Software AG International Users' Group Newsletter

Users' Group News

Registration Opens for the 1982 Users' Conference

Registration has officially begun for the Tenth International Software AG Users' Conference in Las Vegas, Nevada. The Conference will be held May 9-13, 1982 at the Dunes Hotel.

This year's Conference, themed "Great Expectations", will have over 50 user presentations, numerous workshops, and ample ad-hoc meetings for attendees to exchange ideas, information and techniques both

among themselves and with the international Software AG community. Guest speakers, intensive tutorials and special "Software AG Presents" sessions complete the comprehensive four-day agenda. Additionally, informal one-to-one technical support and consulting services will be available with plenty of on-site terminals available for use.

The Conference will be held at the beautiful Dunes Hotel and

Country Club in downtown Las Vegas, just a few minutes from the Las Vegas airport. A complete companion program is also available for those bringing a companion to the Conference.

The response to this year's Call for Papers has been excellent, and Software AG promises to fulfill your "Great Expectations" by hosting a fantastic conference in a truly great conference facility.

Who To Contact

Conference Registration:
Software AG of North America, Inc.
11800 Sunrise Valley Drive
Reston, Virginia 22091
Attn: Conference Registrar
(703) 860-5050—Telex 89-9122

Hotel Registration:
Dunes Hotel and Country Club
3650 Las Vegas Boulevard, South
Las Vegas, Nevada 89109
Attn: Reservation Manager
(800) 634-6688

Air Transportation:
United Airlines
Convention Desk
Special Account Number 3208
Michigan: 800-482-0243
All locations: 800-521-0810

How to Register

Conference and hotel registration forms are included in this issue of the Newsletter for those of you who have not received them in the mail. Early registration is encouraged. Please keep in mind that there is a late charge of $100. for registering after April 15th. Also, those people wishing to attend must arrange their own transportation and hotel reservations. Be sure to indicate that you will be attending the Software AG Conference, as special arrangements have been made with the hotel.

NOTE: Due to the nature of the conference program and facilities, no provisions have been made for children and they will not be permitted to attend conference or companion functions.

Companion Program:
Software AG of North America, Inc.
11800 Sunrise Valley Drive
Reston, Virginia 22091
Attn: Conference Registrar
(703) 860-5050—Telex 89-9122

Post Conference Trip:
USA Holidays Las Vegas
5030 Paradise Road, Suite A201
Las Vegas, Nevada 89119
800-634-6133.

Great Expectations

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Agendas

The preliminary agenda for the Las Vegas Conference will be mailed to all users on or around March 1st. The final agenda will be mailed to all users around April 1st. The final agenda will also be printed in the May issue of the Newsletter and distributed at the conference.

Full Program for Companions Scheduled

Companions of all conferees will also have a complete agenda filled with a variety of activities.

A full American breakfast will be featured each day in a different location. Monday starts with breakfast and an audio visual presentation. The afternoon is free for optional sightseeing tours of the area. A tour desk will be available for tour information and sign-up. Tuesday will feature a half-day seminar on color and wardrobe selection, conducted by the K.L.M. Institute of Eugene, Oregon. The seminar will be highlighted by actual demonstrations showing what colors and fabrics best compliment skin and hair. Breakfast will start at the Top of the Dunes—a rooftop restaurant on the 24th floor. Lunch is also included following this seminar.

Wednesday's highlights will include breakfast at the Dunes Country Club, a shopping shuttle to Fashion Square which features Saks Fifth Avenue, Neiman Marcus and Lord and Taylor, and

Wednesday night's banquet.

Thursday's breakfast will be served in the Dune's major showroom accompanied by a spectacular song and dance fashion show, titled "Great Expectations—What's Old is New Again." The show will present jewels, furs and evening wear for men and women. MGM Grand's lead singer from "Jubilee" will narrate the show. Merrill Douglas will present a session on Time Management after lunch. The entire companion program and all evening social activities are included in the $250 companion registration fee.

Workshops

The Special Interest Groups will be hosting sessions throughout the week for users with common interests to get together for learning workshops.

The following is a partial listing of the workshops that have been planned:

Change/Enhancements (All products)
ADABAS Performance
ADABAS Education/Documentation
ADABAS Data Administration
ADABAS Retrievals/Interfaces
ADABAS Large Data Bases
ADABAS DBA Tools
ADABAS DOS
ADABAS-M

COM-PLETE Tools

NATURAL Features
NATURAL Techniques
Managing the NATURAL Environment
Teaching NATURAL to the User

User Conference Events of Special Interest to ADABAS-M Users

Although the ADABAS-M users are currently outnumbered by mainframe users and the conference overall reflects this distribution, Software AG and SAGGROUP have developed a full and varied series of sessions for both the old and new ADABAS-M user. The schedule has been set up to allow ADABAS-M users to participate in sessions that they have in common with mainframe during the first two days. Also in those first two days will be ADABAS-M user presentations, an overview of ADABAS-M for non-DEC users, several DDP presentations, the ADABAS-M change and enhancements session and the special ADABAS-M sessions below:

— ADABAS-M Tuning and Optimization
— Restart/Recovery Tutorial/Panel (do-it-yourself ET/BT)
— ADABAS-M General Workshop

The second two days will be comprised of a condensed ADABAS-M Internals course. This course will provide the necessary knowledge and skills for an ADABAS-M user to better support users and better interface with technical support. Such internals knowledge alone justifies participation at the Conference for most ADABAS-M user organizations.

Conference Tutorials

The following tutorials are being prepared for the 1982 Users' Conference. Selection of topics and intended audience was a result of last year's Conference questionnaire and input from the user community. These tutorials provide you with a unique opportunity to attend 1-1/2 hour, in-depth technical sessions taught by Software AG experts. The tutorials will be repeated during the conference to allow everyone a chance to attend.

Conference Tutorials

ADABAS Restart/Recovery—This session will review the ADABAS facilities available to support Restart/Recovery. Example disaster situations for both Batch and Online applications tions will be discussed placing emphasis on technical detail and general considerations required to affect a full and complete recovery.

ADABAS DEBUGGING TOOLS—This session will highlight debugging tools available with specific emphasis on ADAPRI, LOG PARAMETERS, ADAICK, and SNAP DUMP/TEST options of ADAMINT. Sample LOGS/DUMPS will be explained. This session is designed for users who are familiar with ADABAS Direct Calls and/or who are involved in tuning programs or systems.

ADABAS PERFORMANCE AND TUNING—This tutorial addresses a broad range of factors to be considered in tuning the ADABAS programs, the operating environment in which ADABAS is used, the design of ADABAS files, and the logic of application programs. ADABAS subsystems included are the nucleus and MPM, utilities and ADAMINT, Data Dictionary, ADASCRIPT + and NATURAL. The tuning considerations and process are presented from basics on through a range of levels of refinement. Familiarity with the products and concepts involved is assumed—no attempt will be made to provide introductory information about the products.

NATURAL TECHNIQUES—This presentation will be oriented to the newer user of NATURAL. It will cover selected areas of applying NATURAL capabilities to accomplish user objectives. Some of the representative topics include: looping, subroutines, data retrieval options, and screen design.

ADVANCED NATURAL TECHNIQUES—This presentation will be oriented to the interests of users who have mastered the basic application of NATURAL and desire additional insights into selected areas of NATURAL. These include: internal functioning, installation and configuration options, performance considerations, and more sophisticated logic and coding approaches.

DOS—NATURAL—This session will include NATURAL in a DOS CICS/VS environment with emphasis on the appropriate recovery procedures and methods, inter-program communication calls, and direct-

linking versus dynamic-linking of DDM's.

DOS—ADABAS—This session will be a discussion of the differences between OS and DOS features/facilities followed by tuning of DOS ADABAS, and ADABAS Direct Calls in a DOS CICS/VS environment.

COM-PLETE PERFORMANCE MONITORING AND TUNING—This tutorial addresses COM-PLETE tuning and will recommend areas to monitor and control. These areas include the COM-PLETE system area, the user area and the operating system area. Previous systems experience with COM-PLETE is assumed. The objective is to encourage standards for an installation's tuning methodology.

ADABAS FILE DESIGN—This presentation will review the various methods of file design with emphasis on the effects and tradeoffs in design strategies. Among the topics to be addressed are performance considerations, programming complexity, and design restrictions. This tutorial will be of most benefit to new users who are familiar with ADABAS concepts and are responsible for designing or reviewing ADABAS files.

ADABAS-M RESTART/ RECOVERY—This tutorial and panel discussion will review the ADABAS-M facilities available for Restart/Recovery.

Great Expectations

Tenth International
Software AG
Users' Conference
May 9–13, 1982
Las Vegas

**CONFERENCE
REGISTRATION
FORM**

SOFTWARE AG
OF NORTH AMERICA, INC

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

PAYMENT MUST BE RECEIVED PRIOR TO MAY 1, 1982

PLEASE FILL OUT FORM COMPLETELY.

CONFEREE NAME _____

COMPANION NAME _____

TITLE _____

COMPANY _____

COMPANY ADDRESS _____

_____

CITY, STATE, ZIP _____

COUNTRY _____

TELEPHONE (_____) _____

FIRST NAME (OR NICKNAME) FOR BADGE:

    CONFEREE _____ COMPANION _____

PLEASE CHECK:

☐ USER	☐ GUEST	CONFEREE FEE	$495___
☐ CONSULTANT	☐ AFFILIATE	COMPANION FEE	$250___
☐ SAGNA EMPLOYEE		CONSULTANT FEE	$795___

☐ PLEASE INVOICE   ☐ PAYMENT ENCLOSED

LATE FEE $100___
(after April 15, 1982)

P.O. NUMBER _____

TOTAL _____

SEND INVOICE TO:

    COMPANY _____

    ADDRESS _____

    CITY, STATE, ZIP _____

    COUNTRY _____

    ATTENTION: _____

FOR SOFTWARE AG OF NORTH AMERICA, INC. USE ONLY

Invoice Number _____   Date Invoiced _____

Amount Paid _____   Date Paid _____

Check Number _____
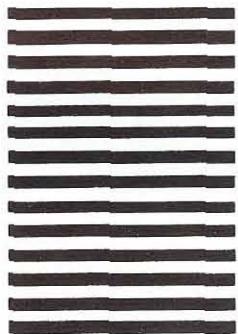
**Tenth International
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May 9–13, 1982
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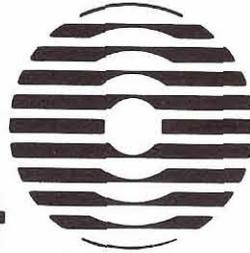
Great Expectations

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Dunes Room Reservations
HOTEL AND COUNTRY CLUB LAS VEGAS

Guest Name _____

Street Name _____

City & State _____ Zip_____

Telephone ( ) _____

Please Make The Following Accommodations For Me.

Date _____ No. Room _____ Single ☐ Double ☐ Twin ☐

Suite _____ *(Upon Availability)*

RATES: $45.00 single or double, plus 6% Clark County Room Tax.

Date of Arrival _____ Date of Departure _____

Please do not anticipate guest room occupancy prior to 2:00 P.M.
RESERVATIONS MUST BE RECEIVED ON OR BEFORE APRIL 10, 1982
Upon receipt of confirmation, one night's deposit will be required.

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Reservation Manager
DUNES HOTEL AND COUNTRY CLUB
3650 Las Vegas Blvd. South
Las Vegas, Nevada 89109
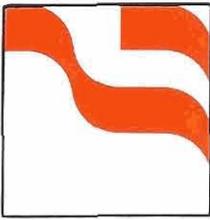
Regional Reports

Iberia Region

Angel Jerez

The Spanish and Portugese Users met in Madrid on October 3, 1981 with Fraser Espanola (official representative of SAG for Spain) as host.

The objective of this reunion was the approval of the rules for this Users' Group and to elect the Board of Directors for 1982.

President: Mr. Angel Jerez (Dragados y Construcciones—Madrid)

Vice President: Mr. Correia Da Costa (Lisnave Margueira—Lisboa)

Coordinator: Mr. Pedro Patron (Automoviles Talbot—Madrid)

Secretary: Mr. Rafael Gomez Ruiz (Fraser Espanola—Madrid)

The next meeting will be in Madrid in May 1982.

Northwestern Region

Dian Odell
Evans Products

The Northwestern Region met on December 4 with 34 persons from 14 installations present.

The topic for the morning was "MPM Parms"—what we currently use, suggestions and rules of thumb for selection of values, and symptoms relating to choosing values inappropriate to a particular environment. Large paper sheets were put up around the room, each labelled with a different MPM parm name. Eight V4.1 ADABAS installations wrote their specific MPM parm values (as well as data about work dataset size, number of ADABAS commands per day, and operating system) on the appropriate sheets. This way we could quickly see the range of values used for each parm, and how many people used the defaults. Each installation used a different colored marking pen so we could also look around the room and see the full parm specifications for a particular installation. Several persons then volunteered to discuss their values, explaining the environment and evolution of certain values. It was interesting to note that usually 4 or 5 of the 8 recording installations used the defaults, because they assumed the defaults were reasonably determined numbers and because they did not know what else to do—the lack of monitoring and analysis tools for determining characteristics of your environment and proper parm values for it was commented upon by most persons as being a very large deficit in the operations of ADABAS. Improper use of MPM parms can cause significant system degradation and user problems (unnecessary non-zero response codes), but we have little to help us. Some users' suggestions and observations were: a) keep increasing the number of threads until in a normal MPM session the highest thread is barely used. There is little overhead in thread handling other than the 4K in memory it costs, but it helps in overlapping processing; b) NH and CT will be much larger in shops which run a lot of old 3.2.1 programs as pseudo-ET users which have not been rewritten to be true logical transaction oriented; c) increasing significantly LBP can cause a dramatic improvement in online response time; d) a good performance concept is that of "buffer efficiency" (defined as number of logical I/O's divided by the number of physical I/O's—these numbers can be lifted from the MPM status which print at the end of an MPM session); the higher the 'buffer efficiency' the better—avoid real I/O; e) response code 88's may be signalling LWP too low; f) CT should be higher in MVS shops which allow MPM to be swapped out; g) if LI is too low, you will get response codes about 'no room for command ID's; h) response code 254 may be due to low NAB; i) no installations present have cluster or exclusive use users; j) there is no way to know the high water mark for maximum number of users.

