TREETIPS

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ADABAS-to-RDBMS *Real World* Series

(Part Four of Several)

"First American Real Estate Solutions (FARES) is the nation's largest provider of real estate information, serving more than 50,000 customers with the most current data available by any competitor. Our databases of information provide a broad range of information, including property profiles, maps, valuation models, legal and vesting information, and others for 85 percent of U.S. counties. FARES manages these very large volumes of information on the latest technology platforms, ensuring timeliness and accuracy of all data.

*"Such large systems, storing multiple Terabytes of data, with daily updates require a data migration tool that is capable and efficient. FARES's search for such a tool, after careful analysis, led to the selection of Treehouse Software as the solution provider of choice. Using their **Data Propagation System (DPS)**, we were able to solve the problem of moving large amounts of data from our Data Warehouse Platforms to our Delivery Systems.*

*"**DPS** allows for multiple platform, multiple database data migration and mapping of our data. Treehouse has worked very closely with FARES to improve the efficiency of these processes. Most recently by addressing our specific requirement, they were able to reduce processing time by 70% along with systems resource efficiencies to these tools. Treehouse tools have enabled FARES to improve the time to market and refresh rate of its data and are directly contributing to the competitive advantage of FARES.*

"As you can see, FARES and Treehouse have a "partnership" on this effort, not merely a customer/vendor relationship. We help each other, and Treehouse is continually checking on our processes to ensure we are happy.

*"Treehouse has been a good, responsible partner for us and we would recommend them to others trying to solve the ADABAS to Oracle problem. During our initial implementation, we ran into difficulty getting all data loaded to our system. I contacted President **George Szakach**, and his team worked with our technical team to come up with a solution that helped us complete the initial data load."*

Dennis Gilmore
Group President of Database Information & Services
First American Corporation

*"Prior to the **DPS** V4.00 upgrade, we were starting to plan a mainframe upgrade, which is a very costly proposition for our business. Once the V4.00 upgrade was completed, we recovered enough processing cycles to cancel our upgrade plans."*

George Livermore
President
FARES

This is the fourth installment in a continuing series of articles featuring **tRelational** and **Data Propagation System (DPS)**, TSI's ADABAS-to-RDBMS product implementation, in several "real world" environments.

tRelational auto-generates complete RDBMS schema from existing ADABAS files and allows for easy mapping of ADABAS fields to already existing data warehouse or ERP schema. After **tRelational** does the mapping, **DPS** can then materialize (initially load) and propagate (subsequently keep synchronized) the ADABAS data into the RDBMS without requiring direct access to ADABAS.

The following is a recent discussion between **Fran Stevens**, Vice

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Treehouse Software, Inc.

Inside This Issue

Editor's Sproutings by Joseph Brady

Another Rave Review for TSI Consulting

"As you are probably aware, we purchased N2O from Treehouse approximately one year ago. As part of that purchase, we also contracted with you to devise a method of disengaging a Software AG product, known as PAC, which has hooks that had insinuated its way into the NATURAL libraries and program modules of our application systems. It was those hooks that made this implementation of N2O so complex and time consuming.

*"Your employee, **Lynn McIntyre**, did a terrific job of researching the problem and coming up with a solution that worked. She tested the solution thoroughly before putting together a work plan that allowed us to get out of PAC and into N2O over the course of a single weekend. It has been approximately one month since the cut-over, and we have found very few problems. Those that we have found have been fixed in a very timely manner by Lynn.*

"We, of course, are thoroughly delighted with her performance. I don't believe it would be an over-statement to say that you are very fortunate to have such a conscientious and knowledgeable staff person in your company."

Senior Data Base Administrator
Department of a State
Government

TREETIPS

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TSI Traveling Tales

Over the past few months, TSI representatives have visited sites in Alabama, Austria, Brazil, Canada, California, Florida, Georgia, Germany, Massachusetts, New York, North Carolina, Rhode Island, Texas, Utah, Virginia, Washington D.C., and Washington State.

