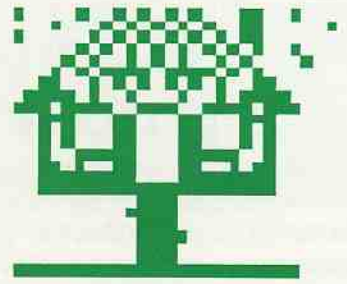


TREETIPS



A Publication of Treehouse Software Inc.

Issue: 2

Sewickley, Pennsylvania

January 1988

Treehouse Software Announces AUDITRE

Treehouse Software will soon be releasing a new software product for the ADABAS/NATURAL world, AUDITRE. Recognizing the increasing need for an ADABAS auditing tool and working closely with our customers, we have developed this product which we feel will benefit all environments. TRIM customers will receive a very attractive price for AUDITRE. Beta testing will commence shortly. Please refer to the article on pages 11-15.

Software AG Conference in Miami

This was the biggest SAG conference ever with over 2000 people. The hotel had its hands full trying to accommodate the approximately 500 extra attendees who were not originally registered.

NATURAL version 2

SAG has promised to have NATURAL version 2 functioning under NATURAL Security in the first quarter of 1988. Conversion considerations seem to be the primary drawback since we were told the European market has had NATURAL v2 functioning with NATURAL Security for many months. Nevertheless, SAG is committed to providing a NATURAL v2 release that will be a painless conversion effort, as well as a clean product. The beta test sites have been working with new releases. The most current release is SM2. This release does not require that a COMMON global area be created, and in fact, looks like it will require virtually no programming changes to NATURAL v1.2 source to catalog in a NATURAL v2 environment.

NATURAL version 2 OPTIMIZER

Among the new products demonstrated at the conference was the NATURAL version 2 OPTIMIZER. This allows NATURAL v2 source to be

cataloged such that some code is actually converted into machine instructions at catalog time. The object modules are slightly larger than non-optimized modules. The resulting modules execute much faster than normally cataloged modules. Modules cataloged with the optimizer are as fast or faster than COBOL object code in most instances. This product will be released for beta testing soon, and hopefully, we will receive some independent test results. This is an add-on product, announced to be released in the 2nd quarter of 1988. At the conference, people were told if they were interested

in testing it to call their SAG representative.

It was surprising that SAG decided to have this as a separate product, especially since in the past, they have seemed dedicated to improving NATURAL without designing add-on products just to enhance NATURAL performance. However, it is somewhat gratifying to know that NATURAL v2 is a strong enough product to sell without the optimizer enhancements. NATURAL v2 is truly a remarkable product, with more capabilities than ever before.

ADABAS version 5

ADABAS version 5 is soon to be released. From the information at the conference, once NATURAL v2 has

(Continued on Page 16)

Treehouse Welcomes Bill Speaks to the Staff

For those of you who haven't gotten the word, Bill Speaks joined the Treehouse on October 12. Many of you know Bill from his SAG Denver support days and being the NATURAL Product Representative to the SAG User Group Executive Committee. Bill has strong technical and marketing skills. He is concerned with keeping our customers satisfied and well informed.

Bill's responsibilities will include product planning, product development, technical support, consulting and education. Of course, all of these areas indirectly support marketing and sales. Bill can be reached at (303) 355-8047 or through the Sewickley office.

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Editor's Sproutings

by Susan Pryor

As some of you know, being successful in the computer industry requires a constant effort to keep up with the trends and times. Some of you may recall that our last issue named this article 'Letters to the Editor'. Well, this foolish editor didn't remember Mother's complaints about writing being a lost art. Letters are few and far between. Our little tree was bombarded with phone calls and telefaxes, but few letters were received. Many people had requests and recommendations. The response has been extraordinarily favorable, and we appreciate your comments. Now, in an effort to remove the column from the dark ages, it has been renamed 'Editor's Sproutings', and many of your communications will be reinterpreted here.

First of all, I would like to say that our overseas marketing agents and clients were quite responsive. We look forward to hearing more from them, and hope that they will find the time to contribute to 'TREETIPS'. As a salute to our Japanese affiliates for their efforts, I thought you would enjoy seeing a portion of the TRIM pamphlet in Japanese (page 3). We obviously didn't type it in. We used the scanner that is a new addition to our Macintosh configuration. So, if you send us interesting items to share, we can input them through our scanner, reduce the size, and place them in the newsletter. We also would like to thank our German affiliates, who sent us a copy of their TRIM demo diskette for the PC. We may develop similar demo diskettes for TRIM and future products.

Once again let me thank all of you for your comments. We really appreciate hearing from you.



Current Breezes

by George

It's difficult to nail George down to write an article. So I decided to interview him. -- Susan.

George, how did Treehouse Software get started?

After seven years at Software A.G., I moved to Houston to work for an oil company. Shortly thereafter, I accepted a foreign consulting job doing classes and performance analysis. That started the Treehouse. Upon my return, I started receiving requests to do consulting and classes. I received fantastic start-up assistance from Ann Haines, a local super-secretary, who agreed to work the wee hours getting out the letters and documentation. The occasional consulting and classes supported a concentrated TRIM development effort.

My family and I vacationed in western Pennsylvania, my home state. We found Pittsburgh to be a true renaissance city, and Sewickley to be charming and quaint. We decided in 1984 that Sewickley was the place for our family and Treehouse Software to settle. Being near the Pittsburgh Airport put us one hour from two-thirds of the population of the U.S. and Canada.

Why did you call it Treehouse Software?

Everyone asks that. It goes back to a company that I once worked for that had seven officers and very few worker bees. The officers all wanted to be in charge, do things their own way, using their own rules. I was the main worker bee responsible for coding everything. Just as in my childhood, I wanted to build a treehouse and make my own rules about who could join and what games we would play. I now have my own treehouse and worker bees. Really, we have a

"flexible" Treehouse, with super employees and I respect their talents and solicit their opinions.

Are there any special Treehouse rules?

We try to satisfy our customers at any cost. Even non-customers are helped. We're very happy to be answering ADAMINT questions for SAG customers. Our employees must be courteous and friendly. They should try to answer customers' questions, then answer the next question the customers should have asked. Meanwhile, we must retain our sense of humor. Also, above all, Treehouse is a no-smoking company.

How difficult was it to start a software company?

It was easy to decide on a name, eventually become incorporated, and pick a title for myself. The rest was very difficult. One thing that helps to sell a product is a good referral. When you first start out, you may have no referrals. Who wants to buy software from a small company that doesn't have any customers yet? Luckily, I really did have referrals. All the older ADABAS sites that bought ADAMINT knew that I was the developer and remembered how I personally supported them over the years. I didn't realize it until I had TRIM developed and called them. They said, "You've got software? Send it." It also didn't hurt to have had experience developing portions of the dictionary, NATURAL v1.2, and REVIEW.

But, what about buying from a one-man company?

Customers wanted to know how Treehouse could guarantee that it would be in business next year to support and enhance the product. I answered that I just left an oil company and I doubted they would be in business next year. But Treehouse would. I was right. Another thing that I ran into was that everyone that I told about the product said it sounded great

(Continued on Page 3)

Current Breezes

(Continued from Page 2)

and was exactly what they needed. They seemed very interested. But when it came down to the outright purchase, it was very frustrating and somewhat discouraging that so many fewer bought than had originally shown interest. I was fortunate that TRIM was solid and the first few customers were not overly concerned about quality of documentation, wording of the contract, and support personnel. Today Treehouse has hundreds of customers.

Why did you develop TRIM as your first product?

Performance monitoring was a key area that Software A.G. declined an interest in. I had much ADABAS, NATURAL, and performance related experience. I knew there was a market for such a product. And there was no apparent competition, especially from Software A.G.

Has interest in TRIM subsided?

No. After a lull in our marketing about a year ago, things have really picked up. Regional meeting speeches have gained us many satisfied customers who spread the word. Excellent affiliates in several foreign countries have increased our sales substantially. Our users are anxiously awaiting the host of new features in TRIM v3.2.

It also helps to have competition. This proves an ADABAS performance monitor must be a viable product, and we believe ours is the best - and getting better. It also helps that the competitive products are highly priced. Also, we're trying to get a clear picture on the status of one of our competitors. Indications are that at least one of their affiliates is selling our other competitor's performance tools. I believe this is due to the ineffectiveness of their own product. I'd like to reserve further comment on this and other questionable marketing tactics at this time.

How will NATURAL v2 and ADABAS v5 affect TRIM?

NATURAL v2 allows us to have a better Real-time Monitor. We'll take advantage of its enhancements, but our v1.2 code worked without modification under NATURAL v2. We did lose track of the NATURAL program name for a while. Our next correspondence will tell our customers the simple modifications to make it reappear.

We've been asked the ADABAS v5 question since 1984. When v4 was released in 1979, we saw what an improvement it was over v3 and we hope that v5 will be significantly better. Indications are there will still be a command log, a protection log and the user-exits. We believe that 80-90% of our code will go unchanged. Hopefully, there will be many additional tables, queues, and other items of interest which we can be first to display on-line. Once the v5 product is publicly released, we will do whatever is necessary to have

TRIM functioning with it — before most sites switch over to v5.

