

TREETIPS

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ADABAS-to-RDBMS Real World Series

(Part Five of Several)



This is the fifth 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.

In today's environment of declining funding, academic institutions need to ensure that they are delivering the right programs and delivering them cost-effectively. This kind of analysis and decision-making requires information—information on applicant status, program popularity, class enrollment, and variations between campuses.

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David Del Rio Joins the TSI Team



We are pleased to welcome **David Del Rio** as Senior Technical Representative at TSI. David is a seasoned ADABAS/NATURAL consultant with more than 20 years of experience with NATURAL/ADABAS applications. As an Advisory Consultant for Software AG, David taught many ADABAS, NATURAL, and COM-LETE classes for customers and Software AG employees; installed Software AG products on OS 390, ESA, and z/VM; completed performance-and-tuning exercises at customer sites; developed programs and user exits in Assembler and COBOL; designed and coded the ADABAS ISAM Transparency - the forerunner to the ADABAS VSAM Bridge; and assisted with the debugging of the ADABAS DL/I Bridge.

Additionally, David has held positions in other companies as Senior Applications Programmer, Technical Support Manager, and Software Developer.

"I look forward to working with the staff at TSI. They are all dedicated professionals with a sincere desire to help their customers.

"I'll be working with ETL (Extract, Transform, and Load) processes for those users that wish to replicate ADABAS data into a target RDBMS. I will also work with CDC (Change Data Capture) processes in order to keep the RDBMS data synchronized with the ADABAS data.

In addition, I look forward to developing more consulting business for TSI. The consulting staff will do ADABAS and NATURAL environment tuning and optimization as well as NATURAL program optimization. Of course, NATURAL program coding will also be available.

If a user needs help with special routines or user exits for NATURAL and/or ADABAS, we will be able to supply them."

David Del Rio
TSI Senior Technical Representative

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ADABAS-to-ORACLE

iSeminars

In conjunction with TSI, Oracle recently hosted a second on-line seminar to discuss options for State and Local Government organizations with ADABAS that are looking to find a simple solution for data warehousing, business intelligence, customer relationship management, and the implementation of leading government applications.

The iSeminar covered challenges with government systems, business solutions, data integration tools, business intelligence products, and government applications.

The event attracted 78 attendees, representing 44 state and local government organizations from U.S.A. and Canada, participated in the seminar.

Previously, TSI and Oracle hosted an iSeminar geared towards Higher Education.

PowerPoint versions of the TSI/Oracle iSeminars are available for download from the TSI Web site.

More joint TSI/Oracle iSeminars are being planned with other Oracle sales organizations, such as Federal Government, Healthcare Services, Financial Services, etc. Contact TSI to find out about the next joint Oracle/TSI iSeminar.

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 on **tRelational** and **DPS** at the 10th Annual NATURAL Conference in Boston.

Welcome Aboard!

Another TSI welcome goes out to **Gregory Such**, our Manager of Business Development and Partner Relationships. Greg is involved in expanding existing relationships with other software vendors and consulting organizations, and developing new ones. His focus is on increasing sales of Treehouse products and services through these partners. Over his 20 year career, Greg has created and managed partnerships with companies like HP, EMC, IBM, and BEA Systems. Prior to joining Treehouse, Greg developed and managed the partners program at Cerebellum Software, a data integration software and services company. His background also includes database management, systems management, and middleware systems. Greg has a BSBA in Accounting and Information Systems from Robert Morris University and an MBA from the University of Pittsburgh.

We would like to congratulate **Michael Ripple**, formerly TSI's VP of Business Development, who has accepted the position of Chief Operating Officer. As COO, Mike is focusing on overseeing TSI day-to-day operations, integrating strategic and operational activities to capitalize on new growth, and diversifying TSI's product offerings. Mike works closely with sales, development, support, marketing, and finance. Mike has over 20 years of experience in high technology companies. Prior to joining TSI, Mike was Vice President of a Web application company that provides sell-side business-to-business software to Fortune 500 manufacturers. Mike started his career as an Engineer and holds an MBA from Drexel University and a BSEE from Bucknell University.

