SOFTWARE AG: CUSTOMER INFORMATION

CONNECTIONS

VOL. 14 No. 1 ■ MARCH 1989

SPRING ISSUE

Communication Software: A Hot Topic

Lee Harbin
Product Manager
Communications Products

Communication software is now a strategic asset and has become the key to information management for the remainder of this decade. Servicing the demands of high volume transaction processing requires a unique combination of sophisticated communication capabilities, resource efficiency, and high performance. Communication software promises to be a hot topic of the 1990's. As usual, Software AG has anticipated this trend.

Software AG is introducing two Communication products, ADABAS Transaction Processing Facility (TPF) and ADABAS High Performance Environment (HPE). These products are designed to be used in conjunction with ADABAS to provide an Advanced Data Base Management environment.

ADABAS TPF: The Specialized Transaction Processing Facility

ADABAS TPF is designed to provide NATURAL with a unified run time environment so that applications can take full advantage of NATURAL's flexibility and functionality, irrespective of the teleprocessing system being used. The introduction of ADABAS TPF is fully transparent to the users. When typing in the name of the application, the TP-system issues a call to ADABAS TPF, which performs the appropriate security checks, activates the desired application and connects it directly to the user on the terminal. Only the terminal I/Os are still performed by the TP-system.

ADABAS TPF oversees the interactive execution of programs and manages access to shared system resources. Program processing occurs in one of a fixed number of main storage areas within ADABAS TPF, called threads, which run as standard OS subtasks. A large number of concurrent processing programs is accommodated by swapping thread areas in and out between main and secondary storage (rollin/rollout). A program is rolled out to secondary storage each time it issues a terminal write and is rolled in again when the user presses an interrupt key. This technique allows interactive programs to run conversational and eliminate all reentrancy and reusability restrictions, even under transaction-oriented TP-monitors such as CICS or IMS/DC. In addition, an application can be relocated to another thread if the original becomes heavily loaded, providing maximum processing overlap in environments with high transaction rates.

continued on page 4

New NATURAL Products Released

Norman Nicholson
Product Technology Group

Software AG has released several new products in the NATURAL area which will enable the NATURAL programmer to access alternate data base types.

NATURAL DB2 V1.1.1

The first of these newly-released products is NATURAL DB2 V1.1.1. It allows a NATURAL program to access DB2 data bases by converting NATURAL data manipulation language into SQL. This first version then runs generated SQL dynamically. There are very few restrictions on NATURAL statements that can be used. NATURAL 2.1 SM04 is a prerequisite for this product. Support is currently provided for batch, TSO, and CICS (both conversational and pseudo-conversational).

Plans for the next release are already well advanced and in test. Highlights include:

- Static SQL support
- A NATURAL application that allows the DB2 DBA to issue DCL/DDL statements to, for example:

  Create or drop a table, index, storage group, etc.

  Grant or revoke authority to a user for some operation
- Support for IMS/DC and COM-PLETE (will also require COM-PLETE 4.5)
- VSE and VM versions will support access to SQL/DS

continued on page 5

Inside This Issue:

President's Message

Bill Wagner
The University of Texas at Austin

When I receive a phone call and hear the person on the other end of the line say something like "I've got some good news and some bad news for you", I always have more than a little apprehension. Such was the case when Marty Henderson, SAGGROUP's Technical Support Evaluation Chairman, called me a few months ago. In this case, the apprehension was justified. His good news was that he had received a promotion to the Auditing Department at Marathon Oil; the bad news was that his new management did not want him to continue with his work on the SAGGROUP Executive Committee. Besides doing an excellent job in the design of the new Technical Survey that you should all have received in January, Marty brought a unique outlook and perspective to our meetings. And of course, his exploits at the Nashville conferences are legendary. We all wish him nothing but the best in his new career. Richard Golden of Louisiana Gas Service Company has taken over the responsibilities of Technical Support Evaluation Chairman. His address and phone number are listed on the last page of this issue of CONNECTIONS. Welcome aboard, Richard.

And speaking of the Technical Survey, I hope that more than 15% of the user community sends in their responses this year. The value of the survey lies in showing Software AG how the users perceive the company to stand in relation both to other software vendors and to their own performance over the past years. Unless the surveys are returned by a representative sample of the user community, the results are not necessarily accurate. It is in the best interests of both the users and Software AG to have meaningful results from this survey. If you haven't yet returned yours, please fill it out and mail it in today.

In my last column, I discussed the new Technical Advisory positions that were created by Constitutional amendment at the Nashville conference, and urged you to take advantage of these positions by volunteering your time and talents in support of specific Software AG products. As you read the reports by the various Functional Area Representatives in this issue, you'll see that many of your colleagues have done just that. Since these positions are new and their responsibilities somewhat nebulous, this is an excellent opportunity to create a position and role suited to your personal interests and skills. There are still some products that do not have Technical Advisors, so all it takes is a phone call to a Functional Area Representative to become an important contributor to the success of SAGGROUP.

Table of Contents

Special Price Offer For New Product— NATURAL PROFESSIONAL VMS

Mary Kirkman
VMS Product Manager

Free Product Offer!

NATURAL PROFESSIONAL, a collection of four components which give NATURAL programmers greater flexibility in designing and developing 4th Generation applications, has been officially released! And, *for a limited time, NATURAL PROFESSIONAL is available to all existing NATURAL VMS users AT NO CHARGE!*

Between now and December 31st of this year, you may receive NATURAL PROFESSIONAL free of charge; you simply agree to take on normal, annual maintenance fees—*which don't begin until January, 1990!*

Why Order Now?

Depending on your Group Pricing structure, *this offer provides an initial savings of anywhere from* $3,130 to $25,000! (These license fees take effect on Jan. 1, 1990.) And, because maintenance fees don't begin until January, 1990, you can receive free use of NATURAL PROFESSIONAL for the entire year by ordering right away!

This means you'll get *nearly 8 months of free usage* of this new product—and *never* pay an initial license fee—*by ordering now!*

Why NATURAL PROFESSIONAL?

NATURAL PROFESSIONAL greatly speeds the development of NATURAL VMS programs, and will be particularly useful in the areas of problem fixing, application performance, analysis, and functionality. NATURAL PROFESSIONAL consists of four components:

- *NATURAL (VMS) DEBUG* Utility extends the test and analysis options for large applications;
- *NATURAL (VMS) MONITOR* registers individual statements in programs, and helps you monitor performance and scope of NATURAL programs;
- *NATURAL (VMS) VERIFY* allows validation of the functionality of different application versions; and
- *NATURAL (VMS) LANGUAGE SENSITIVE EDITOR* (LSE) facilitates the editing of NATURAL source code.

What Do I Do Now?

To order NATURAL PROFESSIONAL, contact your local SOFTWARE AG Sales Representative—or call me, toll-free: 1-800-843-9534, and I'll give you complete details. But don't wait! THE SOONER YOU ORDER NATURAL PROFESSIONAL, THE LONGER YOU CAN USE IT—FOR FREE!

Make the NATURAL CONNECTION to Integrated Micro-Mainframe Technology

Doug Wheeler
Product Manager

The explosive demand for timely, accurate information and convenient access to that information has resulted in a mixture of applications and environments which may be driven from either the PC or the mainframe. One of the key ingredients to a successful software strategy is the integration of those PC and mainframe environments. An ideal solution would support more than just a link between microcomputers and the mainframe. The ultimate potential of this combination is a synergistic relationship in which PC and mainframe computers combine to enhance individual productivity in ways that neither can achieve separately. NATURAL CONNECTION offers you this synergistic solution.

Integrated Connectivity

NATURAL CONNECTION enables PC Workstation users access to the full integrated capabilities of Software AG's open Integrated Software Architecture. For example, in conjunction with Software AG's distributed data processing technologies, the user can easily and transparently utilize NATURAL as the gateway to application or system data that is maintained on a remote CPU within the network. This scope is further extended via NATURAL-based products such as NATURAL PROCESS that provide access to host operating system services and data center management facilities. NATURAL provides for data transfer at the field level, affording you an incredible flexibility of data access.

Another important component of this NATURAL integration is that the facilities of NATURAL CONNECTION can be automatically used by any other NATURAL-based subsystem. Thus, related NATURAL products such as CON-NECT and SUPER NATURAL may utilize the capabilities of NATURAL CONNECTION via standard NATURAL syntax.

With the latest release of NATURAL CONNECTION, we have taken a giant leap forward. NATURAL CONNECTION has been

continued on page 10

Communication

continued from page 1

ADABAS TPF intercepts errors during program execution without loss of thread integrity or interruption of processing in other threads. Each thread is maintained under a different hardware protect key to prevent storage violations. An additional key is used to protect storage owned by the nucleus. This guarantees exceptional stability and eliminates the need of separate systems for production and test environments.

A set of interactive utilities provides vital tools for access to system services for the system administrator. All of them may be invoked with direct commands. Interfaces provide support to security packages such as RACF, ACF2 and TOP SECRET and to the COM-PLETE Security System. ADABAS TPF supports multiple concurrent sessions through its parallel program access facility. Users can suspend an interactive session by switching to another application or utility, and resume the original session at any time from the point of suspension.

ADABAS TPF extends NATURAL's power, flexibility and ease of use. It complements NATURAL's interactive design by providing efficient management of its conversational operation. Reports can be routed to one or more printers from one single online program. In addition, batch NATURAL output can be spooled easily to network printers. Online and batch access to SD files is provided. Reports can also be displayed in graphic format via NATURAL Graphics' interface to IBM's GDDM/PGF facility.

When using REVIEW, the performance monitor will provide additional detailed information on all NATURAL usage, such as:

- NATURAL program usage (CPU, storage, number of ADABAS calls)
- NATURAL buffer pool usage
- Response times per program
- Usage per NATURAL user
- Usage per ADABAS file

A full range of execution-time services is provided to application programs written in NATURAL, as well as in COBOL, PL/I, FORTRAN, ASSEMBLER or any other programming language that observes standard IBM calling conventions. These execution-time services are:

- Access to ADABAS data bases
- Standard file I/O functions (VSAM, BDAM, ISAM)
- Access to Sequential Direct (SD) files
- Message switching and printout spooling
- Supervisor functions (obtaining and releasing storage, resource serialization, timer services, etc.)
- Task management function (LOAD, LINK, XCTL, ATTACH, FETCH)
- Remote Job Entry.

Technical Information

Hardware:
IBM 30XX, 43XX, 937X
IBM compatible

Software:

- Operating systems:
  MVS, MVS/XA, VSE/SP
- Pre-requisites:
  Any TP-system such as:
  CICS
  IMS/DC
  TSO
  CMS
  SHADOW
- Co-requisites:
  ADABAS
  NATURAL
- Related products:
  COM-PLETE
  ADABAS HPE
  COM-PLETE Security System

Compatibility and migration:
ADABAS TPF provides full compatibility with all Software AG products. It is fully transparent for NATURAL applications.

ADABAS HPE: High Performance Environment for ADABAS and NATURAL

ADABAS HPE has been designed to enhance the performance of NATURAL in an ADABAS TPF or COM-PLETE environment. This is achieved by reducing the overhead for ADABAS communication by running both ADABAS and COM-PLETE or ADABAS TPF in the same address space, thus avoiding the need for cross-address space communication.

Multiple copies of ADABAS, COM-PLETE or ADABAS TPF can run without any modification under ADABAS HPE in the same address space, opening up many possibilities particularly with MVS/XA. In multi-processor environments, the subtasks run on any available processor.

Subtasks and start-up parameters are defined to ADABAS HPE in a partitioned data set parameter file. Each subtask has the name of a member of that file. The members contain the definitions and options for that subtask, such as PARMS, Priority, program to be attached, library that contains the program, data sets to be dynamically allocated for the subtask, etc. The parameter file also contains a member (SYSPARM by default) which contains the start-up parameters as well as subtasks to be started by default.

ADABAS HPE provides three user exits: the subtask start user exit, which is called immediately prior to subtask attach, the subtask end user exit, which is called immediately prior to subtask detach and the operator command user exit which is called immediately prior to execution of an ADABAS HPE command or passing a command to a subtask.

If an abnormal termination occurs during an ADABAS HPE session, ADABAS HPE will intercept the abend and perform a check of its control blocks. If corruption is detected, HPE will attempt to terminate all subtasks cleanly and then deactivate itself.

If no corruption is detected and the maximum number of abends has not been exceeded, ADABAS HPE produces a snap dump and continues the session. If the maximum number of abends is exceeded, all subtasks are terminated cleanly and the abend continues. If a subtask abends, HPE ensures that the whole environment is not deactivated.

Performance Considerations

ADABAS HPE considerably reduces the communication overhead between the data base and the applications since GLOBAL POSTs are substituted by LOCAL POSTs.

SOFTWARE AG

INFORMATION REQUEST CARD

CO-0389

YES, Please send me additional information on:

- ☐ NATURAL DB2
- ☐ NATURAL DL/1
- ☐ VM-PASS Session Manager
- ☐ ADABAS TPF & ADABAS HPE—Communications Products
- ☐ NATURAL CONNECTION
- ☐ NATURAL ELITE-Computer Based Training
- ☐ Please Include me on the Customer Training Mailing List
- ☐ Other _____

NAME _____

TITLE _____

COMPANY NAME _____ CUSTOMER # _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

TELEPHONE _____

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 3115 RESTON, VA

Postage Will Be Paid by Addressee

Software AG
11190 Sunrise Valley Drive
Reston, VA 22091
Attn: Tim Fields

Therefore, ADABAS HPE is applicable for environments with high CPU usage and high ADABAS call rates.

Technical Information

Hardware:
IBM 30XX, 43XX

Software:

- Operating systems: MVS, MVS/XA
- Pre-requisites: ADABAS
- Co-requisites: COM-PLETE ADABAS TPF

Summary

For more information on ADABAS TPF and/or ADABAS HPE, please contact your Software AG Account Representative or call Software AG at 1-800-843-9534. Also, you can refer to the enclosed information card to send for more information.

NATURAL

continued from page 1

NATURAL DL/1

The second new product is NATURAL DL/1, which has been released at the 2.1.3 level for both DOS and OS. This product has been available in Europe since 1985, but has only recently received attention here in America, primarily because of interest from users converting from IMS to DB2.

In spite of the name, NATURAL DL/1 supports access to DL/1 and IMS/DB data bases. It will work in batch and under CICS in VSE environments, and in batch, CICS, and IMS/DC environments under MVS. With this product, each segment of a DL/1 data base becomes a DDM to NATURAL. All lower level child segments also contain the key fields from their parent segments, which can, therefore, be used in a NATURAL "FIND" statement to position the program directly to lower level segments.

NATURAL DL/1 SM03 is compatible with NATURAL 2.1 SM03 and SM04. In addition, PREDICT 2.3.2 supports the generation and incorporation of DL/1 DDMs.

IMS/DC Driver

Lastly, Software AG has released, as a standard component of NATURAL 2.1 SM04, the IMS/DC Driver. NATURAL Programs running under IMS/DC can reference ADABAS or IMS/DC data bases and, shortly, with the release of NATURAL DB2 1.1.2, DB2 data bases, as well.

Additional Information

If you need additional information or have questions concerning any of these new NATURAL products, please contact your local Software AG office.