Greg Lohman, SAG Education staff, then continued the discussion with some further guidelines and suggestions: a) NH will have to be increased in shops which do a lot of batch dictionary updates via DDUPDATE; b) if MPM is non-swappable, all utilities will also be non-swappable since everybody executes ADARUN (some easy ways to avoid this); c) ET data is written in the LP area of the work data set; d) TTAE is defined as from the first hold to ET, not as the time between ET's; e) some SET GLOBALS values are lost in CATALOG because they relate to session not to program—users need to know which are which; f) when tuning, change only one parm at a time to really determine effect; many are interrelated; g) NAT3021 really means response code 9 from previous command.

In the afternoon we switched to the topic of dictionary use. Mike Baller (Washington State Dept. of Personnel) discussed his process of using the dictionary for userviews, using UTIL02 for generating ADAMINTs, and using "pull forward" to keep his various userviews in sync when a change is made somewhere. Mike uses batch DDUPDATE for initial creation of userviews, uses an online system from Evans Products for most maintenance, and uses SAG online dictionary rarely because it has so many screens to accomplish a simple task. He used UTIL08 until he found a problem of improper output when there were more than 25 elements in a userview, and also when he realized most programmers were changing the generated COBOL code to their specs anyway.

Fin Park (Seattle Public Schools) discussed his use of a "global" file concept for storing everything during a logical design phase and then splitting out the elements when the physical design phase is reached and physical files and userviews are needed. He has developed an online system to allow end-users to update skeleton records with the information they have without being able to change certain other fields. This eliminates a lot of the delay and extra paper passing from user to DBA personnel during design, and puts the user more in control of "their" system definition.

In our discussions it becomes quickly apparent that each of us has a unique knowledge and awareness of problems and fixes that is not common knowledge to the rest of the group. "Early Warnings" are a help in this area (although they are not really warnings, but are fixes distrib-

uted between SM levels), and the one release of SAGUTILS has been a help (but its value is very limited now because it is not current; more frequent SMs and their associated SAGUTILS are desirable). In the meantime, in an effort to spread the awareness and save each other a little grief, problem/warning abstracts have been gathered from installations in the Northwest Region. If you want further information about any of them, please contact SAG Technical Support in Denver.

United Kingdom Report

Darrell West
British United Provident
Association

The UK Users met at the offices of London and Manchester Assurance Company Ltd. in Exeter, on the 7th and 8th of September, 1981.

Twenty-seven Users from 21 installations attended the meeting of the NATURAL Special Interest Group on the 7th. The main feature of this meeting was a presentation given by Len Jenkinson and Mike Hollis of ADABAS Software Ltd., on the subject of NATURAL Future Development.

On the following day the full User Group meeting was attended by 37 users from 25 installations. Mick Wells of Midland Bank took the Chair.

As usual, any new Users were asked to introduce themselves, after being welcomed to the Group by the Chairman.

After reports on the activities of the Executive Committee and of the Special Interest Groups, the meeting received a fascinating presentation from Malcom Robinson, DBA at Commercial Union Assurance. Commercial Union is recognized as being NATURAL 'Pioneers' in the UK, and this insight into the environment at C.U. was most enlightening.

After lunch, Mick Wells outlined the purpose of the User Questionnaire now being circulated, then Len Jenkinson and Mike Hollis of ASL informed the group of recent developments by SAGNA, SAG and ASL themselves. Much literature was distributed by them to all Users before the meeting was closed by the Chairman.

It is hoped that the next meeting will be hosted by the Avon and Bristol Computer Unit at their Bristol offices in early January 1982.

Southeastern Region

Larry Goodman
American Family Life Assurance

The Southeastern Users met on September 16, 1981 at Dunfeys Hotel in Atlanta, Georgia. Thirty-eight representatives from 16 organizations participated.

Larry Goodman, from American Family Life Assurance Company, discussed Strategic Data Planning methodologies. Emphasis was made on top management's involvement in the Corporate Information Architecture. IBM's "Business Systems Planning" and Martin's Strategic Data Planning were introduced as techniques for classifying business functions and processes for the development of subject data bases. Stress was placed on development of subject data bases versus application oriented data bases to satisfy the unanticipated request from management.

Jim Forestell, from SAG, presented a summary on the NATURAL tutorial and techniques presentation he gave at Innisbrook. Emphasis was placed on looping, array processing, and use of PE and MU defined fields. Specific questions concerning the presentation followed.

Jim Bagby, also from SAG, was requested to present an overview of ADAMINT in a CICS environment. This was of particular interest for new Southeastern Users addressing one entry point modules an access modules. Jim addressed the problems new Users usually have on zaps which were presently available that would be released on SMT.

Bob Taylor, from Evans Products, was our guest speaker. Bob addressed the recent technical survey distributed prior to the Innisbrook Conference. The findings addressed the satisfaction level of SAG users with technical support from Software AG. These findings are presently being reviewed and will be made public at a later date. Bob also discussed restart/recovery under Version 4.0 of ADABAS, "ET" "BT" logic, exclusive use, clusters, and checkpoint usage.

He emphasized the establishment of recovery procedures and testing these procedures under various circumstances. Users requested presentations from various sites on recovery procedures.

Group business followed with the following summary of activities:

- SAG requested input, via a questionnaire, as to topics which Users would like addressed at the Las Vegas Conference. Please mail those in ASAP.
- Due to geographical reasons, the majority of Southeast Users requested the session be expanded to 1½ days beginning at 1:00 p.m. on day 1 and ending at 4:00 p.m. on day 2. This would also allow more time for informal discussions and special interest to be pursued.
- Due to poor service and a 99% request from our User Group, we will be moving our meetings to another hotel. Suggestions at this time include Peachtree Plaza and the Airport Marriott.
- The next meeting will be held on December 9th and 10th at one of the above-mentioned hotels. As arrangements are finalized, they will be relayed to you.
- Suggestions for topics for the next meeting are as follows
  —Data Modeling
  —Performance and Tuning
  —Restart/Recovery Procedures (onsite)
  —DBA Procedures
  —User Exits

I appreciate the support and input all of you have given in the past months. If I can assist you, or you have input regarding our December meeting, please don't hesitate to call.

The Southeastern Users met on December 17th, 1981, at Peachtree Plaza Hotel in Atlanta, Georgia. Fourteen representatives from six organizations participated.

Due to some last minute cancellations, the attendance was smaller than usual; however, the meeting took an informal tone and participation from all parties made the meeting highly beneficial.

The topics of discussion were as follows: Standards and Procedures, Performance and Tuning, Group Business, and Open Session.

Pete Smith, from the Center for Disease Control, outlined the procedures and standards for use at their organization. CDC supports over 80 systems using ADABAS primarily developed in NATURAL. Emphasis was placed placed on formal training session for the NATURAL users. End users design, develop, and implement production oriented systems with the assistance of the DBA staff at CDC.

Backup/Recovery procedures should be documented and tested. Monitoring of the data base should be a regular occurrence. System accounting/SMT data should be logged and analyzed. Formal review of projects using ADABAS and the physical design of ADABAS records is essential for a well engineered system. Security, passwords, security by value should be emphasized.

Norris Barnes from R.J. Reynolds covered the functional attributes of their DBA positions. Norris emphasized training for persons responsible for the DBMS. This included both corporate and subsidiary DBA's, and systems development project and team personnel which are responsible for the DBMS project. More than 2,000,000 transactions daily are processed against the R.J. Reynolds' data base. R.J. Reynolds also has an internal Users' Group which meets regularly to address issues and problems in the R.J. Reynolds' data base community.

Special Interests are also persued in projects analyzing performance and tuning requirements, etc.

Norris also emphasized the use of "NATURAL" and prototyping on Demos during the design phases of a system. This is easily done and is very effective when communicating with the end user.

Group business followed:
- The Peachtree Plaza Hotel and the services they offered were well liked by most.
- We will have our next users' meeting March 17, 1982, at the Peachtree Plaza.
- Suggestions for topics of interest would be appreciated.
- Participation in special interest projects for the Southeastern Users' Group is encouraged.
- Be thinking about the election for the 1982 Southeastern Representative for our Users' Group.

Software AG was represented in force with both Marketing and Technical Staff participating. Jim Crawford, the new Users' Group Liaison, was introduced and discussed briefly his upcoming activities.

Larry Potter hosted a panel discussion on performance and tuning. Questions were addressed, however, I feel this area is very grey and not enough material is available on this topic.

Jesse McKinney from American Family Life, presented the DBA function and procedures at AFL from the eyes of a new DBA. The presentation emphasized the areas which need the most emphasis as the roll of the DBA is assumed.

The presentation included:
- The logical order in which the manuals should be read
- Understanding the components of the data base
- Firm grasp on the utilities used to manage the data base
- The emphasis of a test and production DBMS

Jesse also pointed out the understanding of direct calls vs. ADAMINT and organizational impact of their usage among the system development staff. Emphasis was also placed on both internal as well as external procedures to be developed. This included procedures on the use of utilities through the service request to the DBA.

An open discussion followed identifying problems and solutions.

You should begin making preparations for the March meeting as soon as possible. The effectiveness of the Southeastern Users' Group depends heavily upon your participation.

I'm looking forward to seeing you at the March meeting. If I can assist you, or if you have input regarding our March meeting, please don't hesitate to call.

Sierra Pacific Region

Alan Routhier
County of Sacramento

This was by far our largest representation!

The meeting began with opening remarks by the President, Alan Routhier. Our special guests Steve Carter from Software AG—Seattle and Larry Hagg from MPS, Inc. (DATA-MANAGER) were then introduced.

The first presentation was given by Mr. Steve Carter on the status of the SAG Data Dictionary.

The present Data Dictionary still leaves much to be desired. Obviously SAG had not given it a very high priority in the beginning. Therefore, we are going to have to make do for awhile.

Dr. Richard Meyer is now in charge of producing the next generation of the SAG Data Dictionary. We were told not to expect the first 'cut' for at least two years. When it does become available, it will definitely be upward compatible to what we now have. We were also informed that it will be a separately priced package.

The second presentation was given by Mr. Larry Hagg on the DATAMANAGER.

His company, MSP, Inc., has dedicated itself to the production of a documentation package called DATAMANAGER. It has been widely used by the DP industry since 1975.

Mr. Hagg offered DATA-MANAGER as an alternative to SAG's present Data Dictionary,

since it already interfaces quite well with ADABAS. One of the notable features of DATA-MANAGER is that up to 255 bytes per comment line can be accommodated as compared to the present 30 bytes per comment limit in SAG's Data Dictionary.

A question and answer period was moderated by Mr. Steve Clark, DBA for Sacramento County.

Steve told us that DATA-MANAGER is extremely powerful and warned that we had best plan well before putting it to use.

He also commented that the present SAG Data Dictionary is fine for use as a simple repository for documentation in the beginning; however, he said that any Data Dictionary package must be interactive to be useful.

Alan Routhier read a letter from the Asian Development Bank located in Manila, the Philippines, expressing the desire to join our User Group.

There followed a discussion on a variety of ADABAS related subjects.

Our next meeting will be hosted by the County of Sacramento in Sacramento on Tuesday, December 8, 1981 at 9:00 a.m.

The theme will be "NATURAL."

Pacific Southwest Region

David Berg
Hughes Aircraft Company

Our September meeting was hosted by Jennifer Lee at the Aerospace Corporation and fea-

tured an excellent, informative, and useful presentation by Jim Reiner of the County of Sacramento on NATURAL Techniques. Jim's presentation was in the format of the inhouse class on this subject that he gives to the County and addressed the specific concerns and questions of our region. We are grateful to Jim and the County of Sacramento for his time and effort.

The October meeting was hosted by Linda Simon and Tom Potts of the University of California, Santa Barbara.

The minutes of the September meeting were accepted, following which John Weil introduced Jacqueline Gilliam, a new marketing rep for ADABAS-M.

David Berg then distributed the minutes of the SAGGROUP Executive Committee Meeting and discussed the events of that meeting.

Tom Potts followed with a presentation of GENIE, UCSB's GENeral Interactive Entry program. GENIE was developed to enable the decentralization of data entry for batch applications to the user departments. It satisfies the needs of independent data entry, data editing upon entry, multiple transaction types, user security, application independence from other applications data and concurrent entry of data to the same applications data, and concurrent entry of data to the same application by multiple users. The system operates under COM-PLETE, using one ADABAS file with multiple record types (called subfiles) for data storage. It is written in PL/1 with ADAMINT. Security is provided using COM-PLETE's GETCHR feature and restricting access to records on the ADABAS file based on USERID. Format, prompt and exit tables for each transaction format are

stored on the same ADABAS file with their own identifying record type. Tom demonstrated GENIE to the group following lunch.

Change/Enhancement requests were discussed, with a review of some of those discussed at the Midwest Users' meeting as an introduction. The annual question of differentiating a Change/Enhancement request from a fix to a bug was brought up with the annual response that sometimes the only way a bug gets fixed is via a popular C/E request. John Weil replied that any user encountering difficulty in communicating or transacting with Software AG should contact him to work through the problem.

Jennifer Lee commented that she felt that NATURAL was not user friendly enough to be handed over to end users. In the ensuing discussion two points were generally agreed upon: 1) it does take some degree of programming knowledge to use NATURAL and 2) the NATURAL documentation should include a tutorial in logical, top down sequence, on how to use the NATURAL language.

On the subject of documentation, David Berg noted that the COM-PLETE SYSPARM parameters and ADABAS ADARUN parameters are insufficiently documented to make an intelligent decision on setting them. The documentation lacks information on the effects of varying the parameter values and is insufficient with regard to the impacts of parameters on each other. David indicated he would write a C/E request on all these documentation comments.

A very brief discussion of ADABAS Version 4 ended the morning session. Linda Simon indicated that all of USCB's update

programs, including batch, are ET programs. Most of the batch programs issue an ET every 20 updates, and one issues an ET after every update so a duplicate record check can be made. Linda said there was very little degradation due to the ET's.