What other products or services do you market?

We also do consulting, including applications analysis and programming, performance analysis, database administration, etc. We teach a variety of ADABAS and NATURAL classes. What is very effective for us is to gain a reputation for providing quality products or services to our customers. Knowing Treehouse through TRIM opens the door to us providing other products and services. Likewise, when we do a good consulting job the customer often purchases TRIM or our education services. These "package deals" usually result in discounted prices.

Other products, TRUST and AUDITRE, are described in this newsletter.

How do you conduct your marketing?

The majority of our marketing is done through regional meetings, direct mail, and occasional phone calls. When

(Continued on Page 10)

TRIMの機能

■リアルタイムモニター REAL-TIME MONITOR

- ADABASの情報(コマンド、ファイル、ユーザーID、NATURALなど)の表示
- ニュークリアスの統計情報
- ADABASファイルのステータス*(GCB、FCB、FDT)の表示
- ジョブの実行トレース

■ダイナミックコントロール&セキュリティー DYNAMIC CONTROL & SECURITY

- 非効率なコマンドの検索
- 各ファイルに対し、動的セキュリティー管理が可能

■ダイナミックロギング DYNAMIC LOGGING

- 統計情報のサマリー
- 必要なログの動的選択
- 統計情報、トレースが、リアルタイムモニターにより表示が可能

■コマンドログ分析 COMMAND LOG ANALYSIS

- 資源管理
- コスト管理
- NATURALプログラムの利用方法、オーバーヘッド
- ディスクリプターの利用方法
- プログラム開発、デバッグ
- ADABASチューニング
- キャパシティープランニング
- ファイル設計
- 時間的な負荷状況管理
- 過度なレスポンス、I/Oチェック
- パフォーマンス測定(アプリケーション、データベース、ファイルなど)

■プロテクションログ分析 PROTECTION LOG PROCESSING

- ファイル単位の監視記録を個別出力
- フィールドごとに指定可能
- 更新前後のイメージの照会

* GCB: General Control Block の略 データベース単位の内部制御ブロック
* FCB: File Control Block の略 ファイル単位の内部制御ブロック
* FDT: Field Description Table の略 フィールド定義テーブル

NATURAL v2 TIPS: Installation Procedure

With the public release of NATURAL v2 SM2 in mid-October 1987, many users will be installing and beginning to test the new software. Several changes in the area of installation JCL and parameters for NATURAL's environment description macro NATPARM have occurred. The changes have only been verified for the installation of NATURAL version 2 for ADABAS under the MVS Operating System.

Change from IEBCOPY to IEBCOPY

The first change is the new format of the distribution tape itself. The Source and Load libraries are now in IEBCOPY format. This means that the JCL used to unload these libraries from the distribution tape to disk MUST use the IBM utility IEBCOPY rather than IEHMOVE.

JCL Changes for Initial Program Load (INPL)

There are also changes in the JCL required to perform the INPL function. With v1.2 of NATURAL, the special program NATMAINT was executed with a function of INPL passed to the program on the //SYSIN DD statement. Now, with NATv2, you execute the normal NATDEMO program and specify some parameters on the PARM card to do the INPL. The JCL for the NATv2 INPL will be similar to the following:

```
//NATINPL EXEC PGM=NATDEMO,
//          PARM=('STACK=INPL,DBID=xxx,FNR=yyy,      X
//          'ADASVC=zzz,MADIO=0,IM=D,EJ=OFF,MT=0')
//STEPLIB DD DSN=NATURAL.V2.LOAD,DISP=SHR
//          DD DSN=ADABAS.V411.ADALOAD,DISP=SHR
//DDCARD DD *
ADARUN DATABASE=xxx
/*
//DDPRINT DD SYSOUT=A
//CMPRINT DD SYSOUT=A
//CMWKF01 DD DSN=NATURAL.V21.INPL,DISP=OLD,
// UNIT=3400-3,VOL=SER=NAT212,LABEL=(3,SL),
// DCB=DEN=4
//CMSYNIN DD *
B
FIN
/*
//
```

Notice the changes on the PARM card. First, **STACK=INPL** is specified. INPL is no longer a free standing program. INPL is now a program that is part of the NATURAL v2 nucleus. The values for **DBID** and **FNR** must be the values for the database ID and file number to be used as the target for the NATv2 System File, i.e., **MADIO** is a new parameter that determines the 'Maximum ADabas I/O' (i.e., maximum number of database calls) between writes to the screen (or hardcopy, in batch). The value for MADIO must be set to 0 (no limit to the number of calls to ADABAS between writes). **ADASVC** is also new, and required, for the INPL. You must specify your ADABAS v4 SVC number. Failure to specify the value

for ADASVC properly results in using the SVC specified in NATDEMO, which is 237. Using the default will cause the INPL to abend unless, by chance, 237 is your ADABAS v4 SVC number.

INPL Data Fields

The new INPL program, which is specified with **STACK=INPL**, accepts the following data fields (each separated by the delimiter ','):

Function	L	Load Source/Object code only
	D	Load Data Dictionary Modules (DDMs) only
	B	Load both Source/Object code and DDMs
	1	Load v1.2 INPL created file (i.e., the V1.2 ULDOBJN utility)
	R	Natural Security System (NSS) Recover (i.e., force initialization of NSS environment)
	S	Check contents of the input tape on work file 1 (CMWKF01)
Replace	Y	Replace existing Source/Object code (DEFAULT)
	N	Do Not Replace existing Source/Object code
Load Except	Y	All Source/Object code or DDMs are to be loaded EXCEPT those whose names satisfy the values specified for: DDM, Library, or Program.
	N	Load the Source/Object code or DDMs that are indicated by the values for DDM, Library, or Program (DEFAULT).
DDM	value	Only valid for function D and B. If the INPL file contains several DDMs, then only those whose names are equal to the value specified will be loaded. The 'wild-card' ('*') notation is supported. Blank means to load all DDMs contained on the tape.
Library	value	Only valid for functions L and B. If the INPL file contains programs from many libraries, you may use this field to only load the programs from the specified libraries. A value of 'LIB*' may be specified to indicate that all programs from the libraries beginning with 'LIB' on the tape are to be loaded. Blank means to load all Source/Object code on the tape.

(Continued on Page 5)

NATURAL v2 TIPS: Installation Procedure

(Continued from Page 4)

Program	value	Only valid for functions L and B. The '*' notation may be used to indicate that only the programs beginning with the specified string of characters will be loaded. If a value for Program is specified, then a value for Library is required. Blank means to load all Source/Object code for libraries specified on the Library parm, above, which are contained on the INPL tape.
---------	-------	---

To perform the INPL of NATURAL v2, you must specify function B, as shown in the JCL above. Allowing the other fields described above to default, results in all Source/Object code and DDMs contained on the tape to be loaded onto the specified DBID/FNR.

These are all the changes to the process of unloading the software from the tape.

NATURAL Parameter (NATPARM) Module

The NATPARM module is used to define the operating environment for the NATURAL Nucleus. There are a few new, and important, parameters in the NATPARM module that you must not overlook before assembling and linking this module to the NATURAL Nucleus modules.

ADASVC

ADASVC is a new NATPARM parameter which must be set to the proper ADABAS v4 SVC number as it was done on the INPL JCL above.

AVERIO

AVERIO is the 'average length of a field' on the screen (or page, in batch). It controls the size of NATURAL's internal page and screen attribute buffer areas. The default is 8. The formula for computing the sizes of these tables is inversely proportional to AVERIO. Therefore, if a program attempts to display many 'small' fields, then the value for AVERIO will have to be decreased. And, conversely, if a program displays only a few 'large' fields, then the value for AVERIO should be increased. If AVERIO is not correct, error message NAT1150 'Attribute Buffer overflow' will be displayed and the program will be terminated.

DTFORM

DTFORM allows you to specify the format of the date on all screens displayed by NATURAL. DTFORM=U means to make the internal format of date to be displayed in USA format (MM/DD/YY). Other possible values are E (European, format DD/MM/YY), G (German, format DD.MM.YY) or I

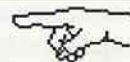
(International, format YY-MM-DD). The default is I.

IKEY

IKEY=ON instructs NATURAL to treat PF keys that were pressed and were not specifically set in the application program (using the SET KEY instruction), as if the <ENTER> key had been pressed. The default for this parm is IKEY=OFF.

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Where Are They Now?



We had planned to feature Mick Wokich and Steve Greaves of North Ridge Software. You old-timers will certainly remember them. Before we could write up the article, John McAra, another ex-SAGer, joined Mick and Steve. Together they have become the nucleus of North Ridge Software, Inc. of Bellevue, Washington.

Mick, Chris, and family reside in their home on the north ridge of Redmond. Mick is the founder (1982) and President of the company. Mick is better known for his "sporadically annual" chili cookoff held at the Wokich residence.

Steve and Sheri reside in their houseboat on Lake Union and survived the drought! Steve is the Vice President, but is better known for his annual "opening day of boating season" celebration. This is held the first Saturday in May and Steve invites everybody to come "until the boat sinks".