TSI representatives gave a presentation of **tRelational** and **DPS** at the 10th NATURAL Conference in Boston.

Canadians Meet Treehouse Reps at GTEC

Attendees from Canadian ADABAS sites visited the TSI booth at the Technology in Government Week Event in Ottawa, Canada.

Wayne Richard (right side of photo) from Service Nova Scotia & Municipal Relations was on hand at our booth to discuss how they are using **tRelational** and **DPS** for their data migration project. The full story of the Service Nova Scotia project can be found in TREETIPS #33.

TSI reperesentatives in attendance were **Orion Wolff**, TSI Sales Representative (left side of photo), and **Dan Sycalik**, TSI Senior Technical Representative.

Understanding Seminar Series

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There are over 30 seminars to choose from, including the Understanding NATURAL Measuring Performance Seminar, which teaches how to measure performance through such tools as DBLOG and **PROFILER**. The goal of the seminar is to provide a method for determining how a program is performing, and identify any targets for improvement. Custom seminars are also available

Presenter: Tanya Rhodes

Tanya Rhodes has over 15 years with Software AG Products including ADABAS, NATURAL, PREDICT, & CONSTRUCT. Her work experience includes eight years with Software AG as a Principle Consultant, with hands on experience in SAG products on the mainframe, UNIX and PC platform, training and project management, and web-enabling applications.

For more information, contact **Tanya Rhodes** at Solution Specialists **(800) 659-2951** or **trhodes9@earthlink.net**.

What's Your Breaking Point?

by Wayne Lashley

What's the last straw? When do you throw in the towel and admit that your ADABAS data migration strategy just won't cut it?

You chose ADABAS because of its world-class performance and robustness. You have made a commitment to it because of these factors and the investment in the high-performance, robust systems that you have built with it. Your organization depends on it. But you've also found that you can't live by ADABAS alone. You have the data warehouse in Oracle, the end-user application in Microsoft SQL Server, or the purchased package in DB2. Or all of the above. And you need to get that data out of ADABAS.

Maybe you've let some ETL vendors convince you that access to ADABAS is easy. But you found out that their access is provided through a third party because they really don't know much about the complexities of ADABAS… or maybe it's an add-on product that you hadn't budgeted for… or the approach is one-size-fits-all, except for that size called ADABAS… and suddenly it's not so easy.

Maybe you've been struggling with middleware products that promise SQL access to live ADABAS. But, they don't fit into your technology architecture... or the SQL is not very standard… or you have to have ODBC experts do a lot of configuration and tuning to make them work at all.

Maybe you've built your own ADABAS data extraction processes with NATURAL programs. It started with one or two, but now there are dozens… the processing to run all of them is killing your batch window… you have no metadata at all… you have mainframe NATURAL programmers trying to figure out how to design RDBMS schemata and work with RDBMS loader utilities… your customers are screaming for that data warehouse refresh to be moved up from weekly to daily, and you know it just can't be done in 24 hours.

The results are the same. You can't get at all your data... or you have to add so many bits and pieces that you can't hope to keep track of and manage them all... or you have found that the performance hit on your ADABAS databases is intolerable... or you will have to upgrade your hardware to support the additional workload.

So what's the thing that finally makes you throw in the towel? Another broken promise from an ETL vendor to provide the needed ADABAS access "in the next release"? The hardware upgrade that will be required to run the middleware—which, incidentally, increases your product maintenance fees for an area of your technology that is not supposed to be growing? Finding out that the contract programmer you hired to do yet another NATURAL extract left behind code that bombed with a NAT1316 in the middle of the night after 10 hours of processing, and your on-call staff can't hope to have it fixed and rerun before you have to start tomorrow's load processing?

It doesn't have to get to this. The mature, full-featured, high-performance, robust, completely scalable solution that will allow you to meet all your ADABAS-to-RDBMS data migration needs is right here, right now. It's tRelational/DPS. It's from Treehouse Software. And, it didn't just arrive on the scene because it's been available, and evolving, since we started it in 1994.