Minutes—December 4, 1981

The meeting was held at the Software AG Newport Beach office. Jennifer Lee, President, called the meeting to order at 9:30 a.m., and made the following announcements:

1. Software AG confirmed their support, in a letter to users, with the ADABAS Version 4.1 conversion.
2. Las Vegas Users' Conference May 9-13, 1982. Start now to make plans for sending people. Call for papers, abstracts on COM-PLETE, NATURAL, and ADABAS are due December 18. Refer to November's Users' Group Newsletter for information.
3. Software AG Staff Update. Jim Crawford—Software AG User Group Liaison, Cathy Vivona—Software AG Technical Assistant, Allen Shue—Conference papers reviewer, and Paul Barbuto—Conference Workshop Coordinator.
4. The Sierra Pacific Region SAGGROUP users meeting will be held in Sacramento on December 8th. Jim Reiner will give a tutorial on NATURAL techniques.
5. Change/Enhancements are due December 7, 1981.

Edie Carroll, Aerospace Corporation's Data Dictionary Analyst, demonstrated the Online Data Dictionary. Using handouts taken from the Online Data Dictionary Reference Manual, Edie

explained screen descriptions, module descriptions, functional capabilities, and the difference between the batch and the online data dictionary methods and results. She also stated that she preferred the online over the batch method. In addition to going through each Data Dictionary screen at a terminal and explaining its purpose, Edie pointed out product bugs and how to deal with them. She informed the group that NATURAL source code for the Online Data Dictionary is available on tape; which gives users the option to make modifications to the system. Edie is writing an article on her experiences for the Users' Group Newsletter.

The next SAGGROUP Users' Meeting will be held at NISSAN, with Walt Hopkins hosting, on January 22, 1982.

Steve Carter, Software AG, attended the meeting to discuss education issues with the users. A request was made by the users to have regional area classes, customized to their needs, in ADABAS performance, and advanced NATURAL techniques. It was suggested that a 'live case' format be used with cases generalized according to the most common user environments, i.e., MVS, COM-PLETE, CICS, and NATURAL. Enough modeling should be given to cover most users. It was agreed that classes should start in March 1982, after ADABAS 4.1 has been installed by most users. Also, Steve handed out a Customer Training Scheduling Preference Survey for 1982 and a tentative class schedule which is being mailed to Western Region SAGGROUP users.

Responding to users' questions, John Weil of Software AG said he had no new information on the NATURAL 1.2 release or

the SM4 SAGUTILS but will research and report on them at the next SAGGROUP users meeting.

New England Region

Bob Meyers
The Boston Company

The New England Region met on December 17. At the meeting, Joe Gilley addressed several questions which the Software AG Users' Group of New England had sent to him. He mentioned that ADABAS 4.2 would probably have a verb to retrieve all occurrences of a PE or MU.

- That the NATURAL Security package which comes gratis was very skeletal and the separately priced security system would be much better.
- Password security can be obtained by typing /* and the next line to print will be invisible.
- Redefines data type in the Dictionary applies only to COBOL Copy code.
- Currently only Algorithm 1 & 2 work. Algorithm 4 in vrs. 4 uses fewer I/O's and more core.
- If you include only your system file code in the OPRB parameter in NATURAL, all other files will receive the benefits of OPRB.

Bob Meyers of the Boston Company presented how they use the Online Data Dictionary. Overall he felt that if a corporation was willing to make the compromise between perfection and speed in favor of just speed, the Online Data Dictionary is a great productivity tool. Some incorrect documentation in Data Dictionary Reference manual: field BH, - sequence, is a descriptor and it is really (U5) field not (U3) or (N3) as defined in the DDM or the Util 03 cards. (This causes an abend of a program in the Online Dictionary.) Peter Kim of Boston University gave a talk on COM-PLETE Tuning tips.

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.

ADABAS News

ADABAS V4.1 Experiences

Brent Carter
Province of Nova Scotia Department of Government Services

The Province of Nova Scotia has joined the ranks of ADABAS Version 4.1 users. Previous newsletter articles and User Group presentations were of significant help to us. This article may be of some value to anyone still planning or in the midst of conversion.

The Province of Nova Scotia has been an ADABAS user since 1977. As a result, we have a number of applications which have been around for some time and which have not had applications team involvement for 2-3 years. This had a significant impact on our conversion approach. Probably the longer you have been an ADABAS user, the more time-consuming (painful) conversion to Version 4.1 becomes. This, of course, is in direct proportion to the incompatibilities between releases. Having only cut over to Version 4.1 on November 7, 1981, we are not yet confident we have unearthed all the subtle variations from Version 3.2.1.

However, we have not experienced any major problems, and Software AG support for those we have encountered has been very good.

Perhaps we can trace our experience best by reviewing our goals in conversion, our tools, our problems and our conclusions.

Like everyone else, I'm sure, our idealistic goal was to receive a package which would have compatibility comparable to a system modification. Having accepted the reality that some change was inevitable, we arrived at the following goals. (By the way, having read Bob Becker's goals in conversion raised our expectations significantly and you may note some striking similarities between his goals and ours.)

1. Minimize the risk of error due to conversion. There is nothing quite as frustrating to end-users as having their system start misfiring after a long record of stability when they requested no change.
2. Minimize application team involvement. For the majority of applications on ADABAS, there is no specific team related to the system outside of System Support (Maintenance). The implications of major retesting of production systems using ADABAS were unattractive, to say the least.

3. Minimize ADAMINT, JCL changes. This goal relates closely to the first one. With about 150 ADAMINT modules and a large number of catalogued procedures, the goal also was to reduce the work involved.
4. Depart from our approach of modifying vendor software. Under Version 3 we modified the MPM primarily for accounting. While this didn't hurt us, we feel it is far more desirable to leave the vendor's code unaltered. As you will see in our tools section, we have not yet completely kicked the habit. (Take note; it is addicting. If you've never tried it, don't!)
5. Reduce impact of future releases. Our primary function is Data Administration. The energy of moving to a new release contributes about as much to this function as a fireplace in heating your house. The objective here is to design tools which will be reusable when converting to ADABAS Version 5.1. (We lost our naivete' about upward compatibility when we received our first new release of ADAMINT.)
6. Make the conversion transparent to end-users, and, if possible applications

teams. The primary aspect of this goal was to minimize the man days of non-Data Administration staff. The second and more important aspect was to avoid introducing limitations not existing under Version 3.2.1.

In an effort to achieve these goals, a number of tools were developed. Each one is relatively simple and has realized a reasonable return on the investment made.

1. **BATCH PROGRAM INTERFACE**

This is a module which intercepts all batch calls to the database. Implementation of this module was simplified by giving it a name of ADALINK. Since all our Version 3.2.1 batch programs are run in MPM mode, they dynamically load ADALINK. Thus, the interface module was implemented simply by removing the ADALINK alias in the Version 4.1 load library and linking our batch interface module into the library. Our module then loads ADALINK and passes the call on to it. In this setup ADALINK must be zapped with the ADABAS SVC number.

This interface module has a number of functions. It:
Modifies all batch update opens to 'EXU';
Modifies all hold commands to non-hold;
Intercepts selected response codes;

 *70 sequential command table overflow
 *151 command queue overflow
 *The command is reissued after appropriate action.
-Handles OS checkpointing.
ADALCK was not pro-

vided with Version 4.1 so anyone using OS checkpoints was not supported. The checkpoint logic is not designed to handle L1, L2, L3 sweeps or FIND commands which depended on the Command-IDs interrupted by OS checkpoints and restarted. They lose position as the sequential command table entry is not saved by the checkpoint.

 Editors Note: 'ADALCK is now available for V4.1. The latter statement regarding the sequential Command ID table also applies to FIND commands which depend on the Command ID.

2. **ON-LINE PROGRAM INTERFACE**

This is one area where compatibility did exist. Almost all Version 3.2.1 on-line programs work with no change under Version 4.1. Two exceptions were a NATURAL update program written without hold logic (compulsory with 4.1) and a program which issues C5 commands (write to log). Version 4.1 will not accept the C5 unless the program opens for update, which in turn means an update program with EXU cannot run against the same files as long as the on-line program is active. The result—compromise #1 on end user transparency.

In any case, an on-line interface is not a necessary part of conversion. However, our shop is essentially a service bureau environment for government departments and we are required to do charge back to those departments. Our T/P monitor is COM-PLETE and

the only unique information on an on-line call available to Exit 4 is the Terminal ID. This is not sufficient for us to allocate billing charges.

The on-line program interface simply acquires the job name and account number from COM-PLETE (you see, he knew all along but just wasn't about to tell ADABAS). The next challenge is how to slip this rather large piece of information (18 bytes) into a rather small user area on the call (4 bytes). Our engineers are still working on it! Meanwhile, we issue a BT as the first call and sneak it into "so called" unused areas in the Control Block. This is something like driving around a blind turn on the wrong side of the road. It has its risks. (Like meeting a truck with the plates ADASM4!)

We're hoping Software AG will be announcing a comprehensive accounting package for ADABAS and COM-PLETE before we get hurt.

3. **ADABAS User Exit 4**

The alternative to creating a data set with every ADABAS call, sometimes up to 2 million, is to do something in ADAEX4. This was our choice.

This exit is invoked on every ADABAS call. We identify the user (COM-PLETE users as indicated earlier) and create a usage table entry. Every call results in the update of such an entry. CPU time is calculated. Account records are written to an OS file every 15 minutes for active

users. These records are later processed through the regular billing functions. The exit also is used to do normal logging of all opens, closes, BT commands and non-zero response codes. A feature of Version 3.2.1 which has been lost was the facility to use an operator command to dynamically change the logging criteria. For example, a user may normally have logged only non-zero response codes but have turned on the logging of all calls for a particular period by modifying to LOGALL and then back to LOG.GT.O, when finished the desired time frame. We liked this feature and used it often enough to miss it when it was no longer available. We have coded a check into EXIT 4 which will turn logging on and off according to the PASSWORD received on a call (via ADASCRIPT+) to file 255, a file which we do not use. It's crude, but it works.

4. **MODIFIED ADALCMP**

ADALCMP is the ADABAS/COM-PLETE Interface module. Anyone who has examined the code in this module has to be impressed. It is only about 16 bytes long. The logic has been incorporated into COM-PLETE. We modified this module to dynamically load and pass control to the module mentioned above. This was made dynamic for two reasons. It made us feel we were only modifying Software AG's code a little which helped with goal number 4. The second reason was that it would allow us to modify our on-line interface module (fix

bugs, add functions, or whatever) without having to relink any on-line programs.

5. **CHECKPOINT FILE PURGE PROGRAM**

This is no big deal but unless you want eternal checkpoint file entries, you will have to come up with this tool. If you're doing your purge by date, the STCK date format presents some interest in an otherwise trivial task.

The list here is surprisingly and pleasantly short. Most of these problems have already been mentioned.

1. C5 is an update. Obviously, this can be argued in both directions. Software AG does not seem receptive to treating it otherwise, and if it weren't for history, we'd find their arguments very reasonable.

2. OS Checkpointing. Probably none of you are interested in this one anyway, so we won't elaborate.

3. Utilities. We could not avoid using new JCL. This affected primarily Data Administration, but also a few application systems which incorporate utilities.

We have experienced no success in using Mass Update to achieve what ADDLOAD did in Version 3.2.1. Also, we have experienced a problem with ADAULD which Software AG has been unable to duplicate but which we can achieve with disgusting regularity. For the curious, the problem (for us) occurs in attempting to unload in ISN sequence a file with no descriptors and with non-consecutive ISNs. If, for example the ISN sequence is 2, 5, 10 . . . we unloaded 2,

2, 2, 5, 5, 5, 5, 5, 10 . . . We find it interesting but our users think it's redundant. **Editors Note:** 'We are still attempting to reproduce this problem. Work is continuing with the user to resolve the situation.'

4. EXU for All Batch Updates. We have found the decision to use EXU somewhat restrictive for scheduling purposes. Basically, it tightens up areas where we were a little slack under Version 3.2.1. For example, we often ran simultaneous update programs against the same files knowing we would have to back out all updates in case of a problem. Now we can't do this without going to cluster logic. This is not a problem with Version 4.1, but rather the penalty for developing some bad habits under Version 3.2.1

5. MPM Parameters. Many of these parameters relate almost directly to potential response codes. Software AG has a good handle on them and should publish their knowledge in this area as soon as possible. We've experimented like everyone and have had to call for help when some of our experiments started causing bad response codes for (what seemed to us) no apparent reason. I'm still not sure why Software AG uses only one byte of a two byte field to return a response code that translates to what amounts to a multiple choice exam!

6. Murphy
I'm not sure if this fellow operates in Canada.

A few days after cutting over to 4.1, all ADABAS jobs and MPM itself terminated on system 90A abends. Naturally, you assume its related to the cutover and you've missed something serious in the tests and had better prepare to reverse engines. However, the problem was completely unrelated other than the fact the hardware problem involved hit the machine on which all ADABAS jobs run. In another case, an application system which has not failed on control totals for least two years (you guessed it) failed on control totals. On investigation, it was discovered a programmer had modified the program a few weeks earlier and the first time the error could be detected in production occurred a few days after the cutover to 4.1. The result of this discovery was vindication of 4.1 and a sigh of relief for Data Administration.

We have no unusual discoveries to unveil. Particularly in the area of performance, we feel ill-equipped to evaluate. It is difficult in the test environment to get conclusive results. We can say that we have not suffered performance degradation under 4.1. We will be doing more analysis on this in the future.

