to automate the application development process
- Standardizing system architecture, using such tools as NATEXPRESS
- Integrating the use of PREDICT within a system development life cycle
- Allowing user entry of field descriptions and file comments into PREDICT
- Use of PC systems for modeling
- Having end users and analysts create conceptual files
- The need to develop methods to evaluate standards and guidelines, to make them more flexible, easier to change; including the objectives of standards as part of the standards
- Discussed the different "measures" of productivity
- "Prototyping" vs. "Evolutionary Development"

Jim Wisdom gave a demo of some of the applications he has developed and uses at Boston University to make getting around in the NATURAL environment a lot less redundant. From getting to one application to another with a few keystrokes on the command line, to some pretty sophisticated menu-driven file access methods and utilities, Jim has done what a lot of us keep saying we're going to do "one of these days when we get time". Jim indicated he may be able to share some of these applications with the group in the near future.

The last part of the day was spent having groups meet with SIG chairpersons.

DELAWARE VALLEY REGION

New Regional Board Officers Elected

Charlie London

The September 9th meeting was called to order at 9:15 by President John Tomashunas. There were 89 people in attendance representing 51 companies.

John welcomed all the attendees and introduced the officers. John then talked about the ballots for the SAGGROUP elections that can be found in the "Connections" magazine. He encouraged the return of those ballots, because of poor election participation in the past.

He asked for questions, problems, . . . etc. be given to him so that they may be presented at the Conference in November. John said that by next meeting we should get answers to the questions that we posed to Jon Church at a prior Regional meeting.

New Business consisted of the election of officers for the 1987-88 Regional Board. The new board consists of the following individuals:

President:

Jim Bell
Philadelphia Electric Company
2301 Market Street
N5-3
Philadelphia, PA 19103
(215) 841-5916

Vice Presidents:

Brian Faux
SEI Corporation
680 E. Swedesford Road
Wayne, PA 19087
(215) 254-1622
Charlie London
ARMS Inc.
Foulkwood Professional Building
2036 Foulk Road
Wilmington, DE 19803
(302) 475-7777

Secretary:

Rob Fisher
Complete Information Systems
One Shirley Circle
Narberth, PA 19072
(215) 664-2103

After New Business, we had a presentation by Sue Karlin, Software AG Denver, on ADABAS 5. Copies of the overheads that Sue used will be available at the next meeting.

After lunch we had comments by our incoming President, Jim Bell. Jim expressed his thanks to the Regions founder and first President, John Tomashunas, for the hard work and time that John put in this past year. Jim also talked about some of the things he wanted to do and presented the schedule of meetings for the upcoming year. The meetings will continue to be held at the Holiday Inn and will be on the following dates:

- December 9, 1987
- March 9, 1988
- June 8, 1988
- September 14, 1988
- December 14, 1988

The first presentation after lunch was by Steve Robinson, S. L. Robinson and Associates, on NATURAL 2. Steve gave us some examples of what should and shouldn't be done with the new version based upon his experiences.

The last presentation of the day was given by John Katilie, Software AG, on REVIEW, Software AG's ADABAS Monitor.

The next meeting will be held on Wednesday, December 9th in the Frederick the Great Ballroom, Holiday Inn—King of Prussia.

SOUTHWEST REGION

NATURAL 2 Demonstration

Laurie Hanley

The September 18th Southwest Region Users' Group meeting, held in Dallas, TX, was hosted by Larry Godec, Southwest Regional Representative. The following orders of business were covered:

1. General Business
2. PREDICT usage in support of a major development effort
Tim Hornung and Patty Piccole of Standard Oil
3. NATURAL 2
Ken Gregory of University of Texas at Austin
4. Demo of AUTO-MATE Plus CASE Tool
Elise Rebalais of LBMS
5. Open Forum

General Business

The next Southwest Region Users' Group meeting will be held on February 5, 1988. The major topic of the meeting will be ADABAS Version 5. Sue Karlin, of Software AG, has been asked to attend and discuss the implementation and enhancements of ADABAS 5. In addition, it was decided that the Southwest Region meetings will now be held on a quarterly basis.

PREDICT in Support of Major Project Development

Tim Hornung and Patty Piccola, of Standard Oil, discussed how they used PREDICT to document and implement a major system design. Their task is to replace all Finance and Control Systems by 1989.

They have gratuitously agreed to share their programs and reports used in customizing PREDICT. Anyone interested should send a tape to:

Tim Hornung
Standard Oil
P.O. Box 4587
5151 San Felipe
Houston, TX 77210

Please specify whether you want the programs in NATV1 or NATV2.