You don't need a crying towel, you need a solution. We've got it. We're the ADABAS-to-RDBMS data migration experts.

ADABAS-to-RDBMS *Real World* Series

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President of Information Technology at FARES, and TSI Project Managers. This interview was coordinated by **Tina White**, Production Manager at FARES.

Fran, can you provide a business description for the First American Real Estate Solutions (FARES)?

We are the nations largest collector and provider of real estate data, serving more than 400,000 users who depend on us to make decisions every day. We collect data on one hundred million properties annually and on two million property and mortgage transactions each month. In addition, we also provide access to three billion document images using the industries most innovative technologies.

Please describe your core ADABAS Application, Advantage?

Advantage is a system of over 5000 database files containing Real Estate information on many counties across the nation. The information includes ownership, values, features, and a host of other information used by realtors, appraisers, direct marketers, and many other types of businesses.

Treehouse tools have enabled FARES to improve the time to market and refresh rate of its data and are directly contributing to the competitive advantage of FARES.

How many counties does Advantage currently support?

We currently support over 600 counties nationwide in Advantage.

Can you elaborate on the Database and File environment for Advantage?

For each county in our system, we maintain separate files for sales, building, and land (parcel) information. This information comes to us from a variety of sources, the most important of which are the counties themselves. We typically receive and process information for every property in a county once a year. This may consist of from one to thirty files that we match and combine into a usable set of database files. In addition, we

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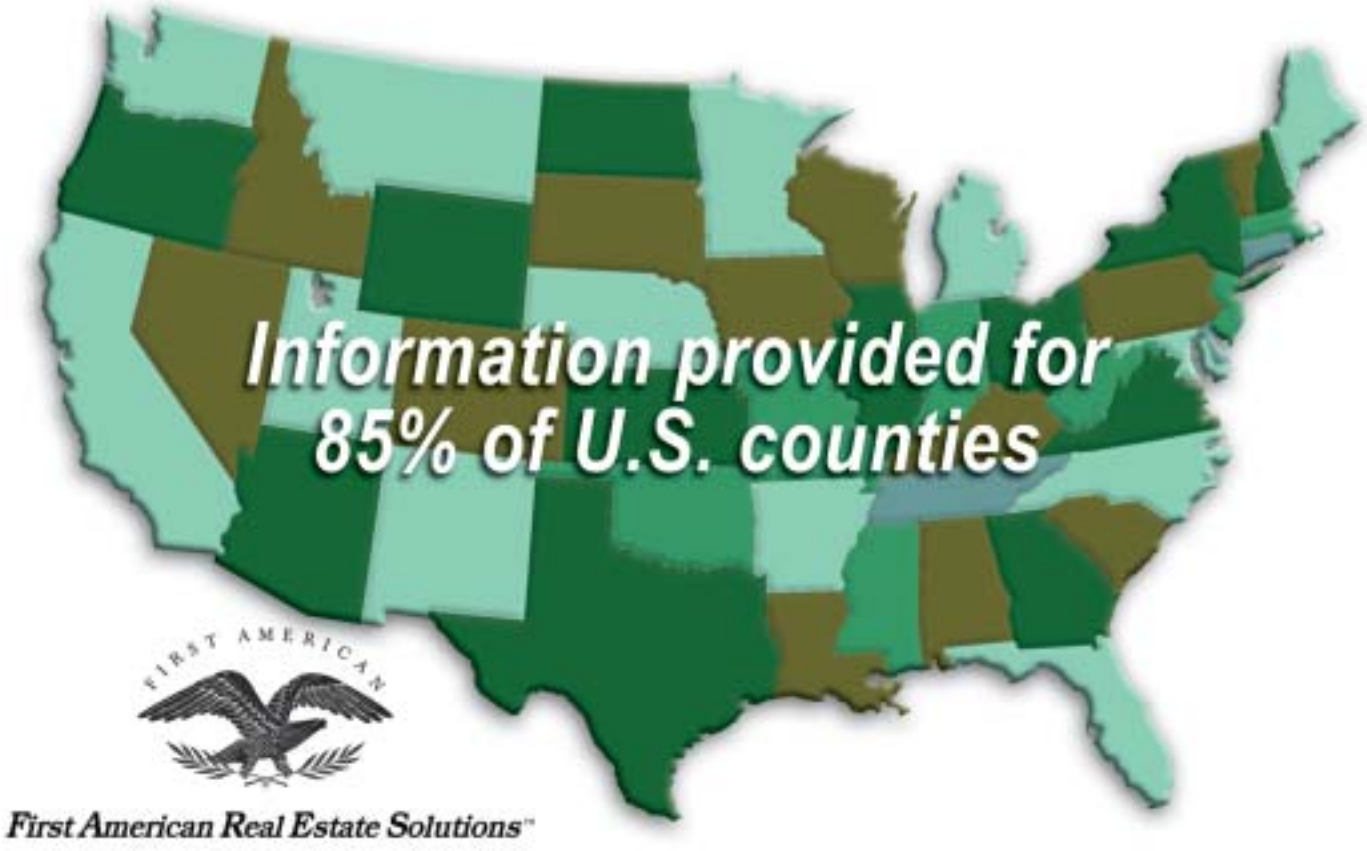