TSI welcomes **Holly Fleming** to our Technical Support team. As a Customer Support Representative, Holly will be handling e-mail and phone support requests for all TSI products. Prior to joining TSI, Holly was a contract Help Desk Analyst, supporting Alcoa's Peoplesoft HRMS users. She also administered two separate inbound/outbound CRM software applications for a dynamic dot-com company.

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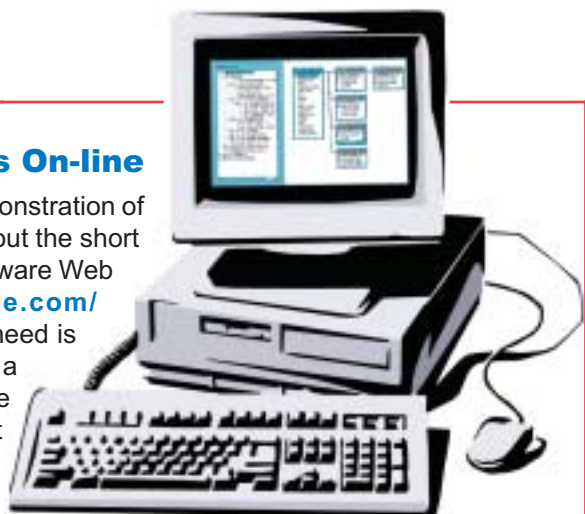
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Demo TSI Products On-line

To set up a live, on-line demonstration of any TSI product, simply fill out the short form on the Treehouse Software Web site at www.treehouse.com/webexform.html. All you need is an Internet connection and a current Web browser to see TSI products in action right on your PC screen.



ADABAS-to-Whatever Data Transfer

by Wayne Lashley

TSI's **tRelational** and **DPS** products are without peer in ADABAS-to-RDBMS data transfer. Only **tRelational** and **DPS** can create native-format data and control files and SQL for ORACLE, Microsoft SQL Server, DB2, and Sybase right out of the box—no adapters required. But, did you know that these products also form an effective, productive, and high-performance solution for getting ADABAS data into flat files, spreadsheets, and PC databases?

Using **tRelational** to “Map It”, you can specify the use of an “action routine” to apply to an output layout. Specifying an action routine like ACTALODD or ACTALODF (both supplied with **tRelational** and **DPS**) instructs **DPS** to “Pump It” in the form of a flat file output. ACTALODD produces character-delimited output where trailing blanks in field values are compressed out. ACTALODF generates fixed-length output where all field values are at full length regardless of trailing blanks.

Do you have ENTIRE Connection downloads populating spreadsheets? Batch NATURAL extracts to create interface files for external systems? These are easily handled by **tRelational** and **DPS**, which means that you can benefit from productivity and performance advantages, such as:

- A GUI-based modeling and mapping tool
- Integration of information from PREDICT
- Auto-generation of output layouts and mappings based on ADABAS files
- Metadata maintained in an ADABAS-based repository
- Easy specification of filters, complex mappings, and transformations with a built-in library of standard transformation routines
- No NATURAL skills required
- Zero impact on mainframe ADABAS databases
- Data extraction made reliable and consistent through use of static data sources (no “dirty-read” issues)
- High-performance ETL (extract, transform, and load) engine

Moreover,

you can take advantage of the unique CDC (change data capture) capabilities of **DPS** to process only changes to ADABAS data as recorded in the protection log (PLOG). This approach can yield tremendous performance improvements over traditional NATURAL extract programs, which may traverse and examine millions of ADABAS records to find the few that have changed since the last extract run.

The truth is, while **tRelational** and **DPS** provide ETL and CDC for all the leading RDBMSs on all leading platforms *natively*, we support any kind of target that can input a sequential file.