NATURAL 2

Ken Gregory, University of Texas, held an online demonstration of NATURAL 2. He began his presentation by pointing out several differences between NATURAL 1 and NATURAL 2:

'SCAN' now scans from where you are in the program, downward or upward (depending on a directional indicator). So, if you want to scan from the top of a program downward, you must first be at the top of the program.

NATURAL 2 only transmits change data to maps. For example, rather than transmitting the entire map each time a user changes a field, only the changed fields in the map would be transmitted.

The new structured conventions force all constructs to be ended with an END-construct statement. Before the SORT clause, however, an END-ALL statement must be issued which will end all previous constructs.

The SORT clause now has a USING statement; thus, all fields before the SORT statement are not pulled into the sort.

NATURAL 2 now has subprograms! A subprogram has a 'define parameter' statement as the first statement in the program, which defines it as a subprogram.

The syntax of the 'FETCH' statement has been changed to allow for a return to the calling program. The statement may now be coded as FETCH program-name RETURN.

Maps are no longer limited to 24 x 79. They are now capable of displaying a 249 x 250 size area through scrolling.

One major point to be aware of is that with NATURAL 2 the source and object modules must be stored in the same libraries.

Ken Gregory had some excellent handouts on NATURAL 2! These handouts included information from a class U.T. put together for the programmers. Copies of the handouts will be distributed through the Software AG office in Dallas, TX. Anyone interested in a copy, please contact your local Software AG account representative.

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Demo of AUTO-MATE Plus CASE Tool

Elise Rabalais and Roger Learmouth presented LBMS' CASE package, AUTO-MATE PLUS.

A bridge is available from LBMS that allows the user to take data from PREDICT 2.2 to AUTO-MATE-PLUS for creating the system design, and send the data back to PREDICT 2.2 to update documentation.

Open Forum

The last order of business was an open forum where general business was discussed.

NORTHWEST REGION

Bill Andersen, Washington State, Presents On "Integrated Systems"

Loretta Eaves
Paul Bregger

The September 18th meeting of the Northwest Region was attended by 34 members from 18 organizations and featured a presentation on IRMsoft (a software development package), a talk on "Integrated Systems" by Bill Andersen, and "A Case for CASE" from the Washington State University.

The first topic was presented by Alan Shue from IRM Associates. IRMsoft is a software development tool developed entirely in NATURAL for Washington State Data Processing Service Center. The methodology it uses is consistent with James Martin's strategic data planning.

Alan gave us an overview of business modelling, data modelling using information resource management (IRM) techniques, and a

data driven approach to integrated system's design. The software package interfaces with PREDICT for ease of use in development. In response to questions concerning IRMsoft's availability, Alan said SC1 may make it available or market it, but no specific plans have been made. Current status is "Under Development."

The IRMsoft demo had to be postponed due to TP technical problems. Using overheads instead, Alan demonstrated menu handling, screen standards, and function key definitions for menu navigation according to the business model hierarchy. Direct access to the procedure level, online & batch reporting, and report selection criteria were also among the features discussed.

After lunch, the IRMsoft online demo proceeded. Program structure and stacks were built "on the fly" within the business model as the start of application design. Demonstrated features included:

- create functions, process, activity, procedure
- execute procedure
- view entities
- list entity for select
- create entity
- create relationship
- define cardinalities
- display all relationships associated with an entity
- create logical data group
- create data element attributed to LDG
- display entities
- display data elements
- link to PREDICT for data element information

"SAG Time" began with Account Manager Jerry Kinder introducing Greg Balder, a potential customer. Jerry also encouraged attendance at the Miami conference for information on ADABAS 5 and other new products.

Jerry announced that NET-PASS (a VTAM front end session manager) is discounted 20% until November. A flier is available describing the product. Bill Linker, scheduled to return from Alaska on Monday, will be available to meet with individuals interested in NATURAL ELITE, an online tutorial with authoring capability.

After a break, Program Coordinator Steve Baker discussed some information on training options. Steve

noted that 80 people attended the free training on ADABAS given by Software AG and hosted at Weyerhaeuser. Thanks were extended to both organizations.

Steve Bradley, secretary for Executive Committee, asked for volunteers for position of User Survey Coordinator. Duties to include:

- Survey composition
- Distribution
- Analysis of results
- Presentation to executive committee

For more information, or if interested in volunteering for this task, attendees should contact:

Carlo Scagnelli—Executive
Committee President

A few announcements concerning the International Conference followed. It is to have seven consecutive tracks, including a management track. There will be no keynote speaker for the technical track.

Bill Anderson, Washington State Department of Labor and Industries, began a talk on the subject of "Integrated Systems." He argued that applications should be built to be shared, and to utilize shared data. To do so requires strategic plans, the employment of 4GL's, and use of data dependencies and precedences to do application planning. Standards for hardware and software, programming, screens, skeleton programs and prototypes should all be in place.