regularly receive new sales that are recorded in the counties. This information is keyed off-shore and then loaded to our system.

Please describe the business objective for the Keystone Project?

Our objective with the Keystone Project was to move away from our Legacy Systems to a relational database that would enable us to handle more concurrent on-line users, add additional county coverage, and give us the ability to provide more complete and robust on-line products.

Please describe the ORACLE application, Keystone?

Keystone is a set of ORACLE databases and server applications, currently running on SUN Solaris hardware. This system provides the back-end for an array of on-line products, both dial-up and Internet, and it is also the source for our CD-based products.

How many Keystone customers do you support?

We currently support more than 50,000 customers.

Please describe the Keystone Project and how you arrived at the selection of the TSI product solution?

The Keystone Project was set up as a new data delivery system that takes advantage of the data manipulation done in Advantage. This new data delivery system was designed to handle our growth over the next 10 years.

What were the most significant factors on selection of tRelational and DPS?

The most significant factor was the movement of data from ADABAS to Keystone, which became critical to the success of the project. We looked at writing the necessary programs and also researched other companies that provided a solution. TSI was willing to come out for a day and discuss how their product could assist us. It seemed like a good fit and we were pleased with TSI's responsiveness to our questions. In addition, TSI had the ability to deal with repeating groups from ADABAS, read ADABAS Plogs, and create updates for daily processing.

Can you please describe the ADABAS Annual County Refresh processing and the ramifications to Keystone?

We face the continual challenge of having to reload each county once a year, while also providing the most recent sales updates to our customers. We do this, in part, by loading the new files from each county into a "staging" database, while updating the sales information to our "production" databases. Once we have a county loaded to Advantage "staging", we process the files through **DPS** to load them to Keystone "staging", where we can perform detailed QC and analysis to ensure that we provide only the highest quality data to our customers. When we have verified that the new files are correct, we bring the sales

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up to current, move them to Advantage "production", and process the files through **DPS** to load them to Keystone "production".

What were/are the most challenging aspects of the Keystone Project?

We couldn't move data fast enough from Advantage to Keystone. With the implementation of **DPS V4.00**, we have seen an improvement of 70% in our processing times.

This new data delivery system was designed to handle our growth over the next 10 years.

How did/does tRelational and DPS factor in the success of the Keystone Project?

DPS and **tRelational** allow us to move data from our flat-file data repository (Advantage) to our relational on-line system (Keystone) with confidence and in near real-time. Many of the transformations that occur in this process are complex and would not be easy to develop or maintain with standard programming tools. **DPS** provides the capabilities and the interface to make, or change, these transformations quickly and easily.