NATURAL SECURITY 2 Cross Reference

Lisa Crispin and Wendy Crist
Product Technology Group

NATURAL-based products have special requirements when installed in a NATURAL SECURITY environment. If these requirements are overlooked, the product may not operate correctly. An overview of special considerations for base NATURAL and "add-on" products is presented below.

When NATURAL SECURITY 2 is newly installed, the only application defined is SYSSEC. The security administrator needs to define not only the applications for user-written programs, but applications used by NATURAL and all products which run under NATURAL. NATURAL administration applications which must be defined are: SYSERR, SYSDBA, SYSDDM, SYSMAIN2, and SYSTAT. These may be defined as public- or people-protected and may have MENU as the start-up program. As other products are installed, their requirements under NATURAL SECURITY must be met with appropriate definitions and profiles. The following guidelines for proper installation and operation of products under NATURAL SECURITY 2 will help the process go smoothly.

Before installing any product in a NATURAL SECURITY system file, read the following carefully:

- NATURAL SECURITY Installation Notes
- Installation and release documentation for the product

Note: The releases for base NATURAL 2 and NATURAL SECURITY 2 must correspond; e.g., NATURAL SECURITY 2.1.4 will only run with base NATURAL 2.1.4.

Some general guidelines for installation under NATURAL SECURITY are:

- Leave start-up, restart, and error programs blank during install
- Allow command mode for installation
- Logon to SYSERR for loading errors
- Make sure initial logon is in NATURAL SECURITY format if using AUTO=OFF. That is,
- APPLICID, USERID, PASSWORD where APPLICID is application name
- Use IM=D in NATPARM or dynamic parm override for installation jobs
- Verify that the NATPARM or dynamic overrides contain the correct values for FSEC, FUSER, FNAT, FDIC, etc.

Refer to product instructions for information on how to set up the product under NATURAL SECURITY. You will need to know what applications must be defined in SYSSEC, what should be included in the application definition and profile, how various functions can be allowed or disallowed and other considerations. This information can usually be found in the installation or reference manual for the product, and/or in the product release notes.

continued on page 6

NATURAL SECURITY

continued from page 5

For example, here are locations of NATURAL SECURITY setup documentation for some current product versions:

- SUPER NATURAL 2.2.1 or 2.2.2: Installation and Maintenance Manual, p. 4-5 and p. 5-69 to 5-71
- PREDICT 2.2.2 and 2.2.3: Reference Manual, Chapter 13
- NATURAL ELITE 1.3.2 and 1.3.3: Installation and Maintenance Manual, p. 1-9
- NATURAL CONSTRUCT 2.1.2 or 2.1.3: Installation and Operations Manual, p. 2-7 (2.1.2), p. 2-9 (2.1.3), 3-2, 3-3
- NATURAL ADVANCED FACILITIES 2.1.3: Installation Notes
- NATURAL CONNECTION 2.1.3: Installation Notes
- CON-NECT 2.1.2: Installation and Operations Manual, Section 2.5

Figure 1: Summary of Requirements for Each Product Under NATURAL SECURITY Version 2

PRODUCT	APPLICATIONS	START-UP PROGRAM	ADDITIONAL REQUIREMENTS
SUPER NATURAL	SYSSN	MENU	Restart program = MENU, Error program = SNRTE. Command mode disallowed; people protected. Mode = R.
PREDICT	SYSDIC SYSDICCO SYSDICBE	MENU MENU	HELP must be allowed. Command mode may be allowed for online use. For batch, command mode must be disallowed with MENU specified as start-up.
NATURAL ELITE	SYSCAI	CAI	Command mode must be allowed. May restrict ADMIN and AUTHOR.
CON-NECT	SYSCNT2 SYSCNT2B SYSCNT2C SYSCNT2H	MENU MENU MENU MENU	SYSCNT2C is only necessary if converting from CON-NECT Version 1.
REVIEW	REV310	MENU	MODE = R.
NATURAL CONSTRUCT	SYSNCST		May people protect. If STEPLIB other than SYSTEM, copy NCSTG, NCSTH, NCSTERR, CD* and CC* to STEPLIB. Copy CDGDA to libs with CONSTRUCT-generated programs or where NCSTG is used.
NATURAL ADVANCED FACILITIES	SYSPOOL SYSPRINT NATRJE	MENU NSPPDIBM	SYSPRINT must be terminal protected. Set up group with CICS printers as terminal members with default application SYSPRINT; link to SYSPRINT.
NATURAL CONNECTION			Copy SECCHECK module to SYSTEM.
Base NATURAL	SYSERR SYSDDM SYSMAIN2 SYSTAT SYSDBA		MENU may be used as start-up for all of these.

Figure 1 is a summary of requirements for each product under NATURAL SECURITY Version 2. If you are using earlier versions of these products under NATURAL Version 1, refer to product documentation for those versions.

Connections—Contributions Please...

Pam Ellis
Editor

The Connections newsletter is produced quarterly by Software AG. Connections provides a forum where Software can update users on the latest product releases and versions as well as technical information. Most importantly, Connections is a vehicle by which users can share information and their experiences with other Software AG users. Past issues have seen an increase in contributions from the user community. However, there are still many more of you out there we have never heard from. Please take a minute to think about sharing your experiences with Software AG products, updating people on SIG and BIG activities, or sending your recent regional report minutes.

Contributions can be sent directly to:

Pam Ellis
Software AG
11190 Sunrise Valley Drive
Reston, VA 22091

When sending contributions please include your name and your company name. Many times this information is not included and credit cannot be given. Also, when sending regional reports please include the date and location of the meeting as well as full name and company name of any person mentioned in the report. Providing this information makes it easier to acknowledge the appropriate people.

We hope to hear from you! Below are the editorial deadlines for future Connections. If you have any questions please contact me at 703-391-6720.

Future Connections

Summer Issue—
June 1989
Editorial Deadline—
May 1st

Fall Issue—
September 1989
(Pre-conference issue)
Editorial Deadline—
July 17th

Winter Issue—
December 1989
(Post-conference issue)
Editorial Deadline—
November 6th

VM-PASS: Powerful VM Session Management

Lee Harbin
Product Manager
Communications Products

Software AG is pleased to announce the release of VM-PASS. VM-PASS is a versatile and powerful answer to the problem of session management in VM environments. VM-PASS opens access to any active data communications system and allows users to suspend one application and switch to another at the touch of a single key without the LOGON/LOGOFF process, hardware modification, or changes to existing applications. The application-switching of VM-PASS supports functions that provide a simple activation and immediate switching between predefined applications or transactions.

A VM-PASS session can be started either by the dial command or, if the terminal is defined as a dedicated device, immediately after switching on the terminal. VM-PASS presents the logon screen, where user ID and password must be entered. When the logon process is finished, the VM-PASS Activity Table is presented. It displays information about the VM-PASS session and any current VM sessions, each line representing one session. Sessions are started by typing in the name of the VM or by pressing the corresponding PFkey. Logon data is automatically passed to the VM. A PASS-character or PFkey is used to suspend a session and jump to the V.A.T. or to any other session. VM-PASS commands can be issued from a VM session using the PASS character. VM sessions can be ended in any usual manner or automatically by VM-PASS when a LOGOFF command is issued. The DISCONNECT command frees the terminal but leaves the VM-PASS session active so that it can later be reconnected from any terminal. VM-PASS issues a DISCONNECT command automatically whenever a terminal is switched off. SEND and BROADCAST functions support message switching between all users defined in the system.

Windows/3270

The WINDOWS/3270 Component enables the simultaneous display of several sessions being run on one terminal. Each session is displayed on a rectangular portion of the screen called a window. Each VM application can be controlled from the window in which it is displayed. WINDOWS/3270 commands enable the control of a variety of window attributes such as size, position and contents.

Optimize/3270

The OPTIMIZE component of VM-PASS compresses the datastream between the terminal and the application to the minimal required size. The following 3 techniques can be used:

- Repeat to address
- Net change comparison
- Input optimization

The repeat to address technique compresses long strings of repeated characters. Only the repeat-to-address command, the character, and the number of occurrences are transmitted.

The net change comparison technique produces a datastream containing only the differences between the last screen and the next one to be displayed, based on a field by field or character by character comparison.

The input optimization makes use of the Modified Data Tags. Most applications set all MDT's when expecting an input from a terminal, so all fields are transmitted, even the unchanged.

OPTIMIZE resets all MDT's after saving the original screen. The 3270 Hardware then transmits only the modified fields and OPTIMIZE hands all fields to the application, using the stored screen. These techniques reduce the datastream to be transmitted between 40 and 80%.

Help/3270

The HELP/3270 component makes it possible to insert help-systems in existing applications without changes to them. These help systems support all users by displaying windows of help information. All information can be defined interactively, online and without programming efforts.

Summary

For more information on VM-PASS, Software AG's VM Session Manager, contact your Software AG Account Representative or call Software AG at 1-800-843-9534. Or refer to the enclosed information card to send for more information.

The Latest VAX/VMS News

Steve Sylvester
Product Technology Group

We enjoyed seeing many of you again at Software AG's 1988 International Users' Conference, as well as meeting some of you for the first time.

The 1988 Conference included many VMS-oriented presentations which covered the functions and features of future products, as well as internals for present products. If you missed some of those sessions, Conference tapes are available (as noted elsewhere in this issue of Connections).

VMS Product Update

It's becoming difficult to keep track of the many VMS products currently available! Every single VMS product has had a new version or patch level released within the last few months. We have also had some new products released—such as NATURAL GRAPHICS, SECURITY, and PROFESSIONAL.

Current version numbers of VMS products are:

ADABAS	1.5/0 PL 1
NATURAL	1.4/1 PL 0
NET-WORK	1.3/0 PL 0
PREDICT	1.0/0 PL 1
ADABAS SQL	1.3/1 PL 0
CONSTRUCT	1.1/1 PL 1
SUPER NATURAL	2.1/1 PL 0
NATURAL GRAPHICS	1.0/0 PL 0
NATURAL SECURITY	1.0/0 PL 0
NATURAL PROFESSIONAL	1.0/0 PL
CONVERT	1.0/1 PL 0
ELITE	1.3/1 PL 1

For additional information regarding any VMS product, please contact your local Software AG office.

Recapping NATURAL ELITE

Susan Lowy
Product Technology Group

We have recovered from the busy schedules that we maintained during Software AG's International Users' Conference in Nashville! We conducted approximately 35 demonstrations on the newest version of NATURAL ELITE 1.4.1. For the first time, ELITE will be able to run completely under NATURAL 2, which is especially helpful when you want to suspend a lesson and actually get into NATURAL 2 for the workshops.

In addition to the demos, we presented five different sessions at the Conference. One ELITE staff member gave a talk entitled *Integrating NATURAL ELITE Into an Effective Training Strategy*, as well as one on *Tips and Techniques for ELITE 2*. Susan Kaplar presented a detailed discussion on our newest venture: customized courseware. I presented an instructional session on customizing off-the-shelf ELITE courseware, and Gene Miklovich, Software AG of Canada, made a presentation on the ELITE VMS courseware.

The newest courseware that we have been working on is the ADABAS 5 series. In December, the *ADABAS Fundamentals* and the *ADABAS Program Design (Direct Calls)* courses went to beta testing; we anticipate a January release for both. The ADABAS Fundamentals course focuses on the basic components that are unique to ADABAS, such as inverted lists, address converter, etc. The ADABAS Program Design course teaches the student how to complete the control blocks so that a non-fourth generation program can access ADABAS.

The *ADABAS File Design* course will be ready for beta testing in early January, with an expected March release. This course covers all aspects of designing files for efficient use of ADABAS. The *ADABAS Utilities* course should be ready for beta testing in April, resulting in a June release date. This course enables the ADABAS user to learn about all of the utilities associated with it.

Current ELITE Courseware

Periodically, we like to present a listing of the ELITE courses that are currently available for purchase:

How to Use ELITE: June 1986, SM02 February 1988

SUPER NATURAL Fundamentals: January 1987, SM01 Spring 1989

Advanced SUPER NATURAL: January 1987, SM01 Spring 1989

SUPER NATURAL Administration: March 1987, SM01 Spring 1989

NATURAL 2 Enhancements: July 1987

NATURAL 2 Introduction: November 1987

NATURAL 2 For the Business Professional: December 1987

NATURAL 2 Intermediate Structured Programming: April 1988

NATURAL CONSTRUCT Fundamentals: July 1988

ADABAS 5 Fundamentals: January 1989

ADABAS 5 Program Design (Direct Calls): January 1989

ADABAS 5 File Design: Spring 1989

ADABAS 5 Utilities: Summer 1989

PREDICT Fundamentals: Spring 1989

CON-NECT Electronic Mail: Spring 1989

CON-NECT Time Management: Spring 1989

If you are interested in purchasing ELITE courseware, or if you have questions regarding any of the courses, please contact your local Software AG office.

NATURAL SECURITY 2 User Exit for Applications

Wendy Crist
Product Technology Group

Introduction

NATURAL SECURITY Version 2 provides users with an area on the application or special link definition record in which to store information. This area is 250 bytes in length and is accessed and maintained through the user of four Security subprograms. These subprograms are:

SNAAREXT—To read application data
SNAASEXT—To store application data
SNAUREXT—To read special link data
SNAUSEXT—To store special link data

The subprograms are called by a user exit subprogram that is coded by the user. This user exit must reside in the SYSSEC library. The CALLNAT statement is used in the user exit to call the appropriate Security subprogram. Each CALLNAT statement to a subprogram passes five parameters. These parameters are:

APPLID (A8)
NAME (A32)—For use with SNAAREXT and SNAASEXT only
USERID (A8)—For use with SNAUREXT and SNAUSEXT only
MODIFIED (D)
EXITDATA (A250)
RETURNCODE (B2)

At this time, only the parameters USERID, EXITDATA, and RETURNCODE are used by the subprograms. The parameters APPLID, NAME, and MODIFIED are for future use and must be specified on each CALLNAT.

Specifying the User Exit Subprogram

To use the user exit subprogram on a Security definition, the user exit subprogram and all related objects (e.g., maps) must be moved or copied into the SYSSEC library using SYSMAIN2. To invoke the user exit, the SYSSEC maintenance subsystem must be invoked and an add/copy/modify application or special link function selected for the desired application. When the

continued on page 9

User Exit

continued from page 8

application definition screen is displayed, enter the user exit subprogram name on the field identified by USEREXIT under the heading TRANSACTIONS. When ENTER is pressed, the specified subprogram name is executed, and the data is added to the application or special link record on the FSEC file.

Programming Specifics in SYSSEC

When the Security subprograms are used in the SYSSEC application by a user exit, the APPLID and USERID parameters are determined by the application-ID that is being maintained and by the USERID of the special link.

Programming Specifics in User Applications

If the Security subprograms are used in a user application, the APPLID and USERID will default to the values of the system variables *APPLIC-ID and *INIT-USER. When using the Security subprograms for special links (SNAUREXT and SNAUSEXT), the USERID parameter can be modified by the user program used to call the subprogram. It is used in conjunction with the RETURNCODE parameter when calling SNAUREXT. When calling SNAUREXT, the RETURNCODE has two functions. As input to the subprogram along with USERID, it is used to read specific links for an application. The USERID is initialized to a starting value, and the RETURNCODE is set to an operand value of "EQ", "=", "GT", ">", "LT", "<", "GE", ">=", "LE", or "<=". After the call to SNAUREXT, the RETURNCODE parameter is used to indicate the success of the call. A return code of 0 indicates that the special link was found. A non-zero return code indicates that the special link was not found.