Some specific things we can say are: (1) T/P recovery is far superior. We had several occasions under Version 3.2.1 when a log tape was unreadable, thus preventing WARMSTART and T/P recovery. The removal of the log tape requirement along with the architecture of Version 4.1 provides far more reliable recovery for the T/P environment. (2) Version 4.1 seems stable. We've

been on SM3 since we started testing and have had no MPM failures which required fixes. Parameter adjustments have solved each problem experienced to date. (3) We were able to achieve most of our objectives listed in the first section to our satisfaction. (4) The implementation was relatively smooth. Although there have been a number of things which have arisen (like response code 9), there have been no major difficulties. The basic conversion strategy was followed and actual conversion took only about 3 hours. This involved running reorder associator, renaming some libraries, implementing the Version 4.1 copy of our on-line program interface, etc. Getting ready for that 3 hours obviously took a lot longer. Probably 3-4 man months. (5) We cut our teeth on Version 3.2.1. It was a stable product and we were quite happy with it. However, we never intend to use it again and believe we'll soon feel equally at home with Version 4.1. (6) Something that might rate as a pleasant surprise as much as a conclusion was COM-PLETE Version 4. The use of a parameter table for defining ADABAS databases and defaults made the conversion and testing very easy in relation to COM-PLETE. We commend Software AG for this and sympathize with those who converted before this improved version of COM-PLETE was available.

Overall, our conversion was a success. The results of our approach were some short term gains in the amount of work and retesting needed. The long term effects, of course, are unknown. We don't want to build layers of interface between our applications and ADABAS. On the other hand, we want to protect our ap-

plication investment while staying current with Software AG. Hopefully, some of the things described may stimulate some ideas for those who are still wondering what to do with that Version 4.1 release tape. Finally, we can say that support for Version 4.1 has been exceptional.

Public Service Commission V4.1 Automated Recovery System

D. Kirkland
Public Service Commission

PSC has designed, developed and is currently testing a "smart start" for ADABAS V4.1. This MPM Automated Recovery System (M.A.R.S. V4.1) is based on the operational requirement that it handles all ADABAS related recovery including invoking the nucleus to recover the DB with no additional manual recoveries of any systems. This assumes the following:
1. All batch jobs are rerunable or contain restart logic appropriate to use of ET's or SYNC checkpoints.
2. All TP users are ET-logic users.
3. Single disk protection log.
4. User Exit 4 creates statistics records (usually as VSAM ESDS) and keeps the command log to a reasonable size.
5. Disk command logging (usually dual but can easily be single).

6. OS checkpointing is not used to recover programs using ADABAS (see assumption 1).

7. Single-user mode utilities run only after normal termination of an MPM session. All utility jobs start with a step to check the status of the last MPM session. If it was abnormally terminated then the utility will not run.

The MARS system is based on the idea of a "session cycle." One cycle consists of an MPM nucleus session followed by steps to (i) copy the protection log to tape and record the fact (ii) copy the command log to tape or a collector file and record the fact (iii) record the normal completion of the cycle.

The MARS system consists of two jobs. The first, ADASTART, checks the status of the previous MPM session cycle and the status of the copies to be done. A condition code is set from these status indicators. If the previous cycle is not complete then the ADASTART job runs the steps necessary to complete it. ADASTART then generates the second jobs JCL and submits it through an internal reader. This second job, ADABAS, consists of one cycle (MPM session, copies with status update, job status update).

An inconsistent status indication in the ADASTART status check will result in the MPM session job not being submitted.

The status check program logs status messages to the OS console for operator information. No reply is ever requested.

ADABAS V4.1 has greatly simplified the logic of this system over the corresponding version we have been using under V3.2.1.

If there is sufficient interest PSC will supply this system to the DBATOOLS GROUP along with a support guide for its use. Any inquiries may be made to:

Information and Management
Services Directorate
Public Service Commission of
Canada
14th Floor, West Tower
L'Esplanade Laurier
360 Laurier Avenue, West
Ottowa, Ontario
Canada K1A OM7

Attn: Douglas Kirkland,
Technical Support
(613) 996-7645 or

Bob Gibb
(613) 995-6358

NOTE: Expected to be available for forwarding to DBATOOLS GROUP approximately mid to end of January.

Also, the PSC is currently developing a sophisticated User Exit 4 for accumulating statistics by job and user. For each job there is a user statistics record area or areas which contains some basic job stats plus some detail stats for each user who is active (has issued commands during his time interval). The definition of a "user" is left to the shop as long as a user index # can be generated from the user ID. Examples of "user definitions" are (i) the FNR (ii) pass the TP monitor SIGNON ID through the user area of the control block using the link routine and calculate a number from that. The default supplied will be the FNR. For batch users only one record will be created per job. For TP monitors as many records will be used as needed to accumulate all users on it.

To eliminate inactive users, give us a time profile and get stats, even if the system goes down, we write out all the used user stats records after specified time intervals, say 10 minutes, and re-initialize all records. User stats records are allocated from the pool only when a command is received that requires allocating a new user record (i.e. a new job or an overflow of the number of users for a TP job).

The DBA sets the maximum number of (i) concurrent jobs, (ii) user detail entries per record, (iii) user stats record areas in the pool that the exit will handle.

This user exit 4 also controls what will be written to the command log by user type (batch or TP), response code and file number (or user index number). The defaults are set in the programs or from an initialization record. These choice flags may be altered through ADABAS commands for a non-existent file (usually 255) which signals a special command.

Finally, on termination this exit produces statistics which tell the DBA what has occurred in this exit. This will tell the DBA if the maximums must be changed to improve the exit's performance.

If there is sufficient interest this exit will be supplied the DBATOOLS GROUP.

Any questions meanwhile may be directed to: DBA, Technical Support at the above address.
NOTE: Expected availability to DBATOOLS GROUP is early February. A cut-down version (no dynamic alteration of decision flags) may be available by early January.
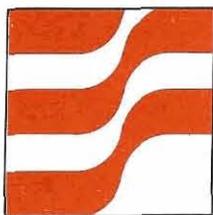
ADABAS Technical Notes

ADABAS PE Support

Steve Clark
Sacramento County Data Center

Over the past 3 years I have talked with many ADABAS users concerning their use of periodic groups in file design. My questions have included:

- Do you use periodic groups?
- What do you use periodic groups for?
- Why don't you use periodic groups?
- What basic logical model do you use for file design; network, relational, other?
- What problems are you trying to address by using periodic groups?
- What problems have you found trying to use periodic groups?

The purpose of these questions was to determine the extent of periodic group use across the user community and whether or not the other ADABAS users were experiencing the same types of problems that I have encountered in their usage.

The problems I've encountered center around the fact that: (1) Current nucleus commands do not allow sequential access by a descriptor within a PE occurrence or a super descriptor that has one of its components extracted from a PE occurrence. (2) All current nucleus commands work only upon ISN and for all practical purposes, do not make the occurrence number (available in the associator) available to the user.

In asking my questions concerning PE occurrences, I was surprised to find that most organizations avoid this very powerful facility. Most organizations have found that the logic required to support PE occurrences must be built into the applications, which, coupled with the limitations of the current nucleus commands to perform on PE occurrences, make this facility too difficult for the programmer to use. Therefore, PE groups are avoided in file design except for the most simple and least used requirements. The options most commonly selected to avoid PE group use include: 1. new record types; 2. additional files with redundant data; 3. and in some cases even coupling, to overcome the complexitites of PE occurrences. All of these design options create a great deal more overhead and only the coupling option provides the integrity of DBMS maintenance to the relations. The other options require programmer and application integrity maintenance.

In an attempt to make PE groups easier to use and add flexibility to file design, I have submitted the following Change/Enhancement request:
Product-ADABAS
Category—Nucleus
Title—Enhanced nucleus support for Periodic groups

This Change/Enhancement requests new nucleus commands. These commands would resolve the sequential access problems, and the complex application logic now required when PE occurrences are used.

If you are one of the users that frowns on PE groups or feel their restrictions cause you problems, I urge your consideration of this change/enhancement as a very important item. It is only through combined user effort that we can request Software AG to make ADABAS even better than it already is.

Software AG Online Data Dictionary

Steve Bradley and Phil Bergh
Weyerhaeuser Company

In 1979, Software AG released their version of an online data dictionary. It was basically designed to allow a convenient and relatively quick way to access and manipulate the data dictionary.

What are its basic functions?
The online data dictionary has 10 basic functions:

1. Database Activity
2. File Activity
3. Field Activity
4. Owner Information
5. Module Information
6. Report Information
7. Program Information
8. Relationship Information
9. Verification Requirements
10. Special DBA functions

What makes up the online data dictionary?

The online data dictionary is a system composed of 79 basic modules. The source and object code may be obtained from Software AG upon request along with the programs required to load the source and object code onto the NATURAL system file.

Why should I use it?

The online data dictionary was developed for online access to the dictionary. It is "user friendly" thereby allowing non-technical personnel to access and update the dictionary per their needs and requirements. The online data dictionary has several edit checks within each module to ensure the integrity of the user's information. It also ensures that certain prerequisites and corequisites such as field divisions for super and sub descriptions are supplied. Also, it is not card column dependent as in batch.

Couldn't I just use the batch updates?

Yes. Batch updates were the original form by which the dictionary was accessed and updated. And since the batch update has been around for such a long time, there are very few bugs. One other good thing about batch is its independence from NATURAL and/or a TP monitor such as CICS or COM-PLETE. However, batch requires that the input be in a specific format and the transactions cards are confusing, combersome, and may be time consuming—with a good text editor the batch input can be easily created and edited but would still have to go through the normal batch edit routines.

But isn't the online dictionary also cumbersome?

The online data dictionary is cumbersome only to the point that there are too many modules to go through. For example, adding one field to an existing file could require the user to go through as many as 12 screens. This is very time consuming. However, the trade-off is immediate validation of entries and for making changes to a file or field or even duplicating a file

ease of modification.

How would you suggest utilizing the online data dictionary?

As I see it, the online data dictionary could be used in one of two ways:
1. Let the user access and update his own files.
2. Let the DBA use it to change existing definitions.

Batch updates could be used for initially loading the new file definition to the dictionary. The online data dictionary could also be modified to meet the user's needs.

On-Line Data Dictionary

Edith B. Carroll
Aerospace Corporation

Recently the Aerospace Corporation acquired the Online Data Dictionary which has been installed and running under NATURAL in a TSO environment.

I would like to share with you my experiences using the Online Data Dictionary. Once becoming familiar with the different screens and how they relate to one another, the Online DD can be a very useful tool. The most important screens are, of course, the file subsystem (Record Type B) and the field subsystem (Record Type C). Also available are screens for all other DD Record Types.

Submitting through batch may cause numerous clerical errors. For example: If entering information in the wrong column, especially on Record Type C, inaccurate results may occur. Even though Transaction Error Report No. DD01 is generated, it

is difficult to decipher the error code response. Sometimes this error message does not really relate to the actual problem.

With the Online DD, editing is checked for you; thus, eliminating errors that could occur during batch processing. Another nice feature is the interrelationship between System, Programs, Modules, and Reports Subsystem. When used to their highest potential, these subsystems can be an excellent cross-reference tool.

There are, however, a few modification changes that could be made to enhance the performance of the Dictionary. These are:

Maintenance Date

On the field subsystem screen, there is an option to 'Display Field Attributes' which will display Level number, Field Name, ADABAS 2 character name, Format, Length, Field Def., Field Type, and Sequence number. However, if you wish to see all other attributes pertinent to a field name, such as synonyms, comments, headings, etc., you must select the option to 'Change A Field'. You then browse through the different screens. Even though no changes were entered, the maintenance date will be automatically updated.

Also, the Online DD updates the last occurrence of maintenance date; whereas, batch updates the first occurrence.

ADACOM/NATURAL Edit Mask

Provisions have been allowed for an ADACOM/NATURAL Edit Mask on the 'Add A Field' screen, but on the 'Change A Field' screen there is no entry.

Owner User ID, Synonyms, Comments

On the field subsystem screens Owner Info allows only one (1) occurrence; synonyms allow only four (4) occurrences, and comments allow only four (4) occurrences. Since these are all multiple value (MU) fields, it would be nice to be able to add more occurrences if needed.

Relationship Comments

On the relationship subsystem screens, no provisions were allowed to enter relationship comments.

Copy A File And All Associated Fields

This particular option selection appears on the file subsystem screen. When copying a file, only three (3) occurrences of Owner User ID will be copied and appear on DD07 report even though you originally had more than three (3) occurrences. Also, it does not copy S (indicating signed fields) on packed fields nor does it copy ADACOM/ NATURAL Edit Mask.

EDITOR'S NOTE:

"Software AG is evaluating the proposed modifications for potential inclusion in a future system modification."

Tuning ADABAS With VSE/PT

David A. Alexander
Bud Antle, Inc.

The IBM DOS/VSE Performance Tool is pretty hard to justify in terms of ADABAS tuning only (it costs $175.00/per month). However, for those installations which already have it, or are concerned about response time problems (real or potential), it does throw up one interesting aspect of your system's actual performance. Its principal use, then, would be to remove some of the guessing involved with overall tuning. When used with the ADABAS log, it can also (as in our particular situation) remove the finger of suspicion from ADABAS itself.

Our situation? DOS/VSE release 1 installed on a 4331 Model 1 with 8 meg virtual and 1 meg real; ADABAS 3.2.1 SM4 operating with SHADOW II, release 2.2. In addition, we are a 100% NATURAL shop.

The Problem? Horrendous response time with the addition of a second major online application. Under suspicion—ADABAS 3.2.1, its single threaded nucleus—(together with inefficient access of the files by the new application). The real culprit—massive paging rate, together with excessive system wait on some communications devices. Inefficient data base access by the application was indeed a contributory factor, but not the major one (as anticipated).

With NATURAL, the overhead for each additional terminal on our system is of the order of 46K. The addition of several terminals for the new application put us over the "threshold" and contributed to the excess of paging.

In terms of tuning ADABAS itself, VSE/PT does not contribute a great deal, but does confirm some "truths" as noted by other users. These include the following:

1. Physical Access to files: The VSE/PT DASD report indicates arm movement as well as system wait time on one device alone. Having the most frequently used ADABAS files physically continuous on the disk (or separated on different packs if you have that luxury) can reduce both of these factors and can virtually be confirmed by the VSE/PT reports.

(Ammunition for getting a second channel and/or moving to release 2 of DOS/VSE can be obtained here!)