Are you satisfied with the products, support, and services TSI provides?

Yes, we have been extremely satisfied with the level of support and services TSI provides. Your support team is always willing to go the extra mile to help resolve any issues we may be having. Additionally, your support doesn't stop once a resolution has been identified. Your support staff always follows through to ensure the solution provided has resolved our issues. ●

TSI Overview of the FARES Project

FARES contracted MCI Systemhouse (now EDS) to design Keystone and implement an efficient ADABAS data migration methodology. After formal review of alternatives such as ADABAS Utilities (e.g., ADACMP and ADASEL), Triggers, and NATURAL extracts, MCI Systemhouse contacted TSI to discuss **tRelational** and **DPS**. Following a technical review and a three-day pilot, FARES purchased **tRelational** and **DPS**.

A primary factor for selection was not limited to the value of the **DPS** Propagation (Change Data Capture) but the need to reload each county annually. **DPS** Materialization provides an efficient Extract ,Transform, and Load (ETL) for any number of counties each day, often resulting in the refresh of millions of ORACLE rows.

At that time, FARES maintained information for over 300 counties. Currently, FARES maintains over 600 counties, with anticipated continued growth. Each county's data is "partitioned" to separate physical ADABAS files over 20 production databases. To satisfy the need to maintain a single "logical" model per file definition, TSI enhanced **tRelational** to provide the translation and substitution processing of DBID and File Numbers during generation of the **DPS** parameters.

Positionality (occurrence value) within Periodic Groups (PEs) had significance in many cases for the Advantage files. This required explicit positional mappings of PEs to ORACLE tables and columns.

During the development, **tRelational** enabled quick and easy revisions to the ADABAS-to-ORACLE mappings. These changes resulted from modeling revisions to Keystone and system re-engineering of Advantage. A programmed solution would not have permitted such a timely response to the changes.

In summary, the Advantage database is large in volume and complex in nature. Without the functionality and efficiency of **tRelational** and **DPS** the data delivery requirements could not be satisfied.

by Daniel Sycalik

I accompanied **Dan Sycalik** on this initial trip to FARES, as the "TSI management/sales" representative, with Dan being the technical representative.

I was happy to see about 16 experienced FARES and MCI Systemhouse personnel in our technical discussion, all of them engrossed in what Dan had to say. Dan did an excellent job of telling them what **tRelational** and **DPS** could, and at that time could not, do. The anxious looks on the customers' faces told me, "if Treehouse can't bail us out, we have a severe problem, and SAG is unlikely to be a part of the future at FARES — we might as well move things to ORACLE now".

We promised to do what we could to ensure FARES could keep their huge investment in their application and in the SAG base products.

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TSI Overview of the FARES Project

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After all, we can't possibly sell them **TRIM**, **RACE**, **PEEK**, **N2O**, etc. if they don't want to continue with ADABAS.

Dan and others got the products up and running quickly, fine tuned them, and did some external transformation routines to get us 99% of the way. What the customer deemed to be impossible to do with any other data extraction/movement process, due to the sheer volume and complexity, we were able to accomplish practically overnight.

And, I could see that we could accomplish all of the extras that they wanted quickly (with a flurry of development activity) using our good product framework.

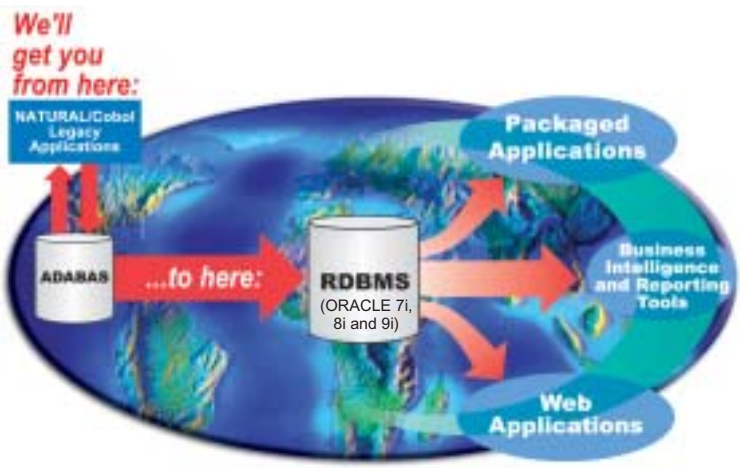
Still, FARES wanted better performance. Some situations unique to FARES made us rethink the products. FARES would have 600 sets of three identically defined files. Rather than 1800 sets of identical-appearing parameters, could we do a "shortcut"? **Dan Sycalik** and **Dan Vimont**, product designer/developer, and other technicians got together and decided, "sure we could".