This topic will be explored more comprehensively in a future issue of TREETIPS. In the meantime, please contact TSI if you would like more information on how to solve *all* your ADABAS data transfer needs with **tRelational** and **DPS**.

ADABAS-to-RDBMS Real World Series

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The following is a recent discussion between **Patti Barney**, Associate Vice President of Information Technology at Broward Community College, and **Wayne Lashley**, Senior Technical Representative for TSI.

Patti, please tell us a little about Broward Community College.

Broward Community College provides higher education and technical and occupational training for the citizens of Broward County, Florida. As the first public higher education institution in the county, Broward Community College functions as the principal provider of undergraduate higher education for the residents of Broward County.

Broward Community College is part of the Florida Community College Software Consortium, (F.C.C.S.C.).

What kind of legacy database system is in use at Broward?

Broward Community College has mainframe-based administrative databases using ADABAS.

What are some issues you've encountered at Broward?

I can't remember the last meeting I attended where data access and reporting did not come up as a major topic for discussion. It seems as though every department entity needs a report of some kind or a data transformation process to facilitate better decision-making within their respective business units. We were swamped with one-time report requests and data analysis initiatives that we could not support without additional programming resources. When no funds were made available for these resources, we provided short-term temporary solutions that empowered enterprise users to access data, but it required a certain level of technical competency. These enterprise users were struggling with the ability to transform raw data into business knowledge for more informed decision-making. It was obvious that we needed to have a better decision support system

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ADABAS-to-RDBMS *Real World Series* (continued from page 3)

"... the F.C.C.S.C. recommended tRelational and DPS products from Treehouse Software as the consortium choice for migrating ADABAS-to-RDBMS."

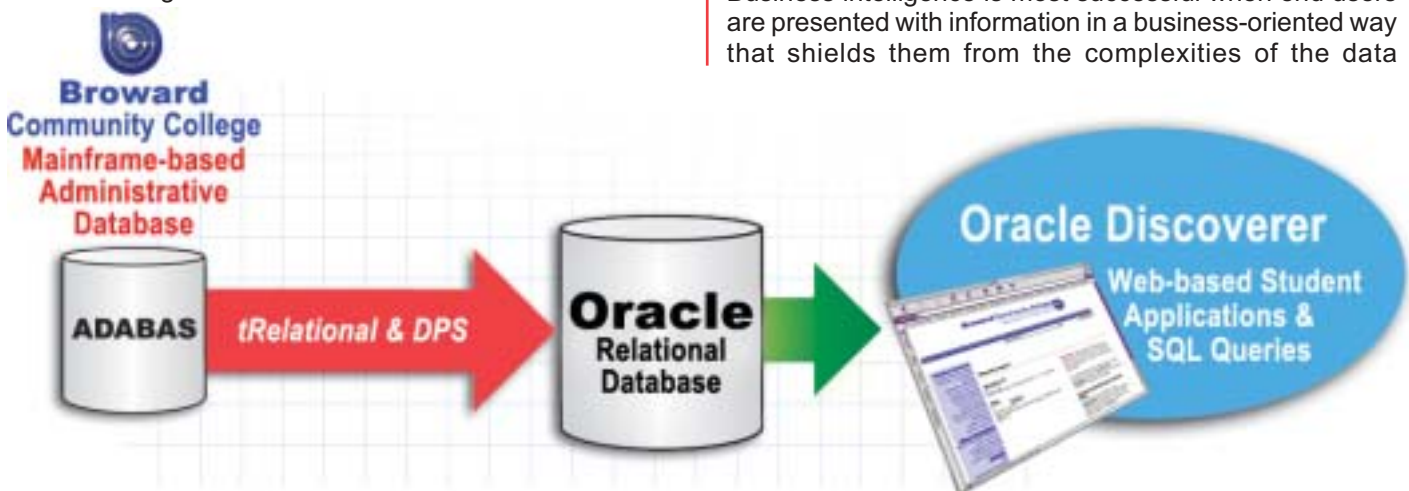
in place to provide access to enterprise data for Web-based applications, statistical analysis, and elaborate reporting.