2. Size of the ADABAS buffer for maximum efficiency: Our MPM, with no recovery logging but with an extended Internal Format Buffer of 10K, is approximately 175K. Armed with the knowledge (again from other users) that there is diminishing return in improved ADABAS performance as the size of the ADABAS buffer increases beyond 200K, our ADABAS partition size was set at 484K virtual. (Minus a GETVIS of 48K, this sets the buffer to approximately 250K.) The System Activity Report of VSE/PT indicates the number of pages used by each partition from the page pool (i.e., the amount of real storage used). This number for ADABAS indicates the minimum real core ADABAS requires under the varying system load (users running with ADABAS real, take note). In our case, this number varied from a minimum of 220K to the maximum of the virtual partition size.

The ADABAS log can also be quite instructive. The column headed "ECBS" indicates the number of outstanding requests which are waiting for service by the nucleus. If this number is

(Continued)

consistently (and excessively) greater than one, the single threading is causing a bottleneck. In our case, we could see this intermittently particularly when the EXCPs column counts in a prior command were significant. This occurs particularly on adds and updates with a large number of descriptors involved, but can also be due to FINDs with complex search criteria and/or a large number of records involved.

Although the above applies to a V3.2.1 system, I would assume that the usefulness of VSE/PT reports in conjunction with the ADABAS log will continue to provide tuning information under new releases. I would welcome the contact with any other DOS users with experience in this area.

DOS Status Report

Gordon Perrins
Software AG

Many of you are aware that there have been significant enhancements to ADAIOR. These enhancements address and resolve some operational concerns of the DOS/VS and DOS/VSE community as well as providing increased ADABAS efficiency.

In the last Newsletter, we outlined our resolution to space acquisition by the internal COBOL sort and PL/1. This is a good opportunity to present to the other enhancements to the system, modifications to ADAIOR and the operational requirements needed to implement them. The following enhancements will be

included in the ADAIOR that will be distributed with SM4:

- The partition GETVIS area is used for GETMAIN requests, if it is large enough, and all GETMAIN requests are logged to SYSLST.
- Sequential file processing has been standardized, and normal OS-compatible V and VB files are written and read.
- Dual command and protection logging to CKD and FBA disks using EXCP with overlap of multiple I/O operations has been implemented.
- ADARUN control cards can be read from tape, disk or card in all environments.

Users are asked to note that:
- DOS is not supported, only DOS/VS and DOS/VSE. Therefore, DOS users should continue to use their current version of ADAIOR.
- No modifications are necessary to any DOS module.
- Only standard naming is supported for ASSO/DATA/WORK/TEMP/SORT/CLOG/PLOG.
- All ASSO/DATA/WORK/TEMP/SORT/CLOG/PLOG extents, including those on FBA disks, must begin and end on a cylinder boundary.
- FBA support is not compatible with any prior version of ADAIOR. Therefore, every ADABAS file on any database currently residing on FBA disks must be unloaded using ADAULD with the user's current version of ADAIOR and reloaded using this new version of ADAIOR.

Beta testing is in progress; this enhanced version of ADAIOR will be included in SM4. This distribution is scheduled for early 1982.

Change/Enhancements, which were due in the end of December, will be of interest to us at Foremost Insurance and how they are processed by Software AG. One that I am very much in favor of is the ability for floating threads within COM-PLETE. As many of you know, within ADABAS, one user could have commands processed first in thread 2 and then in thread 3 or 4, depending upon workload within those threads at the time that the command is sent to ADABAS. That is, of course, if the user is strictly a retrieval and nonupdate program. However, within COM-PLETE, once a program is assigned to a thread, it must always remain in that thread until the procedure is ended. I feel that a great amount of throughput could be had by transactions changing thread, depending upon thread load. Therefore, if you initiated in thread 1 of COM-PLETE and were rolled out, you should be eligible for thread placement in any available thread that could accommodate your size of program. Therefore, I have submitted this as a very important change/enhancement to Software AG in 1982.

I hope to be meeting with many of you at the conference and exchange ideas about the use of COM-PETE within your organization and ours.

Here's hoping to hear from you on your conversion to Version 4 of COM-PLETE or see you at the International Conference soon.
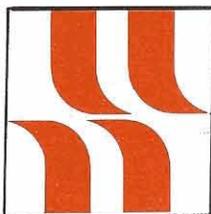
ADABAS Product Rep's Report

ADABAS Product Rep Report

Jennifer Lee
The Aerospace Corporation

I would like to especially thank in advance Alan Shue of Manus Services and Paul Barbuto of Washington State Library Network for serving as ADABAS Product Coordinators for the Las Vegas Conference. Alan Shue has consented to review the abstracts and papers submitted for ADABAS user presentations, with an eye towards classifying papers according to "audience appeal" designations.

Paul Barbuto will work with ADABAS Special Interest Group Chairpeople in the development of the User Workshops.

I would like to welcome John Colthar of R.J. Reynolds as Chairperson of the Retrievals/ Interfaces Special Interest Group. The interest in commercial application software has been growing rapidly among SAGGROUP users and Software AG has undertaken discussions with several vendors to determine the viability of an ADABAS interface. Aerospace is currently evaluating software products in several application areas. Aerospace's commitment to a corporate data base requires that any software package to be considered for purchase be interfaced to ADABAS. Aerospace is, therefore, enlisting the support of other SAGGROUP users to apply their influence in requesting that the vendor and Software AG cooperate in the development of an ADABAS interface, and a COM-PLETE/NATURAL interface

for on-line software systems. John Colthar is willing to assist in the coordination of user contacts and act as the central repository of user information. I urge you to contact John and inform him of your interest in vendor software products in order that we may coordinate user efforts to effect an ADABAS interface to highly desirable software applications.

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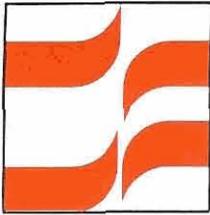Columbus, Ohio 43210
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ADABAS Special Interest Group Reports

Retrievals/ Interfaces Special Interest Group

John Colthar
R.J. Reynolds Industries, Inc.

Please think for a few moments and then see how many ways you can complete the following statement: "ADABAS would be significantly more valuable to my organization if it would interface with . . . ." If interfaces to one or more software packages would make ADABAS more valuable to you, we can work together to make ADABAS more valuable to us all. A couple of months ago, you received a survey on ADABAS interfaces from Jim Crawford. If you have not done so, please complete that survey and send it to Jim immediately. Software AG is actively interested in developing interfaces with other software, and is polling the entire ADABAS community for direction. The results of this survey can provide answers to questions like "Who else has . . ." and "Has anyone developed an interface for . . .". Through this Special Interest Group, Software AG will share the results of this survey with SAGGROUP. I invite you to send me a letter containing your ideas concerning other ways in which this Special Interest Group can serve you.

User-Routines in High Demand

The number of requests for the user-developed software has been high since the publication of their availability in the August Newsletter. During the months of September and November, fifty-three tapes were distributed within the U.S. The majority, forty-three, were the ADABAS routines (DBATOOLS), four were for the DOS version of the ADABAS routines, and six were for the COM-PLETE tools.

The routines are distributed from Software AG Headquarters in Reston, Virginia for all users within the United States. Software AG of Germany and all of our affiliates have copies of the current master and can provide them directly to users outside of the U.S. and Canada. Users outside of the U.S. and Canada should request these tapes from Software AG of Germany or the affiliate for their country.

Users who have routines they feel would help other users are encouraged to contact either Jeff Schutzer or Mr. James Buckner or the World Health Organization in Geneva, Switzerland for ADABAS/NATURAL and Ted Nikodem for COM-PLETE.

The following tapes are available:
DBA002—DBATOOLS
DOSDBA—DBATOOLS for DOS
COMFRE—COM-PLETE Tools

DBATOOLS Special Interest Group Report

Jeffrey M. Schutzer
INCO, Ltd.

DBATOOLS are user contributed routines available to the SAG User community. Any requests for the current tape should be made to:

Jim Crawford
Software A.G. of North America, Inc.
11800 Sunrise Valley Drive
Reston, VA. 22091

The current price for a tape is $15 to cover the cost of the tape and postage.

The following is a list of the available tools. If a date is provided in parentheses it is the last update date for that tool. If you require updates to your tape, please see the User Group Liaison's article on obtaining the updates. Unless a tool that you are using requires an update, there would be no need to obtain them.

This is the glossary of user contributed DBATOOLS. The naming standard used is DBAXXXNN where XXX is the number of the Tool starting with 1 and incrementing with each contribution and NN is the module number within that tool. DBAXXX00 will always be the contributed documentation that is provided.

All routines are distributed on an as is basis without warranty

of any kind either expressed or implied.

All contributions are in source form. This allows for debugging and modifications by each user. If user documentation specifies load modules, they have not been included. The DBATOOLS committee has decided not to accept or distribute any load modules.

Some user documentation will indicate that Macros or include code is provided. Since the name of the modules has been changed to conform to standards, all Macros and include code have been put within the appropriate modules.

If there are any problems with missing modules, Macros or include codes, or if there are any modules that do not assemble or compile, please write up the problem and send it to:

Jeffrey M. Schutzer
INCO, Ltd.
1 New York Plaza
New York, NY 10004

I will obtain the necessary fix, have it sent to the users that currently have a DBATOOLS tape, and fix the distribution tape.

NAME	FUNCTION
DBA001	These routines are used for billing by using SMF type 150 records and maintaining dual command and protection logs. Assembler routines as well as jobstreams and procs are included. Updates to the SVC are required. This routine was supplied for ADABAS 4.1 at SM02.
DBA00100	Documentation for SMF billing routines using user exits 2 and 4.
	01 Source for user exit 2 to submit dual log copy jobs
	02 Source for user exit 4 which calculates CPU time
	03 Source for user exit 4 which writes to SMR
	04 Jobstream to copy dual command log to tape
	05 Procedure executed by CMDTAPE Job
	06 Procedure executed by Protape job
	07 IEBUPDTE/ASMFCL Jobstream for CICS interface (ADALNC)
	08 IEBUPDTE/ASMFCL Jobstream for Intercomm interface (ADALNI)
	09 IEBUPDTE/ASMFCL Jobstream for batch/TSO interface (ADALNK)
	10 Jobstream to copy dual protection log to tape
	11 IEBUPDTE/ASMFCL Jobstream for MPM SVC
	12 Layout of type 150 SMF records
DBA002	One Assembler module with inline documentation for copying command and protection log. There is no JCL or examples provided.
DBA00201	Source code with inline documentation for user Exit 2.
DBA003	This routine allows for the storing of source and object NATURAL programs in an OS PDS instead of in an ADABAS file. Assembler code as well as JCL and CLISTs are provided. Members DBA00302, DBA00303 and DBA00312 contain very useful documentation. This routine has been updated for rescue and NATURAL SM08.
DBA00300	Documentation for CMPEXIT
	01 Assembler language source code for CMPEXIT
	02 Reasons for using this exit and limitations
	03 Operating Help
	04 Sample JCL to assemble and link
	05 Sample LINKEDIT Using NATURAL TSO Driver and CMPEXIT
	06 Sample LINKEDIT using NATURAL Batch Driver and CMPEXIT
	07 Sample CLIST to execute NATURAL (Interactive)
	08 Sample CLIST to execute NATURAL (Batch or Online)
	09 Sample LINKEDIT for NATURAL with no DB (Batch Mode TSO Driver)
	10 Sample LINKEDIT for NATURAL with no DB (Batch Mode Batch Driver)
	11 Sample JCL for running NATURAL batch with CMPEXIT
	12 Information on 'rescue' module used for recovery from X37 type abends or accidental member deletion

NAME	FUNCTION
DBA004	This is an Assembler module with complete inline documentation. This routine will print an ADABAS file (generalized print program) controlled by control cards. The control cards are described in the code.
DBA00401	Assembler module for generalized print program.
DBA005	These routines allow for the processing of the ADABAS log to monitor and evaluate various aspects of the ADABAS environment. The routines are written in Assembler and COBOL. JCL examples are also provided.
DBA00500	This is an index to what is provided.

01 Documentation on how to use programs SE01PADA and SE02PADA

02 Sample JCL for SE01PADA and SE02PADA

03 Source code for SE01PADA MPM log selection routine written in COBOL

04 Source Code for subroutine SE01P001 MPM log reader written in Assembler

05 Source code for SE02PADA report print program written in COBOL

06 Documentation on how to use program SE04PADA

07 Sample JCL for SE04PADA

08 Source code for SE04PADA data base analysis routine written in Assembler

09 Subroutine in object form (text deck) for above programs

10 Subroutine in object form (text deck) for above programs

NAME	FUNCTION
DBA006	The Assembler routines will submit a job to automatically submit a job to reload a file when that file has gone into too many extents. The PL/1 optimizer program will create control cards from a compressed file (ADAWAN or ADAULD output) for ADALD1. Procs are also provided.
DBA00600	This is a narrative of what is provided. All the routines have extensive inline documentation.

01 The assembler routine for determining the device type of the associator

02 Assembler routine to scan the associator for number of each extent, and submit job if necessary

03 PL/1 optimizer source for ADALD0

04 Proc for reload of a file used by DBSCAN

05 Proc to run DBSCAN

NATURAL News

Improved NATURAL CMPEXIT

Walt Kapica
Johnson and Johnson

Since publishing the first article on CMPEXIT (this is an exit that will save NATURAL source and object programs on an O/S PDS) in the November 1980 issue of this Newsletter, we have received many calls and mailed out a number of copies of the exit. Now, Reston will release the exit (along with a bunch of other user supplied goodies) to ADABAS users (see August, 1981 Newsletter, page 27) for a small charge. This is a nice service and well worth the $15 price for the tape.

Since our version of the exit seems to have such widespread use, we have mailed the "improved version" of CMPEXIT to Mr. J. Schutzer of INCO for distribution of the tape.

Basically, there have been two improvements to the exit since it was first released: 1. A RESCUE member will be created to be used in the event of an abend due to a PDS being full. 2. Dynamic allocation of NATURAL source and object PDS data sets.

RESCUE

The primary purpose of RESCUE is to recover from an abend due to the lack of available free space in a PDS. When a SAVE, CATALOG, PURGE, or UNCATALOG command is issued in NATURAL, the following sequence of events takes place:

1. NATURAL comes to CMPEXIT with a DELETE command:
    A. COMPEXIT deletes the member named RESCUE (if there is one).
    B. CMPEXIT renames old member name to RESCUE.
2. NATURAL comes to CMPEXIT with an ADD command.
    A. CMPEXIT adds the new member (or changed member) to the PDS.
    NOTE: The ADD is only done for SAVE or CATALOG—not done for PURGE or UNCATALOG.