As we found out at FARES, flexibility alone can sometimes be a liability, causing performance problems. Software companies that have products with great flexibility stand to benefit from analyzing the customer's use with its own live data. In our case at FARES, we did just this, developing the right mix of "practical flexibility" and tremendously improved performance. And in **DPS** Version 4.0.0, we made another quantum leap in performance.

The things we did for FARES, we did gladly, knowing these features would add to the value of the overall product set and benefit future customers.

This blending of ADABAS data into an ORACLE environment is something we know other large SAG customers need. TSI is ensuring that sites stick with ADABAS well into the future by efficiently disseminating ADABAS data to ORACLE and other RDBMSs.

by George Szakach



TSI and Oracle Join Forces by Joseph Brady

TSI has been a member of Oracle's Opportunities Partner Program (OPP) for the past two years and continues to grow its partnership with the focus being on **tRelational** and **DPS**. These products enable customers with Software AG products to add critical new applications to modernize and expand their current environment. **tRelational** and **DPS** are compatible with all Oracle applications running on ORACLE 7i, 8i, and 9i. Our OPP participation has lead to many exciting meetings with Oracle representatives and introductions to Oracle partners who do work in the ADABAS related arena. This has resulted in a number of joint customers and an increasing number of joint proposals. We are pleased to tell you that we have been dubbed THE proven solution to the data migration needs for those organizations wanting to move data from ADABAS to ORACLE for any reason, on Oracle's Web site.

The word is REALLY getting out within Oracle, and we expect to be able to continue to grow the products and solutions we can jointly bring to customers.

Treehouse/Oracle iSeminars

As part of our growing relationship, Oracle, in conjunction with TSI, recently hosted an on-line seminar to discuss the solutions for Higher Education organizations with ADABAS that are looking for a simple solution for data warehousing, business intelligence, customer relationship management, e-learning, and other leading educational applications. Thirty attendees, representing fourteen universities nationwide, participated in the seminar.

More joint TSI/Oracle iSeminars are being planned for other Oracle sales organizations, such as State and Local Government, Healthcare Services, Financial Services, etc. To find out about the next joint Oracle/TSI iSeminar, contact TSI.

N2O quoted from a recent SAG-L discussion...

Question

"We are preparing to install Treehouse's product called N2O for a trial evaluation. Do any of you use this product? What is your opinion of N2O from a DBA point of view?"

Answer #1

"We installed **N2O** about 4 years ago. It was purchased mainly to solve an audit issue we got dinged on every year. That issue was that we had no library management (SCM) on our NATURAL/ADABAS environment. Our old procedure for moving NATURAL programs into production status was manual and very error prone.

Other than the usual complaining and griping from programmers about changing procedures and things happening differently, I would say we are happy with the purchase. The software has performed well.

We had one problem with the implementation because we don't execute our production code from our production libraries. Our cataloged production programs are copied to run-time libraries for production use by users. The key word here is copy. We don't stow into the run-time libraries because we don't keep the source code there. If you have an environment other than development, test, production, you may run into the same issues.

N2O has automated what used to be a manual process. Three of the big features that we got from **N2O** that we never had before were 1) archiving versions of modules, 2) automatic backout when moving modules into production and one of the modules doesn't stow, and 3) identifying modules that need to be stowed when an LDA, PDA, etc. changes. Our management is happy because our auditors are now happy.

