Software AG International Users' Group Newsletter

Users' Group News
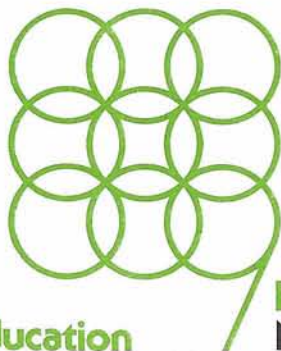
The Olympics of Education

Innisbrook 81
Ninth International

Software AG
Users' Conference
May 10-14, 1981
Innisbrook, Florida

Innisbrook '81 —The Olympics of Education

Users Opt for Conference Agenda Changes

Education, with special attention to a more thorough awareness of SAG product implementation and user problems, will be the prime focus of the Ninth International Software AG Users' Conference, scheduled May

10—14, 1981. To be held at Innisbrook, a conference facility on the west coast of Florida, the annual Users' Conference will offer a wide range of general sessions, seminars and dialogues on many industry—related topics with a high priority on a systematic approach to the exchange of user information.

The agenda promises to be an innovative combination of:

- Nationally known data processing speakers who will present state-of-the-art technology;
- In-depth technical workshops, highly tailored to specific user needs;
- Specially designed tutorials which will offer a variety of means to address technical proficiency;
- User presentations which will focus on unique user applications.

The enriched agenda is largely a result of increased user involvement in setting their Conference priorities. Attendees at the Eighth International Users' Conference in Houston, Texas responded actively and positively to the Conference evaluation request. While some questionnaire topics evoked a variety of conflicting personal preferences, other responses were remarkably homogeneous.

Two major areas for possible change were highlighted. Attendees consistently valued sessions where Software AG personnel participated actively, volunteering that these sessions provided a high level of technical information. Users requested that more Software AG workshops and presentations be included in future conference agenda. In addition, many attendees suggested papers be reviewed to en-
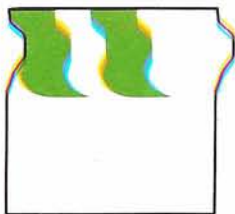
sure that presentations represent a variety of timely technical interests and unique user applications.

Innisbrook, the site of the 1981 Conference is a thousand-acre resort on Florida's Gulf of Mexico coast. South of the Greek fishing community of Tarpon Springs and just north of Tampa International Airport, Innisbrook is the winner of Mobil Oil Corporation's coveted 4 Star

Award and was recently named the most preferred conference resort in America by professional corporate meeting planners from all over the country. Innisbrook is widely known for its luxurious self-contained setting and unique accommodations as well as its extensive conference meeting facilities. Innisbrook is a perfect setting for Software AG's "sunshine university".

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President's Message

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The annual Software AG Executive Committee Meeting will be held October 21 in Reston, Virginia. At this meeting we will be discussing the Technical Agenda for the 1981 Conference, results from the future conference sites survey and status of the working committees. In my next Newsletter article I will report to you on the highlights of this meeting.

I am very pleased to report that the Technical Support Working Committee has gotten off to a good start, and that Bob Taylor of Evans Products Company has been appointed Chairman of this Committee. Bob has distributed a "Technical Support Incident Log" to all Regional Representatives; each Representative will then appoint a local Coordinator to distribute the form to all local installations and forward completed forms to Bob.

At the last Conference each attendee received a copy of the research paper prepared by Software AG on NET-WORK, and a number of individuals received advance copies of NATURAL documentation (Version 2 +). A major reason for distributing this information was to get user response to these planned products. There has been very little user response and I hope that all users who have an interest in these areas respond as soon as possible.

Each Software AG user has been sent a Change/Enhancement form. The schedule and another form can be found in this Newsletter. Since this is a significant Users' Group activity, a special effort should be made to indicate your ideas for product enhancements. Please remember the December 12th deadline.

Within the next few weeks you will be receiving a "Call for Papers" for the 1981 Conference. Please consider contributing to the Conference technical agenda by sharing your interesting applications and techniques.

Technical Support Committee Formed

Bob Taylor
Evans Products

One of the positive steps resulting from the Houston Conference is the formation of a Technical Support Review Committee. Both Software AG and the Users' Group will be active participants in this joint venture. The functions of this Committee are:

• To establish and maintain dialogue with Technical Support (via direct communication with Edward J. Forman, Vice President of Technical Operations);

• To determine if there is a problem in the area of technical support;

• To define this problem;

• To work with Software AG to resolve these difficulties or bottlenecks in support.

To this end, each Regional Representative has been contacted and asked to gather information for the Committee on a local basis. We expect the collection and analysis of this information to take three to six months. If you have any problems that you wish to have reviewed, please contact your local Regional Representative or a Committee member. Without your input we can only conclude that there are no problems with technical support and will dissolve the Committee.

I am confident that by working with Software AG Technical Support we can pinpoint and eliminate any problem that exists.

I have been asked to direct this effort and will be assisted by David Antes (Ray-O-Vac), Cleaburne Fritz (Pioneer Corporation), William Thornton (Superior Oil Company), and Beth Bailey (Chicago Bridge and Iron).

Watch for Call for Papers

An official "Call for Papers" will be distributed to each Software AG user. The request for user participation at the Innisbrook Conference will define categories of user contributions, the deadline for paper submission, and other requirements for papers.

Please consider how you might respond to this "Call for Papers" by selecting your presentation topic.

Change/ Enhancement Process Reviewed

Peter MacRoberts
Pennzoil Company

Any user of a Software AG product can submit a Change/ Enhancement Request.

This year with four separate products to be voted on and a major release of ADABAS, the number of requests is expected to be much greater. In order to have time to process your requests, for the Product Representatives to consolidate them, to allow the ballots to be counted, and for Software AG to have the time to respond, the following schedule has been set:

12 December 1980
Last day Change/Enhancement requests will be accepted.

12 January 1981
Consolidation of like requests completed by Product Representative.

27 January 1981
Requests and ballots distributed to all users.

6 March 1981
Last day ballots will be accepted.

24 April, 1981
Results of vote and Software AG's responses distributed to all users.

I know it's hard to begin thinking now of the Conference in May, but the sooner the requests are received, the better. The direction taken by ADABAS, COM-PLETE and NATURAL can be influenced by your participation.

The only change in the system this year is an acknowledgement that voting by groups, which has existed de facto for several years, will become an official method of voting for Change/ Enhancements. Details will accompany your voting package this January.

Each user has already received a Change/Enhancement Request form in the mail; another copy of this form is in this Newsletter. Although these forms have not changed, this is a good opportunity to review this process for new users. Here is a brief overview of the information requested:

1. (Product Name) - ADABAS, COM-PLETE, NATURAL, and/or ADABAS-M.
2. (Title of Request) - A very short title that describes request; e.g., "AT BREAK" Processing, UTIL09 generation of DDM, etc.
3. (Category) - The general area in which this request can be classified; e.g., MPM, Performance, ADAMINT, Mapping, etc.
4. A succinct description of the request giving enough detail to fully describe it; emphasize major goals for the product rather than solutions or short-range fixes.
5. List benefits expected from the request.
6. Supply date, name, company, address, and telephone number.

Send all completed Change/ Enhancement Requests to:

Peter R. MacRoberts
Change/Enhancement Coordinator
Pennzoil Company
P.O. Box 2967
Houston, TX 77001
(713) 236-7774

CHANGE/ENHANCEMENT REQUEST FORM

Please forward completed requests to:

Product
_____

Mr. Peter R. MacRoberts
Pennzoil Company
Pennzoil Place
P.O. Box 2967
Houston, Texas 77001

Category
_____

Title of Request
_____

Complete Description of Change/Enhancement (please type):
Identify Benefits:

Date:	For Users' Group Use Only:
Submitted by:	
Name: _____	Request Number: _____
Company: _____	Date Received: _____
_____	Received by: _____
Address: _____	Consolidated with Request Number: _____
_____	
Telephone: _____	

Peter R. MacRoberts
Pennzoil Company
P.O. Box 2967
Houston, TX 77001

Future Conference Site Survey Evaluated

Over ten percent of SAG-GROUP user sites responded to the Future Conference Site Survey, published in the July issue of the Software AG Users' Group Newsletter, and the responses were as varied as the installations themselves. Replies were received from all over the United States and Canada. The largest number of returns came from the more concentrated installation areas, with the Western Regions replying in slightly higher numbers. European responses were less than 2%.

Designed primarily as an informal survey to ascertain the advisability of conferences scheduled outside the continental United States, the survey also asked for previous conference attendance, internal corporate policies or guidelines that would affect attendance at conferences, and estimates of future attendance at a variety of sites, both in and outside of North America.

Several major areas emerged as the most important considerations for attendance: geographical proximity, air transportation costs, departmental or board approval for travel outside the continental United States.

While Hawaii is viable for many West Coast users, East Coast sites indicate costs would be prohibitive. Canada is attractive to users in the states bordering major Canadian conference centers, and Puerto Rico is attractive to installations in the southeast. But generally, sites "close to home" were viewed as the most feasible. Survey responses indicated overwhelmingly that the number of attendees per installation increases with the geographical proximity of the conference site selected; air transportation costs were cited as the major factor in conference attendance. Software AG's policy of selecting sites on a rotating geographical basis was positive, but rapidly increasing fuel costs always affect a significant portion of decisions regarding conference attendance.

A large percentage of users could not travel outside the continental United States and the reasons were two: internal policy regulations and transportation costs. Several respondees indicated disapproval of "exotic" sites while many users encouraged the selection of sites that provided "glamorous" social possibilities or that allowed for pre and/or post vacation possibilities.

As you know, Software AG is actively involved in a long range site selection process; our goals are to provide a conference which will offer a high level of technical exchange to the greatest number of users possible. While the site survey wasn't definitive, the valuable input we received from you will allow us to make valid decisions in this regard. Software AG appreciates the time and effort involved in responding to the questionnaire.

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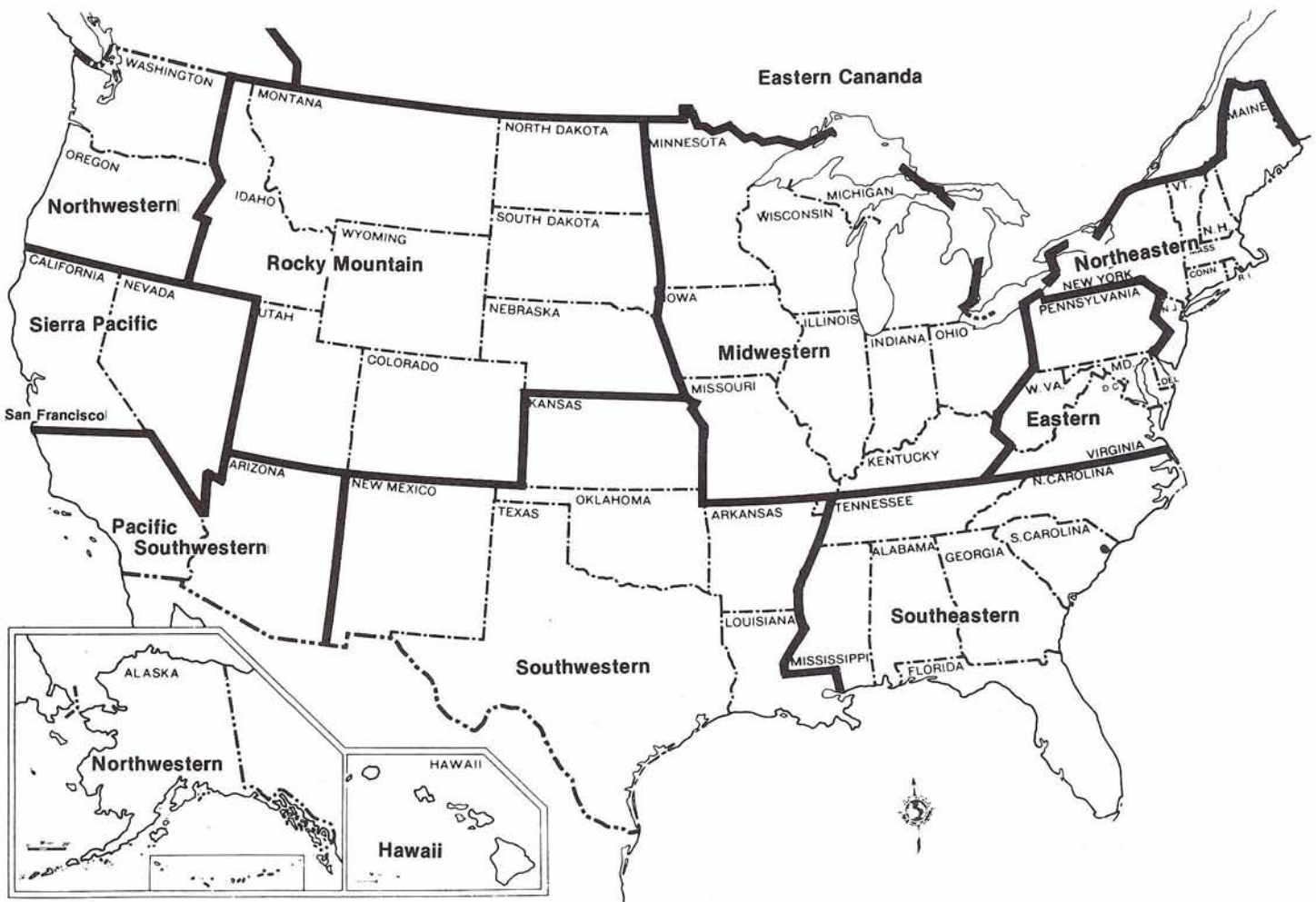
This map represents changes made in the United States regional Users' Group boundaries at the International Conference.

Regional Reports

Pacific Southwestern Region

David Berg
Hughes Aircraft Company

Our June meeting was hosted by Information Handling Services. The principal discussion centered around the Houston Conference with a review of the Executive Committee meetings and the general Conference sessions. Information about the 1981 Conference was discussed as were the potential sites for 1982. Of course, the release of ADABAS V4.1 was announced, and users wanted to hear all about it.

The July meeting was hosted by Hughes Aircraft. David Berg reviewed the process by which Hughes moves a Data Definition Module from one file to another and from one data base to another. Hughes Aircraft maintains a Data Dictionary as file 8 on its production data base for storage of file definitions for systems in development. Once a system has been released to production, the file definitions are moved from file 8 to file 6 which contains all released production Dictionary file descriptions. The standard file (file 8) also temporarily stores the DDM's generated by UTIL09. However, Hughes Aircraft has reserved file 7 as the NATURAL System file, so the DDMs are moved to file 7 on the test data base and made available for NATURAL program development.