The technological and human challenges posed in providing access to this information were overwhelming. To serve our diverse group of end users, from the Provost and the President's office to enrollment management officers, and even faculty department heads, a creative approach was needed.

What kind of strategy was developed at Broward?

One of the highest prioritized strategic technology initiatives at Broward Community College is Business Intelligence - providing access to data to help enterprise users make better business decisions. Two of the guiding principles used to develop technology initiatives at Broward Community College to achieve its strategic vision are:

1. Information technology and business units will work together to identify challenges and opportunities, and then resolve them through partnership and communication.
2. We will free resources to concentrate on providing value-added services by outsourcing technology services and/or collaboration with other entities when advantageous.



Using these principles, we asked the F.C.C.S.C. to conduct a needs analysis of the member schools, research and evaluate technology solutions, and recommend an appropriate statement of direction. Based on the fact that all of the member schools in this consortium are using the same data elements and transactional processes to run their mission-critical enterprise applications, but each requires unique components of data for decision making, it was necessary to find a flexible solution that would

propagate and synchronize data based on user defined variables and accommodate a variety of "data mart" implementations. We could not simply hire more programmers or offload data in the same format used for transactional processing because the enterprise users would need to learn the relationships and structures of several hundred-system files.

How did you come to choose the TSI solution?

After assessing individual needs and reviewing several solutions, the F.C.C.S.C. recommended the **tRelational** and **DPS** products from Treehouse Software as the consortium solution for transferring ADABAS-to-RDBMS. The schools could then "plug-in" any standard RDBMS approach to business intelligence and enterprise reporting.

What is Broward's implementation?

Broward Community College decided to take the lead role with the consortium and partner with Treehouse and Oracle to implement a business process design and proof of concept for an enrollment management data mart. Initially, the college implemented ORACLE 8i in a production environment to support Web-based student applications and SQL queries, where the programmers wrote mainframe data extracts to import the necessary legacy data into ORACLE database structures. We had no comprehensive tools for data modeling, schema design and data propagation.

How does Oracle Discoverer fit in?

Oracle Discoverer is a query and analysis tool that allows users to populate business areas by using a wizard-based interface.

Business intelligence is most successful when end users are presented with information in a business-oriented way that shields them from the complexities of the data

structures themselves. Broward's IT staff looked to Discoverer to deliver a data mart interface that met this critical success factor. In addition, Discoverer's sophisticated features for filtering and summarizing information and enhancing its presentation enabled the delivery of a powerful, highly-customizable, and attractive (yet easy-to-use) application.

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Far more than a set of predefined and static reports, the application can be personalized and extended in order to answer both anticipated and unforeseen information needs.

"The Treehouse ADABAS-to-RDBMS solution has solidified our investment in Software AG products at Broward."

What has the TSI solution meant to Broward?

The Treehouse ADABAS-to-RDBMS solution has solidified our investment in Software AG products at Broward. We can now easily transfer ADABAS data to ORACLE for business intelligence and Web applications, while continuing to benefit from our robust, high-performance ADABAS-based OLTP administrative applications. We use several purchased packages written specifically for ADABAS, and we can now have confidence that these packages will continue to serve our needs well into the future.

What future uses do you envision?

The overall future goal is to collectively share these "data mart components" that are developed by each of the consortium schools and make tremendous progress toward the implementation of a strategic enterprise Data Warehouse (implemented in manageable increments!).

Other items on the list include integration of services, Web-based applications, reporting, business intelligence, statistical data analysis, imaging, and document delivery.