Considerations

1. When creating a special link for an application, the EXITDATA (if it exists) from the application definition will be copied to the special link EXITDATA.
2. To use the Security subprograms in an application, the subprograms must be copied from the SYSSEC library to the application library or STEPLIB library.
3. To use the user exit subprogram in the SYSSEC application, the user exit subprogram and all related objects must be copied to the SYSSEC library.
4. EXITDATA is only available for application definitions. It is not available for user, file, or mailbox definitions.

User Exit Example

A sample user exit subprogram is available. Please call Pam Ellis at 703-391-6720 or Michele Birgans at 703-391-6722 and give your name, company and address and we will send you a complete copy.

UCTRL: A Utility in COM-PLETE V4.4.2

Tom Olson
Product Technology Group

The release of COM-PLETE Version 4.4.0 in December of 1987 saw many internal logic changes, in addition to the external changes the user community has seen. A new utility, UCTRL, was added to consolidate information available in many different places. There is also additional information which has not previously been directly available. When UCTRL was released in COM-PLETE V4.4.0, it was only available to users with CONTROL status. With COM-PLETE V4.4.2, this is no longer the case.

Only the use of the COMMAND line is now restricted to users with CONTROL status. When UCTRL is invoked, the main menu—consisting of 12 functions, an operand field, and an operator command line—is displayed. Each of these functions, described below, can be useful to you in tuning, trouble shooting, and general perusal of your system.

CM Function

The CM function will display system messages associated with the COM-PLETE in which the user is working. Within this screen, the user can scroll backward and forward using PF keys.

UA Function

The UA function, when invoked without an operand, will display information about all users currently logged on to this COM-PLETE. From this screen, the specific VTAM LUNAME which the user is logged on to can be determined, as well as the time the user logged on, and the time the user last hit the enter key. In addition, such items as a user's account number and the number of MCALLS issued by the applications the user has invoked are also available. By specifying a User ID, all of this data is displayed for a given user. When using this function, keep in mind that there are additional data columns which are accessible by scrolling to the right or left using PF keys 10/11.

TO Function

The TO function displays information about terminals defined to this COM-PLETE. By identifying a terminal as VTAM and giving the lines and columns at display time, incorrect bind information given at logon time may be identifiable. This just may be the data you need, for example, to find out why those new terminals in the payroll department won't work. A specific terminal name may be entered in the operand field to avoid having to scroll through all of your terminals, 15 at a time, until you reach the page with the terminal you desire.

TS Function

The TS function will display the Terminal Information Block (TIB) for the terminal in hexadecimal. Certain key fields are displayed (in English) to the right and under the hex display. The operand field can be either the terminal name or the TIB number (in decimal). When you are having problems with a terminal or a specific type of terminal, the Customer Support Center will probably ask you for information from this screen or request a

continued on page 10

UCTRL

continued from page 9

hardcopy to be submitted as part of your documentation.

TT Function

The TT function gives you a snapshot of the status of COM-PLETE's threads. Such information as the program name, last COM-PLETE operation, and current status could prove to be vital to determining resolutions for "hung" users.

QS Function

The QS function should prove to be very handy when your response times seem to drag and your users find their attention drifting. When the numbers on this screen start straying very far from zero on a frequent basis, it is time to re-evaluate thread configurations. Numbers in here represent user programs that have completed what they were asked to do and are now waiting to get back into the thread to continue interaction with their users.

AI Function

The AI function provides some information on each of the DBIDs defined to COM-PLETE. Data shown here is very brief. While they are not displayed on the screen, PFK7 and PFK8 are available to scroll backward or forward, respectively, when more than one screen of DBIDs is available. Software AG's product REVIEW contains much more extensive information for those of you who are interested in delving into this area in more depth.

OP Function

The OP function displays the in-core program directory (PROGRAMISD). It is used to avoid I/Os reading the PGMLIB directory entries in order to obtain the disk address of the program itself. If you have high load counts for most entries listed, you should consider increasing your PROGRAMISD parameter in your start-up parms. If you have quite a few entries in this list with single digit load counts, or the parm allows 1,000 entries and the list only contains 150 entries, you should lower this parm as each entry, used or not, occupies 16 bytes of PAGE-FIXED storage.

IP Function

The IP function will give you a list of programs loaded at initialization time into the PGMLIBBUFFERs. Programs loaded here avoid a search of PGMLIB when called. Generally, these should have high use counts. Using the buffer activity display or taking the time to add the SIZE columns should be done often enough to ensure that the PGMLIBBUFFERs parm is not wasting significant amounts of virtual storage. If these entries show a DISABLED state, then check to see if STARTUPPGM=UPGMBP is in your SYSPARM for COM-PLETE.

RP Function

The RP function displays the modules defined as resident in your SYSPARMs. Programs displayed here which consistently have no load counts are probably wasting virtual address space. Programs indicated as fixed are also needlessly tying up real storage frames if the load count is zero.

RA Function

The RA function allows you to keep an eye on the rolling mechanism used by COM-PLETE. This is a snapshot of the buffer activity at that point in time. Tuning of the parameters affecting the roll buffers and data sets is covered in depth in the COM-PLETE Systems Programming Workshop.

BA Function

The BA function shows statistics for the various buffer pools within the COM-PLETE address space. In addition to current values, high water marks are also available. This will give you a handle on what a more appropriate size for a specific buffer area might be. If the NATURAL buffer pool is used, statistics for it are also available by using the PF8 key. To return to the screen showing COM-PLETE's buffers, use the PF7 key. The GET FAILs column is important to keep an eye on. In all cases but the ROLLBUFFER, these failures result in either a wait or a rejection of this request. In the case of ROLLBUFFER failures, the thread task is forced to do the roll to disk.

Conclusion

By putting this utility to work on a regular basis and keeping your system tuned, you should encounter fewer problems and have more time to receive praise from your users.

NATURAL CONNECTION

continued from page 3

improved in a number of areas, but has also expanded to include a number of valuable functions.

LAN Support

One copy of NATURAL CONNECTION can support up to 64 user ids on a Local Area Network (LAN). NATURAL CONNECTION will operate under all popular LANs such as NOVELL, BANYAN, IBM Token Ring, 3-COM, etc. Host communications are currently supported through three common LAN options:

- any SNA gateways that support IBMs standard HLLAPI interface,
- a Pathway board, or
- any NOVELL PCOX board.

Complete System Tailoring

NATURAL CONNECTION allows you to customize your environment—from the screen colors to the cursor size. Menu creation is completed quickly and easily with lists of tasks to choose from. You may also create your own tasks to execute local programs (LOTUS, WORD PERFECT, etc.).

In addition, NATURAL CONNECTION supports an advanced script language which allows you to tie together tasks and keystrokes to perform common and repetitive tasks including complex host activities. For example, a common use is Logon/Logoff procedures.

These features, combined with NATURAL CONNECTION's extensive keyboard redefinition facilities, result in the ability to execute a series of activities at a single keystroke.

Interactive Data Transfer

Bi-directional data transfer at the field level is available through NATURAL CONNECTION. Data can be automatically uploaded/downloaded directly to and from any of the supported formats

- Lotus
- Symphony
- Dbase III
- Ascii
- Basic
- DIF
- Binary and
- Multiplan

with no intermediate steps. Sophisticated compression techniques are

utilized for optimized data transfer between the PC and the host. Data transfer operations may also be executed in the background mode while the user is working with a local application in the foreground.

Resident Services

Many of the important features within NATURAL CONNECTION have been made resident. The benefit of this approach is that the user enjoys an immediate response. For example, one of the key components is terminal emulation. Invoking terminal emulation is now literally instantaneous.

Hot-key Invocation

Support is provided for requesting NATURAL CONNECTION services from within existing PC applications without destroying the current status of that PC application. Thus, a LOTUS user could "hot-key" to a host session and then automatically return to the local LOTUS session at the same status as before. Once again, the NATURAL CONNECTION services are resident, so the "toggle" responds immediately.

Unattended Workstation

The unattended mode of NATURAL CONNECTION allows the user to create tasks, such as data upload/download, to take place without human intervention at the PC. Many users are looking at these unattended procedures to schedule tasks at times when line charges at remote sites are at their lowest.

Application Program Interface

The Application Program Interface (API) allows the integration of user written application programs that may call NATURAL CONNECTION services. For example, it is possible for a user written program to communicate via NATURAL CONNECTION with a NATURAL application on the host and operate in a cooperative fashion. This capability affords the development of applications that span both host and PC platforms.

Supporting your environments

Vast majority of users are still using MS/DOS and NATURAL CONNECTION is available for that environment. For those of you running OS/2, NATURAL CONNECTION will operate in the "compatibility box" under the OS/2 operating system.

In terms of resources, NATURAL CONNECTION uses approximately 160k-198k of memory and approximately 900k of disk storage.

Future Directions

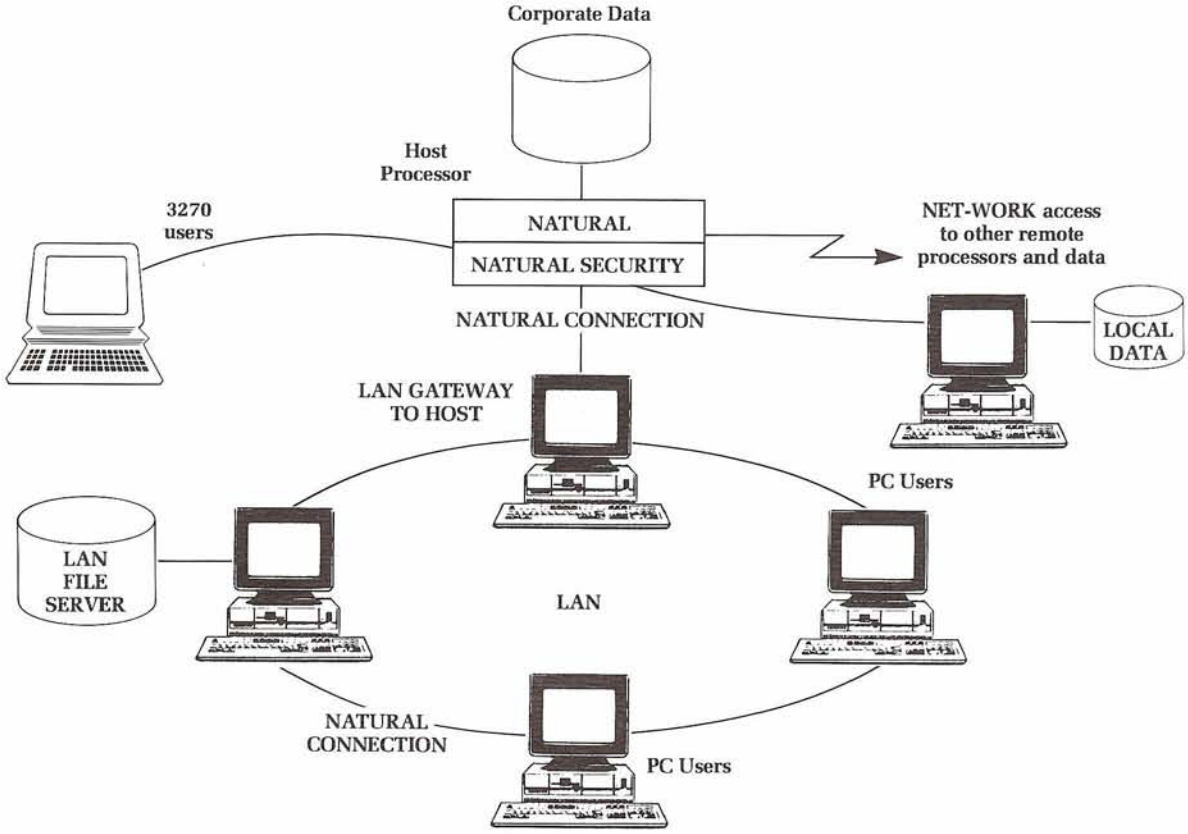
Future directions include extending NATURAL CONNECTION capabilities to the OS/2 environment (without requiring the compatibility box) and considering the implications of using the Presentation Manager interface.

Additionally, we have begun development for a version for the Apple Macintosh. We are very excited about the new capabilities this will offer and plan to enter the BETA test phase of NATURAL CONNECTION for the Macintosh in mid-summer of 1989.

There are a number of other products such as ADABAS/NATURAL PC and NATURAL ARCHITECT WORKSTATION which will be utilizing the capabilities of NATURAL CONNECTION for connectivity in the Software AG environment. In fact, NATURAL CONNECTION is becoming a key cornerstone in Software AG's ISA technology.

For more information on NATURAL CONNECTION, please fill out the information card in this issue or contact your local sales office.

NATURAL CONNECTION: A Powerful Connectivity Solution



Solid State Disk Evaluation

Gordon Murphy
University of North Texas
COM-PLETE Performance and Tuning SIG

The computing center at the University of North Texas recently completed an evaluation of solid state disk drives, also known as semiconductor disk (SCD). While a final evaluation is not finished, some preliminary conclusions are readily apparent.

COM-PLETE's SD file and all roll datasets associated with our production COM-PLETE were placed on the SCD. The device was configured as eight packs of 3380s and connected on a logical channel pair dedicated to the SCD. Total memory on the device is small (128 megabytes), so the datasets selected for placement were just able to fit. The particular device tested has full battery and disk backup for the memory. The backup procedures were tested around seven different times and no problems were encountered.

The SD file was an ideal candidate for placement since this dataset has tens of thousands of I/Os and a small block size. Early indications were that 50% more I/Os were driven and that the device service time decreased by about 90%.

The main incentive for testing the SCD was a belief that the roll datasets would benefit from being placed on a non-rotational device. At first glance this does not appear to be an ideal choice, due to the high data transfer component of the service time to the roll datasets. However, examining the data during the peak online usage shows an extreme (100%) elongation of the service time to the standard 3380 devices on which the roll datasets reside. This is due to miss-reconnects and, to a lesser extent, to a greater channel utilization.

Moving the roll datasets to the SCD device resulted in the total elimination of miss-reconnects and in much greater effective utilization of the roll channels as measured by channel queue depth. What does this mean in English? It means it was a very good move and a very good choice. Total service time to the roll devices during peak online usage elongated to about 15% to 20% above normal—much better than the 100% elongation associated with rotational devices.

Traditional rules of thumb which apply to standard DASD devices do not apply to SCD devices. The 25% to 30% ceiling on DASD channels (primarily due to miss-reconnects) are not limits for channels dedicated to SCD devices. Percentages as high as 80% were observed with little effect on the channel queue.

What was the overall effect on the CPU? A conservative answer is a 5% to 6% decrease in utilization expressed as an hourly peak average. COM-PLETE, ADABAS, and no batch was the workload used for comparsion. Previously, pushing past 85% was impossible to do, but with the SCD, the machine could literally be pegged to the maximum. Drawing conclusions from CPU data can be misleading, but percentage CPU queue data confirms increased CPU efficiency.