John, Bette, and family are moving into their new home in the woods during the holidays. John seems very excited about returning to the Great Northwest.

North Ridge Software's primary product is The Network Director, a VTAM-based network management product. The Network Director is a VTAM user friendly interface, a network monitor, a network management aid, a VTAM application subsystem management tool, and a network security facility.

The Network Director is installed at approximately 200 IBM and compatible mainframe installations worldwide. It is well accepted in the MVS marketplace, with an increasing VSE and VM clientele. Two new products are in the works, in the VTAM and VM arenas.

For more information on the company's products or parties - or if you would just like to say hello to Mick, Steve or John, here's the contact information.

North Ridge Software, Inc.
14450 NE 29th Place, Suite 111
Bellevue, WA 98007-7699
Phone: 206/882-2600



SYSTEM TIPS: Placement of Physical ADABAS Data Sets/Files

(reprinted from the Treehouse Software Performance Guide)

When ADABAS is first installed, it is often configured with fairly small datasets/files which may be allocated entirely on one volume. While this initial configuration serves well for small-scale testing, it is very inappropriate (and very likely impossible) as live production systems are introduced.

The best approach toward physical allocation is to spread the production database over as many physical volumes and channels as possible. In this respect, the following points should be considered:

- o The ASSOCIATOR is the most active database component
- o DATA STORAGE will require the largest amount of space, but its frequency of access is much lower than for the ASSOCIATOR
- o The three sections of WORK have varying degrees of space requirements and access frequency. Generally, the first two sections will have higher access frequency than the third: WORK part 1 is heavily accessed to store data protection information during update processing; WORK part 2 may be heavily accessed if complex searches are performed.

Generally speaking, the ADABAS physical components should be positioned on devices and channels such that:

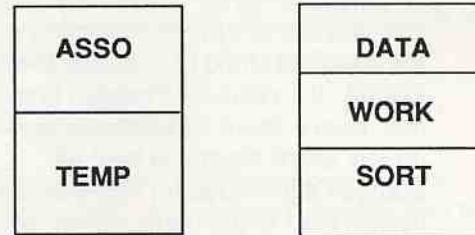
- o I/Os to the DASD devices are balanced
- o There is no contention from non-ADABAS system datasets, such as PAGE datasets, spool volumes, compiler libraries, roll-in/roll-out datasets, or TP program libraries
- o The ASSOCIATOR is spread out as much as possible
- o WORK is spread to two or three separate volumes.

Furthermore, the following are standard rules of thumb:

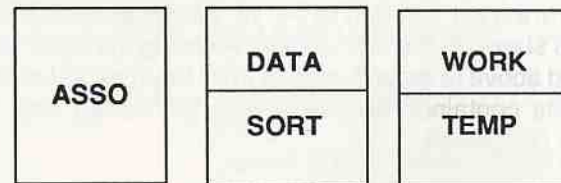
- o Do not place ASSO and WORK on the same volume(s)
- o Do not place ASSO and SORT on the same volume(s)
- o Do not place DATA and TEMP on the same volume(s).

The following are standard recommendations for data set placement for small or moderate databases.

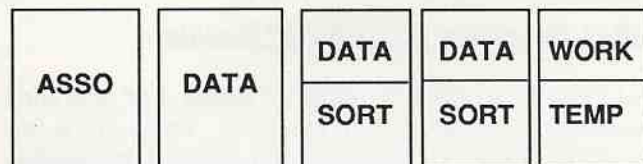
With two available volumes:



With three volumes:



With five volumes and large data files:



Using statistics available from TRIM's IOSUM (V3.2) feature, DASD components and ADABAS logical extents can be allocated such that access patterns can be distributed fairly evenly across the entire database.

As ADABAS is writing to the WORK data set, the protection log is also being updated. Therefore, dual protection logs should be on separate packs from each other and the WORK data set. This will eliminate significant contention for adds, deletes, and update commands.

Dual command logs should be separate from each other, the ASSOCIATOR, and DATA STORAGE datasets. Every command may cause a write to the command log, and can cause device contention.

Because of dataset contention, some efficiencies can be achieved by turning off the command log. However, because of dataset contention, this can be solved by better dataset placement and using TRIM's efficiencies, such as:

- o summarizations in User-Exit-4 (PRESUM, IOSUM)
- o selected detail logging
- o "crunching" the command log
- o time oriented User-Exit-4 parameters.



TRUST: OS and DOS

TRUST is a three year old product of Treehouse Software which provides for menu-driven submission of ADABAS v4, PREDICT, and Data Dictionary utilities. The announcement three years ago that ADABAS v5 would have features similar to TRUST reduced the interest in this product. However, it appears that TRUST may again become a viable product for the ADABAS world, because there is even more batch utility capability within ADABAS v5. TRUST v2 may be made available for trial and purchase around the middle to end of 1988. So, please consider this a marketing survey. Your interest in this product and its future enhancements will determine our next step.

TRUST performs the following functions

- o Prompts the user for the Utility selection
- o Prompts for information required to run the Utility
- o Validates the user-supplied information
- o Submits the JCL required to execute the Utility
- o Controls access to the Utilities by Userid

The TRUST package includes

- o Standardized ADABAS Utility and Dictionary Utility PROCS
- o NATURAL object modules
- o Selected source code for user-tailoring
- o Remote Job Entry programs to function under the major TP systems
- o A NATURAL "dispatcher" which can be altered to include site specific batch utility submission
- o Sample Utility parameters
- o HELP screens and PF-key usage
- o Reference Manual with installation instructions

What is TRUST?

TRUST is a functional group of

- o on-line NATURAL programs
- o COBOL subroutines
- o OS or DOS Job Control Language (JCL) procedures (PROCS)

TRUST is designed to submit any ADABAS utility through the user's teleprocessing system. PREDICT and certain ADABAS Data Dictionary utilities are also supported. Batch JCL is submitted for processing according to selections made from on-line displays.

Who can use TRUST?

New ADABAS installations and new DBAs find this package particularly useful. TRUST allows non-database staff members the ability to safely create and submit utility programs.

Is this utility submission secured or controlled?

TRUST controls what utilities may be submitted and who may submit them in accordance with guidelines established at the installation. Utilities may be controlled separately for Test and Production Databases.

Execution of TRUST

In NATURAL, type:

LOGON TRUST
EXEC TRUST

TRUST will display the following menu:

(TRUSTMP)	TRUST SELECTION MENU	11/25/87 11:14:00

FILE DEFINITION AND MAINTENANCE		
ADAWAN - COMPRESSION		
ADALDR - LOADER		
ADAREP - REPORT		
ADAMER - ADAM ESTIMATION		
DDUTIL - DICTIONARY UTILITIES		
ADACPL - COUPLE		
ADAHDL - FILE MODIFICATION		
ADAMUP - MASS UPDATE/DELETE		
ADAULD - UNLOAD		
ADADCU - DECOMPRESSION		
DATA BASE MAINTENANCE		
ADAVUS - DATABASE MODIFICATION		
ADAORD - REORDER ASSOCIATOR		
ADAFRM - FORMAT		
ADAPRI - MAINT PRINT		
DBACHK - SPECIAL DATABASE CHECKS		
BACKUP AND RECOVERY		
ADAFIX - DUMP/RESTORE		
ADARES - RESTART		
ADAFBR - AUDIT TRAIL		
GENERAL		
TRUST - RETURN TO 'T R U S T' MENU		
END - EXIT FROM 'T R U S T'		
*XXXXX - ENTER ANY COM-LETE COMMAND		
SESSION CONTROL		
<PF1>-HELP		
<PF7>-MAIN MENU		
<PF8>-EXIT		
ENTER THE DESIRED FUNCTION NAME: adawan		

After selecting the utility, the following menu is displayed:

(ADAWANMP)	ADABAS UTILITIES COMPRESSION	11/25/87 11:14:05

DATABASE	= test	
FILE NUMBER	= 032	
FILE NAME (FROM DDEs)	= test.automobile.usage.log.file	
INPUT DATASET NAME (IF ANY)	= uncomp.user.automobile.usage.data.file	
UNIT (FOR OUTPUT DATASET)	= 131	

JOBNAME = testcomp JOB CLASS = A SYSOUT CLASS = A		
USER NAME = userpreference		

TRUST: OS and DOS

(Continued from Page 7)

- o From this menu, the information supplied for the utility will be formatted and submitted to a batch initiator
- o The Database Administrator is freed from modifying and submitting JCL and parameters each time an ADABAS utility is to be run

TRUST Installation and Documentation

- o TRUST is distributed primarily in NATURAL object code form
- o The main menu, dispatcher program, COBOL subroutines, and a skeleton NATURAL submission program are distributed in source form to permit user modification/extension to the system
- o The ADABAS, PREDICT, and Dictionary Utility PROCs are provided on a PDS
- o For COM-LETE, a "NATURAL Transparency" module is provided
- o For CICS, one additional Start-up JCL DD Card and PPT and DCT entries are necessary
- o For TSO, one additional Start-up JCL DD Card is necessary
- o The TRUST Reference Manual contains clear and concise information for installation, operation, and tailoring of the TRUST system

TRUST for DOS also Includes

- o Submission of TRIM jobs, including storage of parameters for later submission, an editor to edit the stored parameters, and submission of the stored parameters
- o POWER Queue query, including listing queue entries for reader, list, and punch, and viewing the contents of a queue member

FUTURES of TRUST v2.0

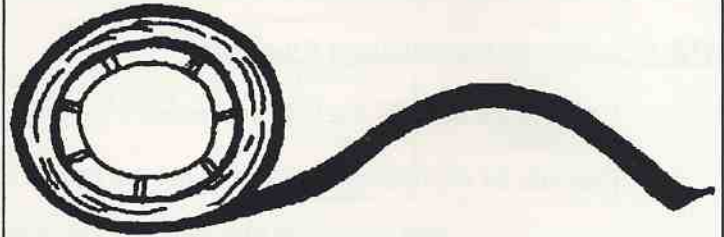
If your response to this marketing survey is positive, TRUST v2.0 may:

- o Take advantage of the features of NATURAL v2
- o Support ADABAS versions 4 and 5
- o Submit TRIM and AUDITRE batch reports

- o Provide some TRIM-like functions, such as:

- From the User Queue, show all users using a particular file
- Lock out access to a file before running the utilities

Please call or write to show your interest in TRUST.