Bill outlined the important features of integrated systems, and presented counter-arguments to those objections likely to be raised when considering integrated systems development. Finally, he outlined his organization's strategy and approach.

Dave Wells of WSU presented "A Case for CASE (Computer Assisted Systems/Software Engineering)". Dave showed us some of the tools that WSU programmers/analysts have on their PC workstations to enhance productivity. These include BRACKETS, STRUCTURES/PC, GEMDRAW, XEDIT, NATURAL CONNECTION, and MENUS. Collectively, they represent a progressive automation of the software development process. This automation has not been especially expensive. Some suggestions offered included:

- evolve methodology along with the tools
- gradually introduce new tools
- buy cheap tools that are easy to learn
- use the mainframe to store information instead of floppies
- need upload and download capability
- people have to be willing to use the tools

The "Free-for-All" was next. Steve Baker asked "Is Anyone else having problems with ADABAS SM10 modules?" There was no real response, as the group was fairly depleted by this time. It was suggested that we have these types of issues brought up earlier to allow more exchange of information.

The agenda for the December meeting was offered and agreed to. The NW user group people who are attending the Miami conference will plan to meet on Sunday evening at the start of the conference to discuss who could cover what areas and to prepare a rough outline of topics and panel members for the December meeting. All attendees were encouraged to check message board for meeting time and place as soon as possible after their arrival in Miami.

For more information on NATURAL PROCESS

**CALL:
1-800-843-9534**

Software AG Product Status Report

Software AG offers this Product Status Report, updated quarterly, as a regular feature of Connections in order to advise our customers which products we have released recently and which are scheduled for release in the near future.

Our goal is to provide you with products that perform as you expect them to perform, and that can sometimes mean a delay in release while last-minute bugs are fixed or changes are incorporated. It is, therefore, important to note that all target release dates are as accurate as possible at press time, but are subject to change without notice.

Released: January 1987 to December 1987

Data Base/Dictionary

Product	Date of Release
ADABAS SQL (DOS) 1.1.1	May 1987

Versions

PREDICT 2.2.2 (OS)	May 1987
PREDICT 2.2.2 (DOS)	July 1987
PREDICT 2.2.2 (CMS)	September 1987

System Maintenance Releases

ADABAS VSAM Bridge (OS) 2.1.1	March 1987
ADABAS VSAM Bridge (DOS) 2.1.1	April 1987
ADABAS 4.1.10 (OS, XA, CPO/OS, CPO/XA)	April 1987
ADABAS 4.1.10 (CMS)	May 1987
PREDICT Early Warning	July 1987
ADABAS 4.1.10 (DOS/VSE)(DOS/SP)	September 1987
ADABAS SVC Module (MVS/XA)	December 1987
PREDICT 003 Early Warning	December 1987

Application Development

Product	Date of Release
Versions	
NATURAL 2.1.1 (OS, DOS)	May 1987
NATURAL 2.1.1 (CMS)	September 1987
NATURAL 2.1.2 (OS/DOS/TSO)	October 1987
NATURAL VSAM 2.1.2 (OS/DOS)	December 1987

System Maintenance Releases

NATURAL 2.1.1 (OS/DOS) Fix tape #1	July 1987
NATURAL 2.1.1 (OS/DOS) Fix tape #2	August 1987

NATURAL 2.1.2 Early Warning	November 1987
NATURAL 2.1.2 DOS fix tape	December 1987
NATURAL 2002 Early Warning	December 1987

Communications/Distributed

Product

NET-PASS 1.5 (OS)	July 1987
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Versions

COM-PLETE 4.4 (XA)	December 1987
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User Services

Product

NATURAL ELITE Courseware SUPER NATURAL: Advanced Functions 1.1.1	
	April 1987
Administration 1.1.0	
	April 1987
Fundamentals 1.1.1	
	April 1987

NATURAL ELITE

Courseware NATURAL 2 Intro Courseware 1.1.1	
	December 1987

Versions

SUPER NATURAL 2.1.0	January 1987
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System Maintenance Releases

SUPER NATURAL 2.1.2 OS/DOS/CMS	December 1987
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VMS

Products

Products	Date of Release
ADABAS 1.3.1	May 1987
NATURAL 1.2.1	May 1987
NET-WORK 1.3.0	May 1987
ADABAS Early Warnings (28-30)	May 1987

NATURAL 1.2.2	July 1987
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ADABAS SQL 1.0	July 1987
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ADABAS 1.3.2 (install kit)	July 1987
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ADABAS 1.3.2 (update kit)	July 1987
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ADABAS 1.4.0	August 1987
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CONVERT 1.1.0	December 1987
---------------	---------------