Much value was achieved during the test—for non-MVS/XA installations, an SCD could be invaluable. Even in XA sites, a trade-off between more expensive main memory prices and less expensive auxiliary memory should be reason enough for further investigation. Of course, there are many non-COM-PLETE datasets that would benefit greatly from SCD devices. These datasets are commonly mentioned by the hardware vendors. One interesting application for study would be the ADABAS associator file. Any volunteers?

Australia Users' Conference

November 7, 1988 saw the arrival of delegates and guests for the 2nd SPL/Software AG Users' Conference held in Canberra. This was the culmination of three hectic months of work by a small band of SPL staff.

SPL has represented Software AG in Australia and New Zealand, since 1978.

Canberra, the capital city of Australia and the seat of the Federal Parliament, proved a fitting choice of locale as Software AG products are used throughout various Government Departments and Agencies.

The 135 delegates attending represented the 80 plus user organizations in Australia.

The format of the Conference consisted of multi-streamed presentations and concurrent demonstrations on Fujitsu (IBM compatible), DEC VAX and WANG VS equipment.

Roel Pieper, Software AG, and Tim Wild, Software AG, arrived just after attending the International Users' Conference in Nashville, Tennessee. Their audiences certainly appreciated hearing about new products and product directions firsthand.

The last day of the Conference was devoted entirely to the User Group who arranged papers and presented user experiences with ADABAS/TPF, NATURAL 2 and NATURAL PROCESS just to mention a few.

In summary, delegates left feeling that the Conference, its content, and its organization were excellent and that the three days spent were thoroughly worthwhile.

7th Annual Southeast Asia Software AG Users' Group Meeting

This year's conference took place at the Port of Singapore Authority Auditorium on November 10-11, 1988. There were 75 attendees with users coming from Singapore, Malaysia and Hong Kong.

Tim Wild, Director International Marketing for Software AG of North America, was the guest speaker and gave five presentations. Tim's talks featured a review of the International Users' Conference at Nashville, Software AG's CASE direction, open Integrated Communication Architecture, ADABAS TPF/HPE and Software AG's Future Directions.

The Singapore users gave presentations on the following:

- ADABAS Performance Analysis and Tuning
- The Relational Model and ADABAS
- ADABAS VTAM
- Interfacing ACF2 with ADABAS
- NATURAL 2 Migration
- Migrating applications from IBM to VAX and NATURAL 2 Application Development.

Unfortunately there were no presentations from users outside of Singapore. Hopefully we will see better support from the other South East Asia countries next year.

The Conference was concluded with an excellent Chinese Banquet dinner which was noticeably appreciated by the representative from SAGNA.

Over 75 people from Singapore, Malaysia and Hong Kong attended the 7th Annual Southeast Asia Users' Meeting.

The 9th Annual Israel Users' Group Conference

David Tobias
Bank Leumi - Le - Israel B.M.

The 9th Annual Software AG Users' Group Conference in Israel was held at Kfar Hamaccabia, on December 1, 1988, with 350 attendees from more than 40 organizations.

The main topic of the day was "The Evolving Role of CASE in the 4th Generation Environment", given by Mr. John Gardner, SPL-South Africa. John Gardner spoke about his experience with CASE Technology in general and specifically using Software AG's PREDICT CASE.

Presentations

After lunch, the meeting was divided into two parallel sessions: Applications, Demonstrations and Integrated Control in ADABAS/NATURAL Environment.

John Gardner gave his follow-up presentation about CASE, demonstrating the process of using PREDICT CASE.

Ms. Sofia Mintz, Ministry of Education, spoke on Methodology for Building Information Systems using NATURAL 2, ADABAS and PREDICT.

Mr. Gilad Waisel, SPL-Israel, gave a presentation on 4th Generation System Software for Integrated Control in the Computer Center. He spoke about new Software AG products, namely, NATURAL PROCESS, NATURAL OPERATIONS, NATURAL CONSOLE and NATURAL NETWORK.

Mr. Shlomo Godick, Mehish Computer Services, shared his experience with running NATURAL directly under VTAM—locally developed by SPL. He pointed out that moving from NATURAL/TSO to NATURAL under VTAM reduced the CPU consumption by 49%.

Mr. Sagy Snir, Ministry of Defense, talked about ADABAS-VAX Backup and Restore Control System. Basically, the same system can be moved also to the IBM environment.

General Business

The next Users' Meetings will be held at SPL's offices during the first quarter of 1989. These meetings will be dedicated to specific topics such as NATURAL SECURITY, NATURAL PROCESS and SOFTWARE ENGINEERING.

Elections for new Users' Group Officers will be held in March, 1989.

ADABAS Product Representative Update

Bob Becker
Foremost Insurance

I realize that by the time one reads this article we will be well into Spring and enjoying the warm temperatures. At the time of writing this we are expecting weather in the 0-10 degree range, so we are in the middle of our Michigan winter which has been mild up to this point in time.

I've had a conversation with Software AG of Darmstadt as well as Software AG in the United Kingdom in regards to a globalized security interface for ADABAS. I wanted to pass on as much information as I can at this point about the plans for a global security interface. Software AG is in the process of writing the interface as well as modifications to the ADABAS nucleus which will allow a focal point for such products as Top Secret, RAC/F, and ACF2 to communicate to ADABAS. This interface will control all commands as they pass through ADAEXIT1 in ADABAS. Total security will be controlled from the external security system to allow access and retrieval on a file by file basis per job terminal or user. I have not seen the documentation about the global security interface as yet, however it is my belief that it should be available by the summer of '89. The actual release of the interface will be in conjunction with ADABAS 5.2. In speaking with Computer Associates, I have discussed our needs to allow for Top Secret to interface to ADABAS and they are working with the plans of this globalized security interface. This will make all Top Secret security users somewhat pleased. As I find out more details about the product I intend to write future articles in *CONNECTIONS* which will spell out more specifics as to the mechanism of this approach. At this time it does appear that we would be able to use Top Secret to control ADABAS in all ADABAS environments without the need for ADABAS security to be used at the file level. I have no information about field level or field value security. The globalized security system will be very performance oriented as it will contain in memory tables security issues for validation purposes. These would be loaded from the external security handler.

I would like to invite you to express your comments to me in regards to the security issues. You may feel free to call me at 616-956-2664 about your needs or questions in this area.

The Executive Committee will be meeting in May to discuss various issues at our mid-session meeting which occurs over several days in Denver. If you have any ADABAS concerns that you would like me to bring to the table at this session, please contact me and I will make sure that these issues are consolidated and passed on to the Executive Committee.

Thank you for your interest and I hope to hear from you.

Communications Functional Area Representative Report

Ellen M. Birch
Price Waterhouse

I enjoyed seeing so many of you in Nashville. I think it was a productive conference, with more lines of communication than ever being developed between the Software AG developers and technical support people and the user community.

As you may know, at the Nashville conference, the COM-PLETE product rep responsibilities were redefined to include all communications-related Software AG products. The list of products is still being finalized, but major products now under the umbrella of the "Communications Functional Area" include all of the IBM and VAX NET-WORK products, COM-PLETE (including COM-POSE and ADABAS TPF), NET-PASS, ADABAS HPE, and NATURAL AF. Technical Advisory Committees (TACs) will be formed to address specific areas, each headed by a "Product Representative," who will advise the Functional Area Representative (FAR) on technical issues associated with that product. The purpose of the TACs is to provide technical support to the FAR, who can no longer be expected to be knowledgeable in all of the products for which he or she has responsibility. For this reason, I have asked Chip Gilbert to head up the first TAC, addressing the VAX NET-WORK products, since I have no technical experience with these products. More TACs will be formed as needed.

Some topics of discussion brought up to me at the Nashville conference and since the conference have included:

- *COM-PLETE ACF2 support*—Numerous sites have installed this interface. There were some initial problems with 4.4.2, but with fixes to COM-PLETE *and* ACF2, all features should work. I am interested in any experiences with ACF2, Top Secret, or RACF with COM-PLETE and will pass those along in future newsletters.
- *ESA support*—Theoretically, ESA should be supported by the current releases of all Software AG products. Use of ESA facilities, however, will be in the future. I am interested in any experiences with ESA.
- *COM-PLETE 4.4.2 tape*—Apparently there are several versions of this tape. The correct one to use

is dated 11/2/88. I will be bringing this up as an issue at the next Executive Committee meeting, since this is creating an impossible situation for support—both on our side and for Software AG.

- *COM-PLETE 4.5*—This is now in beta test, with an expected release in May or June. This release will support multiple processors (hooray!) and DB2. COM-PLETE 4.3.5 will be dropped when 4.5 is released, so keep this in mind for your spring planning.
- *Changes to COBOL calling structure in COM-PLETE 4.4*—This apparently wasn't documented in the release notes for 4.4. Software AG wanted to create a standard COM-PLETE application calling structure for all languages and operating systems. Unfortunately, the effect of this change is that any recompile of a COBOL application under 4.4 requires recoding of the COM-PLETE function call statements to use the return code field. To avoid this problem, use the 4.3.5 subroutine library when compiling COBOL programs. This sort of thing needs to be emphasized in the release notes.
- *Catalog region sizes for COM-PLETE 4.4 utilities*—4.4 was distributed with too-small region sizes for several utility modules. Some of these modules include UTIMR and UTIMRM (increase to 72K), UEDIT, UEPROF, and UQ (96K), and USPOOL.
- *CTAM and terminal paging support*—Some conference sessions implied that these facilities under COM-PLETE may be dropped in future releases.

The following questions and comments have been brought to my attention. Please call me if you are interested in these issues or if you have a solution:

- *NATURAL program thread priority*—I'm still looking for ideas on how to provide COM-PLETE thread-locking for a program running *under* NATURAL, not just for the NATURAL system itself.
- *KOMAND*—I'm looking for experiences in using this billing product in a COM-PLETE environment.
- *SMP*—Has anyone implemented their own method of COM-PLETE maintenance through SMP? Software AG will be providing this in the future, but there may be folks who have gone ahead with their own system.

I want to emphasize again that I want to hear from you if you have concerns or information to pass on to Software AG or other users or if you're looking for other users with similar problems or environments. I will continue to pass on these questions, tips, or information in this column as well as pursuing ideas with Software AG. Also, I encourage you to make use of the change/enhancement process to get your ideas to Software AG on the direction of communications products. A form is at the back of this issue—take time to write down your ideas and send them to Kelly Jones, Change/Enhancement Coordinator. I review these regularly, and since I haven't seen any in some time, it looks like you folks are falling down on the job here!

The other communications article is about experiences with the use of solid state disk technology written by our new COM-PLETE Performance and Tuning SIG chairperson, Gordon Murphy from the University of North Texas. Thanks for helping, Gordon! If you have an interest in other communications issues and want to form a SIG to address an issue, please contact me at the address listed in the back of this newsletter. Also, we are always looking for articles for the newsletter. If you have done anything interesting with *any* of the communications products, just jot down some thoughts and send or fax them to me—I'll take care of editing them for the newsletter. My fax number is (301) 493-9161.

The COM-PLETE Futures User Panel met again at the 1988 conference. Its purpose was to continue the lines of communication between COM-PLETE developers and users. I am still looking for a volunteer to chair the panel at this year's conference. *Please* contact me if you are interested.

I look forward to hearing from all of you.

Recap of SAGGROUP (VMS) UK Newsletter

Chairmans Report—David Cranwell

My time in office is now reaching an end with the next SAGGROUP UK Annual Conference imminent.

There are four main tasks which I set at the start of my office, and each of these I feel have been largely achieved, namely:

1. To improve communications between the user group committee and user group members, and also among user group members themselves. This has been achieved through the SAGGROUP (VMS) UK Newsletter and by having an active discussion group for Software AG products on VAX (held June 1988).
2. To define terms of reference for the user group. A draft VMS terms of reference has been sent out in the past year, but now there are terms of reference to satisfy SAGGROUP UK, i.e., machine environment independent.
3. To unite users in pressing for changes of common interest to Software AG products. A change/enhancement procedure has been set up in the UK, which is also machine environment independent. This has successfully been used with results in the SAGGROUP (VMS) UK Newsletter.
4. To establish contact with other SAGGROUP (VMS) user groups, and report accordingly. This seems to have been the more difficult task, more progress has been made on the European front than on U.S.A.

The SAGGROUP (VMS) UK may have seemed to have been a one man show over this last year but to be honest there would have been no show without the support of the

continued on page 16

UK

continued from page 15

SAGGROUP UK COMMITTEE notably Mark Gilbert and Denise Sear (I sometimes call them the IBM lot) and of Software AG itself (notably Carol Leckenby, Clive Huchinson and Siva Niranjan).

But what for the future? The user group is for all of us so if you've got some ideas, . . . then let me know about them. Perhaps you want to help with the user group, then get nominated for the next committee! (I'll be happy to let anybody know what is involved).

See you at the UK Conference!

European Conference 1988—A VMS Angle—D. Cranwell

The 19th International Software AG User Conference was held at the Hofburg (a former imperial residence) in Vienna; it seemed odd that the next international conference was only two weeks earlier in Nashville. The Vienna conference attracted some 1000 delegates, and was organized by the Austrian user group. There was a total of 47 sessions (up to 4 parallel sessions) and over 30 demonstrations. The parallel sessions were either user presentations or Software AG presentations, never a mixture, with the intention being to avoid empty user sessions in favor of Software AG sessions.

Product Demonstrations

- NATURAL PROFESSIONAL a chargeable add on to NATURAL provides DEBUG, a symbolic debugger; MONITOR, to show how programs are used; and VERIFY, a testing aid, testing functionality against that previously defined. Some of you will realize that DEBUG was a part of NATURAL 1.3; the question is why is a facility offered for free in NATURAL 1.3 now a facility to be paid extra for in NATURAL PROFESSIONAL. Hopefully Software AG will resolve this without taking DEBUG away from us, or charging us for the use of the same.
- SUPER NATURAL AND NATURAL GRAPHICS—SUPER NATURAL is an end user product providing easy report production, queries and data manipulation, NATURAL GRAPHICS can be used to represent information from SUPERNATURAL or NATURAL in the form of business graphics.
- NATURAL SECURITY—used to control access to NATURAL.
- PREDICT—An interactive data dictionary which is a key component in CASE technology.
- NATURAL CONSTRUCT used for program generation based on models defined by the developer. This product would be useful in developing programming standards.

VAX Contacts

I was planning to make contact with other Software AG VAX user groups with the aims of establishing some regular contact so that we could exchange information and become united in pressing Software AG for any changes/enhancements to their products.

Making contact was not an easy task, as there was not a delegates list, and the conference badges did not differentiate between machine environments.

The CON-NECT system did enable one to eventually put out a message on its notice board, though I suspect that VAX users, being unfamiliar with this product, may not have known there was a noticeboard to view.

Making contact came down to talking to lots of people on the off chance (language permitting), and catching people at VMS presentations.

What soon became clear was that there were a lot of countries which seemed to have only a couple of Software AG VMS user sites, e.g. Finland, Belgium, Switzerland, Norway, and that they all felt they did not have enough pressure to bear on Software AG and hence there were not enough users to form an active user group in their own right. There was however a user group for the German speaking countries about 200 VMS sites, though this user group did not seem very active, with irregular one day meetings and none presentation based.