To expedite the distribution of the next release of TRIM and other products, please return any old Treehouse Software tapes that you may have in your possession.

TREEvents Calendar

TREETIPS is distributed in January, April, July, and October. The deadline for feature articles is 60 days before distribution. The deadline for letters and short articles is 30 days before distribution.

Treehouse Software has some 30 classes and workshops, some private, some "semi-public" or "shared", being lined up for the next several months. Nearly everyone wants NATURAL v2 instruction. We suggest you call for an up-to-date accounting of what's going on, where and when, so we can fit you into the schedule.

TRIM v3.2, AUDITRE v1.0, and the Treehouse Software Performance Guide are all expected to be released in the first quarter of 1988.



NATURAL TIPS: Using the STACK

STACK can be either a NATURAL program statement or a parameter passed when invoking NATURAL. The STACK statement allows NATURAL commands or programs as well as data to be placed in the NATURAL stack area for application use. The NATURAL commands or programs in the stack are executed whenever the NEXT/MORE prompt is issued. This prevents the user from seeing the prompt, and further processing is done without user intervention. Data in the stack is passed to any INPUT statement including a map that requires data to be entered.

The NATURAL STACK Program Statement

The STACK statement can be issued from a NATURAL program. Commands or data may be placed in the stack. Commands can be placed in the stack by typing in your NATURAL program:

```
STACK COMMAND 'program-name'
or
STACK COMMAND 'RUN program-name'
or
STACK COMMAND 'FIN'
or
MOVE 'LIST FILES' TO #COMMAND
STACK COMMAND #COMMAND
```

Data can be placed in the stack by typing the following:

```
STACK 'abcdefghijklmnpqr'
or
MOVE 'abc' TO #FIELD1
STACK #FIELD1
```

The above examples place the information in the bottom of the stack. If the stack information is to be accessed first, then STACK TOP is used. This will place the information at the top of the stack.

Finding Out What's in the STACK

The NATURAL System Variable *DATA (N3) will allow the program to determine what is in the stack and act accordingly. If the next element in the stack is data, *DATA will be positive (greater than 0). If the next element in the stack is a command, *DATA will be negative (less than 0). When the stack is empty, *DATA will be zero. Using the *DATA information, programmatic decisions can be made for processing data. For example, if you have a program that may have data passed that would restrict processing or make special processing occur, you might code:

```
IF *DATA NE 0
DO
IF *DATA > 0
```

```
INPUT + ACCOUNT + SSN
ELSE
STOP
DOEND
IF + ACCOUNT NE 0
FETCH 'ACCTPGM'
FETCH 'MAINPGM'
```

Using the STACK for Cursor Placement and Messages in NATURAL 1.2

The INPUT statement in NATURAL 1.2 does not allow cursor placement on any field but the first field. For some applications, it is desired that cursor placement be a field other than the first field. Since the REINPUT statement does allow cursor placement using the MARK option, combining the INPUT and REINPUT with the STACK can allow cursor placement the first time the end user sees the screen.

```
STACK TOP #COMMAND
RESET #REINPUT-SWITCH
INPUT MAP #COMMAND #FIELD1 #FIELD2 #FIELD3
IF #REINPUT-SWITCH = ''
DO
MOVE '*' TO #REINPUT-SWITCH
REINPUT 'Please enter data' MARK 2
DOEND
```

The above series of statements not only places the cursor in the second field, but it also allows a message to appear on the top line of the screen. Notice that only the first field needs to be specified for the INPUT statement.

Using the STACK Parameter

The STACK parameter can be specified in the JCL PARM card, or when invoking NATURAL on-line through the PARM statement. In JCL, the statement may look like:

```
//NATSTEP EXEC PGM=NATURALB,
// PARM='STACK=PROGRAM'
```

To have additional parameters in the STACK, you could code:

```
//NATSTEP EXEC PGM=NATURALB,
// PARM='STACK=(PROGRAM DATA)'
```

The STACK card could be continued onto another card by placing an X in column 72. For example:

```
//NATSTEP EXEC PGM=NATURALB,
// PARM='STACK=(PROGRAM DATA;
// 'PROGRAM2 DATA)' X
```

(Continued on Page 10)

NATURAL v2 TIPS: Using the STACK

(Continued from Page 9)

Notice in this example, that the semi-colon functions the same as placing the data on the next line of the JCL as is done in the CMSYNIN or CMOBJIN card.

Why Use the STACK Parameter

Using the STACK Parameter when invoking NATURAL will allow you to bypass several screens of prompts. In the on-line environment, you can bypass the AHELLO screen, as well as the NATURAL Security menu (assuming that your LOGON is correct).

In Batch, you will not get the several pages at the front of your report that say LOGON PROGRAM, etc. This can save several pages of data and prevent the user from seeing additional information (assuming the JCL does not go to the user).



Current Breezes

(Continued from Page 3)

you have a good product, it sells itself. We have no marketeers per se. We have had limited success at the international conferences due to restrictive, illogical, and ever-changing attendance and participation policies. Recently, several regional groups have been 'asked' to exclude Treehouse Software and other similar 'competitors' from attendance. That's too bad, because in exchange for our attendance and occasional presentation of our products and services, we've brought in experts at our cost from other regions to talk about relevant items such as conversion to NATURAL v2. These Treehouse presentations have been extremely popular, sometimes doubling attendance at the meetings.

'TREETIPS' also has been an excellent marketing tool, letting the ADABAS world know who we are and what we do.

The new Treehouse Performance Guide will certainly help. Not only does it give significant performance hints, but it shows how to solve performance problems using TRIM. It will be about 150-200 pages in a binder, and will be available to anybody for the asking.

What does the Treehouse future look like?

We are currently staffed by eight people. We will probably grow to 15 or so by the end of 1988, but I know we could keep one hundred people busy. We plan several new products. One, an auditing facility, is described in this newsletter. I am very excited about its value to our customers. We are considering a TRIM-like ADABAS file report generator, NATURAL tools such as an ability to move programs easily from test to production and back, and a few others. We certainly must continue to focus our efforts near-term on ADABAS/NATURAL to be successful. We would like to hear what the users want. Preferably, this would be any

ADABAS/NATURAL area not covered and not planned to be covered by Software A.G. We have had requests to redo certain SAG products, make them better, and maybe sell them for a lower price. But, we have decided not to do this, for the time being.

What kind of reaction did you get to the first newsletter?

The reaction to the October newsletter was far beyond my greatest expectations. We received calls and letters and others stopped us at the Miami conference just to say how much they liked the newsletter, and that it contained useful information they could use in their jobs. Other consultants, competitors, customers of competitors, SAG employees, and SAG affiliates all called to get extra copies. By the way, much of the newsletter's success is due to you, Susan. You've been going non-stop since you started to work for Treehouse Software eight months ago. Thanks Susan, and take a little break.

We plan to increase the size of the newsletter, imparting more ADABAS/NATURAL information, with a quarterly distribution. We'll include some new features in this issue. One feature that we cannot decide on is a classified section. The fact is, we receive many requests for ADABAS/NATURAL professionals, and requests by professionals for placement. But, such a section could be considered a conflict of interest. We also do not want to alienate our customers who may view such a section as recruiting their people. We think there's a need for it, but cannot decide on the approach. We would be interested to hear from our readers about their thoughts on the subject.



AUDITRE: New Audit Feature

Treehouse Software has sprouted a new software product, AUDITRE, pronounced "Audit Tree". With TRIM-like parameters, ease of use, and thoroughness, AUDITRE is expected to save installations thousands of dollars in time and resources in development of standard auditing techniques.

Assume a short NATURAL session produces an ADABAS protection log of all updates. Two programs UPDPERS and FINANC are coded, stowed and executed. UPDPERS updates 4 PERSONNEL file records' AGE and HOBBY fields. FINANC updates 3 FINANCE file records' NET-WORTH and COLLEGE fields.