When ready for release to production, the NATURAL programs are cataloged (on the test base) and both the DDMs and NATURAL modules are moved over to file 7 on the production base.

Esther Friedmann presented the Product Definition Information System being implemented at Hughes Aircraft. Hughes is utilizing 7 data base files to store comprehensive product data. The multiphase project will integrate all impounded data, including graphics, specifications, structure data of assembly parts, and configuration management information on the central node of the product definition data base.

The August meeting was hosted by the Aerospace Corporation, our region's newest user. David Berg announced that the SAGGROUP Executive Committee Meeting will be held October 20-21 and requested any user who has a specific item to be included on the agenda to please contact him. He also put out a call for papers for the next International Users' Conference, suggesting the monthly user meeting be utilized as a trial run for presentations.

Bernice Bjerke gave an overview of the Aerospace Corporation organization. Aerospace has both a CDC CYBER 172/6400/7600 and an IBM 3033. ADABAS is installed on the IBM 3033 with a TSO capability. Aerospace is divided into four groups that encompass development, engineering, federal programs, and administration. The engineering group contains the Administrative Data Systems Department which will initially utilize ADABAS. The sole customer of ADS is the administration group, which will house the Data Administration function and maintain the Data Dictionary under the supervision of Joe Ward. Aerospace plans to install a small system that will access ADABAS by the end of the year. Longer range systems implementation will be accomplished within a two year time frame.

Ken Ng opened the meeting to a discussion of the role of the DBA. Most organizations have established the need for an expanded data base staff to handle the integration of data base activities. Functions assigned to the data base group include data administration, data base design, systems software maintenance, and data base maintenance. In fact, it was felt that the performance of systems programming functions by the DBA was a reasonable assignment in view of the reliance of those activities upon data base knowledge and skill.

It was agreed that Change/Enhancements would be discussed as a group at the October meeting. The deadline for the submission of Change/Enhancements is December 12. The October meeting will include discussion of Version 4.1 installation.

Sierra Pacific

Bill Belisle
Department of Youth Authority

The first meeting of the newly independent regional Users' Group representing the Northern California and Nevada area was held August 22, 1980 at the California State Health and Welfare Data Center in Sacramento. Among other items of business, the group selected Sierra Pacific as its regional name.

The major presentation of the meeting was a group discussion of the merits and shortcomings of the various data base management systems available, in addition to ADABAS, at the State's two major data centers, which include IDMS, IMS, and RAMIS. The software specialist, responsible for the generation and maintenance of each DBMS, related his experiences with the product and told of the various user projects which utilize them.

A regular feature of the group's meetings has become a NATURAL information and program exchange. Sacramento County and CALTRANS offered and discussed listings of some interesting applications.

Members of the group expressed concern relating to Software AG's "release on request" of Version 4.1. It was the general feeling that if 4.1 is really in production it should be released to all users just as any other product would be.*

The group's next quarterly meeting is scheduled for early November and will be hosted by Sacramento County.

*Editor's Note:
Software AG's policy of "release on request" applies to all product releases.

Rocky Mountain Region

Ellen Kasun
Hewlett-Packard

A meeting of the Rocky Mountain Users' Group was held in Denver on June 26; it was chaired by our new President,

Ms. Ellen Kasun. Seventeen ADABAS users attended the meeting. During the business meeting we decided to have one meeting per year geared toward end user and programmer education and participation. At this meeting, users at many installations will present and discuss programming techniques used in their shops. Tentatively this workshop/meeting is scheduled for December. Furthermore, we decided to limit attendance at our meetings to four people per Software AG product license.

After the business meeting, Leon Miller of the State of Utah summarized several of the ADABAS presentations at the 1980 Users' Conference. During his discussion he suggested that Software AG publish and distribute Conference papers to users prior to our arrival. This would be a great help to determine which sessions would be most meaningful. It was suggested that one page abstracts would accomplish the same end and would be more feasible than publishing and distributing each paper in its entirety. If abstracts are provided, regional groups could schedule members for specific sessions, asking for a detailed review of these sessions at the regional meeting following the Conference. This "divide and conquer" approach would give our group maximum coverage of the Conference and would help minimize the problem of one person wanting to attend two sessions scheduled at the same time.

The Software AG update included the following items:

- Peter Harris has moved to the Denver technical support center and will be the DOS expert there;

- The ADABAS DOS 4.1 task force is currently preparing this system for release;
- Software AG's consulting efforts are focusing on the following intentions: design assistance and development of model systems (especially under NATURAL).

Jerry Schade of the General Government Computer Center gave the last presentation. He summarized several of the NATURAL presentations given at the Users' Conference in Houston. Among Jerry's comments were:

- NATURAL is an outstanding product;
- All the presentations Jerry attended showed users were quite satisfied with the product;
- Peter Page enumerated a long list of Change/Enhancements which show that this outstanding product will get even better;
- One of the most fascinating uses of NATURAL presented at the Conference was that of code generation, or programs that write programs. Jerry felt these could be extremely useful and great time-savers.

Northeastern Region

Jack Meth
American Electric Power

The second Northeastern Users' Group met on August 27, 1980 at the New York Princeton Club.

Michael Berman, President of the International Users' Group, summarized the Houston Conference.

Tom Durkin described the use of user exits at INCO. Exits are useful for individual logs even in MPM mode, dynamic changing of file numbers and passwords. He described how to write user exits and that some are available from INCO.

Bob Taylor of Evans Products (Bluebell, Pennsylvania) and Restart/Recovery SIG Chairman gave his impressions of Restart/Recovery under V4.1.

Walter Kapica of Johnson and Johnson presented a report entitled "NATURAL User Exit for Source/Object Programs". The report deals with maintaining and modifying NATURAL source programs on non-ADABAS files.

Southwestern Region

Bob Holub
Superior Oil Company

The Southwestern Region met in San Antonio, Texas on July 18, 1980. The meeting was characterized by a high level of user interaction and information exchange. Each user organization had the opportunity to address the group on the status of their installations.

1. Ken Gregory of the University of Texas discussed the installation at the University of Texas and any problems, solutions, and accomplishments which the University of Texas has been involved in. In December, 1979, the University of Texas acquired ADABAS, COM-PLETE, and NATURAL. They have interfaced COM-PLETE to TOTAL for conversion purposes.

   The University of Texas currently has about 30 files on ADABAS, two of which are in production. They are using NATURAL to satisfy complex needs, doing many FINDS in one program and accessing many files. They report slow response time, observing that NATURAL is about three times slower than COM-PLETE. Currently ADABAS runs at a higher priority than COM-PLETE. Houston Oil and Minerals suggested that they would receive better response time if ADABAS were at a lower priority than COM-PLETE.

   Bill Wagner of the University of Texas asked for suggestions on how to achieve file security under NATURAL. Pennzoil uses ACF, looks up the logon, and does the logon for the user. They use it with a generalized TSO interface. University of Texas also asked if installations put NATURAL source code in a PDS or in the Dictionary or what. Pennzoil puts their NATURAL code in a PDS.

   In the discussion that followed, someone questioned if most installations code ADAMINT modules for an application area (and so opened all files for that area) or if they code ADAMINT for a particular application program (and so opened the files which were needed by that program). Most user organizations present code ADAMINT for a particular application program.

   Another user wanted to know if ADABAS Control Block information can be obtained. This would allow them to find out "who" is really using "what" files. We learned that this information is not distributed by Software AG.

2. Roger Van Wagner of Superior Oil briefly described the software environment at Superior Oil. This environment includes COM-PLETE, ADABAS, NATURAL, CICS, and TAPS. Roger expressed Superior's desire to be able to CALL a NATURAL program. Superior has been working with Terry Jones in getting NATURAL to work on a TTY. Currently there are line feed and carriage return problems.

   Superior Oil has disabled the UPDATE commands in NATURAL. Other companies (in particular Dow Chemical) have taken other approaches to this problem by having several NATURAL versions, some of which update, and some of which do not.

Bob Holub talked about recent experiences he has had in using ADAMINT under CICS. One of the major considerations is the DYNSIZE parameter which must be as large as the sum of all ADAMINT modules which the particular ONEP module calls.

3. Marvin Bechtold of Dallas Community College discussed the recent activities at Dallas County Community College concerning conversions from COBOL to COMPLETE and APL to COMPLETE. Dallas County Community College has tried ADAMINT, but finds direct calls are more efficient.

4. Gary Darby of Pennzoil indicated that he has experienced some delays in making contact with a TSOP representative. However, he did state that once TSOP is contacted, the support is excellent. Tom Berrisford will suggest TSOP adopt a follow-up procedure which will eliminate this problem.

Ron Martin told of a problem Pennzoil has had recently with an Associator Main Index extent. This led to a discussion of procedures for dumping and restoring the data base. Pennzoil reported difficulties with NATURAL and ADAFIX running at the same time. They found that ADAFIX (slow copy) was failing because some users never did a CLOSE and were still in the queue. Care should be taken when ADABAS data is on one pack and the Associator is on another

when doing a restore. If any updates are done in between the dumps of the packs, the subsequent restore will cause the data base to be out of sync. It was stated that a fast dump and restore could be used to restore a single file. Tom Berrisford says care should be taken when doing this.

Hardcopy support for NATURAL was discussed. Computer Language Resources said that they have hardcopy support for NATURAL under CICS.

An ADASCRIPT+ histogram command which does not specify a starting value will default to blanks; therefore, any descriptor values of binary zeros will not be picked up.

Pennzoil said they are having problems bringing down the data base gracefully. They are currently trying to allocate a data set with DISP=OLD to prevent new people from getting on. It was also suggested that batch jobs could be run in certain initiators, and the initiators could be shut down before ADABAS was to be brought down.

5. Ira Dobrow of the Texas Highway Department said that they use different copies of ADAHOOK on different libraries so that different logging requirements can be maintained.

6. Sal Dipaola of Shell Oil Company said that they use ADAMINT mainly in a batch environment. They also have an interface between

RAMIS and ADABAS.

Mark Siebert of Shell Oil said he has been using IMS-DC with ADABAS. He reports that the FIND-COUPLED command dropped a block of ISNs. When they switched their data base to 3350s, the problem went away.

7. Walt Mathews of Getty Oil reported that they installed NATURAL a few weeks ago and are still evaluating it. They have reported poor response time. Houston Oil and Minerals suggested that they mark ADABAS as non-swappable in the program property table; this will lower the paging rate.

8. San Antonio City Water Board reported no problems with ADABAS. They are an online shop mainly using ADABAS and CICS. In the past they have gotten ADABAS response codes 132 and 133 which say that a field in the data disagrees with the Associator. The solution to this is to go to SM-10. Currently they are on SM-7.

They have gotten an I/O error on a backup and because of the nature of the file (police file), they cannot take the file down. They used IEHATLAS to zap the block to binary zeros in order to be able to take a backup. They then printed the block back out from an ADAFIX run and then keyed it back in. They find that this usually happens when something comes down in the middle of a transaction.

9. Cathy Delgado of the Ethyl Corporation reports that they are a relatively new user. They currently have a small test data base and are getting ready to install a few online inquiry systems.

10. Bill Bliss reported that Houston Oil and Minerals has been getting a response code 52 on FINDSETs. This results from the command ID being binary zeros. There is no solution yet. Rerunning the job corrects the problems.

    Houston Oil and Minerals will be getting IBM 3278's MOD 5 (132 x 27) CRTs by September 1. They will be a beta test for support of this. A special VTAM macro is needed to support the 132 x 27 matrix. Paul Nugent has talked with Software AG about support of the 3278, asking for bi-sync mode first, and later on the SNA mode. Houston Oil and Minerals is expecting complete replacement of existing terminals by the end of the year.

    They have also asked for support of 3380 disks.

    All users are advised that when they plan to install new hardware, Software AG should be informed and included in the planning so that software can be prepared. Please document the plans and the environment in writing and forward to TSOP.

11. Trish Biedermann of Computer Language Resources says that they are doing ex-tensive development of application programs using NATURAL.

    They are going to be getting a second Amdahl V-8 and will use only one ADABAS data base. Tom Berrisford reports that this will be accomplished by a channel to channel connection between CPUs, a planned ADABAS enhancement.

12. Gary Darby and Ron Marin gave an in-depth presentation on the use of NATURAL at Pennzoil for the presentation portion of the meeting. Thanks go to both for their fine preparation and presentation.

All attendees were advised that a schedule and description of education courses offered by Steve Robinson was available on request.

United Kingdom

Peter Spooner
ICI Organics

The Users' Group met on September 18, 1980 in Nottingham with the British Railways Board acting as host. Darrell West of B.U.P.A. took the chair at the meeting attended by 24 users from 17 installations. Jeff Thomas of Talbot UK retired from the Executive Committee and was replaced by Jim Nixon of Prudential Assurance.

Roger Gatford of Yardley gave a presentation on a successful implementation of a NATURAL/ADABAS project for Purchasing Administration. The project was completed in half the time that a conventional COBOL system would have taken.

Len Jenkinson of ADABAS Software Ltd. presented the SAGNA research paper on NETWORK. At the previous meeting a resolution was passed requesting a nine month period of support for ADABAS V.3.2.1/3.2.2. ADABAS Software Ltd. accepted this period for V3.2.1 but stated that V3.2.2 support would cease at the end of the year. As this latter point is unacceptable to us, we will pursue this further with SAG.

Users expressed dissatisfaction with the delayed release of V4.1 due to the nonavailability of manuals from SAG in Germany.

ADABAS Software Ltd. announced that they were prepared to contribute to the Users' Group chairman's attendance at the International Conference. The UK users had asked SAG/ASL to investigate the possibility of a European users' meeting. Software AG is unable to support this because of the low attendance of American users at the previous Conference in Munich in 1978, the language problems and the cost of an additional major conference.

Users were concerned that Software AG had not replied to previous correspondence on an escrow agreement. The Executive Committee is to continue to press for an agreement.

Special Interest Group meetings have been arranged for NATURAL and V4.1 Restart/Recovery. Any input from American users would be appreciated by the two SIG Chairmen, Gerry Gough, Allied Breweries, and Barry Ery, London and Manchester Assurance. The next meeting will be hosted by the Greater London Council on January 15, 1981.

Australia

John Palmer
Australian Bureau of Statistics

The July meeting of the Australian SAGGROUP was held in Melbourne where it was hosted by ACI. Fifteen users attended the meeting and SPL, the agent for Software AG products in Australia, was represented by Geoff Holloway and Bob Warburton. The total number of ADABAS installations in the Region has now grown to 12. Some of these users also have NATURAL installed; however, there are as yet no users of COM-PLETE in Australia.

The first item on the agenda at the July meeting was consideration of a draft constitution for the Australian SAGGROUP. After considerable debate and some amendment, the constitution was adopted. The group is, therefore, now formally established and hopes to play as active a role as our location permits in the total community of users of SAG products.