Therefore, RESCUE will always contain the old member as it looked prior to the SAVE, CATALOG, PURGE, or UNCATALOG. Notice that the member is never changed— instead, it's deleted and then added. If it happened that the user was trying to SAVE or CATALOG a member and ran out of space on the PDS, RESCUE would contain the member as it looked prior to the abend.

RESCUE can also be used if you inadvertently delete the wrong number. Since RESCUE contains the module as it looked prior to the NATURAL command, the user can edit the member RESCUE to return the module to it's correct state.

DYNAMIC ALLOCATION

The new version of CMPEXIT will dynamically allocate NATURAL source and object PDS data sets while in NATURAL. With the prior version of CMPEXIT, it was necessary to allocate NATURAL source and object PDS data sets prior to starting a NATURAL session.

For example, let's say that you're user SMITH. Your source and object libraries would normally be allocated to you as follows:
TSO:
 ALLOC F(NSSMITH) DA('SMITH.NATURAL.SOURCE') SHR
 ALLOC F(NOSMITH) DA('SMITH.NATURAL.OBJ') SHR

BATCH:
 //NSSMITH DD DSN/SMITH.NATURAL.SOURCE, DISP-SHR
 //NOSMITH DD DSN-SMITH.NATURAL. OBJ,DISP-SHR
 Now, let's say that you now want to run programs or execute

modules from JONES' library. Prior to this new version of CMPEXIT, it would have been necessary to stop NATURAL (FIN), perform an allocation to the NATURAL source and/or object libraries for user JONES' (assuming they had not been previously allocated) as follows:
TSO:
    ALLOC F(NSJONES) DA('JONES.NATURAL.SOURCE') SHR
    ALLOC F(NOJONES) DA('JONES.NATURAL.OBJ') SHR

BATCH:
    //NSJONES DD DSN-JONES.NATURAL.SOURCE, DISP-SHR
    //NOJONES
DD DSN-JONES.NATURAL.
OBJ,DISP-SHR

At this point, you could return to NATURAL and logon as JONES in order to run programs/modules from JONES' library.

However, with the new version of CMPEXIT, simply LOGON JONES while in NATURAL, and run the desired program(s) or execute the desired module(s). Allocation to the files (source and/or object) will be done dynamically (DYNALLOC SVC99) and the library(s) will be available for your use.

The new version of CMPEXIT does the following when a request is made: 1. Check to see if the file is already allocated (using SVC99); 2. If it is, honor the allocation, get the DSNAME, open the file, and process the request; 3. If the file is not already allocated, try to allocate it (SVC99). NOTE: All dynamic allocations are made using standard names only:
'LOGONID.NATURAL.SOURCE' or LOGONID.NATURAL.OBJ'. If non-standard PDS names are to be used, they must be allocated

prior to starting the NATURAL session as in the old version of CMPEXIT. CMPEXIT continues to honor non-standard names; 4. If the file was successfully dynamically allocated, get the DSNAME, open the file and process the request; 5. If the file cannot be allocated, then set a bad return code.

For users with OS password protection, or in our case ACF-2 security, the file will be dynamically allocated, but users that are not authorized to gain access to a given PDS will fail when the file is opened. A user can stay in NATURAL and run programs from any library that they are authorized to access simply by supplying a new logon.

There are a few additional side benefits (not planned, but glad it worked out) with dynamic allocation.
1. All files dynamically allocated have the convertible attribute byte turned on. Basically, this means that if a user exceeds the total number of files allowed to be allocated in a single session, the system will unallocate a file with a convertible attribute byte and allow a new file to be allocated. If the unallocated file is called for again, it will be reallocated.
2. Since it is no longer necessary to pre-allocate user source and object PDS data sets, the number of allocations made prior to starting a NATURAL session can be reduced. Therefore, it is possible to bring up NATURAL faster.
3. The old version of the exit used a RDJFCB (SVC64) to get the name of PDS data set. SVC99 seems to be much faster for this purpose—so that even with data sets that have been pre-allocated, the process is a little faster.
4. The load module of the new

version of CMPEXIT is smaller than the previous version.

SUMMARY

Needless to say, our users really like the new version of the exit. RESCUE has already saved a few users from the loss of a NATURAL program, and because of dynamic allocation, users no longer have to leave and reenter the NATURAL environment. We use CMPEXIT in all our NATURAL load modules (TSO and BATCH), so most users are unaware that it is not a normal part of NATURAL.

EDITORS NOTE: See Users' Group Liaison's DBATOOLS article for information on obtaining tapes.

NATURAL
Technical Notes

NATURAL OBTAIN vs GET SAME

Walt Kapica
Johnson and Johnson

To OBTAIN or GET SAME—Now that is the question. So OK—it's not Shakespeare, but it's a question that could cost you valuable computer time if the wrong choice is made.

At first glance, both the OBTAIN and GET SAME statements seem to be doing the same thing. Usually, this is to get multiple occurrences of a Periodic Group (PE) or Multiple Value Field (MU). Well, the way the OBTAIN and GET SAME instructions work are very different.

What follows are some facts about each of these instructions. Hopefully, these facts will shed additional light on how the instructions work. But, before we go into details, two main points about the instructions should be mentioned:
1. OBTAIN is a NATURAL COMPILE TIME instruction.
2. GET SAME is a NATURAL EXECUTION TIME instruction.

Keeping this in mind, we can now look at each instruction in more detail.

OBTAIN

As stated previously, OBTAIN is a NATURAL COMPILE TIME instruction. The OBTAIN instruction helps NATURAL collect all the ADABAS fields it needs for a given NATURAL program. Therefore, only data needed (fields needed) to satisfy a NATURAL program are returned from ADABAS.

However, it is generally not necessary to code an OBTAIN instruction for ADABAS fields within a NATURAL program that are not periodic group fields or multiple value fields. This is because NATURAL does an implicit OBTAIN for all fields within the domain of the loop and all fields that contain a refer back number. In other words, NATURAL is very capable of constructing the correct format buffer except for PE and MU fields without integer indexes.

If you must code and OBTAIN on your own, the occurrence number(s) must be integer indexes ("HARD CODED INDEXES"). Non-integer indexes ("SOFT INDEXES") are invalid. For example:

```
OBTAIN MAJOR-CREDIT (1-10) or
    OBTAIN CREDIT-CARD (3).
OBTAIN MAJOR-CREDIT
    (1-INDEX) is invalid.
```

The following NATURAL program might lead one into thinking that the OBTAIN will only be done conditionally—NOT SO.

```
0010 FIND FINANCE WITH . . . .
0020 If C*MAJOR-CREDIT >0
0030 DO
    OBTAIN MAJOR-CREDIT (1-10)
```

Since the OBTAIN statement is a compile time instruction (see rule #1), the OBTAIN will be done (the first 10 occurrences of MAJOR-CREDIT will be returned) for each record that meets the FIND criteria regardless of the value of C*MAJOR-CREDIT. OBTAIN MAJOR CREDIT (1-10) is done for every record that is found (format buffer is set to read back 10 occurrences of MAJOR-CREDIT) even if there are no occurrences of MAJOR-CREDIT. MAJOR-CREDIT (1-10) will contain the value spaces if no actual occurrences exist.

To make NATURAL show what is actually happening, the same program might be coded as follows:

```
0010 FIND FINANCE WITH . . .
0020 OBTAIN MAJOR- CREDIT (1-10)
0030 IF C*MAJOR-CREDIT >0
0040 DO . . . . .
```

GET SAME

This is a NATURAL EXECUTION time instruction. The GET SAME instruction can be thought of as an "ADAMINT REREAD)". In other words, get another field (or fields) from the record just returned from ADABAS.

Every time the GET SAME instruction is encountered in a NATURAL program, another call is made to the data base. The GET SAME instruction tells NATURAL which field or fields the user now wishes to be returned.

All fields that are retrieved from ADABAS using a GET SAME instruction must point back to the "GET SAME"—Notice the number (0020) in the example below:

```
0010 FIND FINANCE WITH . . . .
0020 GET SAME CREDIT-CARD (1-10)
0030 For I 1 to 10
0040 IF CREDIT-CARD (0020/I) NOT
    = 'AMERICAN EXPRESS'
0050 DISPLAY PERSON-NUMBER
    CREDIT-CARD (0020/I)
0060 END
```

Again, note that CREDIT-CARD (0020/I) is pointing back to line #0020 (not line number 0010).

Probably one of the WORST ways to use the GET SAME instruction is as follows:

```
0010 FIND FINANCE WITH . . . . .
0020 For I 1 to 10
0030 GET SAME CREDIT-CARD (I)
0040 IF CREDIT-CARD (0030/I) NOT
    = 'AMERICAN EXPRESS'
0050 DISPLAY PERSON-NUMBER
    CREDIT CARD (0030/I)
0060 CLOSE LOOP        /* CLOSE
    THE FOR LOOP
0070 CLOSE LOOP        /* CLOSE
    THE FIND LOOP
0080 END
```

Once the record is returned from the major loop (FIND LOOP), a second loop is started (FOR I 1 to 10). Therefore, the GET SAME will be executed 10 times for each record found. On the first time thru, the GET SAME will return the ADABAS field CREDIT-CARD (1). The second time (I = 2), CREDIT-CARD (2) will be returned. This will continue until the "FOR LOOP" is satisfied. The next record will then be returned from the "FIND LOOP" and the process will start again. Assuming that the basic criteria found 1000 records, then we would do 1000 calls to return the basic part of the record (in this case, this would just be the field PERSON-NUMBER) plus 10,000 calls (1000 times 10) to "REREAD" the first 10 occurrences of CREDIT-CARD. Of course this does not count the calls necessary to do the FIND instruction, etc.

SUMMARY

Now we have an understanding of how each of these instructions works. What follows is a summary list of the things we tell our users when working with PE and MU fields in NATURAL. Since each installation may have different concerns, this list may not be appropriate for your installation:

1. Avoid the use of the OBTAIN or GET SAME whenever possible. In other words, let NATURAL do it. For example, if you just wanted to display the first ten occurrences of CREDIT-CARD, try one of the techniques shown below:
   DISPLAY CREDIT-CARD (1-10).
   or
   FORMAT PC = 10
   DISPLAY CREDIT-CARD
   Coupled with the Empty Line Suppress (ES = ON) and/or

Identical suppress (IS = ON), the report may be just what is desired.

2. Avoid the use of the GET SAME except when there is a HIGH PROBABILITY of no occurrences in a PE or MU field, or if you are only looking for a specific (unknown until record is read) occurrence. Remember, each GET SAME is another call to the data base—this must be balanced against the usually larger format buffer of an OBTAIN. For example:

```
0010 FIND FINANCE WITH . . . .
0020 WHERE C*MAJOR-CREDIT 0
0030 MOVE C*MAJOR-CREDIT TO
     INDEX
0040 GET SAME CREDIT-CARD
     (INDEX)
0050 DISPLAY CREDIT-CARD
```

For the sake of conversation, the program above might be very efficient if almost every record read contained no elements in MAJOR-CREDIT since most of the records would be rejected. It would also be efficient if there was the possibility of 99 CREDIT-CARDS in the PE group since an OBTAIN would have to be coded: OBTAIN CREDIT-CARD (1-99).

3. Using the example in #2, an OBTAIN instruction would be a better bet if there was a limited number of possible occurrences of CREDIT-CARD (say 10 occurrences) with a high probability that most of the records contained at least one value. OBTAIN CREDIT-CARD (1-10) would result is a larger format buffer, but there would only be one ADABAS command instead of two. We have found that in our installation it is faster to use the

OBTAIN in this situation then to use the GET SAME.

4. We all have the situation where a PE or MU field NORMALLY contains 5 or 6 occurrences except for 1 or 2 records that may contain 75 or 80 occurrences. In this case you could do an OBTAIN for, let's say, the first 6 occurrences and also check the count field. If the count is greater than 6, then do a GET SAME for the rest. This requires more code on the part of the user, but could greatly reduce run time if we are talking about large files.

5. When IN DOUBT—USE OBTAIN. For most of our situations, OBTAIN seems to work out better than GET SAME. We tell our users to use GET SAME only when they really know the data and can see a reason for using it.

6. Another problem with GET SAME is the need for a refer back number. Since we do not always use the NATURAL editor to change NATURAL programs, this is a problem when inserting new lines of code, etc. OBTAIN does not normally require the use of a refer back number.
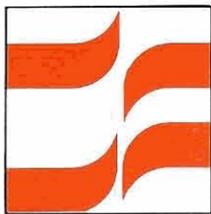
NATURAL Special Interest Group Reports

NATURAL Features

Jim Reiner
County of Sacramento

In keeping with the theme of NATURAL Features, I'd like to focus on a few items from the standpoint of the systems programmer when generating NATURAL.

First, the flexibility of creating NATURAL environments for COM-PLETE users would greatly be enhanced if the NATPRMTP module could be linked with the driver portion of NATURAL. This would allow the system programmer to dynamically link NATURAL modules for specific user environments and still maintain only one copy of the NATURAL nucleus.

Second, at NATURAL generating time, a systems programmer would relish options for trapping abends and then transfer control to a selected module, preferably a NATURAL program. This is especially desirable for maintaining a controlled end-user environment and for saving the programmer grief over lost source code in the work area which is unrecoverable once the NATURAL session is terminated. Programmers find it very undesirable to be confronted with an abend at RUN or CHECK time and then lose the source code. Alternatively, this could also be avoided if it were possi-

ble to somehow recover a NATURAL program in the work area in the event of an abend or system problem.

Third, I would like ADABAS/NATURAL to provide a facility to inquire as to where a program is using the data base at anytime. This would be useful for determining if long response is due to the program going into a loop, or if the long response is normal. Here, for example, I'm talking about a file update that, say, updates 1500 records and is projected to take 20 minutes, but runs over 5 hours. Instead of seeing only INPUT INHIBITED, I'd like to know what is occurring with the program.