Scheduled for Release: January 1988 to June 1988

Data Base/Dictionary

Products

ADABAS DL1 Bridge 1.0.0 alpha test	
	Target release: Second Quarter 1988

Versions

ADABAS 5 (w/Online Services) beta test	
	Target release: March 1988

NET-WORK 5

internal test	
	Phased Target release: Second Qtr 1988

continued on page 34

Product Status Report

continued from page 33

System Maintenance Releases

- ADABAS SQL 1.2
 - beta test
 - Target release: January 1988
- PREDICT 2.2.3
 - OS: alpha test
 - Target release: February 1988
 - DOS/CMS: beta test
 - Target release: May 1988
- ADABAS VTAM 1.1.1
 - alpha test
 - Target release: March 1988
- Channel to Channel SM02
 - beta test
 - Target release: March 1988
- REVIEW 2.2
 - beta test
 - Target release: March 1988

Application Development

Products

- NATURAL 2 DB2
 - customer test
 - Target release: Second Quarter 1988
- NATURAL Operations
 - Internal test
 - Target release: Second Quarter 1988
- NATURAL CONSTRUCT
 - internal test
 - Target release: Second Quarter 1988
- NATURAL Optimizer
 - internal test
 - Target release: Second Quarter 1988

Versions

- NATURAL 2.1.2
 - IMS/DC: alpha test
 - Target release: Second Quarter 1988
- NATURAL 2.1.2 DL1
 - alpha test
 - Target release: Second Quarter 1988
- NATURAL 2.1.2 (CMS)
 - beta test
 - Target release: January 1988
- NATURAL SECURITY 2.1.2
 - CMS: beta test
 - Target release: February 1988
- OS/DOS: beta test
 - Target release: January 1988
- NATURAL 2.1.3
 - OS/DOS: pre-beta test
 - Target release: March 1988
 - CMS: internal test
 - Target release: April 1988

Communications/Distributed

Products

- NET-PASS 1.5.1 (DOS)
 - beta test
 - Target release: February 1988
- NATURAL PROCESS
 - beta test
 - Target release: March 1988

Version

- COM-LETE 4.4
 - MVS: beta test
 - Target release: February 1988
 - DOS: beta test
 - Target release: February 1988

- NET-PASS 2.1
 - beta test
 - Target release: March 1988

System Maintenance Releases

- ACCESS 1.2
 - beta test
 - Target release: January 1988

User Services

Versions

- CON-NECT 2.1
 - alpha test
 - Target release: June 1988
- NATURAL CONNECTION (Mainframe) 2.2
 - internal test
 - Target release: Second Qtr 1988
- SUPER NATURAL 2.2
 - beta test
 - Target release: April 1988
- NATURAL ELITE: NATURAL 2 Advanced Programming Technical Courseware 1.1.1
 - In development
 - Target release: March 1988
- NATURAL ELITE: NATURAL 2 Business Professional Courseware 1.1.1
 - beta test
 - Target release: January 1988
- NATURAL ELITE: NATURAL 2 Structured Mode Design Courseware 1.1.1
 - internal test
 - Target release: April 1988
- NATURAL ELITE Basic 1.3.3
 - internal test
 - Target release: April 1988
- NATURAL ELITE ADABAS Fundamentals Courseware 1.1.1
 - internal test
 - Target release: May 1988

VMS Products

- NATURAL ELITE Basic 1.3.1
 - pre-beta test
 - Target release: April 1988
- NATURAL 1.3.1
 - beta test
 - Target release: March 1988
- NATURAL GRAPHICS
 - internal test
 - Target release: June 1988
- NATURAL 1.4
 - internal test
 - Target release: June 1988
- SUPER NATURAL 2.1
 - beta test
 - Target release: February 1988
- WORKBENCH
 - beta test
 - Target release: June 1988
- ADABAS SQL 1.1
 - beta test
 - Target release: March 1988
- ADABAS 1.5
 - internal test
 - Target release: March 1988
- NATURAL 1.5
 - internal test
 - Target release: September 1988
- NATURAL CONSTRUCT
 - pre-release
 - Target release: January 1988
- NET-WORK 1.4
 - internal test
 - Target release: May 1988

SIERRA PACIFIC REGION

Ed Barrow Discusses COM-LETE 4.4

Ronna Slobe
State of Nevada

The last meeting of the Sierra Pacific User's Group was held September 14, 1987 in Northeastern California and was hosted by the State of Nevada. There were thirty people in attendance representing eighteen companies.