TRIM v3.2 could be used for limited analysis of this log. With AUDITRE, the analysis can go further.

Consider the following use of TRIM:

```
INPUT LOGTYPE=PROTECTION
REPORT TYPE=DETAIL,HEADING='SHOW UPDATES, FILE 3'
INCLUDE FNR=3
DISPLAY DATE,TIME,SEQ,RESTART-USERID,FNR,ISN,IMAGE-TYPE
SHOW AA,NW,CCC,CC1-5,CG,FNR=3
```

The output generated is:

```
SHOW UPDATES, FILE 3      TRIM 3.2  TUE 87-11-24 17:45:36

YY-DDDHH-MM-SS      SEQ  RES-UID  FNR  ISN  IMAGTYP
87-328  15:03:17      29   TREE2   3    4    BEFORE

AA= HEX 000000000000186F4 DEC 100,084 PERSONNEL-NUMBER
NW=      8888                      NET-WORTH
CCC= 1                      CREDIT-CARD
CC 1=BANK AMERICARD          CREDIT-CARD
CC 2=                      CREDIT-CARD
CC 3=                      CREDIT-CARD
CC 4=                      CREDIT-CARD
CC 5=                      CREDIT-CARD
CG=GROVE CITY                COLLEGE

----- ***** -----

87-328  15:03:17      30   TREE2   3    4    AFTER

AA= HEX 000000000000186F4 DEC 100,084 PERSONNEL-NUMBER
NW=      9999                      NET-WORTH
CCC= 1                      CREDIT-CARD
CC 1=BANK AMERICARD          CREDIT-CARD
CC 2=                      CREDIT-CARD
CC 3=                      CREDIT-CARD
CC 4=                      CREDIT-CARD
CC 5=                      CREDIT-CARD
CG=SLIPPERY ROCK            COLLEGE

----- ***** -----

87-328  15:03:19      31   TREE2   3    5    BEFORE

AA= HEX 000000000000186F5 DEC 100,085 PERSONNEL-NUMBER
NW=      8888                      NET-WORTH
CCC= 2                      CREDIT-CARD
CC 1=DINERS CLUB             CREDIT-CARD
CC 2=AMERICAN EXPRESS        CREDIT-CARD
CC 3=                      CREDIT-CARD
CC 4=                      CREDIT-CARD
CC 5=                      CREDIT-CARD
```

```
CG=GROVE CITY                COLLEGE

----- ***** -----

87-328  15:03:19      32   TREE2   3    5    AFTER

AA= HEX 000000000000186F5 DEC 100,085 PERSONNEL-NUMBER
NW=      9999                      NET-WORTH
CCC= 1                      CREDIT-CARD
CC 1=DINERS CLUB             CREDIT-CARD
CC 2=AMERICAN EXPRESS        CREDIT-CARD
CC 3=                      CREDIT-CARD
CC 4=                      CREDIT-CARD
CC 5=                      CREDIT-CARD
CG=SLIPPERY ROCK            COLLEGE

----- ***** -----
```

The above type of output would be repeated for four more records, with a final tally:

```
NUMBER OF INPUT RECORDS: 36
INPUT RECORDS INCLUDED: 8
```

The above report is the old 'SHOW LOTS OF FIELDS' type of report. Of course, multiple PLOGS can be handled in one pass to generate multiple reports. Each report can show the contents of one or more files and the contents of selected fields from selected records. The data could be output to a 'flat file' decompressed form of dataset by coding the following parameter:

OUTPUT ID=F3UPD

This will result in flat file records having an 80-character standard 'header' identifying DATE, TIME, USERID, FILE, ISN, ID, etc., followed by each field listed above (AA, NW, CCC, CC1-5, and CG).

SHOWing long lists of fields is not especially effective for identifying an occasionally changed field. For this purpose, AUDITRE features the 'AUDIT' statement. For example:

```
REPORT TYPE=DETAIL,HEADING='AUDIT FILE 3'
INCLUDE FNR=3
DISPLAY DATE,TIME,SEQ,RESTART,-USERID,USERIDX,FNR,ISN
AUDIT AA*,NW,CCC,CC1-5,CG,FNR=3
```

The output generated is:

```
AUDIT FILE 3      AUDITRE 1.0  TUE 87-11-24      17:45:36

YY-DDD  HH-MM-SS      SEQ  RES-UID  USER-IDX  FNR  ISN
87-328  15:03:17      30   TREE2   31EF9E2B  3    4
*** RECORD UPDATED

A: AA= HEX 000000000000186F4 DEC100,084 PERSONNEL-NUMBER
B: NW=      8888                      NET-WORTH
A: NW=      9999                      NET-WORTH
B: CG=GROVE CITY                COLLEGE
A: CG=SLIPPERY ROCK            COLLEGE

----- ***** -----

87-328  15:03:19      32   TREE2   31EF9E2B  3    5
*** RECORD UPDATED
```

(Continued on Page 12)

AUDITRE: New Audit Feature

(Continued from Page 11)

A: AA= HEX 00000000000186F5 DEC100,085 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

87-328 15:03:20 34 TREE2 31EF9E2B 3 6
*** RECORD UPDATED

A: AA= HEX 00000000000186F6 DEC100,086 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

87-328 15:03:20 36 TREE2 31EF9E2B 3 7
*** RECORD UPDATED

A: AA= HEX 00000000000186F7 DEC100,087 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

NUMBER OF INPUT RECORDS: 36
INPUT RECORDS INCLUDED: 8
AUDIT DELETES: 0
AUDIT UPDATES: 4
AUDIT ADDS: 0

The above report is the new 'Show Only Certain Fields When Changed' type of report. Note that the listed fields (and only these fields) on the AUDIT statement are examined for changes. If changed, the before and after values are printed. If none of the listed fields are changed, none are printed. If any fields are printed, then the key field(s) are also printed (in this example, AA is the key field as denoted by an '*'). That is, if someone's NW (NET-WORTH) is changed, it would be desirable to see AA (PERSONNEL-NUMBER) for the changed record. Key fields do not have to be descriptors.

Of course, you can still run multiple logs, multiple reports, 'SHOW' specific files' updates, 'AUDIT' other files' updates, print reports and/or output flat-file records for later processing. Here's a report on two files together.

REPORT TYPE=DETAIL,HEADING='AUDIT FILES 1 AND 3'
INCLUDE FNR=(1,3)
DISPLAY DATE,TIME,SEQ,UIDX,FNR,ISN
AUDIT AA*,NW,CG,CCC,CC1-5,BK,CR,FNR=3
AUDIT AA*,BA*,BB,BC,CB,LA,FNR=1

This will produce:

AUDIT FILES 1 AND 3 AUDITRE 1.0 TUE 87-11-24 17:45:36

YY-DDD HH-MM-SS SEQ USER-IDX FNR ISN
87-328 15:03:45 14 31EF9E2B 1 10
*** RECORD UPDATED

A: AA= HEX 00000000000186F4 DEC100,084 PERSONNEL-NUMBER
A: BA=KING NAME
B: CB=45 AGE

A: CB=39 AGE
B: LA=PERFORMANCE MONITORING HOBBY
A: LA=AUDIT TRAILING HOBBY

----- ***** -----

87-328 15:03:49 16 31EF9E2B 1 11
*** RECORD UPDATED

A: AA= HEX 00000000000186F5 DEC100,085 PERSONNEL-NUMBER
A: BA=SPEISER NAME
B: CB=45 AGE
A: CB=39 AGE
B: LA=PERFORMANCE MONITORING HOBBY
A: LA=AUDIT TRAILING HOBBY

----- ***** -----

87-328 15:03:49 18 31EF9E2B 1 12
*** RECORD UPDATED

A: AA= HEX 00000000000186F7 DEC100,087 PERSONNEL-NUMBER
A: BA=TANIMOTO NAME
B: CB=45 AGE
A: CB=39 AGE
B: LA=PERFORMANCE MONITORING HOBBY
A: LA=AUDIT TRAILING HOBBY

----- ***** -----

87-328 15:03:17 30 31EF9E2B 3 4
*** RECORD UPDATED

A: AA= HEX 00000000000186F4 DEC100,084 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

87-328 15:03:19 32 31EF9E2B 3 5
*** RECORD UPDATED

A: AA= HEX 00000000000186F5 DEC100,085 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

87-328 15:03:20 34 31EF9E2B 3 6
*** RECORD UPDATED

A: AA= HEX 00000000000186F6 DEC100,086 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

87-328 15:03:20 36 31EF9E2B 3 7
*** RECORD UPDATED

A: AA= HEX 00000000000186F7 DEC100,087 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

NUMBER OF INPUT RECORDS: 36
INPUT RECORDS INCLUDED: 14
AUDIT DELETES: 0
AUDIT UPDATES: 7
AUDIT ADDS: 0

(Continued on Page 13)

AUDITRE: New Audit Feature

(Continued from Page 12)

If you have two (or more) fields which are logically related, the above example shows how you may show intermixed file updates. In this example, the PERSONNEL (1) and FINANCE (3) files are related, both having a PERSONNEL-NUMBER (AA).