However, most VAX users that were met were interested in an exchange of information and agreed in concept the need to unite the European Users.

On the U.S. front I met with Larry Jayne of Software AG of North America, and it seems that some contact addresses in the U.S. for VMS products, can be out of date, (so that's probably why the VMS SIG chairman did not respond to my letters), but an exchange of information seemed reasonable. The U.S. VMS SIG chairperson is Mike Livingston, University of Houston located in Houston, Texas, U.S.A.

Conclusions

On the Software AG (VMS) front we had a really limited slot of time compared with IBM et al not allowing any time for questions. I would hope that with the next European conference that we could provide more input to its organization.

On the user presentation front, there were many of limited quality, yet in this instance, the subject of the presentation often would not deter any user from attending.

On the demonstration (VMS) front, a whole day could be devoted to VMS presentations, though these presentations were given by sales people who did not seem to know the technical features of the products tremendously well.

Nevertheless one was often faced with wanting to be in two places at once, and maybe more than one attendee from each company would have been more effective.

On the contact side, this aspect can be very fruitful, if you can find the appropriate people.

Bottom line, I would encourage attendance at future conferences.

Change/Enhancement Procedure

The change/enhancements registered and voted on last Autumn were presented to Software AG Germany for their response. Do not attach too much significance to the numbers of votes, as the postal strike meant that many users did not receive the voting package until after the deadline. The change/enhancements follow together with the votes cast.

Change/enhancements may be registered at any time, but the full blown cycle of the polling for support will be annually in time for Software AG response for the UK Conference.

Report on Customer VAX CASE Seminar

The VAX CASE Seminar was held on Friday, November 28, 1988 at the Inn on the Park Hotel, Hamilton Place, London. Twenty-one people from thirteen customer sites attended the above seminar.

Presentations were given on Software AG's ISA strategy and philosophy and on the VAX CASE series. One of the components of this series: NATURAL ARCHITECT WORKSTATION was demonstrated.

The attendees showed a keen interest in CASE in general, and the VAX CASE series from Software AG in particular.

There were several requests to see NATURAL CONSTRUCT, the second new component of the VAX CASE series, demonstrated. A seminar on lower case tools, which will include more detail on NATURAL CONSTRUCT will take place on February 23rd.

There was also strong interest in the ability to use NATURAL ARCHITECT WORKSTATION in multi-user mode. This was passed on to the product development team who replied that a multi-user environment utilizing LAN support is planned to be included in the next release of the product.

We were very pleased with the response to this seminar and more seminars covering our CASE solutions for both VAX and IBM environments are taking place in January and February 1989.

During lunch, members of Software AG's Sales, Marketing, Account Management and Consultancy departments were available for discussion.

Attention: Scientific Users of Software AG Products

Ms. Margaret Hewitt of Solvay & Cie, Brussells, Belgium, will be attending the UK Conference on March 8th/9th, and is interested in making contacts with scientific users.

If you are interested then please look for Ms. Hewitt at the conference.

Conference News

SAGGROUP UK Conference—March 8th & 9th, 1989

Location: Heathrow Penta

Registration forms have been distributed, hopefully most of you will have registered by now.

If you have any questions for Software AG then start thinking about them now, as there will be a Software AG question and answer session.

Software AG VMS Users Conference—March 12-15, 1989

Location: Houston, Texas, USA

This conference looks very useful, and for us came very much out of the blue. I hope that someone from the UK will be able to attend and report back to the user group. Perhaps something like this could be arranged for the UK or Europe in the future.

Using the VAX/VMS Debugger With External Modules From NATURAL

The VAX/VMS debugger is an extremely powerful tool for assisting a programmer in detecting a run-time logic error. When someone familiar with this facility is denied it, debugging can feel like trying to negotiate the London underground blindfolded. Previously it has not been possible to use the debugger with routines called from NATURAL. The choices were to code tracepoints into the module or to write a harness for it that could be linked to the module and invoked/debugged without using NATURAL. These solutions are very primitive in comparison to using the debugger directly.

A way has now been found to enable the debugger to be used directly, though it has only been attempted on macro programs using VMS V5 and NATURAL V1.3 and V1.4. The description of this technique does not imply any support from Software AG for this technique.

The Method

1. Place an empty NOP loop at the beginning of the module. When processing branches to this point an infinite loop will result. It is often helpful to code a message so you can be sure you have reached this point, the LIB$PUT_OUTPUT RTL is very useful for this (see listing 1).
2. MACRO/DEBUG/LIST and LINK/DEBUG/SHARE the module(s). An example output from the /LIST qualifier is shown in listing 2.
3. Create a module that CALL's the NATCALL object, compile and LINK this with the /DEBUG options (see listing 3).
4. Invoke the module from step 3, the debugger will be invoked, you may type GO to proceed with the NATURAL initialization.
5. When you eventually call the external routine, the session will hang because of the loop deliberately set up in step 1. If a message has been coded this will announce that you have reached the correct point.
6. Press control <Y> to obtain the "$" prompt, then type "DEBUG", this will invoke the debugger within the infinite loop, now debugging commands can be entered directly. When using full screen mode the screen refresh cannot be invoked via control <W>, instead type DISPLAY/REFRESH. The PC can be moved past the infinite loop, but the %LINE n symbols will not point to the correct virtual addresses. Instead use the listing file form step 2 to calculate the offset to be added to the PC. When changing the PC the SRC display will not indicate the new PC position, the INST display is much more useful.

continued on page 25

20th International Software AG Users' Conference

You Won't Want To Miss It!

Where:

The Anaheim Hilton Anaheim, California

When:

October 22-26, 1989

Watch your mailbox! Details will be arriving soon!

REGIONAL REPORTS

NEW ENGLAND REGION

Ted Venema Presents Software AG's CASE Solution

Steve Clark
Westvaco

New users were introduced from Rhode Island College, S. D. Warren of Westbrook, Maine, and NERAC of Tolland, CT.

Jim Wisdom, SAGGROUP Application Development Representative, reported on the SAGGROUP Executive Committee held on the Friday before the International Software AG Users' Conference in Nashville.

Questions, Issues, and Problems (QUIPS)

QUIP001: Buck Shaw—Massachusetts Institute of Technology

What is the policy on copying documentation? Charlie Enwright's response: 1) First the contract is checked for any agreement on copying documentation. 2) If there is no contract conflict, the charge for copying is generally 1% of the fee for that product.

QUIP002—Lew Levy—National NATURAL SIG Co-Chair

Lew reported a NATURAL SM3 problem with a "FIND 1" or "READ 1" where an ET is issued, but it is not passed to ADABAS.

QUIP003—Jim Wisdom—Boston University

Jim reported a problem where part of a screen was not sent. This occurs when a sub-program has a different size window than the main program. It was suggested that he try a Control R to re-send.

Jim Yashinski of Software AG, Denver, spoke on "NATURAL 2—The Inside Story" using the same foils as he used at the conference in Nashville. An audio tape from the conference can be ordered. First were user areas and register conventions. Functions and internal areas were covered for system dependent routines, initialization routines, service routines, the NATURAL V2.1 runtime processor, and the syntax machine.

Next, Ted Venema of Software AG, Canada, spoke on NATURAL ARCHITECT, a front-end CASE tool for the Macintosh. He described the Software AG two pronged approach: a "cradle to grave" CASE methodology for large projects, and the NATURAL CONSTRUCT-NATURAL ARCHITECT combination for small projects. In the slide show, the traditional project life cycle was compared to today's life cycle using Software AG products.

Art Burkett of Software AG, Denver, spoke on Service Connection. Service Connection will provide dial-up access to the Software AG of North America Corporate Data Center. He stressed it is a value-added service, not a replacement for anything. It is targeted for release in 2nd Quarter 1989.

After lunch each of the following products were demonstrated for three one-hour sessions at the Software AG office in Braintree: NATURAL CONSTRUCT, NATURAL ARCHITECT, NATURAL PROCESS, and ADABAS On-line Services, and REVIEW.

SOUTHEASTERN REGION

REVIEW V3—New Features Presented By Barry Warwick

Dan Burger
Gold Bond Building Products

The 1988 winter meeting of the Southeastern Software AG Users' Group was held December 14 at the Grosvenor Resort Hotel in Orlando, Florida. There were 62 users representing 35 companies in attendance. A hospitality suite was hosted by the Software AG Atlanta regional office the evening before.

There were two ADABAS 5 Capabilities classes held in conjunction with this meeting. The classes were attended by 40 users.

Clayton Clendinen opened the meeting with an announcement of three ADABAS 5 Internals classes to be sponsored by the region. Two of these classes will be held with user group meetings. The cost of the class is $500 which is over half off the regular rate. These classes are open to all Software AG users from other regions. A schedule of classes will follow these minutes and is available on the bulletin board.

Jim Obenschain, of the US-EPA, was re-elected Vice-President. Jim then discussed the site profile information he is compiling for each site in the region. If you wish to participate in this program and have not received a form, please contact Jim at (919) 541-2693. Jim also had forms available for a presentation survey. If you are interested in giving a presentation please contact Jim.

Clayton then gave an update on the bulletin board. He is in the process of adding a registration "door." This door will allow users to register and eventually gain access to the site profile data that Jim is collecting. There are also many NATURAL tools available. The bulletin board may be reached at (407) 236-9665. For help call (407) 236-9645.

The next session was the general help session. Among the topics discussed was a letter writing campaign to Software AG about the pricing of add-on products. The NATURAL OPTIMIZER COMPILER was mentioned in particular. Also discussed was the need to split other NATURAL based products among several nuclei because of size limitations in CICS.

Dennis Gandy of the Software AG Atlanta regional office presented product release dates through February.

Larry Jayne of Software AG in Reston presented some highlights of

the Nashville Conference in September. The attendance at the conference was over 2,000 for the technical track and 240 for executive track. He then gave a brief overview of the 1989 conference in Anaheim.

Charles Evans of Unisys in Raleigh NC presented the ADABAS Real Time Accounting system in use at the US-EPA. The EPA computing center in Raleigh is a service bureau. All costs are billed back to the users. Among the problems experienced were having long-running batch jobs using the wrong initiators and users were not being charged for the ADABAS CPU consumed by their batch work. By using user-exit 4 and user education they were able to calculate the CPU time used and assign initiators based on the time requested on the job.

Jimmy Williams of Duke Power Company in Charlotte NC, gave a presentation on his experiences in converting to ADABAS 5. Duke Power has 1,400,000 customers and 18,000 employees in the two Carolinas. The day after this meeting Duke was scheduled to go to production on ADABAS 5 for its Emergency Services database. The database is used to schedule emergency crews for power outages during storms or other disasters. Jimmy indicated that several of the problems he experienced with SM02 were corrected in SM03. He said that they experienced an almost 100% gain in transaction throughput in running their transaction simulation process.

Lee Harbin of Software AG in Reston gave the next presentation on ADABAS TPF and ADABAS HPE. ADABAS TPF is a subset of the technology available in COM-PLETE. TPF is a multi-tasking, multi-threaded, processor for NATURAL. The Software AG performance monitor REVIEW can monitor a TPF system. ADABAS HPE can run multiple ADABAS nucleus and COM-PLETE or ADABAS TPF sessions in one address space. This eliminates the SVC or XMS communications overhead.

Barry Warwick also of Software AG in Reston presented REVIEW V3.1. This new session has been changed significantly from version 2. It has an ADABAS monitor and a COM-PLETE or ADABAS TPF monitor. The ADABAS subset includes a real-time monitor along with a command log processor. If command logging is desired with REVIEW, it is REVIEW that performs the I/O, not ADABAS. The COM-PLETE or ADABAS TPF monitor includes a response time monitor that identifies what users are running down to the NATURAL application and program. Dan Burger of Gold Bond Building Products in Charlotte NC, followed up with an online demonstration of REVIEW V3.1.

The last session of the day was our NATURAL tips and techniques session hosted by Stan Laramore of Delta Airlines in Atlanta, GA. Among the techniques that Stan has was a method of using the data area editor to create copycode. Stan said that Delta is running out of tips to present and he needs input from other users. If you have a tip you can contact Stan at (404) 765-6114.

Southeastern Software AG User Group 1989 Meeting and Class Schedule

Jan 1—Registration open for ADABAS 5 Internals classes for Southeast Users for classes in Atlanta, Orlando, and Charlotte.

Mar 9—Registration open to all regions for Atlanta.

Apr 7—Registration open to all regions for Orlando class.

May 9, 10, 11—ADABAS 5 Internals class in Atlanta.

May 12—Spring Regional Meeting at Westin Lenox Hotel, Atlanta, GA.

May 18—Registration open to all regions for Charlotte class.

Jun 7, 8, 9—ADABAS 5 Internals class in Orlando.

Jul 17—Summer Regional meeting at Guest Quarters Suite Hotel, Charlotte NC.

Jul 18, 19, 20—ADABAS 5 Internals class in Charlotte

For information and registration contact Dan Burger at (704) 365-7685.

Midwest Region News Update

John DeNatale
Midwest Region Rep.

The Midwest Region is in between regional meetings but there is a lot of activity going on. The Chicago User Group has a meeting each month. The meeting is usually the third Thursday of each month and normally lasts about half of a day. The Chicago User Group has sponsored a number of seminars. ADABAS 5 internals was held in October at the S.C. Johnson Co. in Racine WI. A full day seminar on NATURAL Program Design and NATURAL Application Design Considerations was held in November in Chicago. These two seminars proved to be very successful. Future seminars include NATURAL 2 system design in May.

Since the Chicago User Group holds a monthly meeting and frequently sponsors presentations of this kind, this may be an excellent way for you to get some information on specific topics. If you are interested in getting on the Chicago User Group mailing list, please contact me. I realize that the users in the western part of the region may not be able to travel regularly to these meeings. However, for those meetings that the specific agenda items are of interest you may consider the travel.

In January I wrote a letter to the users of the Midwest Region specifically looking for other user groups active in the region. Since the letter went out I have heard only from the Twin Cities User Group. Where are the rest of you? I know there are local groups in Wisconsin and Michigan. I would like to hear from the user who is responsible for coordinating the groups activities. I would like to have a chance to find out what is going on in the other local user groups. At least I can send you information on what is going on in the region. In addition I receive information from other regions that may be of interest.

In the March regional meeting, which was held on March 21, 1989, in Chicago, the presentations included ADABAS 5 Data Base design

considerations, Service Connection, and a user presentation on NATURAL Processing Rule usage. Also in the meeting, we discussed regional business items such as, adding another regional meeting during the course of the year in the western part of the region giving those users an opportunity to get more involved in the user group. More details will follow in the next issue of Connections.

In the event that you have not received my January letter please contact me so I can add you to the regional mailing list. The future regional meeting will be:

- Late August or early September 1989 (date and site to be announced)

SOUTHWEST REGION

NET-PASS Benefits and Functions

John Oborn
US Sprint

The December 5th meeting was called to order by John Oborn at 9:00 am. He introduced the new Program Chairman, John Baird of the Texas Attorney General's Office.

Announcements

1. The dates for the next meetings were announced:

   1st Quarter—3/10/89
   2nd Quarter—6/9/89
   3rd Quarter—no meeting due to International Users' Conference

2. John Oborn has a new business address:

   John Oborn
   US Sprint
   8113 Ridge Point Dr. Suite 200
   M/S SW040
   Irving, TX 75063
   Phone: (214) 830-6524

If you are interested in receiving newsletters from other user groups, the VAX newsletter, or any other information, please contact John Oborn.