Users in this country are widely scattered being located in Sydney, Melbourne, Perth and Canberra. The constitution allows an Executive Committee with representatives from each locality. The following were elected to the committee:

John Palmer — Australian Bureau of Statistics (Canberra)
Peter Kazacos — Overseas Containers Ltd (Sydney)
Fred Burns — Dun and Bradstreet (Melbourne)
Steve Maxwell — West Australian TAB (Perth)

The meeting passed a vote of thanks to John Lord for his great work in establishing the Group and acting as Chairman of an interim committee. Unfortunately, John is unable to participate further in the activities of the Group as he has left the employ of an ADABAS user. Software AG, represented by Geoff Holloway of SPL, made a presentation to John as a mark of appreciation.

After completing the general business the meeting turned its attention to an account by Bob Warburton of the International Conference which he attended as a representative of SPL. This was followed by a brief description of ACI's data processing activities and a tour of their installation. After lunch the meeting was provided with a most enthusiastic account of the use of NATURAL in the West Australian TAB. This was given by Steve Maxwell whose praise of the product was such that at times we wondered whether he was employed by SPL rather than the TAB! Steve did note that, being a new product, NATURAL does have a number of rough edges and bugs; however, none of the problems encountered are considered serious enough to detract from a policy of using NATURAL as a programming language wherever possible.

The next meeting of the group will be in November when it will be hosted by Overseas Containers Ltd. Users are also hoping to have an opportunity to meet John Maguire during his visit to attend the IFIP Congress in Melbourne in October.

ADABAS News

ADABAS Source Code Sought by Russians

The business and data processing communities watched a final chapter unfold in an attempt to acquire ADABAS source code, allegedly for Russian use.

The story begins in December 1978 when Marc DeGeyter established contact with Software AG. His stated purpose was to acquire ADABAS source code for Techmashimport, a Soviet trading company. He offered $150,000. John Maguire assumed the role as primary Software AG contact in the preliminary negotiations with DeGeyter. Mr. Maguire was soon replaced by an FBI agent posing as a Software AG employee.

Dialogue between DeGeyter and Software AG continued; the offering price was raised to $500,000 and the deal was set. Contrary to his initial requests, DeGeyter agreed to complete the transaction in the United States. On his arrival at Kennedy International Airport, Mr. DeGeyter was arrested and charged with eight counts of commercial bribery. Newspaper reports indicate that DeGeyter carried documents implicating him in similar "acquisition deals" with another high technology company.

Because evidence indicating that DeGeyter is involved in commercial espionage for the Russians is "circumstantial," charges against him have been dramatically reduced. He is currently serving a 4-month sentence.

ADABAS/VM Being Developed

With the availability and growing acceptance of the 4300 processors, use of the VM has become more prevalent. This has resulted in an increased interest in a generalized ADABAS/VM product. ADABAS/VM, which is currently under development, will respond to this requirement.

This product allows applications resident in a virtual machine to send ADABAS commands to an MPM residing in another virtual machine and to receive back the results of those commands.

Multiple users, MPMs and virtual machines will be supported in any combination. Intermachine communication is highly localized and easily activated.

ADABAS/VM will be available in January 1981. Contact your sales representative for details and pricing.

ADABAS Runs on 3370s

At present, ADABAS is installed at a 4331 site which uses the 3370 disk storage medium. The site is running the current release of DOS/VSE and was interested in the distributed processing capabilities of the 4300 series.

Compatibility with the 3370 disks was expected since ADABAS has been running on a 4331 processor with 3310 disks for six months.

Manufactured by IBM, the 4300 series is designed for users who are interested in achieving the benefits of interactive and DB/DC applications. So, it is of natural interest to ADABAS users.

The 4300 series uses 3310s and 3370s as storage media. These fixed block architecture (FBA) disks do not support the BDAM access method; instead, all ADABAS I/O is done at the EXCP level.

ADABAS Technical Notes

Testing V4.1 while Running V3.2 Production

Dian Odell
Evans Products

ADABAS Version 4.1 was specially requested and received early August. The documentation for the installation and the use of V4.1 is much improved over the V3.2.1 set - thorough and detailed. Generally, the 'between the lines' knowledge and assumptions now are explained; operational requirements and expected results are documented. (I still have some difficulty remembering what information is in which manual since the manuals are written from different perspectives - DBA, programmer, operations, installation, etc.) The installation went smoothly and easily.

If you were starting from scratch, implementing V4.1 as your 'shop DBMS' would be a snap. However, we (and most of you) already have files and programs running under V3. The documentation does discuss somewhat, in several places, what to do if you wish to have all V3 programs begin accessing V4 without any changes or efforts by programmers. But that will not do, either. The functions and facilities of V4 must be tested and experimented with, interactions and implications must be understood. Then production systems and processes can be orderly migrated to use the new version (and tested again).

Details and suggestions for this environment are subtle for batch access and nonexistent for online access.

We needed to leave our V3 production environment untouched while providing V4 for trial whenever a user wished. V3 will continue to be our default version and users will have to do something different to get to V4. What follows are the steps taken at Evans to accomplish this and develop the desired environment and procedures.

First, install V4 ADABAS per the instructions and run all the test phases (our shop components and characteristics are MVS, COM-PLETE, MPM, ADA-MINT, NATURAL). Then, do the following steps:

General

1. Zap the chosen system defaults (most commonly chosen values) into ADARUN, ADALNK, ADALCMP, and other interface modules to allow the users to run most jobs without specifying control cards. (NOTE: The VER Values on page 34 of the *ADABAS Installation Manual* are incorrect—should be VER 0080 00 and VER 0084 0A00.)

2. Relink ADAUSER in ADALOAD with an alias of ADAHOOK (or copy ADAUSER and name the copy ADAHOOK) to facilitate the hard-coded linkedit control cards generated by our source library maintenance system for ADAMINT Modules, both V3 and V4. (Once we totally convert to

V4, we will have it generate an INCLUDE for ADAUSER.)

3. Watch the default data base IDs in the various components—it is inconsistent (01 for ADARUN, 240 for COM-PLETE, 249 for ADA-SCRIPT +, etc.). To be safe, specify it for the generation of each component and do not let it default.

4. Arrange with operations personnel to run the V4 MPM in addition to the standard V3 MPM.

5. Apply all applicable early warnings.

Batch

Application programs (COBOL, etc., with ADAMINT)

Set up a V4 procedure for assembling ADAMINT. It will differ from the V3 one only in the STEPLIB pointing to the new version of ADAMINT macros and load libraries. In order to use the V4 DBMS with a specific batch program, the user must reassemble the associated ADAMINT (and link them with the program if they are not dynamically called). New V4 features will not be present, of course, but at least you can test to see if all the old functions still work.

At execution time of the batch program, a STEPLIB must point to the V4 ADALOAD so that ADARUN can be dynamically loaded. AMPM and AENQ DD cards do not do anything and can be left in the JCL to minimize changes for a test. The parameters for ADARUN (DDCARD) may be omitted if ADARUN has been set for defaults properly.

NATURAL

Set up a V4 equivalent for all the V3 batch NATURAL procedures. The V4 ones should point to the V4 ADALOAD on the STEPLIB (the NATURAL load library in the STEPLIB should be the same in V3 and V4 since NATURAL does not change), and do not include the AENQ and AMPM DD cards in the V4 version.

Include ADAUSER in the linkedit instead of ADHOOK.

The user then either executes the V3 or the V4 procedure to access whichever version of the data base and MPM is wanted.

ADASCRIPT+

Like NATURAL above, set up a V4 equivalent of the V3 ADASCRIPT+ batch procedure. The STEPLIB must reference the V4 ADALOAD, and the AMPM and AENQ cards may be removed.

The user then executes the procedure for whichever version is wanted.

Online Via COM-PLETE

As a supplement to the ADABAS V4.1 installation materials, users of COM-PLETE also received a mini-tape and instruction (2 pages) for installing a new version of the ADABAS/COM-PLETE interface module (TLOPADAB). This information says that this new module will "allow the use of both V3.2.1 and V4.1 with the same copy of COM-PLETE" but it does not tell you how to indicate which version you wish to access at any particular time. It tells you to relink COM-PLETE but the linkedit INCLUDE statements given are not identified as to which level of COM-PLETE they are applicable for—they may not be right for

your level. You will have to ask Software AG to provide a 'modification number' for this TLOPADAB installation to keep your maintenance documentation up-to-date. And you will need EW026 and EW028.

The interface module will look at the first byte of the Control Block to determine which version of ADABAS you are requesting—X'03' or X'04'. If neither of these values is present, the interface will use the value specified in TLOPADAB as the default version. (We specified Version 3 as the default so unaware users would continue to use V3 as they did before.) Users of NATURAL, ADASCRIPT+, and online programs using ADAMINT do not have access to the Control Block so the following was done for these components:

1. Modify the source of ADALCMP in ADASRCE by adding two statements right after the 'start' card:

   | L | 15,0(1) | Point to Control Block |
   | MVI | 0(15),X'04' | Set V4 as requested DBMS |

   Assemble this modified ADALCMP and link it as reentrant (rent).

2. Install ADASCRIPT+ as you normally would (default changes, assemblies, etc.) except that when it is linked, include the modified ADALCMP as the COM-PLETE interface module. Name this version of ADASCRIPT+ different from the V3 online ADASCRIPT+ and catalog it to COM-PLETE. The user can then execute whichever version he wants to use.

3. Generate NATURAL as you normally would, except when linkediting, insert the following two control cards ahead for the INCLUDES for NATCOMP:

   INCLUDE ADALOAD(ADALCMP$)
   Bring in modified ADALCMP
   REPLACE ADABAS

   If you split NATURAL into a resident portion and a thread portion, you will have to change the linkedits as indicated above for both portions. Link this version with a name different from the V3 online NATURAL and catalog it to COM-PLETE.

   The user then can execute whichever version he wishes.

4. Online Applications Programs.
   The ADAMINT modules must be assembled using the V4 ADAMINT macros and load libraries. Include the modified ADALCMP when linkediting the final program CSECTS.

Dictionary Handling

It is our intention to unload the dictionaries we now have on V3 and reload them on V4. This will enable NATURAL to work and parallel testing to proceed.

Miscellaneous Unsolved Problems and ERRATA

1. No guidelines are given as to region size required for utility runs.
2. Page 138 of the *ADABAS Utilities Manual* says DSDEV need not be specified on ADALD1 if it was defined when the data base was established. Seems to be required anyway — ERROR 23 in

ADALD1 without it.

3. Page 3 of the *ADABAS V4.1 Conversion Guide* says "files unloaded from a V3 data base using the V3 UNLOAD utility may be loaded into a V4 data base." Using the V3 UNLOAD and the V4 ADALD1 and ADALD2 gives an unending message loop of "I/O ERROR—ASSOCIATOR BLOCK 2."

In Summary:
Yes, there are some problems, as there are with anything new when first given to users who immediately do the things which everybody said "nobody will try that"! The documentation for the interface via COM-PLETE was weak (at best); but the documentation for the ADABAS components is excellent—telling "why to do" as well as "how to do". It is written from the real-world perspective of the user. Many of the new functions, formats, and controls of V4 address the daily needs and problems of the user. I hope this emphasis will continue and expand into all areas of support from Software AG.

Editor's Note:
Revised documentation will incorporate changes suggested by Ms. Odell.

A User's Experience in Converting from TOTAL to ADABAS and Dynamically Loading ADAMINT Access Modules

Randy Ebeling
University of Texas at Austin

The University of Texas at Austin purchased ADABAS, COM-PLETE, and NATURAL in January 1980 in order to handle an online card catalog and circulation system we are developing for the General Libraries of the University. As a result of many of the nice features available with ADABAS, management decided to convert all data base applications in our shop to ADABAS. We currently have the TOTAL data base management system installed and have used it quite successfully and adequately since 1972. So, the project for me as analyst in charge of the data base management system was to prepare for the conversion from TOTAL to ADABAS.

We have 253 files under TOTAL in production. These 253 files represent 29 areas or application systems, and 1200-1500 COBOL programs that access TOTAL. There are roughly 2000 EASYTRIEVE programs accessing TOTAL. All COBOL programs that access TOTAL do so through I/O subroutines. The magnitude of COBOL programs in use made the conversion of each one of them prohibitively difficult. Consequently, we decided to modify the I/O subroutines so that the application program "thought" it would be accessing TOTAL, but upon making a call to the new I/O subroutines (i.e., simulators), it would go to the ADABAS files.

The TOTAL data base management system has "master" (or owner) files and "variable" (or member) files. TOTAL requires a unique key for each master record in a master file. Variable file records can have multiple non-unique keys. This is used to associate a variable record with records in other master files.

In order to simulate TOTAL and to make the initial conversion as easy as possible, we made a one-to-one conversion of TOTAL files to ADABAS files. That is, each TOTAL master file became an ADABAS file and each TOTAL variable file that was not for cross-reference only became an ADABAS file.

After some ADABAS files were loaded, we began to modify the TOTAL I/O subroutines to form the I/O Simulators. Application programs accessing TOTAL containing the "TOTAL-call logic" were modified to make calls to the Simulator required to perform the function desired. The only changes required in the application programs were the PROGRAM-ID and the CALL statements.

We also decided that dynamic loading of ADAMINT modules was very desirable. Because we had to simulate TOTAL, the use

of the MULT modules, one-entry-point modules, and the access modules which were to be linked together was very large for some areas (over 100K). The approach we decided to take was to not use the MULT modules and the one-entry-point modules and to dynamically load only those ADAMINT access modules that a particular application program would need. To accomplish this, all calls for an ADAMINT function were done to a small ASSEMBLER program called UTONEP which was linkedited with each Simulator/application program. UTONEP dynamically loaded another program called ADAONEP. ADAONEP performed the actual dynamic loading of the individual ADAMINT access modules.

The ADAMINT access modules were named ABxxxP, where xxx is the file number, and P is an ADAMINT sequence number. This naming convention allows for multiple ADAMINT access modules per file (up to 36 providing 324 logical views of the data in any one file). The functions in each ADAMINT module are named FFxxxPSN, where FF is an abbreviation of the function to be performed (FI for FINDSET, RD for READSET, UP for UP-DATER, etc.), xxx is the file number, P is the ADAMINT sequence number, and SN is a sequence number for this function (allowing multiple FINDSETs, READSETs, etc, in each ADAMINT).

So, the Simulator would issue

MOVE 'F1041001' TO FUNCTION.
CALL 'UTONEP' USING FUNCTION
PARM-LIST.