The afternoon session was extremely informative. Ed Barrow from Software AG in Denver gave a presentation on the new enhanced features of COM-LETE 4.4. Ed was a great source of information and we appreciate his taking the time to answer questions after his presentation.

Elections for regional representative and regional secretary were held. Ron Johnson, ATAC, was re-elected regional representative and Ronna Slobe, State of Nevada, was re-elected regional secretary. There was some discussion about the value of Software AG paying for the regional reps to attend conference. Ron Johnson said he would bring it up in Miami Beach in November. The regional reps need to go to conference, but some users feel their budgets do not allow the travel expenses.

There was a short "Round Table" discussion. One user mentioned an ERROR 3202 with Sysmain under NATURAL SECURITY. There was some discussion about the problem.

The next meeting is scheduled for December 1 to be held in Sacramento. Sacramento County will be the host site.

Software AG Users' Group Tools Request Form

REQUEST

Any licensed user of Software AG products may request a copy of the DBA (for ADABAS & NATURAL) Tools or the COM-LETE Tools.

Complete the information below and send to: Users' Group Liaison, Software AG of North America, Inc.
11800 Sunrise Valley Drive, Reston, VA 22091 USA

Users Outside the U.S. send to:

Your Software AG Distributor or Affiliate.

Send: DBA Tools Tape (for non-DOS users) DOS DBA Tools Tape (for DOS users) COM-LETE Tools Tape VMS DBA Tools Tape

Note—Both of the above DBA and DOS DBA Tools tape contain the same set of tools. The only difference is the DOS DBA Tools tape is DOS readable.

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- Delete Current Name (attach old label)

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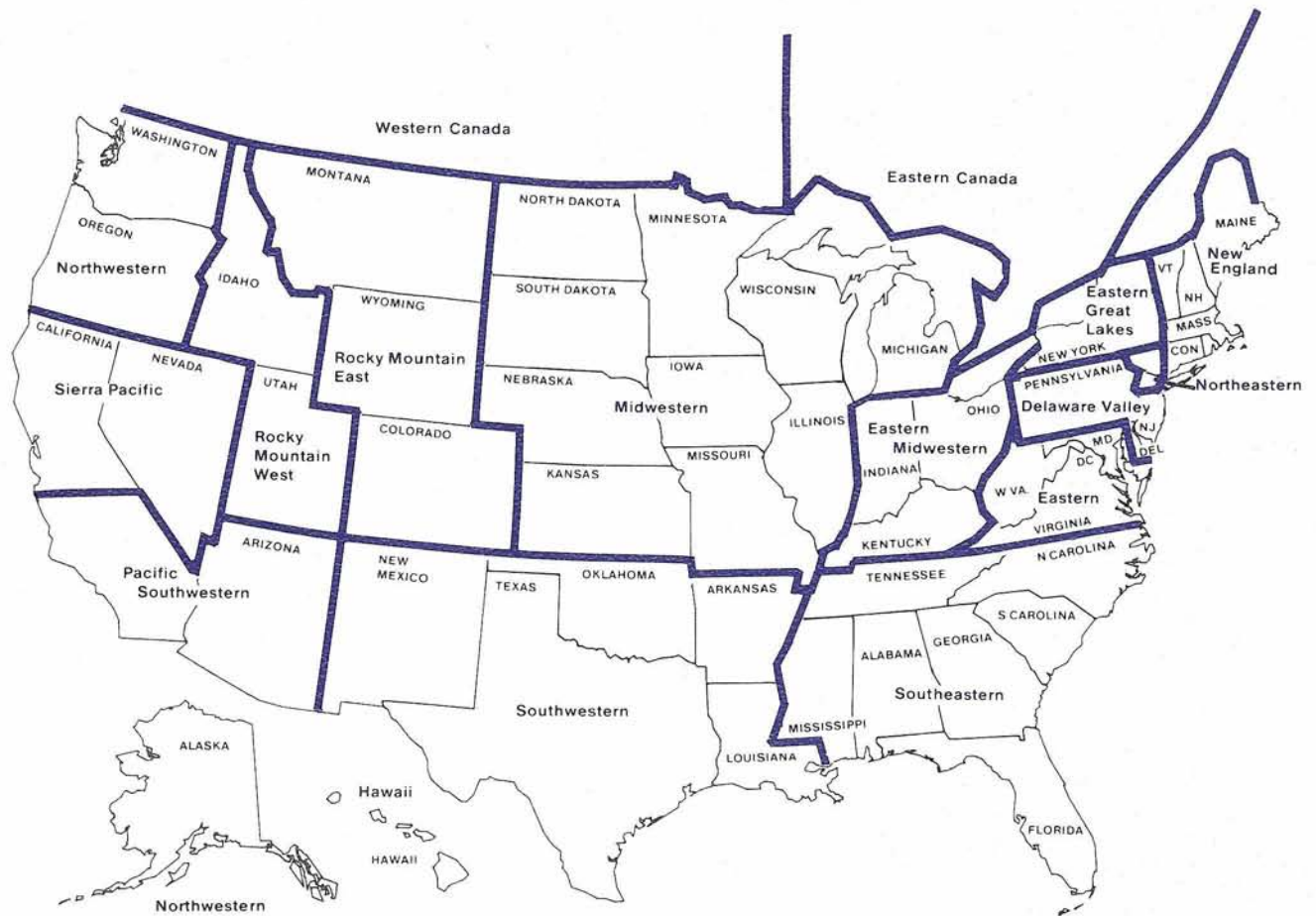
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Company Name	<input type="text"/>				
Division	<input type="text"/>				
Street 1	<input type="text"/>				
Street 2	<input type="text"/>				
Street 3	<input type="text"/>				
City	<input type="text"/>	State	<input type="text"/>	Zip	<input type="text"/>
Country	<input type="text"/>				
Telephone	<input type="text"/>	Customer Number	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Software AG Users' Group Regions in the United States