ADABAS 5 Restart and Recovery

Mike Gilliam, Software AG Denver Customer Support Center, repeated his excellent presentation from the International Users' Conference on ADABAS Restart and Recovery. The handout is available from John Oborn upon request.

NATURAL 2 Application Demonstration

John Wheat of the University of Texas at Austin demonstrated the new Departmental Financial Network System (DEFINE) that has been completely written in NATURAL 2. The time estimates for the project are 45 man years in COBOL or 3.4 man years in NATURAL 2. There are currently 600 authorized end-users of the system.

The sytem includes a full online help system and a personal profile system that allows the users to tailor the PFkeys and other features of the system to suit their personal needs. Many administrators use the profile process to build default command strings that will take them to a desired screen bypassing all menus. Most of the users were trained via the tutorial provided in the help system rather than in formal classes.

All menus are generated dynamically by the same table-driven central command processor program. The profiles are records in the table that determine which modules are permitted to the user for inclusion in the menus. This means that the user does not even see functions that he is not authorized to use.

DEFINE is a single application for the end-user that combines several previously separate application systems (such as purchasing, budget, departmental accounting, and appointments) into an integrated user interface even though the programs actually reside in different NATURAL application libraries. The central command processor is a subprogram in the SYSTEM library that directs requests to the various other libraries.

The Help system in DEFINE provides 4 levels of help information:

1. System level overview
2. Menu-level broad functional information
3. Screen-level specific function information
4. Field-level information

The system also provides "an electronic notepad" in which users can create and maintain their own help information that is appended for them to the system's help information.

An introductory tutorial is part of the system overview and provides a self-contained and clear path through all of the system documentation. The users are encouraged (but not forced) to use the tutorial because it increases self-sufficiency and it explains the system in the user's terminology. The tutorial is not a cookbook—it "doesn't provide fish, it just tells them how to fish."

This type of system requires and NATURAL 2 enables "relentlessly consistent delivery." The Overview Help is a 23×80 window into a large document with scrolling via the ENTER key. A single Help Routine displays pages of help information from a text file that is maintained via a special editor program. Confirmation responses that require more than one line also use windows. Because the Help Information is in a text file, the same information can be printed as a user manual. The manuals can be customized to include the user notepads. The Help system also includes a user bulletin board.

PFkeys are displayed via a pop-up window (PF4 is standard for display of PFkey functions) instead of using lines on every screen. The PFkey rule contains an INCLUDE for copycode that evaluates the PFkey. Standard function keys are hardcoded in the copycode. Program specific keys are table driven.

(The use of copycode allows easy modification of programs by enabling the programmer to make a source code change once and then use CATALL to recompile all programs that use the copycode. It recently took less than 3 hours to add a new function to the system that required changes to 53 programs and 100 maps.)

As an aside, John said that the common reaction at UT to NATURAL 2 is very positive. The new NATURAL has made converts out of some people who were resistant to NATURAL 1.

NET-PASS: VTAM Session Manager

Jack Oney of Software AG's Dallas Office presented a demonstration of NET-PASS. NET-PASS is a VTAM application that manages other VTAM applications including VM/VTAM.

Dialogs can be written to enable NET-PASS to log users onto other VTAM applications as long as the user-ids for the applications are the same as the NET-PASS user-id.

The NET-PASS screen can have windows open to 4 concurrent VTAM applications but only one of them is active at any one time.

User applications can keep control of PFkeys or pass them through to NET-PASS by prefacing the PFkey with a special pass character. PFkeys and pass characters can be changed dynamically.

Other features of NET-PASS include:

- Multiple Session Management
- Broadcast Message Facility
- Up to 80% reduction in data transmission due to transmission of only changed bits
- Windows for multiple screen display
- Automatic logoff facility
- Screen to hardcopy facility
- Response time monitor for VTAM
- Cut and paste parts of one screen into another screen (Screen capture)
- Message Switching
- File transfer between VTAM applications
- Allow physical terminal operations to continue even if one VTAM application locks up
- Send messages and mail to another NET-PASS facility
- Support help desk activities by allowing user to "send" screen to another terminal
- Many user exits to enable customization

SIERRA PACIFIC REGION

NATURAL ARCHITECT WORKSTATION Features Presented By Alan Jorgensen

Janice Patterson

The December meeting was held on December 6th in San Francisco and was hosted by Software AG. Thirty-two people attended representing nineteen users.

Jon Ebert, Natural Product manager, gave a presentation on Application and Development. He covered the following topics: "Where We're Going"; "Natural World"; "NATURAL OPTIMIZER and COMPILER" and "Benchmark Results". In summary he stated there would be no visible increase in response time at the terminal with the online NATURAL OPTIMIZER COMPILER, but there would be substantial reduction in CPU time. For maximum efficiency the NATURAL OPTIMIZER COMPILER should be used for often-used programs, maps with processing rules and when processing based programs. It would be inefficient to use it for I/O based programs, maps without processing rules, and seldom-used programs.

The next item on the agenda was a presentation by Alan Jorgensen, Software AG, on NATURAL ARCHITECT WORKSTATION. This product can design systems from high level to code level using the following tools: Data Flow Diagram Editor; Entity Relationship Diagram; Process Structure; and Forms Editor which allows screen "painting." This can be uploaded to the host computer from Apple Macintosh and OS2 Based Systems. It is a graphic-oriented tool and provides faster and more eloquent results.

Larry Jayne, User Liaison from Software AG, reviewed highlights of the International Software AG Users' Conference held in Nashville in September 1988. Larry reported there were over 2000 in attendance. There were 26 Booths in the Demonstration Room. As a result of feedback from the users at the 1987 Conference the size of the booths were expanded and chairs were added for convenience of the users. During the 5-day conference there were 57 Software AG Presentations and 16 classes, two of which were ADABAS 5 RESTART RECOVERY and ADABAS 5 CHANGES FOR PROGRAMMERS. There was also more "newstand" information available at this conference, such as free handouts and literature. Among the most popular presentations were Peter Page's SOFTWARE AG VISION AND FUTURE GOALS and Peter Schnell's ADABAS 5 presentation. The 1989 Software AG Conference will be held in Anaheim October 22-26 at the Anaheim Hilton Hotel. Software AG is making plans for 2400 attendees and will present more advanced information. Larry urged users to plan and budget for this conference now as it is only "months" away.

During the business session the first order of business was to get the 1989 meetings on the calendar:

- Franchise Tax Board in Sacramento—March 7th
- Lake Tahoe—June 5th
- San Francisco—September 12th
- Sacramento—December 5th

At the March 7th meeting a representative from Software AG will be giving a class on NATURAL 2 Tuning/Performance/Parms. At the September 12th meeting we will be electing officers for the next year.

The last part of our meeting focused on remarks by users who attended the 1988 Software AG International Users' Conference in Nashville. Overall all remarks were on a positive note. All demonstrations were good. Results of ADABAS 5 Benchmark testing were that it is FASTER, MORE POWERFUL and has improved BUFFER LOGIC.

We Want To Know What's Happening In Your Region—

Send Regional Reports to:

Pam Ellis
Software AG
11190 Sunrise Valley Drive
Reston, VA 22091

PACIFIC SOUTHWEST REGION

How NATURAL CONSTRUCT is used at the University of California

Terry F. Olson

The meeting was hosted by the University of California at Santa Barbara on September 1, 1988. The meeting was called to order by our president Sue Woodill at 9:35. There were 45 people representing 17 Organizations in Attendance.

Old Business

There was a call for election of officers. There were no nominations or volunteers. Sue stated that a special meeting will be called in October for the purpose of elections and to review the International Conference. Sue briefly reviewed the responsibilities of President, Vice-President, and Secretary. Each member should seriously consider volunteering for a position so that the group can remain vital.

Presentations

Larry Kaempf of the University of California at Santa Barbara gave a very informative 30 minute presentation on the use of NATURAL CONSTRUCT. Larry included a 16-page handout that is available by writing to:

Larry Kaempf
Information Systems Office
UCSB
Santa Barbara, CA 93106

Monte Hipple from Software AG talked about the Software AG Product Fair. Once a month Software AG will be putting on a product fair at their Irvine office. The product fair takes 2 or 3 of Software AG products and gives a detailed explanation of what each one does. The presentation lasts around 3 hours. To reserve one of the 30 slots call (714) 553-0880.

Nehman Moukaddom presented on how to build a production system using NATURAL 2 using NATURAL LDA features. Nehman showed how a single table ADABAS file structure consisting of 6 fields could be used to quickly put up a production system. The key was that a variety of LDA could be built using the one ADABAS file.

Susan Lowy of Software AG presented the NATURAL Elite product. Elite is an integrated training strategy written in NATURAL. The courses cover 15 of Software AG products now and they plan to add another 17 products in the near future. Advantages include the following: the courses can be incorporated with local data such as screens and people can go through them at their own pace.

NORTHWEST REGION

Ken Marcum Gives An In-depth Look at How To Put Together ADABAS 5 User Exits

Loretta Eaves
State of Washington

The October 14, 1988, meeting of the Northwest Region was attended by 41 members and guests representing 16 organizations. Topics included presentations and discussions on NATURAL OPERATIONS, ADABAS 5 and Nashville Conference experiences.

Brock Norman opened the meeting at 9:00 by calling attention to the revised agenda. He requested that those present provide some general information to the group: name, organization, other user groups, how personnel are trained, etc. . . .

Announcements

Jim Hill (Washington State University) is now the North American Rep for Software AG.

Steve Baker (Multnomah County) is now the Executive Secretary for the SAGGROUP Executive Committee.

The Northwest is now very well represented.

Brock introduced Dave Eaves of Houston. Dave is now Software AG's Vice President for the Western Area.

Dave Eaves announced that the next International Users' Conferences will be held in Anaheim and San Antonio in 1989 and 1990, respectively.

Dave is available to meet with user areas or by phone for problems/concerns we'd like to communicate.

Steve Baker wanted to know if West Coast users could take advantage of Houston, Dallas, Denver and/or Atlanta services on the East Coast. This led to a discussion of the Independent Business Units (IBU's). IBU's have been in place in Germany for 4 or 5 years. Software AG Darmstadt has recently reorganized the management structure of SAGNA such that IBU's are responsible for as much as possible within the local areas—custom solutions, training, and classes. The goal is to place more responsibility at the regional level. There will likely be more IBU's in the United States. The IBU's service the local area and the user groups receive information from Software AG and get feedback to Software AG from the users.

Nashville Announcements 1988:

SAG products will be available on Wang.

Custom Solutions—This group will work with users to develop systems, provide programming support and training.

NATURAL OPTIMIZER—Three times as fast as COBOL or about the same as optimized COBOL.

Jim Rickards—Software AG Reston

Jim spoke about NATURAL PROCESS, NETWORK, CONSOLE, JAS, Monitor, NATURAL OPERATIONS, SPF and TMS.

With NATURAL PROCESS all areas are integrated—ADABAS, VSAM, VTAM, and the operating system.

NATURAL PROCESS (released) and NATURAL OPERATIONS (Beta test) are still evolving which allows us to continue to get ideas into Software AG on the direction for their evolution.

NATURAL PROCESS accesses the operating system information, addresses all security including NATURAL SECURITY, RACF . . . . It is currently running under COM-PLETE but will also be available for CICS and TSO.

Software AG products based on NATURAL PROCESS include NATURAL SPF, NATURAL NETWORK, NATURAL CONSOLE, NATURAL OPERATIONS. The user could write additional applications similar to these on top of NATURAL PROCESS.

A new editor (ISPF look-alike) to be released within a year (perhaps) will replace all existing editors so there will be only one (instead of four). It is written in "C" and comes with NATURAL SPF.

NATURAL OPERATIONS, currently in beta test and targeted for release 1st quarter of 1989, is an automated production scheduling system allowing the user to pre-plan dependencies, conflicts, unique events and have them loaded to the automated scheduler. Some of the functions of this tool include: run definition, schedule planning, job activation. Job definition will include details of each run; Schedule planning will be according to a corporate calendar; the monitor will activate jobs, do results analyses, history log and recovery; control without production modifications (stores JCL in PDS or ADABAS symbolic parameters for dynamic JCL generation). System environment/network capability—see drawing from presentation material.

NATURAL SPF is a user interface for productivity to access datasets and utilities across all environments. It can handle up to 20 active sessions.

NATURAL CONSOLE displays operating system messages. It does logging and filing of messages. Handling and execution are done by NATURAL OPERATIONS or by direct console commands. For system environment see drawing from presentation materials.

Mike Marrah—Software AG Seattle

NATURAL OPERATIONS and NATURAL PROCESS can be made available in Beta for customer sites in exchange for input; decisions to buy can be decided later, after release.

Copies of Jim's presentation material have been requested for our files.

Ken Marcum—Software AG Denver—"How to put together ADABAS 5 user exits, an in depth look"

The discussion and handout discussed user exit routines in detail. Samples of code are provided in the handout.

Contents of handout and discussion:

Introduction (the basic building block)
UEXITA UEXITB introduction
USERINFO Area
ADALNK User EXITB
  Sample
ADALNK User EXITA
  Sample
ADABAS 5 User Exit 1
  Sample
ADABAS 5 User Exit 2
  Sample
ADABAS 5 User Exit 3
  Sample
ADABAS 5 User Exit 4
  Sample
ADABAS 5 User Exit 9 (ADAULD)
  Sample
HYPERDESCRIPTORS
  Sample 1
  Sample 2
  Sample 3
  Linked Lists

Copies of Ken's handout are available from the SAGNW secretary.

ADABAS 5

Current release is SM2 plus 5 early warnings. SM releases are likely to be frequent and necessary. 5.1 SM4 will preceed 5.2.

Q: Any reason to bring nucleus down? Anything you need to do that can't be done with the nucleus up?

A: No one could think of any reason to bring it down. Ken cited some organizations where it is critical that the databases be available 24 hours a day.

SAG time

Brochures on NATURAL PROCESS were distributed (contact the secretary if you need a copy)

Fast track—select staff, select application system, schedule.

Custom Solutions—Software AG will bring up a customer application (fixed time, fixed cost) using fast track methods and will leave trained customer staff behind for maintenance. If you have an application which may be able to use this service call Software AG for an estimate. Estimates are free.

A Custom Solutions brochure is available (ask Software AG or contact the secretary).

Free-for-all

Leo Webb requested that Software AG presentations be written up in the proceedings book. Steve Baker will communicate this request to the Executive Committee.

Bill Linker said a full set of tapes from the conference are at the Seattle office and can be borrowed.

The membership was informed that NW group meeting room space was costing $450.

Dick Koob said demo areas (at conference) were really good. A road show of these demos is needed.

Steve said a product fair (for executives) is an alternative for demos. If we got a group together Software AG would be willing to come.

Steve Baker gave an Executive Committee report. The Executive Committee met Friday evening from 7:30 until midnight before the start of the conference; again on Saturday with a 13-page agenda and had daily meetings throughout the conference during lunch. They will be meeting again in May. Provide input to Steve if you want something brought up. Steve noted that this group is almost entirely users, the only Software AG person with a vote is Larry Jayne (Customer Relations).