After polling various users, here's a condensed list of features many would like to see implemented:

- Option for sounding the terminal alarm at anytime as well as at REINPUT.
- A command to go directly from EDIT to LIST and back.
- A one key method for the end-user to go back and forth with pages of screen output.
- Support transaction logging with NATURAL; this would include the NATURAL commands used, files used, fields used, date and time on the system, program in use at transaction time, etc.
- Make PF keys available for use.
- Don't escape EDIT mode if an invalid EDIT subcommand is used.
- Build a scan and replace feature in editor.

- Implement a feature to allow data base query in a free form, non-procedural manner.
- Allow more than 650 bytes to be passed in a FETCH.
- Let NATURAL use the built-in ADABAS edit masks.
- Include security for batch NATURAL in the security package.
- Give option at generating time to disallow the use of file numbers and 2 character ADABAS names in NATURAL programs.
- Allow the REINPUT to be used at any point in a program under any condition.
- Improve the integrity for all SAVE and CATALOG commands.
- Eliminate the GET SAME and the extra L1's it issues.
- Allow NATURAL programs to be called from NATURAL.
- Option for the HISTOGRAM to report in descending order.
- Option to interrogate ADABAS response codes.
- Option to fully re-execute the INPUT at REINPUT time.
- Make all COM-PLETE GETCHAR fields and values available to NATURAL in system variables.
- Allow group fields to be used in MOVE, RESET, UPDATE, STORE and IF statements.
- NATURAL should respond to all system commands such as SAVE or CATALOG, as to the status.
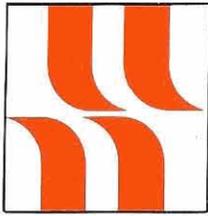
NATURAL Product Rep's Report

NATURAL Product Rep's Report

Steve Froneberger
Duke Power Company

After reading the minutes of the regional meetings and talking to several NATURAL users, there seems to be a lot of concern about Software AG's pricing policy for additional features. Most of you I have talked to feel that the security package and advanced facilities package should be enhancements and not separately priced products.

For those of you not familiar with these packages, the security package is a major change to NATURAL allowing users to be identified and have only those capabilities given them in their profile. File names (and not file numbers) must be used when implementing security on a file basis. The advanced facilities package is designed to reduce the requirements NATURAL places on CICS and to provide many other capabilities when operating in an online environment.

Software AG has adopted the following position as far as product pricing is concerned:
- If the package is obviously a new product (such as ADABAS-M, the Data Base Machine, etc.), it will be a separately priced product.
- If the package provides benefits for some users, but not all users, the package will be a billable feature (such as NATURAL Advances Facilities—directed at CICS users, and the NATURAL Security System—directed at those who need security beyond what will be provided by NATURAL 1.2).
- If the package provides enhancements needed by all or most users, the package will be considered an enhancement and provided at no additional charge.

If you look at this policy, I think you will find it is no different than that of most other software or hardware vendors. Also, if you consider the two NATURAL packages in question, you will probably agree that they will provide benefits for subsets of the NATURAL community and not the community as a whole. Therefore those users who need these should pay for their development and continued maintenance and those who do not, should have their funds channeled into enhancements of the basic package.

Now, before you draw the conclusion that I will not be affected by any of the new packages, you should know that Duke Power Company uses CICS and we plan to evaluate the NATURAL Advanced Facilities package when it becomes available. As far as the security package is concerned, we will have to look closely at this. We currently have many NATURAL programs in production which reference file numbers and not file names. If we get the package, these will probably have to be changed. We are also waiting to see what NATURAL 1.2 will provide before we make this decision.

However, it is good for the user community to raise questions about each and every package that is planned concerning who is going to benefit from the package and whether it should be a billable feature or an enhancement to the basic package. The benefits of this can be seen in the additional security enhancements and the ability to write your own security exit in NATURAL 1.2.

If you have any comments or concerns about the new NATURAL packages and Software AG's position on these, I would be glad to hear them and pass them on to Software AG.

NATURAL Special Interest Group Chairperson

FEATURES
Mr. Jim Reiner
County of Sacramento Data
    Processing
700 H Street, Room 0740
Sacramento, California 95814
(916) 440-6301

COM-PLETE News

Comparison of COM-PLETE and CICS/VS

From time to time users have requested a functional comparison between COM-PLETE, our teleprocessing product and CICS. The following article presents a basic comparison between the two, and is not an in-depth evaluation of either. We have listed functional capabilities of both products and the areas where the TP functions are approached differently.

The following table contrasts COM-PLETE teleprocessing facilities with those offered by CIS.

It should be noted that the comparison does not include all available functions in COM-PLETE or CICS, but is a list of major items of use to the application designer/programmer. The intent is to associate functions within the two environments to each other.

AVAILABLE FUNCTIONS

COM-PLETE	CICS (Command Level)
1. Terminal I/O (READ,WRT)	SEND,RECEIVE
2. Terminal Mapping (READM,WRTM)	SEND,RECEIVE
3. Terminal Paging (PWRT,PREAD)	SEND,ROUTE
4. File I/O (TFGET,TFPUT)	READ,WRITE
5. VSAM I/O (Normal Requests)	READ,WRITE
6. CAPTUR function (CAPTUR)	JOURNAL
7. SD Function (SDREAD,SDWRT)	WRITEQ,READQ
	WRITEQ,READQ
8. Task Management (ATTACH,CODEL, COLINK,COLOAD,etc)	LINK,XCTL LOAD,START
9. Message Switching (MESGSW)	SEND,ROUTE
10. Printout Spooling (PSPUT)	SEND
	SEND
11. Abend Function (ABEND)	ABEND,DUMP
12. Security Control (DASDS)	–none–
13. Date Function (DATE)	In EIB
14. End of Job (EOJ)	RETURN
15. Characteristics (GETCHR)	In EIB
16. Remote Job Entry (RJE)	–none–
17. Roll Out (ROLOUT)	SUSPEND
18. Function Keys (SETEID)	HANDLE
19. Attention interrupt (TESTAT)	HANDLE
20. Time (TIME)	In EIB
21. Timed Rolout	DELAY
22. OS Getmain	GETMAIN
23. –none–	ENTER
24. –none–	–none–
25. –none–	ISSUE
26. Similar to CAPTUR	SYNCPOINT

Following is a list of areas within the general tele-processing environment that COM-PLETE and CICS approach differently.

Differences	COM-PLETE	CICS	FDP/IUP
1. storage protection	hardware protect keys	none	—
2. program development	*UEDIT, etc	none	SPM,PV__ONLINE
3. interactive dumps	*UDUMP	none	available
4. application SVC's	acceptable	suspends multi-tasking	—
5. minimum real K	100-180	250-300	—
6. re-entrant	yes	no	—
7. testing	same copy	multiple copies	—
8. transaction dumps	like SYSUDUMP	highly formatted	—
9. trace facilities	none	system & transaction	—
10. interactive testing facility	none	none	TEST-DEBUG, ADS,INTEREST
11. STEPLIB maintenance	allowed	requires restart	—
12. SYSOUT viewing	yes	no	—
13. accounting	yes(SMF)	no	PAII
14. operator facilities	yes	no	—
15. terminal support	limited	comprehensive	—
16. audit trail	CAPTUR to tape	Journal to tape/disk	—
17. transaction backout	none	DTB	—
18. resource sharing with batch programs	batch facility	none	—

In general it can be stated that COM-PLETE and CICS provide a very similar range of functions, but that is as far as it goes.

It is our opinion based upon feedback from our own users, that the CICS system having evolved over a period of time, tends to be bulky, overly complex and overlaps itself in several functional areas. COM-PLETE, being a younger product, is more straight-forward, easier to use, and produces results.

After spending several manweeks installing CICS you have a system that has no functional capabilities until you code the required user application programs. With COM-PLETE you can be operational and doing development work in a couple of days with immediate access to the following functional capabilities:

COM-PLETE Functions
USER UTILITIES

*ULOG	LOGON/LOGOFF SECURITY
*UM	MESSAGE SWITCHING
*UP	TERMINAL PAGING
*UCOPY	SCREEN TO HARD COPY
*UDS	DATA SET MAINTENANCE
*UPDS	PARTITION DATA SET MAINTENANCE
*UED	TTY LINE ORIENTED SOURCE EDITOR
*UEDIT	3270 FULL SCREEN SOURCE EDITOR
*UQ	SYSTEM JOB QUEUE DISPLAY
*UDUMP	CONVERSATIONAL DUMP DISPLAY
*ULIB	PROGRAM LIBRARY MAINTENANCE
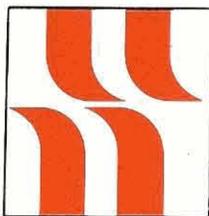
COM-PLETE
Product Rep's Report

Bob Becker
Foremost Insurance Company
Grand Rapids, Michigan

I know that many of the COM-PLETE users throughout the country are in the throes of installing Version 4 of COM-PLETE, or have recently installed the product, or are planning on installing it in the very near future. As many of us know, Version 4 COM-PLETE Software will be the only version supported after March 15th, 1982, therefore, many of us are quickening our transfer from a previous release of COM-PLETE to Version 4. I would like to hear from any of you who have any user experiences on this conversion process. We described our conversion process in the previous newsletter. Essentially, that conversion will be a phased approach in which preliminary testing will be an initial phase, then conversion of the program development section of COM-PLETE broken apart from the production element. Finally, a conversion of the teleprocessing online inquiry systems. Many of you have experienced either performance improvements or perhaps other improvements and we would like to hear about those and pass them on to the user community in subsequent articles. I am particularly interested in users who have more than the current maximum of 6 threads in use. Presently, Version 3 supports 6 as its maximum number of threads. However, under Version 4 this number more than doubles, up to 15. I would like to hear about the adding of additional threads and what it poses as performance improvements in your teleprocessing systems.

Recently, here at Foremost, we have become fairly involved with online updating using ADABAS files and COM-PLETE as our teleprocessing vehicle. Restart and recovery using Version 4 of ADABAS has eliminated many of the worries that would have to be programmed in earlier years. Performance of COM-PLETE in an online environment seems to hold high in the overall "very good" range.

Change/Enhancements, which were due in the end of December, will be of interest to us at Foremost Insurance and how they are processed by Software AG. One that I am very much in favor of is the ability for floating threads within COM-PLETE. As many of you know, within ADABAS, one user could have commands processed first in thread 2 and then in thread 3 or 4, depending upon workload within those threads at the time that the command is sent to ADABAS. That is, of course, if the user is strictly a retrieval and nonupdate program. However, within COM-PLETE, once a program is assigned to a thread, it must always remain in that thread until the procedure is ended. I feel that a great amount of throughput could be had by transactions changing thread, depending upon thread load. Therefore, if you initiated in thread 1 of COM-PLETE and were rolled out, you should be eligible for thread placement in any available thread that could accommodate your size of program. Therefore, I have submitted this as a very important Change/Enhancement to Software AG in 1982.

I hope to be meeting with many of you at the conference and exchange ideas about the use of COM-PLETE within your organization and ours.

Here's hoping to hear from you on your conversion to Version 4 of COM-PLETE or see you at the International Conference soon.

COM-PLETE Special Interest Group Chairpersons

PERFORMANCE AND TUNING
Mr. Peter Kim
Boston University
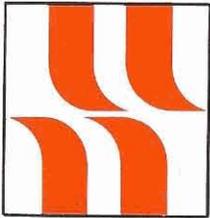881 Commonwealth Avenue
Boston, MA 02215
(617) 353-2282

INTEGRATION
Mr. Dave Vinson
Superior Oil Company
P.O. Box 1521
914 Main
Chamber of Commerce Building
Houston, Texas 77001

COM-PLETE TOOLS
Mr. Ted Nikodem
Foremost Insurance Company
5800 Foremost Drive S.E.
Grand Rapids, Michigan 49501
(616) 942-3679

ADABAS-M News

ADABAS-M Product Rep's Report

ADABAS-M Product Rep's Report

Dick Gemoets
OMEX

The August User Group News stated, "the ADABAS-M community is becoming established within the SAGGROUP community." This statement has become true—more or less. Let me recount some events that have taken place since then.

- ADABAS-M has become an officially recognized product and as such has been incorporated into the bylaws of the Software AG International Users' Group.
- I have agreed to participate in the Users Group as the Product Rep for ADABAS-M.
- The user community has grown to approximately 45 users of ADABAS-M internationally.
- OMEX represented the

ADABAS-M user community at the Innisbrook conference and we are planning full participation in 1982 at Las Vegas.

So much for the past—now what about the future? First, let me take this opportunity to introduce myself as your ADABAS-M Product Rep and to pledge my efforts to represent this product in a professional manner.

I currently hold the position of Manager of Minicomputer Software Development for OMEX which carries with it the responsibility for making sure that ADABAS-M, a critical component of OMEX systems, remains a viable tool for our product* and for software development. With this responsibility I'm sure you can understand I have a vested interest in the continual enhancement of ADABAS-M.

As ADABAS-M Product Rep I accepted the responsibility to represent all users in the Change/Enhancement process and to keep "ADABAS-M News" a viable, interesting forum for

users to exchange information. To this end I extend an invitation to all users to submit to me articles for publication. I will edit them, if necessary, and forward them to Software AG for publication.

I will select articles based on their general current interest and technical content.

I urge you to keep active participation in the user group so we can have a strong voice in future development of ADABAS-M. All of us have a vested interest in this objective.

Lastly, I would like to elicit your help in the 1982 User Conference in Las Vegas. I need a volunteer to help with the planning of the ADABAS-M content of the conference. Also I urge you to submit papers for presentation at the conference. Let's make it a truly useful experience!

*Ed note: Refer to the article in the August Newsletter by Joe Houde, VP Software, OMEX, for a description of OMEX's use of ADABAS-M.

Software AG
OF NORTH AMERICA, INC.
News

John Maguire Elected to ADAPSO Board

John Norris Maguire, President and Chairman of the Board of Software AG of North America, Inc. has been elected to serve on the Board of the Association of Data Processing Service Organizations, Inc. (ADAPSO).