Conclusion

By partnering with TSI and Oracle, Broward Community College met its goal of selecting, modeling, and transforming legacy data sources to support a responsive, user-friendly decision-support application. This allows the college to turn raw data into business knowledge using industry-leading tools and pragmatic, proven methods. ●

tRelational and DPS in BS2000

Dan Vimont, TSI Senior Software Specialist, **Hans-Peter Will**, TSI Senior Technical Representative, and **Larry Jones**, TSI Senior Software Developer, recently tested TSI's ADABAS-to-RDBMS data transfer products (**tRelational** and **DPS**) at two BS2000 sites in Germany and Austria.

Before leaving for an in-person site visit to Austria, Dan, Peter, and Larry conducted an on-line Webex session with a customer in Germany to check out the functionality of **tRelational** in their BS2000 environment. In preparation for this Webex session, the software was already installed at the site, and both online and batch file implementations and analysis were run, so the TSI reps performed autogenerations of data models and ran GENDDL and GENDPS.

Everyone involved concluded that all standard online and batch functions worked fine. Additionally, the customer agreed to supply TSI the JCL that was used for installation and for running the batch functions, so we'll be able to incorporate those into our documentation.

Shortly after the successful Webex session, Dan, Peter, and Larry were off to visit a major financial institution in Austria. It was here that they planned to install and test **tRelational** and **DPS** first-hand in the customer's BS2000 environment.

Dan installed **tRelational** onto the customer's BS2000 mainframe. The **tRelational** installation was tested and run through all functions, and **DPS** was uploaded and installed on the mainframe in parallel. The **DPS** module was link edited and all necessary verifications were run against the delivered ADASAV and PLOG file. The products were put through their paces on three test files that the customer selected. A complete cycle of materialization and propagation on their three chosen test files was set up, including writing of scripts on their UNIX box to run DPSSPLIT and SQL*Loader.

Plans were drafted up for the layout of staging tables for their data warehouse (for which their Oracle people have already developed the schema). The staging table design was handled first, and they were presented with several options, the best of which was tried out with good results.

In conclusion, all of the issues of getting the customer set up for fully-automated production usage of **DPS** were worked out. This customer has an impressive job-scheduling system on their BS2000 system that can start and track processes on all of their remote systems, including the UNIX box on which their data warehouse resides. This greatly simplifies the setting up of full automation of **DPS** materialization/propagation and SQL*Loader and SQL*Plus processing.

When Dan, Peter, and Larry finished up the work at the site, everyone there, without exception, was very enthusiastic about the TSI products. The customer was very pleased that all of the details were worked out for getting their ADABAS data into their existing data warehouse.

It's hard to imagine things going any better than they went at these sites. We can now state conclusively that **tRelational** and **DPS** function extremely well in the BS2000 environment.



Whether you are upgrading or converting to a new language, it is critical to get a clear picture of your existing application. Do you have good documentation? If you have an older NATURAL program you may have a big problem since documentation was often sacrificed because of program size restrictions. You probably don't have design documentation. Will you need to read every line of the code to understand the application flow? Do you understand how monitoring or security products or user-exits may affect execution? Does the source code match the object code? Are all the NATURAL objects still used? These issues can be daunting when you upgrade an application or convert to a new language.

TSI has the ultimate toolset for assisting in upgrades to or conversion of NATURAL, Cobol, etc. applications using ADABAS. This toolset is called **Application Insight (AI)**. The Treehouse **AI** package consists of several tools that provide this assistance. No other vendor has such a robust toolset. Application upgrades and conversions are far from fully automated. They still require human talent. So why undertake major changes without the insight that **AI** can provide.

Two examples from the Treehouse **AI** package are **TRIM** and **N2O**. **TRIM** provides execution time breakdowns by NATURAL (or Cobol) program; it has a NATURAL monitor that watches the user's execution of an application going in and out of programs, etc. **TRIM** is also watches for usage of various fields in various files for Read, Update, or Search. It identifies whether selected ADABAS fields are used or not, thereby assisting in elimination of these fields altogether for the RDBMS side.