This map represents changes made in the United States regional Users' Group boundaries at the International Conference.

Conference Audiocassettes

17th International Software AG Users' Conference Miami, Florida — November 1-5, 1987

- T302-1 Opening General Session—Pioneer Users of Software AG Products; The Different Technology Dimensions—Practical vs. Academic; Your Partner for Software Success; SAGGROUP Business Session
- T302-2AB Opening General Session, cont.—Keys to the Next Dimension and The Evolving Computer Industry; Architecture of the Next Dimension—Introducing the New Open Integrated Software Architecture; Product & Technology Update
- T302-3 Discovering the Next Dimension—Software AG Future Technologies & Strategies; The ER Dimension
- T302-6 Communications: Topic of the 90's
- T302-8 CON-NECT 2 A New Dimension in Office Systems
- T302-10 ADABAS Experience & Outlook
- T302-11 ADABAS (VMS) Directions
- T302-12 ADABAS OS Considerations
- T302-13 PREDICTable Menus; Documenting The Undocumented Using PREDICT; Incorporation of COBOL Copy Books
- T302-14 The Rocky Hardware Picture Show
- T302-15 NATURAL PROCESS & NATURAL OPERATIONS
- T302-16 NATURE ELITE Future & Directions
- T302-17 Education/Documentation
- T302-18 NATURAL (VMS) Directions
- T302-19 ADABAS DOS Considerations
- T302-20 PREDICT/Data Dictionary
- T302-22 NATURAL Engineering Series & CASE Directions
- T302-23 TRS-Text Retrieval With ADABAS & NATURAL
- T302-24 End User Data Base Enquiry System; A SUPER NATURAL Story; Financial Information System (F.I.S.)
- T302-25 NATURAL (VMS) User Interface, User Equipment, WORKBENCH; VAX Added Functionality: PREDICT, SUPER NATURAL, ADABAS SQL
- T302-26 ADABAS 5 Experiences
- T302-27 Catch the New Tide—Strategic Use of Information Technologies in Japan; Adventures in Data Dictionary Activation
- T302-28 NATURAL Tips & Techniques
- T302-78AB NATURAL Tips & Techniques, cont.
- T302-29 COM-PLETE Debugging & Trouble-shooting
- T302-30 PC Directions
- T302-31 ADABAS (VMS) Performance
- T302-32 PREDICT & Data Dictionary Directions
- T302-33 DOS Workshop
- T302-34 REVIEW 2
- T302-35 A Flexible Online Security System; Accelerated Application Development With NATURAL 2
- T302-36 Using COM-PLETE V4.4
- T302-37 NATURAL (VMS) Performance
- T302-38 NATURAL SECURITY
- T302-39 Multiple Production Database: Making Them Talk; ADABAS Security—A NATURAL System; NATURAL Filebirth—The Conception, Delivery & Nurture of a File
- T302-40 NATURAL Performance Issues
- T302-41 ADABAS TPF & ADABAS HPE
- T302-42 ADABAS & NATURAL On the PC
- T302-43 Service Connection
- T302-44 The Two NATURAL's: VAX & IBM
- T302-45 ADABAS SQL, First Year of Operation Experiences & Future Development; ADABAS SQL Conversion from ADAMINT
- T302-46 NET-WORK 5 Introduction & Features
- T302-47 Preparing Your CASE Shopping List
- T302-48 Table Support for NATURAL & ADABAS; NATURAL Source Code Librarian
- T302-49 NET-PASS V2 Introduction
- T302-50 SUPER NATURAL Directions Workshop
- T302-52 ADABAS 5 VM/CMS
- T302-53 NATURAL Directions
- T302-54 A NATURAL Based Programmers Workbench; Form Prototype to Finished Product, The Flexible Transfer of Data Between Online NATURAL Programs
- T302-55 COM-PLETE Performance & Tuning and Tools
- T302-56 Remote Data Base Access Via NET-WORK (VMS) Communications
- T302-57 ADABAS Performance
- T302-58 The Five P's of Data Base Environments; Integrated Systems: No Borders, No Boundaries; Living with the New ADABAS/VM
- T302-59 NATURAL 2 Migration & Conversion
- T302-60 Coping with the Problematic Changing World
- T302-61 Introduction to NET-PASS
- T302-62 NATURAL ELITE Authoring Tips & Techniques
- T302-63 NATURAL ELITE (VMS)
- T302-64 ADABAS Change/Enhancement
- T302-65 Software AG's Application Strategy
- T302-66 NATURAL 2 Application Help Systems
- T302-67 Prototyping or Pandemonium? Multi-Iterative Prototype Design & Its Impact on Project Management; NATURAL 2 Application Design Strategies
- T302-68 Preview of the NATURAL Expert Development System
- T302-69 Monitoring & Tuning The COM-PLETE Online Environment: Key Performance Issues
- T302-70 The ADA to ADABAS Connection; High Speed Communications Between IBM & VAX Data Bases
- T302-71 A Generic File Design to Support Tables & Systems Development; AUCS-ADABAS Utility Control System; EDIT JCL—A Job Command Language Editing & Submitting System Within NATURAL
- T302-72 ADABAS Version 5 Performance; Abnormal Data Structures: Three ADABAS Files for Scheduling Systems; Data Base Management for Text
- T302-73 NATURAL Generator
- T302-74 Making NATURAL A Success; Micro/Mainframe Links: NATURAL CONNECTION and Other Adventures; Schering AG's Standardized Systems Development with ADABAS/NATURAL
- T302-75 NATURAL Change/Enhancement; PREDICT Change/Enhancement
- T302-76 COM-PLETE Change/Enhancement
- T302-77 Specific Procedures Toward Success on PREDICT (VMS)