UTONEP, which is linkedited with the Simulator, would load ADAONEP (if it is not already

loaded) and pass control to it. ADAONEP would look at bytes 3 - 6 of the function and load the ADAMINT access module whose name is AB0410. ADAONEP then saves the name and address of the ADAMINT module in an internal table, issues an 'OP041001' to AB0410, and then passes control to AB0410 to perform the 'F1041001' function. This brings us to two problems that we encountered. The first problem was the fact that passing control to a dynamically loaded module results in the module receiving control at the entry point of the module. Since each function is a different CSECT in the ADAMINT module, the control was not being passed to the correct location in the ADAMINT. So, we modified each ADAMINT access module to contain "one-entry-point" logic. That is, we passed control to a new entry point of the ADAMINT which contained logic to perform a table look-up of functions that this ADAMINT module could perform, and then passed control to the address of that function.

The Simulator could issue as many calls to this ADAMINT as desired. Each time ADAONEP received control, it determined if the required ADAMINT was already loaded. If so, control was passed to it. If not, the desired ADAMINT was loaded, an OPEN was issued, and then control was passed to that ADAMINT to perform the required function. Hence, problem number two.

ADABAS Version 3.2.1 required as a design constraint that only one OPEN be issued per user or program. We found this out only when we were testing under COM-PLETE. In TSO or BATCH, the user or program was allowed to sign on as

many times as desired, but you are signed on as a different user each time! Thus, using this method, a program accessing three files through three ADAMINT access modules signed on as three different jobs! Since we are not production status (only running parallel testing with TOTAL), and ADABAS 4.1 did not have this design constraint, we are going to continue with this approach.

In the meantime, for programs accessing ADABAS under COM-PLETE, I wrote a special version of UTONEP and ADAONEP and require that the first call to UTONEP be an OPEN specifying what files will be accessed and/or updated. This new ADAONEP then loads the appropriate ADAMINT access module, issues a direct call to ADABAS to perform the sign on, issues an OPEN to the ADAMINT to set the first time switches, and finally passes control to the ADAMINT to perform the requested function.

One other shop-tailored program was written. The program is UTHOOK. UTHOOK, CMNDID, ADERC321, and ENVUDUMP are linkedited with each ADAMINT access module. UTHOOK has a CSECT name of ADABAS, so that when an ADAMINT module issues a call to ADABAS, UTHOOK receives control. UTHOOK determines if the job-name is COM-PLETE (i.e., the program is running under the control of COM-PLETE) or not (i.e., running as a BATCH or TSO job/user). If the jobname is COM-PLETE, then UTHOOK dynamically loads ADALCMP. If not, then UTHOOK dynamically loads ADAHOOK. This allows for not requiring different linkedit pro-

cedures for each "kind" of application program, but this brought another problem - that of having multiple copies of each of these modules. Of particular interest was having multiple copies of CMNDID. One ADAMINT will use the CMNDID module linkedited with it while another ADAMINT will use a different copy of CMNDID, thus allowing for the possibility of duplicate command IDs. We expect this potential problem to be alleviated with Version 4.1.

After the initial conversion to ADABAS, we plan to examine each area to determine that the file design makes use of all of the ADABAS capabilities and begin to convert all application programs to use "ADABAS-call logic"; that is, all application programs will issue calls to UTONEP.

We preferred the dynamic loading of ADAMINT access modules to the dynamic loading of a module that contains each ADAMINT access module, the MULT module, and one-entry-point module for several reasons. One of the major reasons was that we felt a program should have access to only what it needs to perform the functions performed. But, due to our size, a separate MULT module, one-entry-point module, and access module for each application program was not feasible. Since we are simulating TOTAL, we would have had to link every ADAMINT access module, MULT module, and one-entry-point module together for that area. Some of these modules were over 100K and we felt that this was unacceptable. The other major reason for our approach is that by not hard linking any ADAMINT or ADABAS module to application programs, we have insulated them from any changes made by Software AG. Changes or enhancements by Software AG to ADABAS or ADAMINT can be incorporated in changes to ADAONEP without any change to the application programs.

If you have any questions or comments concerning the work we have done, please feel free to contact me at (512) 471-7128.

ADABAS Special Interest Group Reports

Restart/Recovery

Bob Taylor
Evans Products

Now that Version 4.1 is available and there are some users of it, I would like to solicit feedback about it and the new documentation. As you are probably aware, a significant amount of effort has been expended in improving the 4.1 documentation. I believe that this Special Interest Group should vigorously pursue the ideal of having the Restart/Recovery documentation be capable of providing the answers to those 'sticky' situations that arise when using the recovery features at some ungodly hour in the morning. It is usually very difficult at this time of day to reach an expert that can help you. The first line of defense has to be the documentation. It should, I believe, be able to guide you through the procedures in a very clear precise manner. To this end I am asking any users who have had problems in using the 4.1 documentation on Restart/Recovery to contact me by letter or phone so that we can compile a compendium of problems for our use and also for Software AG to use in improving the documentation. The reason for making this the primary goal of this group is that the yearly survey shows consistently how poorly regarded the Version 3 documentation is. All of my conversations with users who have had difficulties in using Restart/Recovery also indicate that documentation is the major source of the problems. I encourage you to participate in this venture. If there are other areas you would like to see addressed, please contact me.

DOS Version 4.1

Bernie Connors
Ray-O-Vac

Beta testing of ADABAS Version 4 for DOS is being done by David Del Rio and Peter Harris at Bud Antel, Inc. of California. Ray-O-Vac and Verex, both of Madison, Wisconsin, will be additional beta test sites but no dates have been established for installing there.

What is going on in the world of DOS Users???

Why not share something you are doing with the rest of the DOS users community! Drop me a line or call me at 608-252-7557.

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ADABAS Product Rep's Report

Product Representative's Report

Jennifer Lee
Aerospace Corporation

More than 120 installations have received the Version 4.1 installation package. The feedback I have received from users indicates that the documentation accompanying the installation tape is extensive and highly informative. Those organizations that have installed Version 4.1 are in varying stages of evaluation. A few users are now running ADABAS 4.1 in production with good results. However, by and large, most ADABAS shops have opted to run Version 4.1 in a paralleling stage. This affords users a good opportunity to test the new features provided in Version 4.1.

Change/Enhancement requests are due December 12. For Change/Enhancements to be effective this year the user community must make a particular effort to thoroughly examine Version 4.1 capabilities. I urge that all users work together within their regions to share their findings and exchange ideas and recommendations for Change/Enhancements, particularly since not all organizations will have had the chance to install Version 4.1. The regional meetings provide an excellent setting for the discussion of parallel test results and production experiences. I highly recommend that a special meeting be held in each region devoted to Change/Enhance-ments, and that every attempt be made to obtain and circulate the available knowledge on Version 4.1 within each region.

I would like to take this opportunity to announce my move to Aerospace Corporation. Aerospace is a new user of ADABAS and has recognized the need for a data base for quite some time. My first task at Aerospace has been to determine the requirements of the data base, both storage resources and human resources. Once the decision has been made to install a corporate data base, the next step is to gather the necessary personnel to support the software and systems that interface with the data base. Aerospace is fortunate in having a number of people with experience in data base systems. Together, we are preparing a proposal to form a Data Base Committee that will draw upon personnel from all areas of the corporation. The proposal will first present an overview of ADABAS and its anticipated impact upon the corporation. A list of functions necessary to support and control data base activities is being compiled along with the responsibilities those functions entail. Furthermore, a list of requirements for each department is being determined in order to establish and direct user involvement with data base systems, the Data Base Committee. Finally, initial positions needed to carry out data base functions as well as the job descriptions and required skills and education to fulfill those positions will be proposed.

The formation of a Data Base Committee offers the immediate benefit of corporate cooperation and data base management without imposing upon the present organizational hierarchy. It is felt that a Data Base Committee will allow for the evolution of a data administration department within the corporation as data base systems continue to expand. The first task of the Data Base Committee will be to establish standards and procedures for the implementation of data base systems. Training will be accomplished by working with a rather small non-critical application system that will be converted to access ADABAS. Members of the Committee who do not have previous exposure to ADABAS will quickly learn by attending classes and by working closely with those who have already acquired a knowledge of ADABAS.

The problems encountered in staffing the data base group are concerns of the entire user community. Data base activities have continued to expand and the Data Dictionary has allowed users to establish better controls over non-ADABAS data as well as data stored in the data base. Some organizations have already witnessed the evolution of the data base management department grow into a Data Administration Department that manages all aspects of a corporation's data. It behooves us all to actively participate in discussions and workshops that will assist users to improve staffing and training techniques and resolve the problems that arise from the rapid expansion of our data base responsibilities.

COM-PLETE News

COM-PLETE Technical Notes

COM-PLETE Interface with JES

Chris Wooldridge
Software AG

Among the major product enhancements included in the COM-PLETE Version 4.0 system is an interface to JES. This is a good opportunity for us to describe this interface and its affect on the COM-PLETE system.

COM-PLETE's points of contact with the installation's Job Entry Subsystem (JES) have been redesigned and rewritten to provide new capabilities and modularity.

This was done principally to allow: JES interchangeability, support of new spooling systems, and "customization" of the interface.

The two areas affected by these changes are the Remote Job Entry facility and the UQ utility program. We will describe these areas and the generalized JES interface structure developed to deal with them.

JES Interface Modules

A JES Interface Module (JIM) is a collection of routines used by COM-PLETE and its utilities to accomplish functions which are dependent on the Job Entry Subsystem (JES) in use at a particular installation. A JIM exists for each JES or spooling system supported by COM-PLETE in any operating system environment.

JIM modules reside on COM-PLETE's STEPLIB dataset with names prefixed by the characters "TTJI". During COM-PLETE initialization the appropriate JIM module is selected (JES-startup parameter) and loaded into COM-PLETE storage by module TLINJES. The JIM's entry point address is placed into COM-PLETE's COMREG for use by COM-PLETE routines.

The JIM may be optionally pagefixed by specifying it as a resident fixed program (e.g., RESIDENTFIX = TTJIVS).

JIM modules are always entered in COM-PLETE's protect key, supervisor state. JIM code must be reentrant to allow for the possibility of multiple-thread access (only the initialization and termination calls need not be reentrant).

When invoked directly by COM-PLETE routines (e.g., TLSRRJE), the JIM module runs with service routine status. This implies that although access to OS and internal COM-PLETE supervisor routines is unrestricted, the JIM module may not issue any COM-PLETE operation calls (MCALL). It also should not ABEND, as this would also abnormally terminate COM-PLETE.

When directly invoked by a user program running in a thread (e.q., UQ), the JIM runs with privileged user program status. This implies unrestricted availability to OS and COM-PLETE internal functions and the ability to use MCALL functions. ABENDs will not affect the

monitor as a whole.

To allow for the limited testing of new JIM modules as they are developed, a testing interface is available in UQ. Users should note that the JIM functions used by COM-PLETE routines (e.g., RJE) cannot be tested by this method; therefore, the routines used to accomplish UQ functions should not depend on the execution of non-UQ functions if a test environment is desired.

Remote Job Entry

COM-PLETE's Remote Job Entry (RJE) facility has been redesigned and rewritten for Version 4. Some changes are not end user transparent and so users should check for possible incompatibilities. These changes concern the RJE function return codes and the addition of a resident user exit to allow the security checking of input data.

Enhancements to the system include extended reader error recovery in VS1 and UEDIT SUBMIT changes.

Return Codes

Return codes from the RJE function now correspond with the documentation. In addition, a new return code (12) has been added to allow the new user exit ULSRRJE to reflect a security error to the application program.

ULSRRJE User Exit

A new user exit, ULSRRJE, is available to installations wishing to examine and/or modify remote RJE data submitted for background processing via the RJE function call. This exit, similar in capability and function to the present UEDIT RJE exit UUEEX3, has the advantage of being able to process RJE requests from any source, not just the editor.

ULSRRJE will eventually replace UUEEX3.

The method COM-PLETE uses to accomplish the RJE function varies with the Job Entry Subsystem in use at a given installation. So, the JES-dependent portion of the RJE code is wholly contained in JES Interface Modules (JIMs). This code is called by the RJE operation handler, TLSRRJE. To control Remote Job Entry without modifying the JIM code, ULSRRJE is invoked by TLSRRJE before the submission for each card-image transferred and at the end of the submission. Possible uses for the exit include syntax-checking JCL, enforcing installation standards, and inserting UQ security statements into the input stream.

ULSRRJE is linkedited into the resident COM-PLETE nucleus and is invoked with service-routine status; e.g., it is in COM-PLETE's protect key and all COM-PLETE and supervisor calls are valid. If an ABEND occurs in the exit, all of COM-PLETE will be abnormally terminated. The exit routine must be reentrant to allow for multiple-thread access. COM-PLETE user program functions (MCALL) are not available to the exit. Any environmental data (USERID, TID, etc.) must be obtained from the standard COM-PLETE control blocks passed to the exit.

A dummy ULSRRJE module will be distributed with the COM-PLETE system as a member of the distribution source and load libraries. No security will exist on the RJE function if these members are not replaced.

Extended VS1 Reader Error Recovery

In previous versions of the system it was possible (in VS1

environments) for the JES task assigned to COM-PLETE's dummy card reader to lose synchronization with COM-PLETE. This could happen in two different ways: either occurrence would mean a re-IPL of the computer in order to restore COM-PLETE's RJE capability. Version 4 of COM-PLETE has been enhanced to provide recovery from those situations without having to reinitialize either COM-PLETE or the operating system.

One effect of these changes is that an installation running COM-PLETE under VS1 may feel free to stop and restart the COMRDR task any time required.

UEDIT Submit Changes

The command processor will now honor return code 12 from the RJE functions (request rejected by ULSRRJE) by returning to UEDIT's menu page with the message "SUBMIT ABORTED".

UERJE will attempt to use all possible thread storage to compose blocks of data for RJE submission. At its default catalog size (30K), this results in blocks of up to 340 statements being submitted per call.

In addition, the rollout algorithm used by UERJE has been revised to roll based on elapsed time limits.

UQ Utility

Those areas of the UQ utility that deal with the JES system have been rewritten to use the JES Interface Modules. In addition, several minor enhancements have been added to the utility:

* An "environment line" has been added to the VS1 active display, describing the operating environment, date

and time. Paging rate information is suppressed if the system is in a non-paging VM environment, or if the system's SMF facilities are not active;

- The SQ= (sort queue) keyword is now supported in all environments, including VS1. The job queue will be sorted in the requested order before display.