AUDITRE can also be used to select all the records from one or more files for output to a 'protection log like' file (dataset). Simply follow the above parameters with

OUTPUT COMPRESS=YES

This will result in a new PLOG-like file to contain only file 1 and file 3 compressed PLOG images. Your shop may normally generate 10 PLOG reels per day. You can run it through AUDITRE to reduce this down to one or two reels containing only the files from which you want to eventually produce AUDITRE audit reports.

To have a summary by file and user, simply code one or more reports such as the following:

REPORT TYPE=SUMMARY,
HEADING='SUMMARY OF PLOG UPDATES BY FILE/USER'
CONTROL FNR,UIDX

REPORT TYPE=SUMMARY,
HEADING='SUMMARY OF PLOG UPDATES BY HOUR/FILE'
CONTROL HOUR,FNR

The output will be:

SUMMARY OF PLOG UPDATES BY FILE/USER

FNR	USER-IDX	COUNT	%
1	31EF9E2B	6	16.7
1	*****	6	16.7
3	31EF9E2B	8	22.2
3	*****	8	22.2
8	31EF9E2B	21	58.3
8	*****	21	58.3
19	FFFFFF00	1	2.8
19	*****	1	2.8
***	*****	36	100.0

NUMBER OF INPUT RECORDS: 36
INPUT RECORDS INCLUDED: 36

----- ***** -----

SUMMARY OF PLOG UPDATES BY HOUR/FILE

HR	FNR	COUNT	%
14	19	1	2.8
14	**	1	2.8
15	1	6	16.7
15	3	8	22.2
15	8	21	58.4
15	**	35	97.2
**	**	36	100.0

NUMBER OF INPUT RECORDS: 36
INPUT RECORDS INCLUDED: 36

These summary reports indicate updates were made to files 1, 3, and 8. To see which NATURAL programs and modules were updated, code the following:

REPORT TYPE=DETAIL,
HEADING='NAT PROGRAMS, MODULES UPDATED'
INCLUDE FNR=8
DISPLAY WEEKDAY,TIME
AUDIT LJ*,LK1*,LL*,FNR=8

When you SAVE/CAT, NATURAL completely deletes the old program/module, then adds the entire new program/module to the NATURAL System File. A few records showing this update process are displayed below:

NAT PROGRAMS, MODULES UPDATED AUDITRE 1.0 TUE 87-11-24

DAY HH-MM-SS

•
•
•

TUE 15:01:36
*** RECORD DELETED

A: LJ=	SRC-PROG-ID
A: LK 1=	SOURCE-CODE
A: LL=TRIMRTM UPDPERS	OBJ-PROG-ID

----- ***** -----

TUE 15:01:37
*** RECORD ADDED

A: LJ=	SRC-PROG-ID
A: LK 1=	SOURCE-CODE
A: LL=TRIMRTM UPDPERS	OBJ-PROG-ID

----- ***** -----

•
•
•

(Continued on Page 14)

Wrigley Solves ADABAS Chargeback Problem

Following up on our early-summer request for ADABAS DBMS chargeback/usage information, your readers should know we solved our problem by using the product TRIM (from Treehouse Software, Sewickley, Pa.) to capture the data. We then process the data to calculate the "environment-correction factor," and append the Power/VSE user-ID to the data.

With our approach, we are able to create a daily ADABAS-usage dataset in three minutes.

John S. Rusnak
Wm. Wrigley Jr. Co.
Chicago

The above article appeared in the November 9 issue of InformationWEEK, reprinted with their permission. For subscription information, write:

InformationWEEK
600 Community Drive
Manhasset, NY 11030

AUDITRE: New Audit Feature

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TUE 15:01:37
*** RECORD DELETED

A: LJ=TRIMRTM UPDPERS SRC-PROG-ID
A: LK1=TSIT2 15:01:3887-11-24V4.1NAT SOURCE-CODE
A: LL= OBJ-PROG-ID

----- ***** -----

TUE 15:01:37
*** RECORD ADDED

A: LJ=TRIMRTM UPDPERS SRC-PROG-ID
A: LK1=TSIT2 15:01:3887-11-24V4.1NAT SOURCE-CODE
A: LL= OBJ-PROG-ID

----- ***** -----

•
•
•

TUE 15:02:35
*** RECORD DELETED

A: LJ= SRC-PROG-ID
A: LK 1= SOURCE-CODE
A: LL=TRIMRTM FINANC OBJ-PROG-ID

----- ***** -----

TUE 15:02:49
*** RECORD ADDED

A: LJ= SRC-PROG-ID
A: LK 1= SOURCE-CODE
A: LL=TRIMRTM FINANC OBJ-PROG-ID

----- ***** -----

TUE 15:03:06
*** RECORD DELETED

A: LJ=TRIMRTM FINANC SRC-PROG-ID
A: LK 1=TSIT2 13:48:5587-11-24V4.1NAT SOURCE-CODE
A: LL= OBJ-PROG-ID

----- ***** -----

TUE 15:03:06
*** RECORD ADDED

A: LJ=TRIMRTM FINANC SRC-PROG-ID
A: LK 1=TSIT2 15:03:0287-11-24V4.1NAT SOURCE-CODE
A: LL= OBJ-PROG-ID

----- ***** -----

•
•
•

NUMBER OF INPUT RECORDS: 36
INPUT RECORDS INCLUDED: 21
AUDIT DELETES: 10
AUDIT UPDATES: 0
AUDIT ADDS: 11

Examination of the above reveals that the source (LJ) and the object (LL) programs are being manipulated (LK1 is the 1st line of the source).

To see all the fields updated on file 3, you could list lots of fields on a TRIM 'SHOW' report. Better would be to use AUDITRE, which will do the comparison of before and after images of each field and identify the changes. Better yet would be to use the 'AUDIT ALL' feature. Obviously, this is provided so that you do not have to list all the individual fields

yourself. But, the power of the 'AUDIT ALL' is in the reports. Consider the following parameters:

REPORT TYPE=DETAIL,HEADING='UPDATES ON FILE 3'
INCLUDE FNR=3
DISPLAY DATE,TIME,USERIDX,FNR,ISN
AUDIT ALL,FNR=3

The following report will be generated:

UPDATES ON FILE 3 AUDITRE 1.0 TUE 87-11-24 17:45:36

YY-DDD HH-MM-SS USER-IDX FNR ISN

87-328 15:03:17 31EF9E2B 3 4
*** RECORD UPDATED

B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

87-328 15:03:19 31EF9E2B 3 5
*** RECORD UPDATED

B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

87-328 15:03:20 31EF9E2B 3 6
*** RECORD UPDATED

B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

87-328 15:03:19 31EF9E2B 3 7
*** RECORD UPDATED

B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

----- ***** -----

NUMBER OF INPUT RECORDS: 36
INPUT RECORDS INCLUDED: 8
AUDIT DELETES: 0
AUDIT UPDATES: 4
AUDIT ADDS: 0

AUDITRE will consider the above report as if you had stated to audit for fields AA, MCC (the count of occurrences of MC), CC1-2 (occurrences 1-2 of CC), CL1-2, CB1-2, OC, NW, CR, IPC, IC1#1-2 (MU occurrences 1-2 of occurrence 1 of periodic field IC), PA1#1-2, CG, VCC, OV1-2, IV, SV, and BK. In other words, AUDITRE lists every field changed on file 3, including applicable occurrences. AUDITRE gets these occurrence ranges based upon your ADAWAN file definition occurrence values. You will see only the changed fields, on as small a report as possible.

If the report says some record's NET-WORTH rose to 1,000,000, you might want to know who this belongs to (i.e., via the key field PERSONNEL-NUMBER). So you would

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AUDITRE: New Audit Feature

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code:

AUDIT AA*,ALL,FNR=3

This means you will see the value of AA for any record which changed. For the personnel file you might code:

AUDIT BA*,BB*,AA*,ALL,FNR=1

This means you will see the value of LAST-NAME, FIRST-NAME, and PERSONNEL-NUMBER for any updated records on file 1.