ADAPSO is an association which represents and serves all sectors of the computer services and software industry. It concentrates on the important issues its members are faced with such as data communications, competition, the industry's image, and member education.

With a full time staff of 30 people including lawyers, educators and statisticians, ADAPSO has many active programs—such as educational seminars—to assist in the development of the rapidly growing software industry. Its membership of some 490 organizations makes it the leading speaker for the computer services industry.

During 1981, John was Chairman of the Public Relations Committee for the Association, helping to gain industry and ADAPSO exposure to State and Federal Governments, elected officials, the media, educational and financial communities and the marketplace.

In another unrelated news event, an in-depth interview with John concerning the impact of NATURAL on the DP shop and future roles for the DP manager and DBA appeared in the November issue of 'Data Base Newsletter,' a publication by Performance Development Corporation of Princeton, New Jersey. In talking about the potential for a DBA to have a positive impact on an organization, John stated,

"The DBA's who succeed will become heroes and rise up in their organizations because they will have performed the very crucial mission of organizing the company's data in an optimum fashion to embrace the best of distributed data processing and serve the local needs of users. This is a wonderful opportunity."

In the interview John responded to questions about the marketplace, productivity in the applications field, IBM's role as a competitor, and if it's true that he periodically exchanges written barbs with one of our major competitors. John's response? "I just can't resist the temptation."

John Norris Maguire

SOFTWARE AG CLASS SCHEDULE
March – June 1982

Class Month/Location	ADABAS concepts & facilities	ADABAS design workshop	ADASCRIPT +	ADACOM	ADABAS direct calls	ADABAS internals	Data Base administration
March							
Reston	Software AG March 8-9	Software AG March 10			Software AG March 15	Software AG March 16-17	Software AG March 18-19
Seattle							
Houston							
Los Angeles	Marina City Club March 8-9	Marina City Club March 10	Marina City Club March 11		Marina City Club March 15	Marina City Club March 16-17	Marina City Club March 18-19
New York	Waldorf Astoria March 22-23	Waldorf Astoria March 24			Waldorf Astoria March 29	Waldorf Astoria March 30-31	
April							
Reston	Software AG April 5-6	Software AG April 7	Software AG April 8	Software AG April 9	Software AG April 12	Software AG April 13-14	Software AG April 15-16
Seattle	Software AG April 19-20	Software AG April 21	Software AG April 22	Software AG April 23	Software AG April 26	Software AG April 27-28	Software AG April 29-30
New Jersey							
Chicago	Raddison Hotel April 26-27	Raddison Hotel April 28					
New York							Waldorf Astoria April 1-2
Houston							
May							
Reston	Software AG May 3-4	Software AG May 5			Software AG May 17	Software AG May 18-19	Software AG May 20-21
Seattle							
Houston	Software AG May 17-18	Software AG May 19	Software AG May 20	Software AG May 21	Software AG May 24	Software AG May 25-26	Software AG May 27-28
New Jersey	Software AG May 24-25	Software AG May 26	Software AG May 27	Software AG May 28			
Chicago					Raddison Hotel May 3	Raddison Hotel May 4-5	Raddison Hotel May 6-7
June							
Reston	Software AG June 2-3 / Software AG June 28-29	Software AG June 4 / Software AG June 30			Software AG June 7	Software AG June 8-9	Software AG June 10-11
Seattle	Software AG June 7-8	Software AG June 9			Software AG June 14	Software AG June 15-16	Software AG June 17-18
Houston							
New Jersey					Software AG June 7	Software AG June 8-9	Software AG June 10-11

*These classes will be held regardless of the number of students registered.

ADABAS-M concepts & facilities	NATURAL workshop	COM-PLETE application	COM-PLETE systems control	COM-PLETE internals	DBA skills workshop	Service Analysis™ requirements methodology for ADABAS (PDC)
Software AG March 29–April 1	Software AG March 22-24				Software AG March 1-5	
		Software AG* March 22-25				
	Software AG March 1-3				Software AG March 8-12	Software AG March 15-17
	Software AG April 19-21				Software AG April 26-30	
			Software AG* April 5-6	Software AG* April 7-9		
	Software AG April 5-7				Software AG April 19-23	
Software AG April 12-15		Software AG April 6-9				
					Software AG May 24-28	
Software AG May 25-28	Software AG May 3-5				Software AG May 17-21	
	Software AG June 14-16	Software AG June 7-10	Software AG June 28-29	Software AG June 30–July 2	Software AG June 21-25	Software AG June 21-23
	Software AG June 21-23				Software AG June 28–July 2	
Software AG June 15-18	Software AG June 2-4	Software AG June 22-25			Software AG June 7-11	

Software AG

Introduces . . .

Jim Crawford joined Software AG in November as Users' Group Liaison. Jim replaces Cathy Vivona, who is now Technical Assistant to Ed Forman, Vice President of Technical Operations.

Many of you may have already had an opportunity to talk with Jim on the phone or meet him at one of the regional Users' Group meetings.
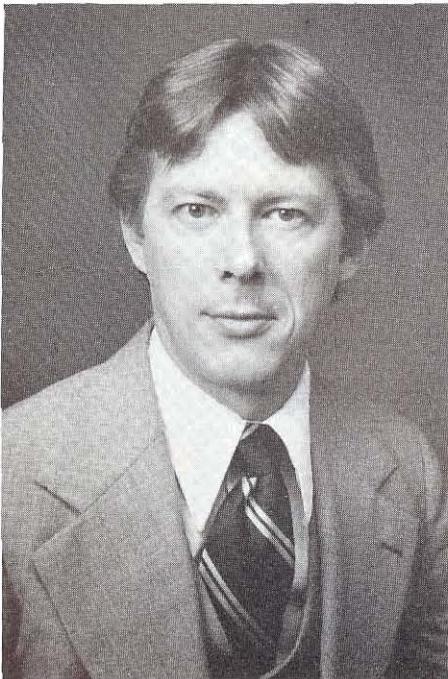
When asked about his objectives as Liaison, Jim said,
"The Software AG Users' Group is one of the best in the industry. The formal aspects of it, the regional meetings, the Newsletter, Change/Enhancements, are all working very well. The informal user-to-user communication is also working, but I look for some improvements by making it easier for users to locate each other, especially the new users coming on board. I really appreciate the warm welcome I've received from the user community and the Software AG staff."

With a degree in mathematics and ten years working with data processing systems, Jim has been primarily involved in marketing, research, and technical communications. He comes to Software AG from Boeing Computer Services. Welcome aboard Jim.

Jim Crawford

"Sending in Dumps"

There are occasions when Field Support will request that dumps and support documentation be sent to Product Support to effect problem resolutions which were not possible to answer via the phone.

When it becomes necessary for the user to forward documentation to Product Support, it should be accompanied by the following:

Cover Letter
a. Organization name
b. Contact name
c. Short description of the problem:

Please provide a list of all events leading up to the problem;

Please list all operating system and hardware (changes or problems);

Please label all documentation with a number (i.e. 1, 2, 3, etc.) and include a table of contents (i.e. 1. ADAREP, 2. ADAICK, 3. ADAACK, 4. ABENDSOC4 dump);

d. Assigned Trouble log number—This should have been provided by Field Support (DENVER).

Problem Documentation Form (see following)

All requested documentation is needed to provide a timely response/resolution.

SOFTWARE AG
OF NORTH AMERICA, INC

PROBLEM DOCUMENTATION FORM

TROUBLE LOG NUMBER _____

COMPANY NAME _____

CONTACT _____ SECONDARY CONTACT_____

TELEPHONE NUMBER _____ TELEPHONE NUMBER _____

PRODUCT: ADABAS_____ ADACOM_____ ADAMINT_____ ADASCRIPT +_____

COM-PLETE_____ DICTIONARY_____ NATURAL_____

VERSION: _____

SM: _____

LIST EARLY WARNINGS APPLIED: _____, _____, _____, _____

LIST OF ZAPS/FIXES APPLIED: _____, _____, _____, _____

_____, _____, _____, _____

DEVICE TYPE: _____ TP SYSTEM:_____

OPERATING SYSTEM:

DOS/VS_____ MVS_____ MVT_____ SVS_____ VM/CMS_____ VSE_____

OPERATING SYSTEM RELEASE: _____

MODULE: _____

ERROR CODE: _____

DESCRIPTION OF PROBLEM:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Send to: Product Support Group
Software AG of North America, Inc.
11800 Sunrise Valley Drive
Reston, Virginia 22091

PROBLEM DOCUMENTATION CHECK LIST

The following must be included with the PROBLEM DOCUMENTATION form.

ADABAS (also required with all other products where applicable)
— List all ADABAS modules that you have changed and a brief description of the change
— What ADABAS user exits are being used
— Data Base report(s) (ADAREP)
— ADAICK/ADAACK of file(s) in question
— Core dump (where applicable) - Please send full SYSUDUMP(s)
— All execution JCL, input control cards, and output listings (where applicable)
— MPM command log (where applicable)
— DD07 report for file(s) concerned (where applicable)
— HNAMES assembly/UTIL09 outputs from generation of DDM (where applicable)

The following items that should be included are product dependent:

ADACOM
— Assembler listing of CMPRM modules
— Link/Edit of the ADACOM module

ADAMINT
— Util02 output listings or listing of assembly SYSIN stream
— ALL applicable ADAMINT module listings
— User program listings
— Link/Edit of application module (user program and ADAMINT modules)

ADASCRIPT +
— Assembler listing of ASRDSC (if ASR + defaults have been modified)
— Link/Edit of the ADASCRIPT module

COM-PLETE
— Link/edit map of COM-PLETE (if COM-PLETE itself abends)
— SYSABEND dump (COM-PLETE abend)
— Program listing (program abend)
— Thread dump (program abend)
— User exit listings (program abend)
— 'SLIP' dumps (MVS only) of COM-PLETE address space at time of abend

DATA DICTIONARY
— Appropriate report for problem area:
   Data Base — DD05
   File/Fields — DD07
   System/Program/Module — DD21,22,23,24 or 25
   Verification — DD16
   Owner — DD40 — DD44
   Relationships — DD06

NATURAL
— Source program (5 -15 line program highlighting the problem)
— Assembler listing of NTPRM for TP systems; CMPRM for batch systems
— Link/Edit of the NATURAL modules

Current Release Levels

The following is a list of current System Modifications that are available. Please contact Gordon Perrins, Manager of Product Support Group, if you need current SMs.

COM-PLETE: Version 4.1
— All operating systems

*NATURAL:
Version 1.1
— OS Zap Level 9
— DOS Zap Level 9

*Please note that the NATURAL/CICS pseudo conversational driver is generally available to all interested NATURAL users. Please contact the Product Support Group.

SAGUTILS

(Software AG Technical Information Logs System)
The current distribution level of SAGUTILS is Release 2 Update series 8201.

ADABAS V4:

ADABAS Nucleus & Utilities—
— SM Level 4

ADAMINT Version 1.4
— SM Level 4

ADACOM Version 1.2
— OS Zap Level 8
— DOS Zap Level 8

ADASCRIPT+ Version 1.1
— SM Level 4

Data Dictionary Version 1.1 OS and DOS
— SM Level 4

ADABAS V3:

ADABAS Nucleus & Utilities—
— 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 8
— DOS Zap Level 8

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

Data Dictionary Version 1.1 OS and DOS

ADABOMP:
— OS Version 2.0.0
— DOS Version 2.0.0

ADABAS/VM: Version 1.1.5

ADABAS V4.1
Status: OS—Available
DOS—Available

NATURAL V1.2
Status: Development testing

ADABAS-M V1.2
Status: RSX-11M — Available
RSX-11M + — Available
IAS — Available
VMS — Available

ADABAS/VM
Status: Available

Channel-to-Channel Software
Status: Available

COM-PLETE DOS
Status: Final stages beta testing

COM-PLETE VTAM SUPPORT
General Availability: Release 4.1

COM-PLETE V4.1
Status: Available

DATA BASE MACHINE
Status: Available with 60 day delivery

Online Data Dictionary
Status: Available for NATURAL Users

Early Warning

The Early Warning System was instituted to provide timely technical information (and whenever possible, fixes) for items problems with the software, and security.

The most current Early Warnings are:
EW083 - ADABAS V4.1.1
EW084 - NATURAL V1.1

DENVER SUPPORT NUMBERS:

(800) 525-7859
7:00 a.m.–6:00 p.m. Mountain Time

(303) 233-6500
Emergency ''after hours'' support

Software AG Contacts:

(Unless otherwise specified, call (703) 860-5050)

Accounting and Billing Information . . . . Meredith Martin
Computer Services (Sales) . . . . Rick Gurnee
Conference Information . . . . David Schmidt
Consulting Services (Sales) . . . . Gary Bowers
Documentation Orders . . . . Geri Keydash, Kathleen Boushek
Education Scheduling and Reservations . . . . Dawn Myhre
Marketing Inquiries and Product Literature . . . . . Marketing Services
Product Security Features Documentation . . . . . . Written request to
Gordon Perrins
SAGNA Software Distribution Requests . . . . Pat Stroud,
Pam Tompkins, Technical Services Coordinators,
Product Support Group, Reston
Technical Questions Hotline Support . . . . Field Support
(800) 525-7859
User-Written Software Distribution Requests . . . . Users'
Group Liaison

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 Representatives

Northwestern Region
Ms. Dian Odell
Evans Products
P.O. Box 3295
Portland, Oregon 97208
(503) 222-5592

Northeastern Region
Mr. Jeffrey M. Schutzer
Inco, Ltd.
1 New York Plaza
New York, N.Y. 10004
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Eastern Region
Mr. Rob Collins
Computer Sciences Corporation
6565 Arlington Blvd.
Falls Church, Virginia 22046
(703) 533-8877

New England Region
Mr. Robert Meyers
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(617) 722-7576

Hawaiian Region
Vacant

Eastern Canada Region
Mr. Gene Miklovich
Systemhouse
99 Bank St., 3rd Floor
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Canada
(613) 236-9734

Midwestern Region
Mr. Ron Egger
NAVCO
10534 Natural Bridge Road
St. Louis, Missouri 63134
(314) 426-4000

Southwestern Region
Mr. Bob Glasscook
Dow Chemical
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