Product reps have been grouped with one rep for each product group, e.g.: Administration product group—PREDICT, CASE, NATURAL . . ., Applications product group—NATURAL, CONSTRUCT . . . See "Connections" for identity of product group representatives.

Software AG is working on having PREDICT carry centralized security information.

Service Connection tape is to be released in February (free to all customers). This will allow dial-up access to Reston trouble log. User bulletin board to be released later.

Special interest groups were set up during the conference. User panels meet outside of conference hours.

The next meeting was set for December 2 and it was suggested that the session be devoted to NATURAL 2 for programmers.

Software AG Product Status Report

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

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

Released: January 1989 to April 1989

Data Base/Dictionary

Products	Date of Release
AMI 2 SQL 1.1.0	January 1989
Versions	
ADABAS SQL 1.3	January 1989
NATURAL ARCHITECT Workstation 1.1.0	April 1989

Application Development

Products	Date of Release
NATURAL Optimizer	
CMS	February 1989
DOS	February 1989
Versions	
NATURAL 2.1.4	February 1989
NATURAL SECURITY 2.1.4	January 1989
NATURAL VSAM 2.1.4	February 1989
NATURAL Graphics 2.1.4	March 1989

Communications/Distributed

Products	Date of Release
VM-PASS 1.1.0	April 1989
COM-PLETE 4.4.3	
MVS/XA	March 1989
DOS	April 1989

Data Center

Version	Date of Release
REVIEW 3.1	January 1989

VAX

Version	Date of Release
NATURAL 1.4	February 1989
ADABAS 1.5.1	March 1989

Scheduled for Release: April 1989 to September 1989

Data Base/Dictionary

Products

ADABAS HPE 1.1.0
beta test
Target release: Second Quarter 1989

ADABAS TPF 4.4.3
beta test
Target release: Second Quarter 1989

Versions

NET-WORK 5
beta test
Target release: Fourth Quarter 1989

ADABAS SQL 1.4
beta test
Target release: Third Quarter 1989

System Maintenance Releases

ADABAS SQL 1.2
CMS: beta test
Target release: Second Quarter 1989

Application Development

Products

NATURAL SQL/DS
beta test
Target release: May 1989

PREDICT CASE
alpha test
Target release: Third Quarter 1989

Versions

NATURAL CONSTRUCT 2.2
internal test
Target release: June 1989

NATURAL DL1 2.1.4
beta test
Target release: April 1989

NATURAL DB2 1.3.1
beta test
Target release: May 1989

ADABAS VSAM Bridge 3.1.1
beta test
Target release: May 1989

NATURAL ARCHITECT Workstation 1.2.1
beta test
Target release: June 1989

Communications/Distributed

NET-PASS 2.2.1
beta test
Target release: Second Quarter 1989

User Services

Products

NATURAL Spreadsheet
beta test
Target release: May 1989

NATURAL Statistical Link
beta test
Target release: May 1989

Versions

SUPER NATURAL 2.3
beta test
Target release: May 1989

NATURAL CONNECTION (Mainframe) 2.1.4
beta test
Target release: April 1989

NATURAL Document Management 1.1.1
beta test
Target release: June 1989

CON-NECT 2.2.1
beta test
Target release: May 1989

NATURAL Elite ADABAS 5 Programming and Design
beta test
Target release: April 1989

NATURAL Elite Basic System 1.4.1
beta test
Target release: May 1989

Data Center

Products

NATURAL OPERATIONS
beta test
Target release: May 1989

NATURAL ISPF
alpha test
Target release: June 1989

VMS Products

NATURAL Elite Basic 1.3.0
pre-release
Target release: May 1989

NATURAL Graphics 1.0.0
pre-release
Target release: April 1989

SUPER NATURAL 2.1.2
pre-release
Target release: May 1989

NATURAL Professional 1.0.0
pre-release
Target release: April 1989

NATURAL SECURITY 1.0.0
pre-release
Target release: April 1989

NET-WORK 1.6
In Development
Target release: Third Quarter 1989

NATURAL ARCHITECT Workstation 1.1
beta test
Target release: April 1989

NATURAL CONSTRUCT 1.2
alpha test
Target release: May 1989

ADABAS 1.6
beta test
Target release: Third Quarter 1989

PREDICT 1.1
alpha test
Target release: May 1989

NATURAL Elite Extended 1.3
beta test
Target release: June 1989

continued from page 17

Listing 1:

```
        .PSECT          CODE,LONG,NOWRT,EXE,PIC
        .ENTRY          DEB_DEMO,^M<>

        PUSHAL  MSG
        CALLS   £1,G^LIB$PUT_OUTPUT
10$:
        NOP             ; Wait for DEBUG.
        BRB 10$
        NOP             ; Rest of code in external module.
        RET

MSG:    .ASCID  /Issue control<Y> now, then type DEBUG./

        .END            DEB_DEMO
```

Listing 2:

```
                                    00000000     1          .PSECT          CODE,LONG,NOWRT,EXE,PIC
                                  0000  0000     2          .ENTRY          DEB_DEMO,^M<>
                                        0002     3
                    00000014'EF   DF    0002     4          PUSHAL  MSG
                00000000'GF   01    FB  0008     5          CALLS   £1,G^LIB$PUT_OUTPUT
                                        000F     6 10$:
                                    01  000F     7          NOP             ; Wait for DEBUG.
                                  FD    11  0010     8          BRB 10$
                                    01  0012     9          NOP             ; Rest of code in external module.
                                    04  0013    10          RET
                                        0014    11
20 65 75 73 73 49 0000001C'010E0000'    0014    12 MSG:    .ASCID  /Issue control<Y> now, then type DEBUG./
6E 20 3E 59 3C 6C 6F 72 74 6E 6F 63     0022
70 79 74 20 6E 65 68 74 20 2C 77 6F     002E
            2E 47 55 42 45 44 20 65     003A
                                        0042    13
                                        0042    14          .END            DEB_DEMO
```

  The difference in this column ^^^^ between the the current position
and the desired position should be added to the PC to skip past the infinite
loop.

Listing 3:

```
        .EXTERNAL       NATCALL
        .PSECT  CODE,EXE,NOWRT
        .ENTRY  NATDEB,^M<>

        CALLS   £0,G^NATCALL    ; Invoke the Natural Session.
        RET

        .END    NATDEB
```

Joe Spivey 22-Dec-1988

Software AG Users' Group Tools Request Form

REQUEST

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

Complete the information below and send to: Users' Group Liaison, Software AG of North America, Inc.
11190 Sunrise Valley Drive, Reston, VA 22091 USA
Users Outside the U.S. send to:
Your Software AG Distributor or Affiliate.

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

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

Ship to: (Please type or print)

Name ______________________________

Organization ______________________________

Address ______________________________

____

City ______________ State ______________

Zip ______________ Country ______________ P.O. # ______________

Bill To: (A cost of $50.00 U.S. and $75 International is charged for each of the above tapes that are shipped.)

☐ Send invoice to SHIP TO name above ☐ Send invoice to person below (Please type or print)

Name ______________________________

Organization ______________________________

Address ______________________________

____

City ______________ State ______________

Zip ______________ Country ______________ P.O. # ______________

Customer Number ______________________________

Change of Address Form

Check One:

☐ Change of Address (attach old label)
☐ Add New Name
☐ Delete Current Name (attach old label)

U.S. Users Send to:
Manager, Customer Relations
Software AG of North America, Inc.
11190 Sunrise Valley Drive
Reston, VA 22091

Users Outside the U.S. Send to:
Your Software AG Distributor or Affiliate

First Name ☐☐☐☐☐☐☐☐☐☐☐☐ Middle Initial ☐ Surname ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Your Title ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Company Name ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Division ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Street 1 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Street 2 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

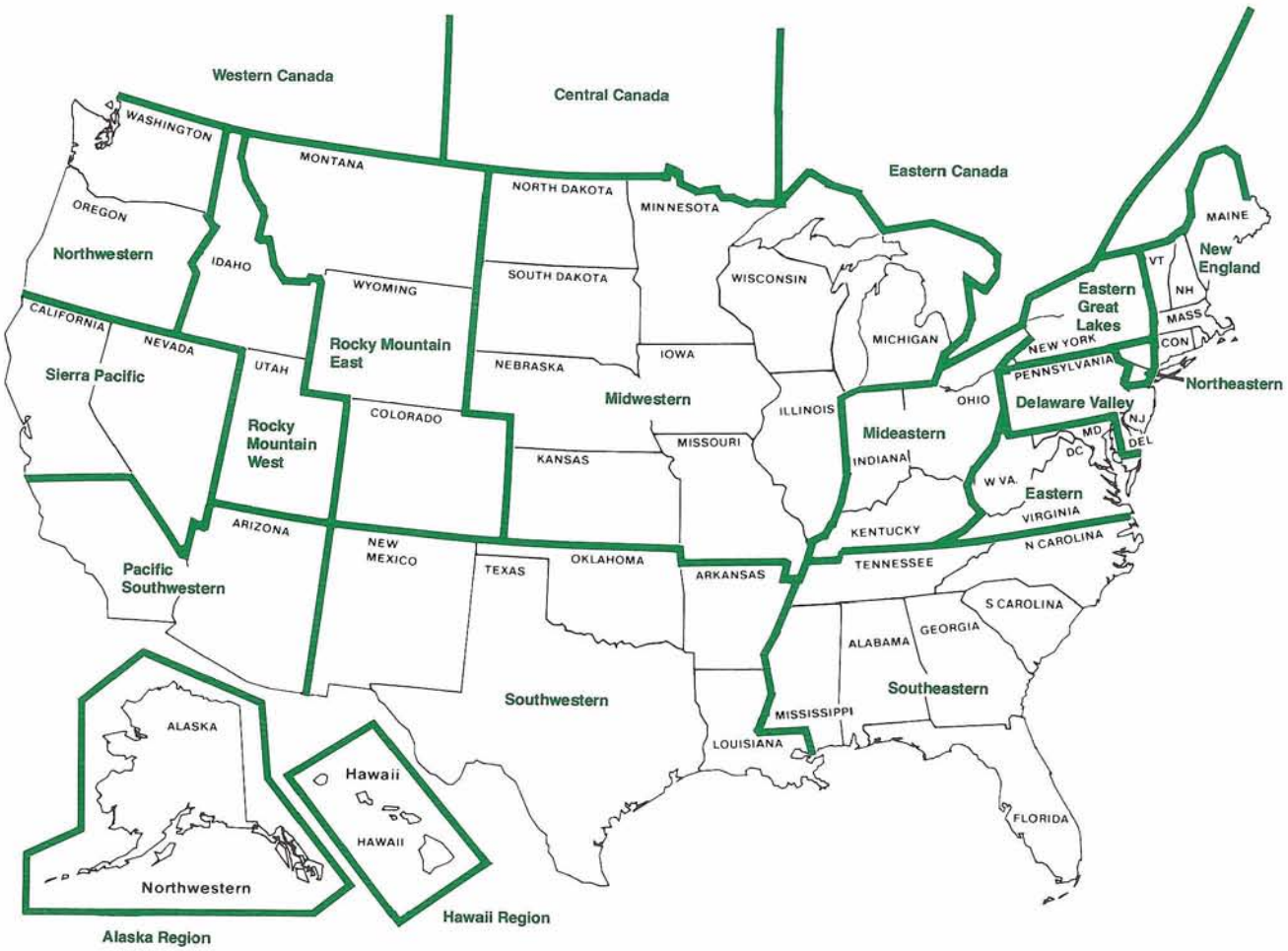
Street 3 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

City ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ State ☐☐☐☐☐☐☐☐☐☐ Zip ☐☐☐☐☐☐☐☐☐

Country ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Telephone ☐☐☐☐☐☐☐☐☐☐ Customer Number ☐☐☐☐☐☐☐

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.

Change/Enhancement Form

DATA BASE

_____ ADABAS
_____ ADABAS ONLINE SERVICES
_____ ADABAS VSAM BRIDGE
_____ ADABAS DL1 BRIDGE
_____ ADABAS TOTAL BRIDGE
_____ ADABAS CICS INTERFACE
_____ ADABAS IMS/DC INTERFACE
_____ ADABAS TSO INTERFACE
_____ ADABAS REFLECTIVE DATA BASE
_____ ADABAS TEXT RETRIEVAL SYSTEM
_____ ADABAS REVIEW
_____ ADABAS VM
_____ ADABAS CONVERT

APPLICATION DEVELOPMENT

_____ ADABAS SQL
_____ NATURAL—ADABAS
_____ NATURAL—DB2
_____ NATURAL—VSAM
_____ NATURAL GRAPHICS
_____ NATURAL OPTIMIZER COMPILER
_____ NATURAL CONSTRUCT

ADMINISTRATION

_____ PREDICT
_____ PREDICT CASE
_____ NATURAL SECURITY
_____ NATURAL PROCESS
_____ NATURAL OPERATIONS
_____ COM-PLETE SECURITY

COMMUNICATIONS

_____ ADABAS HPE
_____ ADABAS TPF PROCESSOR
_____ ADABAS VTAM
_____ NATURAL ADVANCED UTILITIES
_____ COM-PLETE PROCESSOR
_____ COM-PLETE UTILITIES
_____ COM-PLETE CICS INTERFACE
_____ COM-PLETE TSO INTERFACE
_____ COM-PLETE IMS/DC INTERFACE
_____ COM-PLETE VTAM INTERFACE
_____ NET-WORK INTERLINK (IBM)
_____ NET-WORK HYPERCHANNEL (IBM)
_____ NET-WORK CTCS
_____ NET-PASS
_____ NET-WORK DECNET

END USER

_____ NATURAL SUPER NATURAL
_____ NATURAL ELITE EXTENDED FUNCTIONS
_____ NATURAL ELITE BASIC FUNCTIONS
_____ NATURAL ELITE COURSEWARE
_____ NATURAL CONNECTION MAINFRAME
_____ NATURAL DOCUMENT MANAGEMENT FACILITY
_____ CON-NECT STANDALONE
_____ CON-NECT
_____ CON-NECT DOCUMENT RETRIEVAL
_____ NATURAL ARCHITECT WORKSTATION
_____ NATURAL PROFESSIONAL

Request Title: _____

Request Description: _____

Request Benefits: _____

Submitted by—

Name: _____

Customer ID Number: _____

Telephone: _____

Company: _____

Address: _____

NOTE: Instructions for completing are on the back of this form.