Here is the way you will probably code an audit of the PERSONNEL and FINANCE files:

REPORT TYPE=DETAIL,
HEADING='PERS, FINANCE AUDIT'
INCLUDE FNR=(1,3)
DISPLAY DAY,TIME,RESTART-USERID,FNR
AUDIT BA*,BB*,AA*,ALL,FNR=1
AUDIT AA*,ALL,FNR=3

And your output might look something like this:

PERS, FINANCE AUDIT AUDITRE 1.0 TUE 87-11-24 17:45:36

DA HH-MM-SS RES-UID FNR

24 15:01:45 TREE2 1
*** RECORD UPDATED

A: BA=KING	NAME
A: BB=EDDIE	FIRST-NAME
A: AA= HEX 00000000000186F4 DEC100,084	PERSONNEL-NUMBER
B: CB=45	AGE
A: CB=39	AGE
B: LA=PERFORMANCE MONITORING	HOBBY
A: LA=AUDIT TRAILING	HOBBY

24 15:01:49 TREE2 1
*** RECORD UPDATED

A: BA=SPEISER	NAME
A: BB=PHYLLIS	FIRST-NAME
A: AA= HEX 00000000000186F5 DEC100,085	PERSONNEL-NUMBER
B: CB=45	AGE
A: CB=39	AGE
B: LA=PERFORMANCE MONITORING	HOBBY
A: LA=AUDIT TRAILING	HOBBY

24 15:01:49 TREE2 1
*** RECORD UPDATED

A: BA=TANIMOTO	NAME
A: BB=DAVID	FIRST-NAME
A: AA= HEX 00000000000186F7 DEC100,087	PERSONNEL-NUMBER
B: CB=45	AGE
A: CB=39	AGE
B: LA=PERFORMANCE MONITORING	HOBBY
A: LA=AUDIT TRAILING	HOBBY

24 15:03:17 TREE2 3
*** RECORD UPDATED

A: AA= HEX 00000000000186F4 DEC100,084 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH

A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

24 15:03:20 TREE2 3
*** RECORD UPDATED

A: AA= HEX 00000000000186F5 DEC100,085 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

24 15:03:20 TREE2 3
*** RECORD UPDATED

A: AA= HEX 00000000000186F6 DEC100,086 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

24 15:03:20 TREE2 3
*** RECORD UPDATED

A: AA= HEX 00000000000186F7 DEC100,087 PERSONNEL-NUMBER
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE

NUMBER OF INPUT RECORDS: 36
INPUT RECORDS INCLUDED: 14
AUDIT DELETES: 0
AUDIT UPDATES: 7
AUDIT ADDS: 0

You can place many fields before and after the 'ALL'. For example, you can code:

AUDIT AA*,CB1-2*,ALL,AA,NW,ALL,AA*,FNR=3

This will identify all changed fields twice, with AA, CB1-2, and NW (if changed) listed multiple times. One record of the AUDIT would be shown as:

FNR ISN DATE TIME RES-UID
3 7 87-328 15:03:20 TREE2
*** RECORD UPDATED

A: AA= HEX 00000000000186F7 DEC100,087 PERSONNEL-NUMBER
A: CB 1=0080 CURRENT-BALANCE
A: CB 2=1200 CURRENT-BALANCE
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: NW= 8888 NET-WORTH
A: NW= 9999 NET-WORTH
B: CG=GROVE CITY COLLEGE
A: CG=SLIPPERY ROCK COLLEGE
A: AA= HEX 00000000000186F7 DEC100,087 PERSONNEL-NUMBER

There is probably no reason to code such a complicated AUDITRE statement, but we think this example helps to demonstrate the flexibility and thoroughness of implementation of this product. Your comments are appreciated.



SAG Conference in Miami

(Continued from Page 1)

stabilized, ADABAS version 5 will soon follow. Some sites are beta testing. Talk of SM2 of ADABAS v5 was a major topic. It will have impressive true heterogeneous processing, allowing full integration of minis to mainframes. Databases and files can be spread across machines, with up to 65,000 databases and files — one can only imagine the poor DBA handling that much. Anyway, it all sounds pretty exciting.

ADABAS ONLINE SERVICES

Along with ADABAS version 5 will be the ONLINE SERVICES as an add-on product. Such things as file deletions, modifying the padding factor, releasing allocated space that won't be used, or allocating more space are all available. Many people were grumbling about this being an add-on. Rather than grumble, write your SAG representative and tell them how you feel.

NATURAL PROCESS and NATURAL OPERATION

NATURAL Process has been released in Europe and is soon to be released here. NATURAL Process will provide access to functions of JES, MVS, VTAM as well as provide dataset maintenance for sequential or partitioned datasets. These capabilities will all be through a NATURAL program much the same as doing a FIND on the file.

NATURAL Operation is based on NATURAL PROCESS. It allows definition and control of complex production job sequences. Full networking capability will be available. It is expected to be released here in the 3rd quarter of 1988.

NATURAL CONSTRUCT

NATURAL Construct is a 'development productivity facility for applications written in Software AG's NATURAL 4GL'. In real terms, it is a means of building applications using basic building blocks that can be modularized in a form that can be reused or modified quickly and easily. It includes a program generator, a NATURAL macro facility and a library of customizable model programs and program functions. The product is written in NATURAL v2 and takes advantage of several aspects of NATURAL v2 capabilities. It is expected to be available in the 2nd quarter of 1988.

PC ADABAS/NATURAL

Having ADABAS and NATURAL on a PC — who would have guessed? Anyway, there are many advertised features such as instant response time, colors, windows, and other special effects. We're waiting for the delivered product to see what the results really are. We'll keep you informed. Who knows, perhaps all your development will be done at home on your little PC. The product is currently under development and expected to be announced soon.

NATURAL SPREADSHEET

NATURAL Spreadsheet seems to be another on-going effort on SAG's part to make the ADABAS and NATURAL environment as PC-like as possible. It provides an automated way to create spreadsheets on the mainframe that talk to LOTUS spreadsheets on the PC. The data is manipulated with LOTUS-like commands, formulas and functions. This product should be available in the first quarter of 1988.

PREDICT CASE

PREDICT Case was announced. It is a mainframe repository and specification tool for information used in all phases of software development. It includes support for requirements analysis activities, a quality assurance function that enforces consistency and completeness of requirements specifications as well as a standard set of documents for important milestones. If you aren't sure what it is or whether you want it, neither are we. After attending a few lectures on it, it still wasn't clear how it functioned and how it would be used. It does sound like it will verify that all branches of a program have been tested, but other features were difficult to pin point. Since it is to be available in the second quarter of 1988 and carries a hefty price tag of \$60,000 to \$75,000, it will be interesting to get some real user type reviews on this product.

VAX ANNOUNCEMENTS

VAX was a big topic at the conference. In fact there was a session running parallel with all the other sessions that was just for VAX users. Products available on the VAX are ADABAS, ADABAS SQL, NATURAL, NATURAL Construct, NATURAL ELITE, NATURAL GRAPHICS, NET-WORK, PREDICT, SUPERNATURAL, and WORKBENCH. No longer is VAX considered as one conference attendee put it in San Diego "SAG's unwanted child". In fact, VAX and smaller computers are the future, and not only will SAG be giving them more attention, we will be featuring a few VAX articles in 'TREETIPS'. We hope some VAX users and consultants would like to share their experiences.

IMPROVED PRODUCTS

SAG has been working on the old products as well. There are new or enhanced versions of PREDICT, REVIEW, SUPERNATURAL, ELITE classes, CONNECT, COMPLETE, NET-PASS and NATURAL CONNECTION. ADABAS SQL (formerly ADASQL) was also a popular topic. The SQL users seemed pleased with the capabilities that ADABAS SQL will offer.

Overall, SAG has made an effort to meet the needs of their American consumers. Many of you may not realize how significant your input is. Attending the conference, writing to your sales representative, calling the Denver Information Center or your Local User Group Regional Representative are all effective methods of voicing problems and questions you may have. We would encourage you to use them.

(Continued on Page 17)

SAG Conference in Miami

(Continued from Page 16)

Treehouse Software Presents

Treehouse's suite was open Sunday through Wednesday. It was great to talk to all the TRIM customers and would-be customers. Everyone was excited about the TRIM v3.2 release (first quarter of 1988), and the response regarding TRIM was very favorable. Some people had questions about TRIM that were answered at the conference. For those of you who did not attend the conference, Treehouse Software in Sewickley is always open for phone calls and even visitors. In fact, if you're in the area, George and the Treehouse Staff have a great tour they love to give. (We recommend that you arrive in the daytime, since George has been known to go on

tours with words like "If you could see this house in the daytime you'd really be impressed" or "Over here in the daylight is a great view of the river".)

While George presented TRIM, Bill Speaks, and Chuck Starkey were giving constant demos (using the Real-Time Monitor in a production environment). We thank our users for sharing their experiences with others at the conference.

Remember that Bill resides in Denver, Chuck in Virginia, and Susan Pryor and Dwight Beadle in Texas. If we can better serve you from these locations, please let us know.

We hope to see everyone at the SAG conference in Nashville next year.



NATURAL v2 TIPS: Installation Procedure

(Continued from Page 5)

BPID

BPID=nnn is used if the Global Buffer Pool is in use to specify its ID. The Global Buffer Pool will not be publicly released until SM3.

MADIO

MADIO (default = 512) could be specified in the NATPARM as well. It determines the maximum number of calls to the database between terminal I/Os. If MADIO is exceeded, NAT1009 'Program interrupted after too many ADABAS calls' is issued and the program is terminated. MADIO should probably be fairly small, certainly under 1024.

MAXCL

MAXCL is analogous to MADIO, except that MAXCL determines the maximum number of FETCHes, CALLNATs, and PERFORMs of external subroutines allowed between terminal I/Os. The default value for MAXCL is 50. If it is exceeded, error message NAT1029 'Interrupt after too many NATURAL program calls' will be issued.

ML

ML is used to determine the placement of the NEXT prompt on the screen. ML=T makes the message line the top line of screen, ML=B makes it the bottom line of the screen, and ML=nn makes the message line to be the nn-th line of the screen.

SM

SM determines the default coding mode (Report or Structured). Note that if SM=ON (ie, Structured Mode) is specified as the default, then SM=OFF CANNOT be specified once NATURAL v2 is invoked.