  VS1 job numbers in excess of 65535 will be accepted and displayed;

- The use or a more efficient block index structure, a spool data buffer pool, and retention of "open" spool datasets have increased the efficiency of this function in amounts that vary with the usage and catalog size of UQ;

- SYSLOG datasets are now available to the S function in VS1 environments;

- Previous versions of UQ's S function behaved unpredictably when the number of spool dataset lines or the spool track address exceeded 32767. These restrictions no longer exist;

- The K (issue operator command) function no longer prompts for the command text; it must be given at the entry of the command. This test is available in field QUCAIPT for inspection by the UQ user exit routine when called;

- Entry of the K command will always force the next UQ operation to be M (operator messages display);

- An attempt to change the job class or destination of a job when in any "op" routine is detected and

results in a call to UQOPH to perform the requested function. UQOPH sets the next "op" to Q, so that the result of a successful re-route or change of class is a new display of the modified job;

- Terminal attentions during extended UQ processing are now honored in PT= and DC= processing, as well as in SC=. Rollouts during this extended processing are now based on elapsed time.

Instant On-Site Support

Alan Routhier
County of Sacramento

With receipt of COM-PLETE 3.0 System Maintenance level 5 (SM-5), users received a nice surprise—a new utility named *UONSIT. However, we soon found that it is not an "active" user utility (execution produces only an error message). This is because *UONSIT is a part of Instant On-Site Support and so is for the use of Software AG technicians. For those of you unfamiliar with this COM-PLETE feature, Instant On-Site Support is the vehicle by which Software AG transmits complex fixes for known problems to users in a few minutes over a 300 BPS, asynchronous, dial-up telephone link.

Instant On-Site Support actually consists of more than just the utility which each user has been instructed to install. At the Software AG end of the telephone link, a micro-processor computer loads information such as maps, source code, or docu-

mentation into its memory. It is then connected to the telephone link which has already been logged onto the user's computer system. By executing *UONSIT, the micro-processor is then able to place the stored information onto a user specified PDS (or library). Software AG can then disconnect from the telephone link and the user can access the information at will using existing COM-PLETE utilities such as *UEDIT. One or more PDS members can be created this way.

From the user end, the procedure is relatively simple. Besides installing the *UONSIT utility, the user must have available a 300 BPS, asynchronous (or teletype) protocol, dial-in port on his computer system. Once these are in place, all the user needs to do is wait for a problem to occur. The problem is then reported through normal channels to Software AG Technical Support. The solution to the problem may be given over the telephone (using voice), or it may be determined that Instant On-Site Support is the best method to communicate the fix. If the latter is chosen, the user will be instructed as to the nature of the fix and how to apply it. The user will then give the Software AG representative a USERID with its associated password with which he can logon to the user's computer system, a two-character LIBRARY-ID of the PDS which will hold the transmitted information, the agreed-upon member name(s) to be used on the PDS, and the telephone number of the dial-up port. The Software AG representative will then dial into the user's computer system and transmit the information.

If the user is concerned about the security of his system, he can do several things:

- Lock the USERID when it is not in use, or change its associated password;
- Do not assign the USERID control status;
- Write COM-PLETE security exits which restrict what the USERID can do.

Users should also be aware that this telephone link can be used by Software AG to diagnose problems, as well as transmit solutions to them. Utilities such as USTOR, UDUMP, and UDQCB can provide a Software AG representative with useful and quick information, if he chooses

to dial in and use them.

Several users have utilized the Instant On-Site Support feature already. During the past year, Foremost Insurance has used it several times. Ted Nikodem of Foremost is very happy with the feature and says that it eliminates transcription errors, especially in complex zaps. Since occasional line errors can affect the transmission of the information, the Software AG representative can verify the successful transmission of the data by using the *UPDS utility to examine it once it is sent. The data can be retransmitted, if necessary, until it is correct. However, these problems do not

occur very often.

Dale Hendricks of the University of South Dakota is also satisfied with the feature. He likes the fact that it is quick and that he does not have to key in fixes before he can apply them. Once the Software AG representative has logged onto Dale's system, he rarely has problems transmitting the information.

It seems that many more COM-PLETE users will soon be using Instant On-site Support. It is a tested feature which has been useful to several users already. If you want this type of quick, easy, and reliable support, then install *UONSIT and a dial-up port and you shall have it.

COM-PLETE Special Interest Group Reports

Performance and Tuning

Don Bush
NAVCO

In this edition of the Newsletter, I would like to briefly discuss some of the areas of COM-PLETE performance monitoring and the available means of problem determination. Also, toward the end, I will draw your attention to the related user programs distributed by Software AG as the fifth dataset on the SM-5

maintenance tape for COM-PLETE along with a few others which will be available soon.

At this time I would like to ask the user community for any performance ideas, questions and/or programs which would benefit those of us who might not have much experience with COM-PLETE or with tuning such an ephemeral subject as a multi-tasked teleprocessing system. When COM-PLETE is functioning normally, tasks fleet in and out of the CPU almost faster than we can capture them to monitor. Software AG acts as the distributing agent for user programs

and, at your specific request, will send a tape containing these programs (processing charges for this service are $15.00).

COM-PLETE Performance Monitoring Facilities

System Messages

With a copy of the COM-PLETE Messages and Codes Manual, one may scan and interpret messages issued by COM-PLETE by entering

*UQ S, JB = COM-PLETE, SI = SM

(This assumes that the COM-PLETE job is under

HASP/JES.) Many problems can be found this way and perhaps can be corrected before seriously impacting the entire TP network.

Small Buffer Pool
These 16-byte-incremented buffers used mainly for terminal I/O are sometimes limited by the heavy use of message switching and print-out spooling. A means of monitoring the fragmented space available and the total remaining is:

*USTOR SBP.

Thread Utilization
The current status of the tasks (threads) running under COM-PLETE may be examined with the following:

*UQ K &DTASKS or,

*UQ K &DISP.

The meaning of each column display can be found in the *COM-PLETE Computer Operator Reference Manual.*

Ready-to-Run Queue
The terminals waiting to be processed, if any, appear in a display supplied by:

*USTOR QS.

The number left of the equal sign is the thread queue number:

    8 = thread 0, priority 1
    12 = thread 1, priority 1
    16 = thread 2, priority 1
       = etc.

and the numbers to the right of the equal sign are TID numbers.

Space Available and Directory Block Usage
By entering "*ULIB DIS,SDF,

AVAIL" you may obtain the fragmented space available in the COM-PLETE SD file.
By entering "*ULIB DIS,SDF, DIR" you may see how many user SD files are allocated to each directory block.

Program Library Free Space
By running the COM-PLETE batch utility, TULIWOFL, when COM-PLETE is inactive and then the utility, TULILODL, the person responsible for maintenance can determine the space utilization for PGMLIB while obtaining a backup of the PGMLIB.

ADABAS Usage
The COM-PLETE/ADABAS interface module, TLOPADAB, maintains a block of counters in COMREG regarding total ADABAS calls, etc., which may be helpful in tuning the online usage of ADABAS.

Application Program Dependability
Occasionally, the COM-PLETE dump dataset should be scanned with the utility, "*UDUMP ALL", to determine whether or not a program might be causing performance problems and has dumped.

User Programs Distributed on SM-5 Tape
TPSTAT - Teleprocessing Statistics
This utility displays resource utilization per thread and per application, averaging the important values such as EXCPs ran, CPU ran, etc.

Format is "*TPSTAT" (depressing enter to refresh).

UX - Display of Logged-On Users
A replacement for "UU" on

"COM.LOAD", it shows TID, USERID, and program. Program "U" shows the same but also indicates the thread number of those users active and queued for threads.

Format is "*U NN" (where NN is display interval in seconds).

DBSTAT - Data Base (ADABAS) Status
This utility displays the status of the COM-PLETE/ADABAS interface. It shows the V3.2.1 ADABAS SVC, the ADAROLL value, and the ADABAS call values maintained in COMREG.

Format is "*DBSTAT" (depressing enter to refresh).

UTQ - Threads and Terminal Queues
This very helpful utility displays on the top half of a 3270 the current status of the threads assigned to COM-PLETE. On the bottom half of the screen it displays those terminals waiting for the threads giving TID, USERID, and program, etc. Auxiliary programs are "T" which displays similar to "DTASKS" and "Q" which displays similar to " USTOR QS".

Format is "*UTQ NN" (where NN is display interval in seconds).

TID - Display Status of TIDIB
This COM-PLETE utility interprets the status bits of the TIB and displays in English the meaning along with USERID and program.

Format is "*TID" or "*TID NNN" (blank = 1 thru end, NNN = only).

Other Routines

In addition to these routines, the following user-written programs have been forwarded to Software AG for possible inclusion on the user contributed program library.

TPMON - Teleprocessing Monitor

This monitoring utility is attached by TPMONB and submits batch job TPANAL. It gathers accounting information on an interval basis and places it in SD files for further analysis.

Format is "*TMONB" (attaches TPMON; timing defaults in program).

UNIT - Displays Terminal Units

Simple TID vs. CUU display showing all terminal UCBS currently assigned to COM-PLETE. Issuers TID/CUU is flagged with "*".

Format is "*UNIT".

UPERF - Performance Rate Display Monitor

Over an interval assigned by the user, this utility shows the rate of transactions, rate of thread time used, rate of CPU time used, rate of EXCPs, rate of terminal data, and rate of message switching and printout spooling for performance monitoring.

Format is "*UPERF NN" (where NN is sample interval in seconds).

UPRTY - Display or Change Priority

For giving that special user of TID a "boost". Displays or changes the TIBPRTY and TIBDPRTY for a given USERID.

Format is "*UPRTY USERID PRTY" (where PRTY = 0, 1, 2, 3).

USTAT - Displays Users in Each Thread

Displays 4 columns, one per thread, under which is the "U:/UU" information: TID, USERID, program and status. This is very useful in determining those long running programs.

Format is "*USTAT NN" (where NN is display interval in seconds).

Integration

Stephen Clark
County of Sacramento

In the last Newsletter, I indicated that I would be discussing the Data Dictionary from an integrated point of view. Since then, I have been actively involved in another "product integration" situation; I'd like to discuss it now. The problem area is NATURAL and ADABAS response code handling.

In developing the initial NATURAL release, Software AG wanted to remove the need for users to be concerned with ADABAS response code handling. While this is an excellent goal, I take issue with its implementation. Currently, a NATURAL application will abend when an unexpected response code is received; the user must start over again. In Version 3.2.1 of ADABAS, response code 145 causes this condition to occur. (My understanding of Version 4.1.1 is that the same situation exists when a current transaction is backed out and the user receives a response code 9.)

County of Sacramento has developed a variety of NATURAL applications, many of which are very complex. In some of these NATURAL programs, ADABAS calls are being performed from nested loops and data is being accumulated in outer loops for future use. When an unexpected response code is encountered, NATURAL displays a message, transfers permanently out of the application program and returns to NATURAL. By doing this, data stored in the outer loops is lost. In an online environment this data is difficult to recover. It may not be possible to simply rerun the application.

As other users implement NATURAL more extensively, they may have needs similar to ours. Software AG has indicated that you can lessen the effect of this current NATURAL characteristic by careful design of your data base and NATURAL applications. Recognizing this in advance may help you avoid it completely.

Software AG is aware of this problem and will implement a solution via an "ON ERROR" conditional statement. The user will have the ability to reexecute the current application's transaction or to terminate the application gracefully. This feature is planned for NATURAL Version 2.

The "on error" condition meets our immediate needs; however, I believe NATURAL should have the capability to retry or terminate a loop, transaction or application, or even abend based on the severity of the ADABAS response code.

Many users want NATURAL to be truly flexible in the way it handles ADABAS response codes. If you believe modifications are necessary for your organization to utilize NATURAL completely, please express your concern through the Change/Enhancement process. I'll be adding it on our list of integration needs: "Better integration of online NATURAL and ADABAS in respect to response codes".

COM-PLETE Product Rep's Report

Product Representative's Report

Alan Routhier
County of Sacramento

The County of Sacramento has been a user of COM-PLETE for over three years now. I have seen the product improve in the areas of reliability, useful features, technical support, and range of users with the increase in the number of supported operating systems. Although COM-PLETE has matured over this period, users still are expressing concern to me in three main areas:

- New features and enhancements;
- Technical support;
- Online applications performance.

By reading the COM-PLETE Change/Enhancement requests which were published in the Spring of 1980, you can see the range of new features and enhancements which users want. COM-PLETE is being used to solve a wide range of online application system problems, some of which the author of COM-PLETE did not originally anticipate. This is understandable. Because Software AG has limited resources and time to satisfy all of the user requests, they depend upon feedback from the Users' Group to not only make requests, but to prioritize them. This is what the Change/Enhancement procedure is for, and, in general, it is working well. Version 4.0 of COM-PLETE, which will be available in the first quarter of 1981, will have many of the features we have been asking for. If you have a need for a specific feature or enhancement, then submit it to the Users' Group and lobby for support for it through the Newsletter and at the annual Conference.

Concerns with technical support vary from user to user. Some users are happy with the support they are getting, others are dissatisfied. Both the Users' Group and Software AG would like to know what your difficulties and frustrations are in this area. A Technical Support Committee has been formed to gather this information through Regional Representatives as well as through direct contact. Again, you are given the opportunity to express your concerns in a convenient manner to people who want to hear from you. I would hope that happy users would also let the committee know why they are satisfied, so that Software AG will know what they are doing right, as well as what they may be doing wrong.

User concerns with online applications performance under COM-PLETE also have a focal point. The COM-PLETE Performance and Tuning Special Interest Group is waiting to hear from you. It is very easy.to call Mr. Donald Bush and tell him your problems. The information passed on by these calls will appear in Newsletter articles and will be discussed at the annual Conference.

As long as there is an active Users' Group, we will be hearing about and publicizing various user concerns and problems. The success of the Users' Group is measured by the length of time these problems persist. We not only present them to Software AG, but we also try to help Software AG find solutions. Please call me or anyone else in the Users' Group whenever you have an urge to talk about your concerns or your successes. Problems will always be with us, but it takes concerned users and an active Users' Group to solve old problems and tackle new problems. Software AG does listen to us, and I am waiting to hear from you.

COM-PLETE Special Interest Group Chairpersons

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NATURAL News

NATURAL Is International

Galen Aoki
Bud Antle

It is well known that NATURAL is language-independent. This flexibility is provided by NATURAL keyword modification and is described in the *NATURAL Installation and Operations Manual*. The translation itself is transparent to the operating system and hardware. Although this can be useful to installations and users for whom English is a second language, discussion at the Houston Users' Conference pointed out that this capability is largely unused. Could it be that this is something you need but just have not had time to implement?

Bud Antle has agreed to act as a clearing house for translation tapes. We will accept all translations and send translation tapes upon request. (You will be asked to cover tape and shipping expenses.) We will use the Newsletter to request specific language "interfaces" not currently available for distribution—and to publicize availability of translations contributed by the user community.