Instructions for Change/Enhancement Form

1. Place *one* 'X' to the left of a product. This indicates the Product to which this Change/Enhancement belongs. This groups similar Change/Enhancements together.
2. Enter a Request Title which is a one line description for your Change/Enhancement that is less than 40 characters.
3. Enter a description for your Change/Enhancement. Please be specific when describing your Change/Enhancement.
4. Enter an explanation of the benefits of the Change/Enhancement.
5. Enter information about yourself so someone can contact you if there is some question about your Change/Enhancement (you must include your telephone number).
6. Mail Form to: Mr. Kelly Jones
   Leaseway National Service Corporation
   3700 Park East Drive
   Beachwood, OH 44122 USA

DATA BASE Special Interest Group Chairpersons

ADABAS/VM
Mr. Ron Parker
Mass. Institute of Technology
77 Massachusetts Ave.
Cambridge, MA 02139
(617) 253-1339

DBA Tools
Mr. Galen Hansen
State of Alaska
Anchorage Data Center
3300 Fairbanks Street
Anchorage, AK 99503
(907) 263-6706

DOS
Mr. Len Berger
NMU Pension & Welfare Plans
360 West 31st Street
New York, NY 10001
(212) 337-4956

Education/Documentation
Mr. Michael Miller
Rochester Gas and Electric
89 East Avenue
Rochester, NY 14604
(716) 724-8842

Large Data Bases
Vacant

Performance
Mr. Robert Becker
Foremost Insurance Company
P.O. Box 2450
5800 Foremost Drive, S.E.
Grand Rapids, MI 49501
(616) 956-2664

Scientific/Engineering
Mr. Thomas Galloway
Pratt & Whitney Aircraft
P.O. Box 2691
West Palm Beach, FL 33402
(407) 796-2000

VMS Products
Mr. Chip Gilbert
Martin Marietta Aerospace
P.O. Box 5837 MP135
Orlando, FL 32855
(407) 356-2428

APPLICATION DEVELOPMENT Special Interest Chairpersons

NATURAL/DB2
Mr. Edward Lee
State of Texas
Comptroller's Dept.
LBJ State Office Building
111 East 17th Street
Austin, TX 78774
(512) 463-4856

NATURAL SECURITY
Ms. Mary C. Albano
M.I.T.
400 Main Street
E19-332
Cambridge, MA 02139
(617) 253-5398

NATURAL Tips & Techniques
Mr. Darrell Davenport
Washington State University
Administrative Computing Services
Pullman, WA 99164
(509) 335-7316
and
Mr. Lew Levy
Boston University
25 Buick Street
Boston, MA 02215
(617) 353-2256

COMMUNICATION Special Interest Group Chairpersons

COM-PLETE Performance and Tuning
Mr. Gordon Murphy
University of North Texas
The Computing Center
P.O. Box 13445
Denton, TX 46203
(817) 565-2324

COMMUNICATIONS Tools
Mr. Ed Simon
Management Applied Program
3415 South Sepulveda Blvd.
Suite 200
Los Angeles, CA 90034
(213) 397-7220

ADMINISTRATION Special Interest Group Chairpersons

PREDICT/Data Dictionary
Thomas L. Visher
Foremost Insurance Company
P.O. Box 2450 M.S. 0215
5800 Foremost Drive S.E.
Grand Rapids, MI 49501
(616) 942-3607

END USER Special Interest Group Chairpersons

NATURAL/Elite
Mr. Tony Cortese
EG&G Florida
P.O. Box 21267
BOC-029
Kennedy Space Center, FL 32815
(407) 867-4530

SUPER NATURAL
Ms. Christine Burback
Waste Management, Inc.
3003 Butterfield Road
Oakbrook, IL 60521
(312) 572-8784

SAG Group Business/Industry Group (BIGs)

University & College BIG
Mr. Randy Ebeling
University of Texas at Austin
Data Processing Division
P.O. Box Q
Austin, TX 78713-7386
(512) 471-0012

Utility Company BIG

Vacant

State and Local Government BIG
Mr. Bill Anderson
State of Washington
Department of Social and Health Services
Mail Stop EK-24
Olympia, WA 98504
(206) 753-8548

Finance and Cash Management BIG
Mr. David Dmytryk
Export Development Corporation
Cash Management Department
Box 655
Ottawa, Canada K1P 5T9
(613) 598-2862

Justice Related Organizations BIG
Sgt. G. Baerken
Victoria Police
Computer Systems Division
412 St. Kilda Road
South Melbourne
Australia 3205

Federal BIG
Mr. Rod Phillips
U.S. Dept. of Transportation
Federal Aviation Administration
6500 S. MacArthur Blvd.
P.O. Box 25082, AAC-312
Oklahoma City, OK 73123

Executive Committee

President
Mr. William Wagner
University of Texas at Austin
Data Processing Division
Box Q
University Station
Austin, TX 78713
(512) 471-0011

Vice President
Ms. Colette Farabaugh
Dole Packaged Foods Co.
50 California Street
San Francisco, CA 94111
(415) 788-DOLE

Secretary
Mr. Steven L. Baker
Multnomah County
Dept. of General Services
Info. Sys. Division
4747 E. Burnside Street
Portland, OR 97215
(503) 248-3749

Past President
Mr. Carlo Scagnelli
Central Hudson Gas & Electric, Inc.
284 South Avenue
Poughkeepsie, NY 12602
(914) 486-5641

Data Base Product Representative
Mr. Robert Becker
Foremost Insurance Company
P.O. Box 2450
5800 Foremost Drive S.E.
Grand Rapids, MI 49501
(616) 956-2664

Application Development Product Representative
Mr. James T. Wisdom
Boston University
881 Commonwealth Avenue
3rd Floor
Boston, MA 02215
(617) 353-2280

Communications Product Representative
Ms. Ellen Birch
Price Waterhouse & Company
6500 Rock Spring Drive
Suite 600
Bethesda, MD 20817
(301) 493-2637

Administration Product Representative
Ms. Patricia A. Piccola
Standard Oil Production
5151 San Felipe
P.O. Box 4587
Houston, TX 77210-4587
(713) 968-5898

End User Product Representative
Ms. Laura Jacobs
Rochester Institute of Technology
Technical Support-Bldg 10
1 Lomb Memorial Drive
Rochester, NY 14623
(716) 475-2973

Change/Enhancement Coordinator
Mr. Kelly Jones
Leaseway National Service Corporation
3700 Park East Drive
Beachwood, OH 44122
(216) 765-5500

Manager, Customer Relations
Mr. Larry Jayne
Software AG of North America, Inc.
11190 Sunrise Valley Drive
Reston, VA 22091
(703) 860-5050

Technical Support Evaluation
Mr. Richard Golden
Louisiana Gas Service Company
1233 Westbank Expressway
P.O. Box 433
Harvey, LA 70059
(504) 368-8675

Nominations/Elections
Ms. Mary Ellen Woods
Inland Steel
3210 Watling Street
East Chicago, IN 46312
(219) 853-7686

Editors

Mr. Larry Jayne
Manager, Customer Relations
Software AG of North America, Inc.
11190 Sunrise Valley Drive
Reston, VA 22091
(703) 860-5050

Ms. Pamela Ellis
Editor
Software AG of North America, Inc.
11190 Sunrise Valley Drive
Reston, VA 22091
(703) 860-5050

Mr. Jim Wisdom, Application Development
Product Representative and Contributing Editor

Mr. Robert Becker, Data Base
Product Representative and Contributing Editor

Ms. Ellen Birch, Communications
Product Representative and Contributing Editor

Ms. Patricia A. Piccola, Administration
Product Representative and Contributing Editor

Ms. Laura Jacobs, End User
Product Representative and Contributing Editor

Area Representative

North American Area
Mr. Jim Hill
Washington State University
Administrative Computing Services
Pullman, WA 99164-1230
(509) 335-3584

European and Middle Eastern Area
Vacant

South African Area
Mr. Willem J. Swanepoel
Johannesburg Consolidated Investment Co., Limited
P.O. Box 590
2000 Johannesburg, South Africa
(011) 373-9117

South American Area
Salvador De Oliveira, Jr.
Telecomunicóes Brasileiras S/A-Telebras
Departamento De Apoio Em Informática
Sas Quadra 06-Conjunto Sede
Brasilia-DF-70313
Brazil

Oceania Area
Mr. Bryan Fitzpatrick
Australian Bureau of Statistics
P.O. Box 10
Belconnen, A.C.T. 2616
Australia
(062) 52-6589

Asian Area
Mr. Sadayuki Takehana
Director
Information Systems Department
Nikon Corporation
3-2-3 Marunouchi, Chiyoda-Ku
Toyko 100 Japan
(03) 216-1033

Regional Reps

Delaware Valley Region
Mr. David A. Jones
CIGNA
#4 Echelon Plaza
Laurel Road
Voorhees, NJ 08043
(609) 770-6779

Eastern Region
Mr. Robert Comstock
PRC/FSD
1505 Planning Research Drive
TM 3515
McLean, VA 22102
(703) 883-8385

Eastern Great Lakes Region
Ms. Nancy Simonds
Rochester Institute of Technology
Bldg. 10-ISC Dept. Room 331
One Lomb Memorial Drive
Rochester, NY 14623-0887
(716) 475-2331

Hawaiian Region
Mr. Bill Johnson
State of Hawaii
Child Support Enforcement Agency
628 Cooke Street
2nd Floor
Honolulu, HI 96814
(808) 548-2850

Mideastern Region
Ms. Margaret Bush
Polygram Records, Inc.
6220 Churchman Bypass
Indianapolis, IN 46203
(317) 782-2165

Midwestern Region
Mr. John DeNatale
Elkay Manufacturing Company
2700 S. 17th Avenue
Broadview, IL 60153
(312) 681-1880

New England Region
Ms. Mary Albano
MIT
400 Main Street
E19-332
Cambridge, MA 02139
(617) 253-5398

Northeastern Region
Mr. Len Berger
NMU Pension & Welfare Plans
360 West 31st Street
New York, NY 10001
(212) 337-4956

Northwestern Region
Mr. Brock Norman
Blue Cross Blue Shield of Oregon
100 S.W. Market Street
P.O. Box 1271
Portland, OR 97207
(503) 220-3987

Pacific Southwestern Region
Mr. Jim Kline
Systemhouse
18000 Studebaker Road
4th Floor
Cerritos, CA 90701
(213) 860-3635

Rocky Mountain-East Region
Mr. Jim Keebaugh
TRW Inc.
1555 Newport Road
Colorado Springs, CO 80916
(719) 570-8259

Rocky Mountain-West Region
Mr. Patrick Kirby
Idaho State Auditors Office
700 West State Street
Boise, ID 83720
(208) 334-2342

Sierra Pacific Region
Ms. Ronna Slobe
State of Nevada
Blasdel Building
Capitol Complex
Carson City, NV 89710
(702) 885-4091

Southeastern Region
Mr. Clayton Clendinen
Orlando Utilities Commission
500 South Orange Avenue
Orlando, FL 32801
(407) 236-9645

Southwestern Region
Mr. John Oborn
US Sprint
8113 Ridge Point Drive
Suite 200
Mail Stop SW 040
Irving, TX 75063
(214) 830-6524

Eastern Canada Region
Ms. Helen Cox
North American Life
5650 Yonge Street
North York, Ontario M2M 4G4
Canada
(416) 229-4515
and
Ms. Wendy Merkley
Mercantile & General Reinsurance
University Place
123 Front Street, W.
Toronto, Ontario M5J 2M7
Canada
(416) 947-3800

Western Canada Region
Mr. Ron Hunt
Alberta Solicitor General
8th Floor
John E. Brownlee Building
10365-97 Street
Edmonton, Alberta T5J 3W7
Canada
(403) 427-0366

Central Canada Region
Mr. Dunc Anderson
Investors Group
447 Portage Avenue
Winnipeg, Manitoba R3C 3B6
Canada
(204) 956-8294

Alaska Region
Mr. Rodney Mitchell
State of Alaska
P.O. Box C-MS 0206
State Office Building
Juneau, AK 99811
(907) 465-4818

Argentina
Miguel M. De San Vincent
Acindar
Paseo Colon, 357
Buenos Aires, Argentina
(01) 34-8081 ext: 403

Australia
Mr. Peter Bickerton
Australian Wheat Board
Ceres House
Lonsdale Street
Melbourne, Vic 3001
Australia
(03) 6051-655

Brazil
Jorge Leiria De Almeida
Brahma Data Processamento Ltda
Divisão De Banco De Dados
Rua Almirante Cochrane 146, 2nd Andar
Tijuca-Rio De Janeiro-20550
Brazil

Dutch/Belgian
Mr. J. Harskamp
P.T.T. (Post, Telecom, Telegraph)
Prinses Beatrixlaan 16
2595 Al'S-Gravenhage
Belgium
070-759111

France
Mr. Louvain
UTI Services
9, Rue Laperouse
75016 Paris, France
1-7201020

Germany
Mr. Bernd Moller
Bertelsmann Datenverarbeitung
An der Autobahn
4830 Gutersloh
West Germany
05241-802052

Iberia
Mr. Antonio Luis Alagoa
Lisnave
Margueira 2800
Almada, Portugal
2750811

Israel
Mr. David Tobias
Bank Leumi Le' Israel BM.
6 Yehuda Halevi Street
Tel-Aviv, Israel

Italy
Ing. Giuseppe Vittori
Technical Support Department
c/o Philips S. p. A.
Piazza IV
Novembre. 3
20124 Milano, Italy

Japan and Far East Region
Mr. Sadayuki Takehana
Director
Information Systems Department
Nikon Corporation
3-2-3 Marunouchi, Chiyoda-Ku
Toyko 100 Japan
(03) 216-1033

New Zealand
Mr. Malcolm H. McConnell
Department of Labour
Wellington 1
New Zealand

South Africa
Mr. Bill McKimm
Edgars Stores Limited
P.O. Box 100
Crown Mines, 2025 Johannesburg
South Africa
(011) 839-9506

Southeast Asia
Mrs. Yum Hui Yuen
Information Technology Manager
Information Technology Department
Port of Singapore Authority
PSA Building
460 Alexandra Road, PSA Building
Singapore 0511
2747111

Switzerland
Mr. Dominique Renand
Elektronisches Rechenzentrum
de Bundesaerwaltung
Holzikofenweg 8
CH-3003 Berne, Switzerland
(031) 618783

United Kingdom
Mr. Mark Gilbert
Watneymann & Truman Brewers Ltd.
Cambridge House
Highfield Industrial Estate
Oxford Road
Uxbridge
Middx UB8 1UN
(0895) 58111

Luxembourg
Mr. Georg Oth
Banque de Luxembourg
103 Grand Rue
Luxembourg
0352-481414

CORPORATE HEADQUARTERS

Software AG of North America, Inc.

11190 Sunrise Valley Drive
Reston, Virginia 22091
Telephone (703) 860-5050
Telex 275301

Software AG

Dehmelstrasse 3
D-6100 Darmstadt
West Germany
Telephone (49) 06151-504-0
Telex (841) 4197104

U.S. Sales

Atlanta
Boston
Chicago
Cleveland
Dallas
Denver
Detroit
Houston
Kansas City
Los Angeles
Minneapolis
New York
Northern New Jersey
Philadelphia
Pittsburgh
Rochester
St. Louis
San Francisco
Seattle
Washington, D.C.

International Sales

Argentina
Australia
Austria
Belgium
Brazil
Canada
Denmark
Finland
France
Hong Kong
Israel
Italy
Japan
Korea
Malaysia
Mexico
Middle East
Netherlands
New Zealand
Norway
Panama
Phillipines
Singapore
South Africa
Spain
Sweden
Switzerland
Tawaiin
Turkey
United Kingdom
West Germany

software AG

11190 Sunrise Valley Drive
Reston, Virginia 22091
(703) 860-5050

Bulk Rate
U.S. Postage
PAID
Software AG

STEVE L. ROBINSON
SL ROBINSON AND ASSOCIATES
111 ELM AVENUE
MORRISVILLE, PA. 19067

(96110-1)