N2O includes powerful features such as Source Compare, the "Super Scanner" (N2OSCAN), and the charting of your NATURAL programs in a variety of useful ways. Additionally, one would not want to manipulate NATURAL programs for any reason without using **N2O** for Change Management, and if you want to do such a conversion project, you should employ **N2O**'s Project Tracking system as your initial step.

The Treehouse **AI** tools do not convert any code. Instead, they provide application intelligence for ADABAS applications written in NATURAL or other languages. With this intelligence, you or your team will be armed and ready to take on the conversion project now made significantly easier.

TRIM and **N2O** are just the beginning of the Treehouse **AI** package! To find out more information on all of the **AI** tools, visit the TSI Web site at <http://www.treehouse.com/TreehouseAI.shtml>. When you see the list of products, you'll truly appreciate the scope of our application insight products. It just doesn't get any easier. ●

Preview of New tRelational and DPS Releases

The upcoming releases of **tRelational V4.1.1** and **DPS V4.1.1** will include several special enhancements. Many of the new features have been specifically requested by our customers, while others are being provided as part of TSI's continuing effort to bring you the easiest, most efficient, and scalable ADABAS-to-RDBMS data transfer product on the market.

The new version of **tRelational** will include support for "NATURAL Field Synonyms" (as stored in PREDICT) in the File Implementation function; direct implementation of PREDICT Userviews; in the GENMODEL function (which provides for batch-oriented auto-generation of complete RDBMS data models derived from ADABAS files), wildcarding of file-name is now permitted; new online function for copying a table from one data model to another is now available; and many more new enhancements/features.

DPS also promises a lengthy list of new enhancements/features, including the new APC (ADABAS PLOG Consolidation) utility, which offers to remove logically extraneous PLOG transactions from Propagation Transformation processing, thus reducing the number of generated SQL transactions, yet guaranteeing reliable ADABAS-to-RDBMS synchronization; full compatibility with IBM's LE environment in OS390 systems; BT'ed sets of ADABAS V7.x PLOG transactions will now be rejected by **DPS** Propagation Extraction, and will be accrued as "REJECTED TRANSACTIONS" in the extraction statistics; and the maximum Propagation Extract workpool size has been increased from 10,000K to 100,000K.

We look forward to providing these new versions of **tRelational** and **DPS** very soon. Visit the TSI Web site regularly to find out about new releases of all our products.

TREETIP:

DPS Tab-delimited Output

Standard, tab-delimited output (suitable for loading into ORACLE using SQL*Loader) is obtainable by running **DPS** with the runtime parameter 'MATERIALIZATION'. The tab-delimited data will be found in the DDMAT output dataset.

Big Summer Savings

This special offer was sent out by direct mail in April, but in case you missed it, we'd like to extend this great offer, so you can take advantage of these big savings.

If you are a current Treehouse customer, you can realize significant savings when you purchase other products by **August 20, 2002**.

And, the more products you buy, the more you save!

It's as
easy as...



Pick the products you want from the lists below to create your bundle, then go to the TSI Web site to order some big Summer Savings:

<http://www.treehouse.com/SummerSavingsform.html>

*Mix and match
to create your
own bundle!*

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- CHART
- PEEK
- AUDITRE

DBA Bundle

- ADAREORG
- ADASTRIP
- AUDITRE
- SECURITRE
- TRIM

Become a TSI Beta Test Site

We are looking for **current North American customers** to become Beta test sites for new releases of TSI products. If you are interested in becoming a Beta test site, please fill out the short form at www.treehouse.com/betasites.html, and a TSI representative will contact you.

Find out the Latest on TSI Products

To find out about current versions of TSI products, compatibility (operating systems, languages, etc.), and support information for all of our products, view the TSI Product Status Matrix on-line at www.treehouse.com/prodstatus.html.

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TREEHOUSE



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

* **N20** - NATURAL application change management system

* **N20/3GL** - 3GL support within **N20** 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

* **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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