RECAT

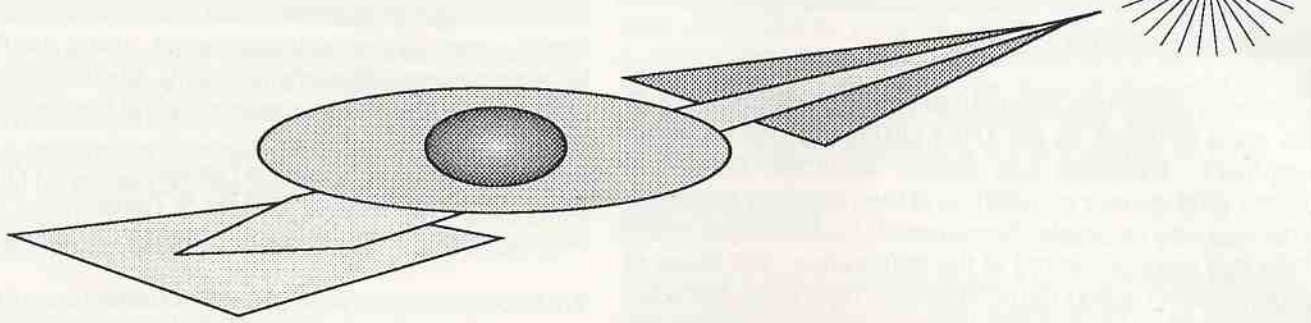
RECAT=ON indicates that when a program is executed that uses a GDA (Global Data Area) and it is the case that the date/time stamp of the program is earlier than the date/time stamp of the GDA (i.e., the GDA was STOWed subsequent to the STOW of the program), then the program will be automatically re-cataloged! The intent of the RECAT=ON parm is to allow the program to be recataloged and allow processing to continue. Note, however, that this is ONLY true if the source code resides in the same library as the object code that is being executed. Be aware that this 'dynamic re-catalog' feature is not working properly with SM2 resulting in error message NAT0933 'New GDA structure does not correspond with previous GDA' being issued, and processing terminated (making RECAT=ON function the same as RECAT=OFF).

There are other new NATPARM parameters, but these are the most critical to a successful implementation of NATURAL v2.

All indications are that NATURAL v2 is upward compatible. We want to hear about any little problems you encounter. A seemingly minor problem for you may be a major headache for someone else performing a conversion. Share your experiences and ideas (call or write) so we can tell people about it in the next issue of 'TREETIPS'.



'Journey with a Star'



Sewickley in the News

Sewickley is well-known as a cultural center. Among the cultural organizations is the Sweetwater Art Center, a comprehensive community arts center sponsoring films, concerts, art exhibits, festivals, museum tours, workshops and demonstrations to the general public and area school students. The Center is actively involved in the renovation of their new home, the old, ornate Post Office which will be 'dedicated to the past and enrichment of the future'.

The Child Health Association of Sewickley is a volunteer organization of sixty active members which promotes child welfare in the area. Their prime fundraiser is the Three Rivers Cookbook which features unique ethnic recipes gathered from the diverse population of the Pittsburgh area. Activities of the Child Health Association include a comprehensive dental program for children, cultural enrichment, vision screening, library loan programs, performing arts for children, support for the Sweetwater Art Center and help for children in need. For information on this organization, or if you'd like to order the cookbook (\$9.95), call 1-800-624-8753 and tell them you heard about it from the Treehouse.

Sewickley Heights is hunt country at its best. There are miles of meandering trails and jumps through the beautiful estates. At a recent riding event, Amber Szakach, George's daughter, won the booby prize. She had the worst day, edging out Rocky Bleier (former Pittsburgh Steeler). Sewickley also has a polo team. You can see why Sewickley is the only western Pennsylvania town listed in the *Official Preppy Handbook*.

The houses in the area express a grandeur of long ago. Many of the homes have names such as Barberry Farms, Snuggery Farms, and Enchante. One large estate's main house was 100 rooms and reportedly had 39 cars in the garage. It was demolished in the 1950s. It is not uncommon to see houses with ten or more fireplaces, elevators, stained and leaded glass, log cabin additions, and artists' studios above the garages.

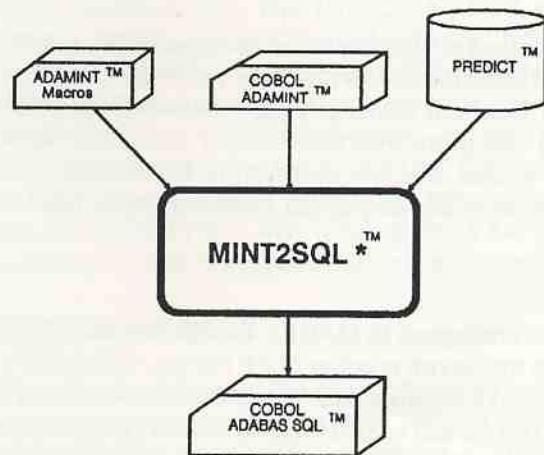


Consultants' Corner

We at Treehouse Software have instituted this Consultants' Corner to give our friends and associates a chance to share their services and products.

Publication of this information in this section does not indicate support or an endorsement by Treehouse Software.

Good Bye ADAMINT™!



Hello ADABAS SQL™!

*** MINT2SQL™ is a conversion service of**

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Entertainment

October Contest Results

Well, it was really difficult here in the tree selecting a winner of our contest. After much discussion and a democratic vote, we reached the following conclusions (for those of you that don't remember, we are referring to the contest to name the picture on page 18):

The winner was Debra Binkley of SAV-A-STOP Incorporated for the caption:

'Journey with a Star'

However, in competitions of this sort, we thought it only fair to give the individuals that were runners up something for their efforts. The runners up were:

'Going Boldly Where no Software has Gone Before'
by Merridee Wark of the Idaho State Auditor's Office

'Eye to the Future'
by Siddy Fox of Commerce Clearing House
in Niles, Illinois

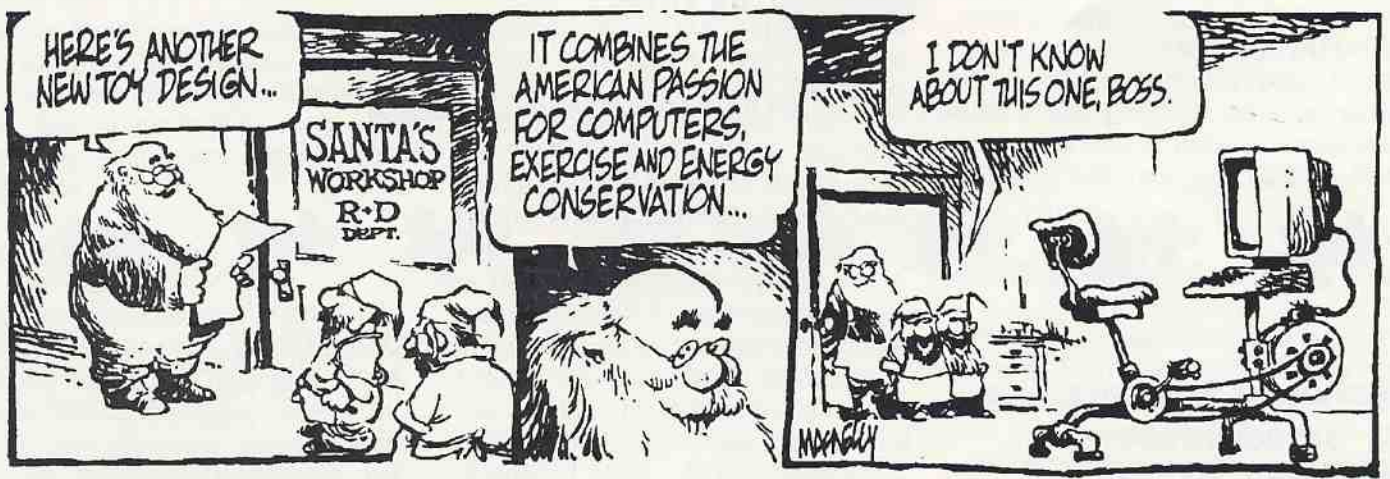
'Ready for light speed Mr. Sulu?'
by Marcia Stier of the State of Alaska

The winner and runners up all received special prizes for their efforts.

This Issue's Contest

We have no ideas, so this issue's contest is for you to send us the best contest. Any contest ideas which we use will result in a special Pittsburgh prize for the submitter.

SHOE



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ADABAS, NATURAL, COM-LETE, PREDICT, NATURAL v2OPTIMIZER, NATURAL PROCESS, NATURAL OPERATIONS, NATURAL SPREADSHEET, NATURAL GRAPHICS, NATURAL ELITE, NATURAL WORKBENCH, SUPER-NATURAL, ADAMINT, REVIEW, ON-LINE SERVICES, CONSTRUCT, PC ADABAS/NATURAL, PREDICT CASE, ADABAS SQL, NET-WORK, CON-NECT, NET-PASS, are all products of Software AG.

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