FYI... we evaluated SAG's PAC at the same time we evaluated **N2O**. We went with **N2O**. Users who had **N2O** seemed to be a lot more happy and enthusiastic about **N2O** than PAC users were about PAC."

Joe Fior
Systems Programmer
University of California

Answer #2

"I ditto Joe's words. Our environment is a little bit different than his, but the benefits are the same. No manual SYSMAINs required, no going around the migration policy, ability to recover from archive and the archival of old or purged objects. The DBAs don't even have to get involved; it's very much a tool that programmers can use to help themselves.

Having been at the NATURAL Conference, one theme (I got tired of hearing) was how DBAs do nothing but get in the way of programmers and so programmers figure out ways to work around the DBA. Anyway, as disturbing as that whole discussion was for me, this tool can help ease things in shops where this is a problem.

There are a number of tools provided as well (i.e., source compare) which programmers LOVE to use.

I think it speaks well for **N2O** that it can support whatever code migration policy you have, and that we've had **N2O** here for 10 years. We use it for controlling the checking out of objects from production to development, promoting to test with the proper authorization required, and then the promotion to production and training simultaneously, again with the proper authorization. Programmers may also extract source code to any non-production library they want (back to "power to the programmers") without compromising the production code.

When I talk to people who have administered both **N2O** and PAC, just about every one tells me how **N2O** is much easier to administer. Shops don't typically try to uninstall **N2O**, but you could if you didn't like it. Shops that run PAC find it much harder to "un-PAC".

My only complaint is: shouldn't it be "N3O" now? As long as my dentist continues to use laughing gas, I don't mind using N3O for change control."

Brian Johnson
DBA
Cutler-Hammer

Editor's Notes:

In order to maintain the original ideas in the thread, these quotes are unedited by TSI.

Cutler-Hammer purchased N2O in 1991. An article in TREETIPS #8 (March, 1991) featured Cutler-Hammer's comparison of N2O to a newly released PAC. A copy of this TREETIPS issue can be obtained by contacting TSI.

TREETIPS

Treehouse Software products include:

ADABAS-to-RDBMS Data Migration Product Suite:

tRelational - ADABAS modeling, mapping, and data analysis tool; **DPS** parameter generator

tRelationalPC - Windows-based graphical interface to make the tasks of modeling and mapping even simpler.

Treehouse Remote Access (TRA) - Middleware that allows **tRelationalPC** to communicate with **tRelational** on the mainframe.

DPS - ADABAS to RDBMS data materialization (ETL), replication, and propagation (CDC) software

UNIX Products:

SEDIT - XEDIT and ISPF/PDF compatible editor for UNIX and Windows

S/REXX - REXX-compatible language for UNIX and Windows

S/REXX Debugger - Optional graphical debugger for **S/REXX** programs

Software AG Related Products:

ADAREORG - File reorganization tool for ADABAS

ADASTRIP - Data extraction utility for ADABAS

* **AUDITRE** - Generalized ADABAS auditing facility

* **AUTOLOADER** - ADABAS file automatic unload/reload/dump utility

* **CHART for NATURAL** - NATURAL application analysis and documentation tool

DBAUDIT - Data integrity verification utility for ADABAS

* **N2O** - NATURAL application change management system

* **N2O/3GL** - 3GL support within **N2O** for PANVALET, LIBRARIAN, ENDEVOR, and PDSs

PEEK - ADABAS file browsing utility

* **PROFILER for NATURAL** - NATURAL quality assurance and testing tool

QDUMP - Incremental backup utility for ADABAS

RACE - NATURAL performance enhancer and "**R**edundant **A**DABAS **C**all **E**liminator"

* **SECURITRE** - ADABAS and NATURAL security interface to RACF, ACF2, and TOP SECRET

* **TRIM** - ADABAS and NATURAL performance monitor

* Indicates TSI Products that are marketed for TSI by international affiliates

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