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Change/Enhancement Form

ADABAS

- | | | |
|--|---|---------------------------------------|
| <input type="checkbox"/> ADABOMP | <input type="checkbox"/> MPM/NUCLEUS | <input type="checkbox"/> SECURITY |
| <input type="checkbox"/> CTCS | <input type="checkbox"/> NET-WORK | <input type="checkbox"/> UTILITIES |
| <input type="checkbox"/> DOCUMENTATION | <input type="checkbox"/> ONLINE SERVICES | <input type="checkbox"/> VM |
| <input type="checkbox"/> INTERFACES | <input type="checkbox"/> PERFORM. & ACCTG | <input type="checkbox"/> ADABAS (VMS) |
| | | <input type="checkbox"/> OTHER |

COM-LETE

- | | | |
|--|---|--|
| <input type="checkbox"/> COM-PASS | <input type="checkbox"/> NUCLEUS | <input type="checkbox"/> TERM. SUPPORT |
| <input type="checkbox"/> DOCUMENTATION | <input type="checkbox"/> PERFORM. & ACCTG | <input type="checkbox"/> UTILITIES |
| <input type="checkbox"/> FILE I/O | <input type="checkbox"/> SECURITY | <input type="checkbox"/> USER EXITS |
| <input type="checkbox"/> INTERFACES | | <input type="checkbox"/> OTHER |

NATURAL

- | | | |
|--|---|--|
| <input type="checkbox"/> DDM & DB | <input type="checkbox"/> LANG. FUNCTIONS | <input type="checkbox"/> SYSTEM FUNCTION |
| <input type="checkbox"/> DOCUMENTATION | <input type="checkbox"/> LANG. INTERFACE | <input type="checkbox"/> TP & OS INTERFACE |
| <input type="checkbox"/> EDITOR | <input type="checkbox"/> CON-NECT | <input type="checkbox"/> SECURITY |
| <input type="checkbox"/> EDUCATION | <input type="checkbox"/> PERFORM. & ACCTG | <input type="checkbox"/> 'SYS' FUNCTIONS |
| <input type="checkbox"/> GRAPHICS | <input type="checkbox"/> SYSTEM PARAM. | <input type="checkbox"/> SUPER NATURAL |
| <input type="checkbox"/> I/O | <input type="checkbox"/> NATURAL/CONNECTION | <input type="checkbox"/> NATURAL (VMS) |
| | | <input type="checkbox"/> OTHER |