Currently two translation sys-

tems are available: Spanish and German. Should your installation want to install either of these systems, please contact:

Mr. Galen Aoki
Bud Antle, Inc.
P.O. Box 1759
Salinas, California 93901
(408) 422-8871

NOTE WELL: Neither Bud Antle nor SAGNA guarantee the accuracy of any translation and neither intend to maintain the interface with product upgrades.

NATURAL Features

Jim Reiner
County of Sacramento

Hi NATURAL users!

During NATURAL's short time of existence, I've had the opportunity of working with the language extensively—all the way from installing NATURAL to programming with it. Quite often I've found myself in the situation where I thought to myself "I wish NATURAL handled this differently", or "I wish there were an easier way to do this". No doubt at some time many of you NATURAL programmers have en-

countered a similar situation. Well, in order to funnel all the "I wishes" into a common place where they can be heard and evaluated, I'm forming a Special Interest Group entitled "NATURAL Features".

The objective of the group will be to share concerns, wants, and wishes so as to give priority to upcoming NATURAL enhancements. We will be concerned with features from both the programmer and the user environments.

All user comments and suggestions in these areas are welcome. Please send comments and suggestions to:

Jim Reiner
Data Center Support Unit
Room 0740
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(916) 440-6301

NATURAL Technical Notes

NATURAL User Exit To Save Programs On An OS PDS

Walt Kapica
Johnson and Johnson

A NATURAL user exit is provided to allow the user/client to save NATURAL source and object programs somewhere other than an ADABAS file. The exit name is "CMPEXIT" and is described in the *NATURAL Installation and Operations Manual*. We use the exit to store NATURAL source and object programs on an OS PDS.

Environment used to run ADABAS at Johnson and Johnson (Raritan):

ADABAS Version 3.2.1 (moving to Version 4.1.1 soon) runs on an IBM 370/168 (8 Meg.). Disk drives are IBM 3350's. The operating system is MVS and our primary TP monitor is TSO (some CICS). We have a production and test data base. We do not use ADASCRIPT+ or ADACOM. Most major system development and all retrieval (one time shots) applications are done using NATURAL.

History of the NATURAL exit at Johnson and Johnson (Raritan):

We received NATURAL (as a Beta test) in January 1980. There were some problems with the early versions of NATURAL in a TSO environment. Naturally, we contacted Software AG regarding these problems. They put us in touch with their Development Office in Seattle which was a great help in resolving these early problems. Usually if a problem was reported in the morning, a zap was on the way to fix the bug that same afternoon.

We decided very early that we did not want to store our NATURAL source and object programs on the system file, in our case, the Data Dictionary, so we set out to make use of the exit that is described in the *NATURAL Installation and Operations Manual*. At the time, the documentation on the parameters for the NATURAL exit (CMPEXIT) was not accurate. This has been corrected. These documentation errors caused us some grief as you can well imagine. Since we were the first company to try to make use of the exit, we contributed significantly to correcting the documentation. Thank goodness we were not on a tight production schedule.

Reasons why we wanted to use the exit:

1. To provide security for our programs.
2. NATURAL's text editor does not meet our needs.
3. We had no way to control the amount of programs placed on the Data Dictionary; therefore, the amount of space that would be required to hold all the source programs and object modules would be difficult to calculate.
4. Programs that must be run on the test data base would have to be duplicated in order to run on the production data base.
5. Run NATURAL with no data base.

Problems resolved with exit:

1. Security:
   Since all our programs reside on a PDS, it is possible to establish a separate PDS for each user. Also, we have a system PDS that can be accessed but is password write-protected. Separate PDS data sets have been established for production applications. These contain the programs (sometimes only the object modules) that an end user/client will run. In a single NATURAL session, it is possible to logon to any of these data sets by just typing a new logon.
2. NATURAL editor:
   We are using SPF under TSO. SPF has a very good full screen editor. To create a new NATURAL program we usually start out under SPF by trying to "steal" code that already works in some other NATURAL program. This is followed by a NATURAL session to verify that the new program is correct. If minor changes are required, we make the changes in NATURAL and save the program; otherwise, we leave the NATURAL environment and make all our changes under SPF. The cycle continues until the program is complete.
3. Space requirements:
   Programs stored on a PDS will usually consume more disk space than if they were stored on the Data Dic-

tionary; however, each user is responsible for his/her own PDS. We have found that people are more apt to delete programs which are no longer required when they are responsible for them. This has proven to be true. Backup of the PDS datasets are done as a normal part of our facility's daily maintenance; therefore, it is possible to recover any of these data sets if necessary.

4. Production vs. Test: Since the programs reside outside the data base, they can be run against the test or production data base. For anyone running two data bases, you can understand why this is an advantage. Also, since we now only need one copy of any program, the disk space used to hold programs is further reduced.

Limitations:

We have noted the following limitations with our version of the exit:

1. SPF does not change/refer back numbers when a line of code is added to a NATURAL program. We have been able to bypass this problem by trying to eliminate the use of the "refer back" whenever possible. This can be accomplished by using subroutines. Also, we use a lot of comment lines so that we can insert new lines of code without having to worry about sequence numbers. This is the only 'real' problem.

2. The exit will only handle programs that are 999 records

or less for one program. This is because it will always resequence in sets of 10. We happen to think this is an advantage because it prevents very large NATURAL programs which we feel would be undesirable.

3. The exit does not work under CICS.

Sorry, but that's not on our list of top priorities. Currently, we use CICS very little.

4. The exit is not coded re-entrant.

Operational considerations:

1. You must be at NATURAL zap level 0005 or greater. Fixes have been applied from zap level 0003 to zap level 0005 that make the exit work.

2. You must establish a NATURAL system source and object PDS. The block size of the system object PDS must be as large (or larger) than any other PDS that you intend to open. The DCB information for our PDS datasets is as follows:

Source:
RECFM = FB, LRECL = 80,
BLKSIZE = 4560, DSORG = PO

Object:
RECFM = FB, LRECL = 1000,
BLKSIZE = 19000, DSORG = PO

3. This exit is invoked by NATURAL when you issue one of the following commands:

   a. Catalog program-name user-ID
   b. Edit program-name user-ID
   c. Execute program-name user-ID

   d. List modules
   e. List programs
   f. Purge program-name
   g. Run program-name user-ID
   h. Save program-name user-ID
   i. Uncatalog program- name
   j. Fetch program-name

The NATURAL CLIST will try to allocate the NATURAL system source file and NATURAL system object file by default.

4. System files:
The NATURAL CLIST will attempt to allocate the system files as SHR. If this is not possible, the job will abend.

5. User files:
The NATURAL CLIST will attempt to allocate user source and object files as SHR. If this is not possible, the CLIST will issue a warning that the dataset cannot be allocated and the job will continue. If user source and object PDS datasets cannot be allocated, the user will fail on any attempt to gain access to them in NATURAL. Only the first 6 positions of your ID are used.

6. User files (special features):
It is possible to bring in additional user PDS into a NATURAL session.

   This is done as follows:

```
ALLOC F(NSUSERID) DA('NAME.NAT.SRC')SHR
ALLOC F(NOUSERID) DA('NAME.NAT.OBJ')SHR
```

When you logon to NATURAL, type the following:

```
LOGON USERID PASS
```

This will make the above datasets available to you.

USERID can be a maximum of 8 positions, but only the first 6 positions are used for the DDNAME.

Depending on the NATURAL function requested, CMPEXIT will prefix an "NS" (for NATURAL source) or "NO" (for NATURAL object) to the USERID and attempt an open against that DDNAME. For example, if you sign on with the name "SMITH", and try to list programs, CMPEXIT will try to open the dataset allocated to NSSMITH. If you try to list object modules, CMPEXIT will try to open the dataset allocated to NOSMITH. If the open fails (could be that the dataset was not allocated), NATURAL will return with an error message.

You should never concatenate PDS source or object datasets into a NATURAL session. This is because the dataset has the possibility of being updated. Use different allocate statements if you want multiple datasets.

NATURAL documentation states that NATURAL will attempt to locate the program to be located using the "USERID" in effect at the time the fetch is issued. If the program is not found, NATURAL will attempt to locate the program using the USERID system. NOTE: This does not occur because of the exit. Only the "USERID" PDS is searched. The system file is not.

The NATURAL exit will always resequence your source programs in sequences of 10; therefore, you should always renumber (.R) before you save your program so that the line numbers will be the same when you edit it again. The maximum number of lines allowed in any one NATURAL program is 999.

If you experience a B37 or E37 abend while trying to update or create a member in the PDS, this means that you have run out of PDS directory or data space. If you sign off NATURAL, the member will be lost. TSO USER NOTE: You can ask another TSO user to compress your PDS while you are still signed on to NATURAL (NATURAL has your program in its work area). After the "compress', your PDS may now have enough space to save your member. Just issue the SAVE/CATALOG command again.

NATURAL Tips and Techniques

Jim Forestell
Software AG

Terminal Considerations in Screen Map Design

Although NATURAL boasts the ability to generate programs which are terminal independent, there are screen designs which are better suited to both buffered (3270-type) and unbuffered (TTY-type) terminals. Consider the three screen maps shown which are intended to accomplish the same thing:

```
* EXAMPLE 1
INPUT 'PLACE AN X IN FRONT OF THE DESIRED OPTION:' //
'(' OPT1(A1) ') ADD A RECORD' /
'(' OPT2(A1) ') CHANGE A RECORD' /
'(' OPT3(A1) ') DELETE A RECORD'
* OTHER PROGRAM STATEENTS
END
```

```
* EXAMPLE 2
INPUT 'PLACE AN X NEXT TO THE DESIRED OPTION:' //
'ADD A RECORD          (' OPT1(A1) ')' /
'CHANGE A RECORD       (' OPT2(A1) ')' /
'DELETE A RECORD       (' OPT3(A1) ')'
* OTHER PROGRAM STATEMENTS
END
```

```
* EXAMPLE 3
FORMAT SG = OFF
INPUT 'SELECT ONE OF THE FOLLOWING OPTIONS:' //
'(1)    ADD A RECORD' /
'(2)    CHANGE A RECORD' /
'(3)    DELETE A RECORD' //
'ENTER THE DESIRED OPTION NUMBER HERE:' #OPT(N1)
* OTHER PROGRAM STATEMENTS
END
```

If the application is to be run exclusively on a buffered terminal, any of these three screen maps would be fine. However, if the application will ever be run on an unbuffered terminal, then the best choice among the three examples shown is Example 3.

NATURAL processes screen maps on an unbuffered terminal one line at a time going left to right from top to bottom. The cursor will stop for any *IN or *OUTIN field encountered before continuing across the line. Thus, the key to developing screen maps for unbuffered terminal users should be to show the user all of the required options before requiring anything to be entered. Example 1 does not allow the user to see a single option until he has entered something (the cursor will stop at the field OPT1 before displaying the following text). This example would be totally unacceptable for unbuffered terminals. Example 2 has text preceding each option but the user is shown only one option at a time. He must be aware of the succeeding options as he will not see them ahead of time. Example 2 is better than Example 1 but should still be considered unacceptable. Example 3 displays all options before anything must be entered. This approach is best.

Break Processing on Super and Subdescriptors

Users who have attempted to use a super or subdescriptor in an AT BREAK statement surely have experienced the NAT0290 error message (which states that the field is improperly used or the name of the field used is invalid). Break processing involves reading the specified field from Data Storage. Since super and subdescriptors are not stored in Data Storage, they cannot be read - the reason for the error.

To accomplish break processing on these descriptors requires that the source fields which make up either the super or subdescriptor be retrieved from Data Storage. Example 4 demonstrates how this is done using the superdescriptor SEX-AGE-DEPEN from file 1, the PERSONNEL file, which is distributed with the Software AG demonstration data base.

```
*EXAMPLE 4
* PERFORMING BREAK PROCESSING WITH A SUPER DESCRIPTOR
RESET #SEX-AGE-DEPEN(A5)
REDEFINE #SEX-AGE-DEPEN (#SEX(A1) #AGE(N2) #DEPEN(N2))
FIND PERSONNEL WITH SEX-AGE-DEPEN
EQ 'F6801' THRU 'M2202'
SORTED BY SEX-AGE-DEPEN
BEFORE BREAK PROCESSING
        DO MOVE SEX TO #SEX MOVE AGE TO #AGE
        MOVE NUMBER-OF-DEPENDENTS TO #DEPEN DOEND
DISPLAY NAME FIRST-NAME SEX AGE NUMBER-OF-DEPENDENTS
SALARY (N8) (EM = ZZ,ZZZ,ZZ9)
AT BREAK OF #SEX-AGE-DEPEN
        DO MOVE OLD (#DEPEN) TO #TMP(N2)
        COMPRESS 'TOTALS FOR' #TMP
        'DEPENDENTS WITHIN SEX AND AGE:' INTO #MSG(A45)
        SKIP 1 WRITE #MSG T*SALARY SUM (SALARY) (EM = ZZ,ZZZ,ZZ9)
        SKIP 1 DOEND
AT BREAK OF #SEX-AGE-DEPEN /3/
        DO SKIP 1 WRITE 'TOTAL FOR ALL WITHIN SEX AND AGE:'
        T*SALARY SUM (SALARY) (EM = ZZ,ZZZ,ZZ9) SKIP 1 DOEND
AT BREAK OF #SEX-AGE-DEPEN /1/
        DO SKIP 1 WRITE 'TOTAL FOR SEX:'
        T*SALARY SUM (SALARY) (EM = ZZ,ZZZ,ZZ9) SKIP 1 DOEND
AT END OF DATA
        DO SKIP 1 WRITE 'GRAND TOTAL:'
        T*SALARY TOTAL (SALARY) (EM = ZZ,ZZZ,ZZ9) DOEND
END
```

Users' Dialogue on NATURAL

Dan Nolan
Civil Aeronautics Board

As one of the first NATURAL users and one of its most enthusiastic proponents, newer users have called on me to provide general information and sometimes to answer their specific questions on NATURAL. Since some of these (discussion) topics are of universal interest, I'd like to present them to you now in question and answer format.

Q. NATURAL is as good as COBOL, or would be, if it could process arrays. Will this ability be introduced soon?

A. "Yes" and "no" to the last two words of your question. In the meanwhilst, consider the use of the Move Indexed (used like FORTRAN to process arrays) or of a work record defined as your desired array. This last is a good permanent solution as the periodic/multiple structure is, in fact, a matrix, and provides an inherent restart capability.

Q. I am limited to a few (too few) characters in a Reinput. How can I increase it?

A. Set the Reinput With Text to display an 80-character variable, and load it with the desired message. If this still isn't enough, increase your Format LS = 132 and let it wraparound.

Incidentally, this is a handy technique to use when using a common error routine. By preloading the variable (setting another variable to the value of the field to be marked), you can perform the subroutine letting it: Reinput With Text #Text-variable Mark Field #Mark-variable Alarm.