PREDICT

- | | | |
|--|---|---------------------------------------|
| <input type="checkbox"/> CROSS REFERENCE | <input type="checkbox"/> INTERFACES | <input type="checkbox"/> USER SUPPORT |
| <input type="checkbox"/> DOCUMENTATION | <input type="checkbox"/> MODELING | <input type="checkbox"/> UTILITIES |
| <input type="checkbox"/> EDITOR | <input type="checkbox"/> PERFORM. & ACCTG | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> FILE STRUCTURE | <input type="checkbox"/> SECURITY | |

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3. Enter a description for your Change/Enhancement. Please be specific when describing your Change/Enhancement.
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5. Enter information about yourself so someone can contact you if there is some question about your Change/Enhancement (you must include your telephone number).
6. Mail Form to: Mr. Kelly Jones
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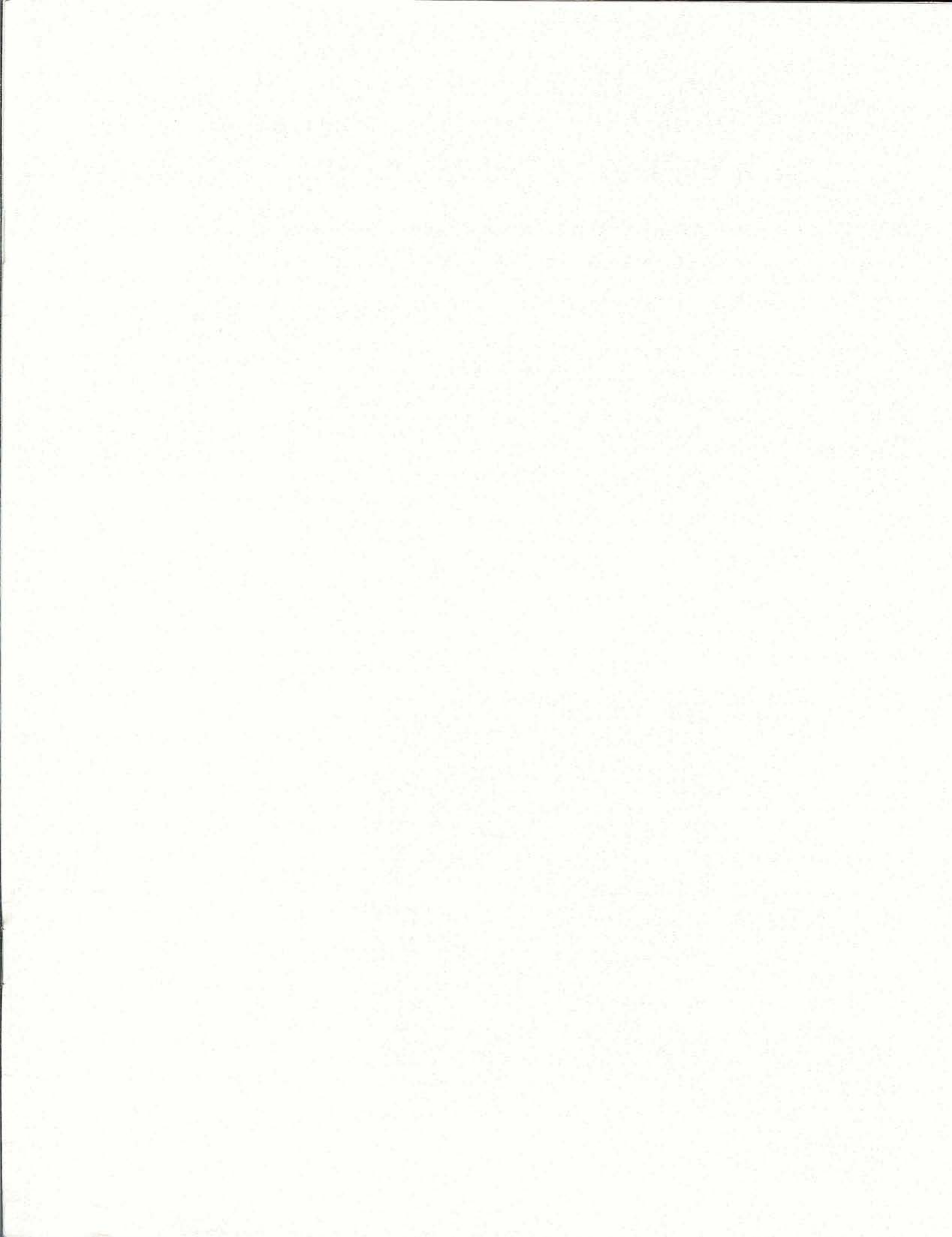
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