Q. My online program won't work batch, something to do with Expected Input Not Found . . .

A. NATURAL batch expects, line for line, the same screen as online—even if there is no input field. If your program has one line of explanation followed by a line of question, you need to feed it a blank line followed by a line with the value. As in the question above, you can increase your line size to 132 and get a lot of material into a screen on both batch and online. Play with it, and find your best solution.

Q. I need to sort on 4 fields, online.

A. The primary sort can be in the form of a HISTOGRAM, with a subsequent FIND on that value sorting on the rest. This can also be used to advantage by eliminating much of the AT BREAK, AT END and AT START statements needed with less elaborate scans.

Q. My file has bounced out on an excessive number of records sorted limitation . . .

A. The same solution as for the above question will generally apply to most of these situations.

Q. I can't cancel my programs with a "%%" if the field is numeric. Sometimes this means bringing down a terminal.

A. You are operating a 3270-type terminal under CICS. There is an option (switch on some models) that should be turned "off" for numeric lockout. Bet you didn't know that NATURAL will intercept a non-numeric without help. Until then, try the "clear" key or its equivalent.

Q. We are afraid to turn NATURAL over to the end users. It seems to be too powerful for their own good. With a few statements, they could "clobber" a file . . .

A. Provide them with their own version of NATURAL, after removing the keywords in question, such as "UPDATE" and "DELETE". You might also want to limit them in other ways, such as program sizes and loop limits. This will prevent them from even entering the dangerous code while writing a program.

Q. How do I call NATURAL from COBOL?

A. You don't. Perhaps it would be more logical were you to call your COBOL programs from NATURAL, using NATURAL as the primary access into a file. There are some programs available in the user community which will even generate most of the COBOL program automatically. Consider, also, writing a work file.

Q. My system "FETCHes" a number of programs, passing many parameters. It won't work in batch. Why?

A. Set your Format linesize to 132 and try it again, online. If it still works, there is an imbalance in the number or size of your passed fields that you didn't notice online, but is not passing in batch.

Also, if you haven't noticed by now, passing is done by bytes, not by fields, so the size of "sandwiched" variables is critical.

Q. Invariably, the first programs written against a file are simple and direct, while subsequent programs become so complex as to be unreadable. Is this

a symptom of NATURAL?

A. No, this is a symptom of growth. As the capabilities become apparent, the queries tend to grow more complex. As the abilities of the users grow, they tend to experiment. You describe a need for standards to make code more readable, such as common-sense names, indentation and blank lines sprinkled with liberal comments. Although the number of lines in each program will grow, the statements remain the same. Also, now appears to be the best time to get standards accepted as the users can participate and agree to them, rather than view them as a limitation.

Q. Although the end users are embracing NATURAL enthusiastically, the applications programmers refuse to use it and insist on my maintaining COBOL for them.

A. Yes?

Q. Will NATURAL replace programmers?

A. In the best tradition of Tom MacCahill, "Darned if I know." Looking at our history in terms of backlog, it might be a matter of months before a year's backlog gets cleared up, but it will be many years until it stops coming, if ever. In the meantime, we're going to get a lot of work done.

Q. Will NATURAL replace COBOL?

A. Something will. 1962 saw the birth of the Jag XKE, the MGB and the Spitfire . . . and of COBOL. Of the four, only COBOL remains. Probably has more drivers.

TIPS on Using Natural

Alan B. Wolfson
R. J. Reynolds Industries

NATURAL can be an effective tool for prototyping and implementing online systems quickly and easily. RJR is currently using NATURAL in a wide variety of online update and batch reporting applications. Somewhere along the route from an early Beta test tape to Zap Level 6, we have made most of the mistakes imaginable and gained a few insights into successful system implementation in NATURAL.

Perhaps one or more of the following points may be relevant to your installation:

1. Don't code large programs. NATURAL has a fixed size work area (maximum 32K). If this work area is exceeded (NAT0888-STORAGE OVERFLOW), the only appropriate response is to enter 'CLEAR' (not the CLEAR key on a 3277). Application programmers tend to reach this situation by creating something similar to a COBOL WORKING-STORAGE SECTION with lots of variables that are copied in using the NATURAL editor. Aside from causing storage overflows, this approach cuts down the data independence that ADABAS would otherwise provide. It also tends to create a difficult query to debug. Lots of comments, indentation, and long variable names also contribute to the size of the work area required. With a 32K work area, there should be no problems handling queries of 300-400 lines.

2. Think modular. Write multiple small programs in lieu of one big "smart" one with lots of IF-THEN-DO's. FETCH variable-name (not in quotes) can be used for implementing GO TO. . .DEPENDING ON or CASE logic.

3. Don't forget the transaction time limits imposed by Version 4. Applications involving multiple screens can take a lot of wall-clock time waiting for the user. END OF TRANSACTION will issue the ET call.

4. Data Definition Module size. There is a fixed size area (FSIZE parameter) that specifies the maximum size of a DDM. Large file definitions tend to produce large DDMs. Size can be reduced by: 1) omitting HHDR macros and defaulting to the variable name, 2) using shorter names (The long names were probably for COBOL. Your programmers are likely to be coding AA, BB, etc.), 3) setting column widths to the greater of the header length and field width -eliminating the 12-character headings on your one-byte fields-making everyone's life easier.

5. ADHOC queries against online files. Even if

UPDATE OFF is entered, an update level password is required to run a query using update commands. We have created a second NATURAL transaction with the keywords UPDATE, STORE, DELETE, CATLG, UNCATLG disabled. This allows end users to write all the inquiries they want, and save them on the system file. They can update files only with queries stored in OBJECT format (CATLG) since there is no syntax check associated with a program brought in with 'EX'. Details on disabling keywords are explicitly defined in the *NATURAL Installation Manual* (pp 45-47).

6. CICS. If your TP system is CICS, an entire NATURAL session is one long conversation. This will have a significant effect on response time for a system tuned for short psuedo-conversational COBOL programs.

7. Edited fields. These are nice for output display, but *OUTIN data must be entered as if the field were defined as simple numeric or alpha (without editing or insertion characters).

8. Define "virtual" groups in the Data Definition Module. On a 3277, many of the groups defined in a file cannot be displayed because they require more than 80 bytes. As an alternative to displaying individual fields, a large group can be rede-fined as several shorter groups.

9. Be careful using "move indexed". It is possible to use a bad subscript and ripple through memory. It is a powerful statement, but there is no validity checking performed on the index variable.

10. Define packed fields as unpacked and increase the length accordingly in the DDM. A 3-byte packed field with value 1000 cannot be displayed in 3 bytes, as generated by UTIL09. Similarly, increase the length for fields that will be used for calculating totals to avoid overflow.

11. Encourage users to code DDM names, not file numbers. If multiple DDMs exist for a file, using the file number instead of name will invoke the first DDM NATURAL encounters. If changes are made to a DDM, the user query might pick up a different DDM next time.

12. Interface with non-ADABAS systems. Any program or language with a CALL facility (preferably dynamic) can retrieve data from ADABAS by writing a NATURAL query containing WRITE WORK FILE statements to DDNAME CMSYNIN. After invoking NATURAL, the program can read the data from DDNAME CMWKF01. If NATURAL will be invoked more than once, CMWKF01 should be variable length to avoid I/O errors. Consider an extra step to strip off an OS file using NATURAL as an alternative to maintaining duplicate files (one OS, the other ADABAS).

Letter to the Editor

Dear Mr. Froneberger:

I am currently a NATURAL user and have developed a variety of file maintenance aids for my NATURAL system, including source program comparisons and library listers. I am interested in making contact with other users who have developed similar file maintenance tools. My primary objective is to share techniques for accomplishing these common goals.

Any user who would like to exchange ideas and techniques for file maintenance aids is welcome to contact me at 215-962-2770.

Thank you in advance for making this request known to other NATURAL users.

Sincerely,

Michael Coll
General Electric Company

NATURAL Product Rep's Report

Product Representative's Report

Steve Froneberger
Duke Power Company

The use of NATURAL is increasing at a rapid rate. More and more ADABAS users are evaluating and acquiring NATURAL. Users who have had NATURAL are expanding its use to additional applications. If, during your use of NATURAL, you develop any routines to perform special functions or develop any special techniques that you wish to share with other users, please send these to me and I will get them submitted for the Newsletter.

With most new products, problems will exist and this is true of NATURAL. There are also some features which are needed but not available. Now is the time to start recording these items in the form of Change/Enhancements and submitting them to the Change/Enhancement Coordinator. Software AG has committed resources to the enhancement of NATURAL, but they need our input to ensure the end result is what we want and need.

Remember to start thinking about presentations for next year's Conference. Your regional meetings provide an excellent opportunity to share your ideas about NATURAL and to prepare for the Conference presentations. With a full year's experience with NATURAL, there should be a wide variety of topics to be discussed.

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Software AG
OF NORTH AMERICA, INC.
News

## Software AG Announces The Data Base Machine

Software AG recently announced the first commercially available backend data base system—The Data Base Machine. This product offers the data processing community state-of-the-art technology through the combination of software, hardware and support.

The Data Base Machine addresses a common problem—computer resource saturation for organizations with significant DBMS activity. The obvious, yet costly and unappealing, alternative has been mainframe upgrade.

The DBM offers a unique alternative. It offloads the data base management functions from an existing mainframe to a directly attached plug compatible mainframe. The process of offloading to the backend processor results
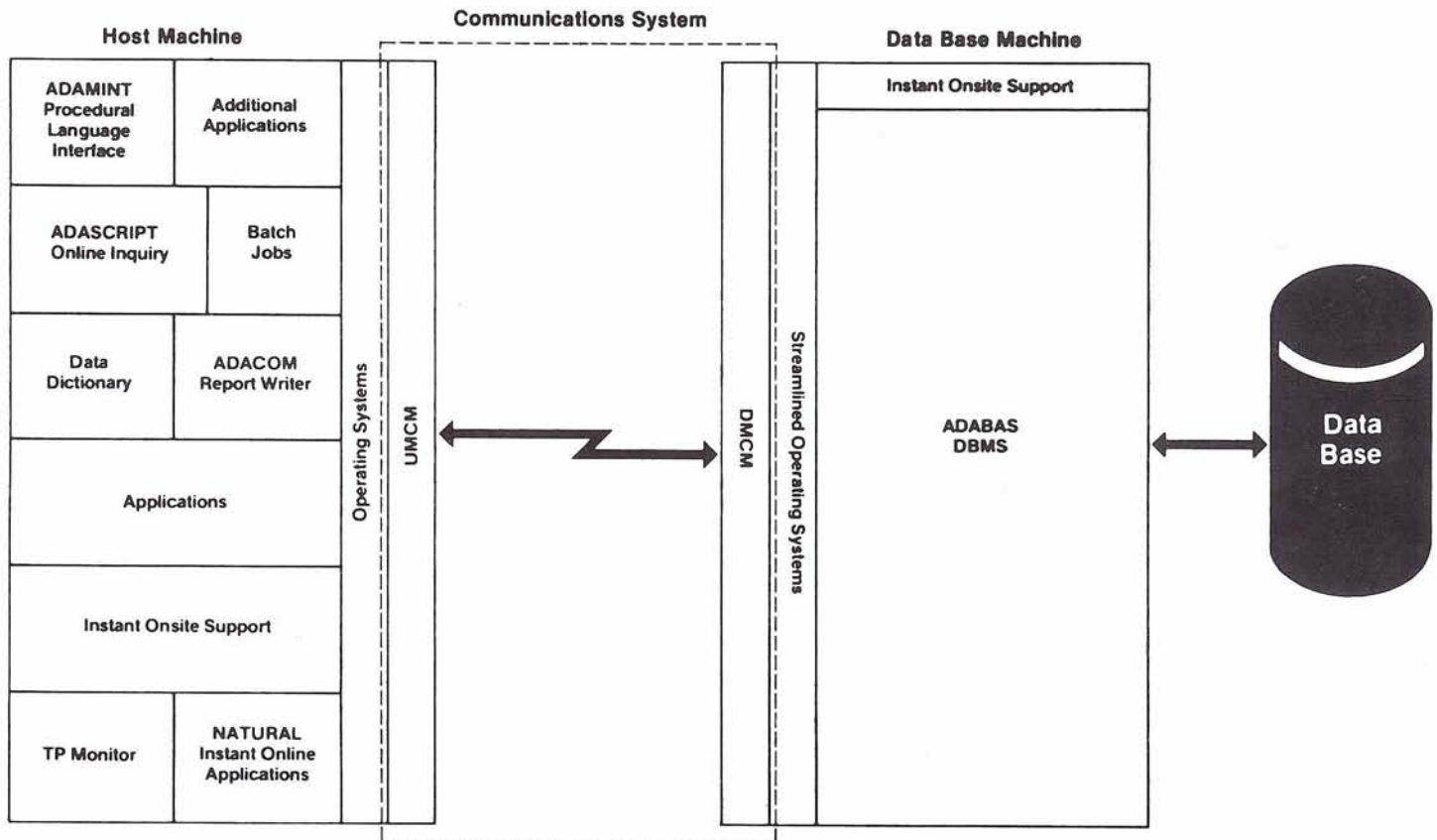
The Data Base Machine Overview

in a 60% savings of CPU time and improves data base performance by at least 25%.

A major step toward distributed data processing, the DBM simplifies data management by decentralizing functions into easy to manage subsystems. This ensures maximum flexibility, reliability, productivity and cost effectiveness.

The DBM Architecture

Software AG's new backend DBM begins with an IBM-compatible mainframe called The Externally Supported Processor (ESP). This processor is fully dedicated to the data base function and contains ADABAS. The DBM communicates with the host computer through a special channel-to-channel communications system (CTCS); the host computer executes the applications programs.

Components of the DBM:

ADABAS

ADABAS functions are distributed between the two computers. The ADABAS nucleus resides with the Data Base Machine, where all updates, finds, adds, deletes and disk management take place. Application programs, residing with the host computer, call ADABAS through the communications interface module and are translated for transmission to the Data Base Machine through the CTCS.

Communication between the host computer and the Data Base Machine is completely transparent to the user. It does not in any way affect either data base activities or application programs. Utilities may be run in either the host machine or the DBM.

ESP Processor

The ESP Processor is an IBM plug compatible mainframe that features faster internal speeds and larger main memory capacities than comparable computers. ESP Processors combine extensive microcoded instruction capability with fast-executing emitter-coupled-logic (ECL) hardware. ECL circuitry supports a machine cycle speed of 50 nanoseconds.

The ESP mainframe processing speed is 0.75 million instructions per second. It contains two megabytes of main memory, 1 byte multiplexor channel and 2 block multiplexor channels. An integrated channel-to-channel adapter is also included.

ESP Processors utilize a common microprogrammed, bus-driven architecture which allows simple field upgrading of CPU, memory and I/O channels via printed circuit board changes. The processor occupies less than 9 square feet of floor space.

Channel-to-Channel Software (CTCS)

The Data Base Machine requires a special channel-to-channel communications system (CTCS) to facilitate the transmission of commands, data, and status information between the host computer and the backend machine. This communications system consists of two modules: a User Machine Communications Module (UMCM) which resides with the host computer; and a Data Base Machine Communications Module (DMCM) which resides with the backend processor. These modules are joined by a high-speed, channel-to-channel link which facilitates increased data base performance.

Remote Hardware/Software Support

The DBM includes remote hardware/software support via a dial-up capability. Hardware failures can be isolated to the chip level and remote console capabilities are provided. Software diagnosis includes installing and debugging software, analyzing system dumps, and applying fixes.

Configuration

The DBM can function in several different configurations depending upon the needs of the DP environment. An unlimited number of host machines can communicate with 1 DBM; or an unlimited number of DBMs can also communicate with 1 or more host machines. The DBM may also contain up to 8 copies of the ADABAS DBMS.

The host mainframe may be any IBM 360, 370, 303X, 4300 or plug compatible under all OS or MVS operating systems. The DBM runs under VS1. ADABAS requires about 256K resident memory in the DBM. The channel-to-channel software requires less than 20K in each mainframe. For more information please contact your sales representative.

ADABAS-M Available

After extensive testing in a variety of host environments, Software AG is pleased to announce the official release of ADABAS-M, Version 1.1. John Taft, Vice President of ADABAS-M Development, describes the new product as a full function internal dictionary-driven DBMS which supports both batch and teleprocessing user programs. It offers a multiterminal adhoc query language with some updating capabilities and a powerful set of supporting utilities.

ADABAS-M is hardware independent and will operate on any PDP11/23 through 11/70 on any DEC or DEC-compatible configuration.

Version 1.1, the initial product offering, will operate on RSX 3.1 (or later) systems.

All DEC high level languages are supported through a DEC standard call facility. These languages include MACRO-11, COBOL, FORTRAN IV(+) and BASIC + 2.

The query language, ADASCRIPT-M, supports multiple terminals, is "natural-like", and is extremely useful for adhoc type queries. This language will be expanded to provide facilities for transaction processing and reporting.

Fifteen utilities are provided with ADABAS-M Version 1.1 and are oriented toward ease-of-use and full protection of the data base. Mr. Taft describes the utilities as "elegant in comparison with any other commercial mini-DBMS".

ADABAS-M Version 1.1 protects the physical integrity of the data base against all operating system crashes using an autorestart facility and also provides a SAVE, RESTORE, REGENERATE roll forward facility to protect against more catastrophic failures.

Performance statistics from pre-release testing show that ADABAS-M outperforms other minicomputer data base management systems by a factor of about 10 to 1 when doing file loads or retrievals.

New Leadership Announced

Continuing to refine the organizational structure established in October 1979, Software AG has announced new leadership and directions for various SAGNA divisions.

John Weil now functions as Vice President of Marketing for the Western Sales Region. Mr. Weil has been with Software AG for over four years and will coordinate all sales activities for the Western Sales Region.

Gary Bowers assumes responsibility as Vice President of Consulting and Education Services. Mr. Bowers is highly respected among the user community. As Manager of Education, he established extensive course curriculum while increasing availability of these courses to users. Mr. Bowers recently coordinated the ADABAS Version 4.1 Task Force, playing an integral role in its June 1980 release. In coordinating the Education/Consulting functions, Mr. Bowers has named Larry Jayne as Manager of Education and Michael Ater, Manager of Field Consulting and Education. Mr. Jayne will direct his attention to supervising education scheduling, registration and course development and is integrally involved in staffing responsibilities for the division. Mr. Ater, who has worked closely with Software AG for two years, will head consulting and education support activities headquartered in Kansas City. Mr. Ater will also direct a field office in Seattle.

Larry Jones has been named as the Vice President of Development for ADABAS, COM-PLETE, and NATURAL. Returning to the Software AG staff from a consulting position, Mr. Jones brings with him an in-depth knowledge of our products. His acknowledged technical and managerial expertise will add a new dimension to SAGNA development efforts.

Steve Greaves has been appointed Vice President of the Computer Services Division. Mr. Greaves' contributions to Software AG have been significant and varied. These experiences qualify him for directing the technical, administrative and user-related aspects of the growing SAGNA service area. Mr. Greaves also maintains the daily operations of the Reston Computer Center.

Rick Josephs has assumed extended responsibilities as Manager of Publications. In addition to the on-going tasks of publications, updates, revisions and distribution, Mr. Josephs will direct all tape distribution activities and coordinate technical writing activities of the Seattle Development Office. Central management of all documentation/publication efforts will allow Mr. Josephs and his staff to continue providing quality technical material in a timely fashion.

SOFTWARE AG
CLASS SCHEDULE — October 1980 — March 1981

Class Month	Using ADABAS	ADABAS direct calls	ADACOM	ADABAS internals	DATA BASE administration	ADABAS design workshop	ADABAS design methodology
October	RESTON Software AG October 20-22	RESTON Software AG October 23	RESTON Software AG October 24	RESTON Software AG October 27-28	RESTON Software AG October 29-30	RESTON Software AG October 31	
November	NEW YORK Sheraton St. Regis November 17-19	NEW YORK Sheraton St. Regis November 20	NEW YORK Sheraton St. Regis November 21	NEW YORK Sheraton St. Regis November 24-25			
December	HOUSTON Hyatt Regency December 8-10 RESTON* Software AG December 8-10	HOUSTON Hyatt Regency December 11	HOUSTON Hyatt Regency December 12	HOUSTON Hyatt Regency December 15-16	HOUSTON Hyatt Regency December 17-18	HOUSTON Hyatt Regency December 19	
January	RESTON Software AG January 12-14	RESTON Software AG January 19	RESTON Software AG January 16	RESTON Software AG January 20-21	RESTON Software AG January 22-23	RESTON Software AG January 15	
February	SEATTLE Software AG February 2-4	SEATTLE Software AG February 9	SEATTLE Software AG February 6	SEATTLE Software AG February 10-11	SEATTLE Software AG February 12-13	SEATTLE Software AG February 5	RESTON Software AG February 18-20
March	RESTON Software AG March 9-11 CHICAGO Chicago Marriott March 23-25	RESTON Software AG March 16 CHICAGO Chicago Marriott March 26	RESTON Software AG March 13 CHICAGO Chicago Marriott March 27	RESTON Software AG March 17-18	RESTON Software AG March 19-20	RESTON Software AG March 12	

*These additional classes have been scheduled at the Reston Educational Center.

NATURAL	DBA skills workshop	ADABAS data admin. & control	ADABAS V.4 facilities & conversion	COM-PLETE applications workshop	COM-PLETE internals	COM-PLETE systems control
NEW YORK Sheraton St. Regis October 1-2		NEW YORK Sheraton St. Regis October 15-17	NEW YORK Sheraton St. Regis October 3			
HOUSTON Hyatt Regency November 3-4					RESTON Software AG November 5-7	
NEW YORK Sheraton St. Regis December 4-5	RESTON Software AG December 1-5					
RESTON Software AG January 26-28	SEATTLE Software AG January 12-16					RESTON Software AG January 8-9
SEATTLE Software AG February 18-20	RESTON Software AG February 23-27					
RESTON Software AG March 23-25 RESTON* Software AG December 11-12	SEATTLE Software AG March 23-27	RESTON Software AG March 30-April 1			RESTON Software AG March 2-4	SEATTLE Software AG March 16-17

Software AG Expands Consulting and Education Services

In a recent statement from Software AG's Reston headquarters, Kenneth D. Rardin, Executive Vice President, announced the formation of the new Software AG Consulting and Education Services Division. This reorganization, Rardin explained, is necessary in order to coordinate the continuing growth in both consulting and education, and to provide greater responsiveness to customer requests for support in both areas.

Although this change will allow for more central administrative control of consulting and education, Software AG plans to expand its consulting and education operations by establishing new branch offices apart from Reston. According to Gary D. Bowers, the newly appointed Vice President of Consulting and Education Services, "Over the past year in the Education Department, we have recognized the increasing difficulty of responding promptly to customer requests for classes as a result of having all full-time instructors working from the Reston office. For some time we have anticipated the need to locate additional education staff in offices away from Reston. The formation of the Consulting and Education Services Division allows us to accomplish this immediately."

Software AG immediately will open two new offices for its Consulting and Education Services Division, one to be located in Seattle and the other in Kansas City. The Seattle office, which should become fully operational by January, will contain classroom facilities similar to those at the Reston Education Center. The Seattle Education Center will be equipped with 3270 terminals allowing remote access to the Reston Computer Center for on-line workshop sessions. Classroom design will allow for comfortable seating for between twenty and twenty-five students. Software AG has scheduled in February the first series of ADABAS, COM-PLETE, and NATURAL classes for the Seattle Education Center. In addition to classroom facilities, the new Seattle office is large enough to accommodate a resident staff of up to sixteen consultants and instructors. The Kansas City office is somewhat smaller, and will serve as a support office for additional Consulting and Education staff.

Inquiries concerning Software AG Consulting and Education Services should be directed to Gary Bowers in the Reston office at (703) 860-5050.

Reston Education Center

Gary Bowers
Software AG

Perhaps the most significant recent development in the Software AG education program has been the opening of the Reston Education Center in the first quarter of this year. In fact, the overwhelmingly positive response to the new classroom facilities in Reston has prompted Software AG to expand to a second Education Center in Seattle.

The Reston Education Center simply is not capable of accommodating the number of students enrolling in ADABAS, COM-PLETE, and NATURAL classes.

The existence of the Reston Education Center has caused several fundamental changes in the manner in which Software AG presents its education program. First, as you may have noticed, Software AG is now in a position to schedule many more public education classes, particularly additional sessions not previously announced in the Education Catalog, in order to respond to the current need for classes. Secondly, the Reston Education Center has promoted the expansion of new workshop-oriented courses, where Software AG is better able to respond to individual user needs in smaller, more intimate classes. The best example of the new workshop courses is the "DBA Skills Workshop," first presented in July, in which the student is able to get hands-on experience with the ADABAS subsystems by loading data base files from his/her own installation at Software AG's Reston Computer Center. Thirdly, it has been possible to schedule classes at the Reston Education Center to be attended by programmers and analysts from only one customer site in the Washington, D. C. area. This is an option for D. C. area users if a classroom is not available at their location, or if for reasons of seeking isolation from the office environment, a remote classroom is desired.

Software AG is gratified with the positive response to the Reston Education Center and encourages users of Software AG products to continue to provide suggestions for improving our facilities.

Software AG Introduces . . . .

Many of you have already met Dorie Wheeler and Pam Tompkins via phone. Administrators for the Western and Eastern Technical Support Centers, they are frequently your first contact when phoning TSOP with questions or problems.

Ms. Wheeler and Ms. Tompkins play an integral role in a smooth running TSS and are responsible for logging all customer calls and entering them in the TSS Trouble Log File. They provide support "follow-up" by confirming that TSOP representatives have replied to customer calls. Their active participation in the TSS allows them to maintain TSS procedures and to suggest changes

Ms. Dorie Wheeler

and refinements when appropriate. Both are interested in obtaining a greater product knowledge so that they can interact with customers more efficiently and effectively.

Since she joined Software AG in June, Ms. Wheeler has assumed responsibility for office functions ranging from typing and filing to customer correspondence. She works actively with the Rocky Mountain region by providing administrative services for them.

Ms. Tompkins' duties include additional administrative and technical tasks associated with the Technical Operations Division. She collects statistics on daily TSS problem reports and resolution, provides customer information to appropriate SAGNA departments, and maintains a master set of documentation and all supporting technical correspondence.

Ms. Pam Tompkins

Publications Report

Rick Josephs
Software AG

A revised Documentation Bibliography and new Documentation Order Form have been distributed to each Software AG product user. These documents contain current information on all documentation available for each product. If your organization has not yet received the above-mentioned documents, please notify Geri Keydash, Publications Distribution, in Reston.

All ADABAS Version 4.1 documentation is now available except for the *ADABAS DOS Installation Manual* and the *ADABAS DOS Operations Manual*. These manuals are in the final stages of preparation and should be available shortly.

Technical documentation for ADABAS-M Version 1.1 is now available. Please consult the Documentation Bibliography for detailed information.

Work is progressing on the documentation for the next release of COM-PLETE (Version 4). Drafts of several manuals have already been distributed to COM-PLETE technical and development personnel and to selected user sites.

The recently developed Online Documentation Order Entry System is now in full use. This system, which was developed using COM-PLETE and NATURAL interactive programming facilities, contains order and inventory information for all documentation orders. This system performs automatic recording of changes

in inventory resulting from manual distribution processing. In addition, it can be used to determine when the inventory stock of any given manual is below the order level established for the manual. It is also used to provide detailed reports which indicate what documentation has been distributed to each user. Quarterly usage statistics are also automatically maintained by the system. This system should prove invaluable in enabling us to service our ever increasing documentation distribution requirements in the most efficient and timely manner possible. I would be pleased to discuss the implementation and functions of this system with any interested user. Our next objective is to incorporate the software distribution process into this system.

ADABAS V4.1

Status: OS—Available
DOS—Beta testing

NATURAL V1.1

Status: OS—Available
DOS—Available

ADABAS-M V1.1

Status: Available

COM-PLETE DOS

General availability: 12-18 months

COM-PLETE VTAM SUPPORT

Status: Currently available on request
General availability: Release 4.0

COM-PLETE V4.0

Status: Beta Testing
General availability: January 1981

DATA BASE MACHINE

Status: Available with 60 day delivery

Current Release Levels

The following is a list of current System Modifications that are available. Please notify Software AG's "Reston Technical Operations" if you need current SMs.

ADABAS:

ADABAS Nucleus & Utilities—
Version 3.2.1
— OS SM Level 10
— DOS SM Level 4

ADAMINT Version 1.3
— OS SM Level 10
— DOS SM Level 4

ADACOM Version 1.2
— OS Zap Level 6
— DOS Zap Level 5

ADASCRIPT+ Version 1.1
— OS SM Level 10
— DOS SM Level 4

Data Dictionary Version 1.1 OS and DOS

NATURAL:

NATURAL Version 1.1
— OS Zap Level 6
— DOS Zap Level 6

COM-PLETE:

MVS Version 3.1
— SM Level 3
VS1 Version 3.0
— SM Level 5
MVT and SVS Version 3.0
— SM Level 5
MVS & VS1, both with VTAM—
Beta Test Version 3.2

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