

Tree•times

A Publication of Treehouse Software, Inc.

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Real World Series

(Part 11 of Many) by Kevin Heimbaugh



Cheating Death and Taxes: How The Delaware Division of Revenue added life to legacy tax collection systems

This is the eleventh installment in a continuing series of articles featuring the Treehouse ADABAS-to-RDBMS product (**DPSync**) implementation, in several "real world" environments.

DPSync is Treehouse's comprehensive product for batch and real-time ADABAS-to-RDBMS replication. When operating in real time, **DPSync** acquires blocks of PLOG data as they are written by ADABAS. These PLOG blocks are transferred via Cross-Memory Services into a highly-efficient, fault-tolerant, real-time routing architecture. The impact of PLOG data acquisition using **DPSync** technology is, in most cases, too small to be measured using ADABAS performance monitoring tools.

DPSync also offers materialization (the "initial/full refresh" mode sometimes called Extract-Transform-Load or ETL), as well as "staged propagation", which is batch-run Change Data Capture (CDC) from PLOG archives as has been the hallmark of **tRelational/DPS** for many years. In addition, **DPSync** includes all the ADABAS file analysis, RDBMS modeling, generation, and metadata capabilities of **tRelational**. With **DPSync**, you get much more than a mere real-time replication engine.

This Real World Series article features Treehouse's implementation of **DPSync** at The Delaware Division of Revenue (DoR). The DoR has aging mainframe systems storing information about taxpayers in the State of Delaware. Like many organizations, the Division needs faster and easier access to the data that is stored in their legacy mainframe systems.

What are the options? There are millions of lines of code in many programs and systems, all interacting with one another. Putting these systems to death and going through the painful process of redevelopment is not a viable option. DoR chose Treehouse Software's **DPSync** for real-time replication of their legacy ADABAS data to ORACLE, thus giving extra life to their legacy systems.

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Who is this masked being?

Find out on page 7

Find out what our customers are saying:

www.treehouse.com/customercomments.shtml



Treehouse Software, Inc.

Editor's Notes

by Joseph Brady

ORACLE®

Treehouse Software is a member of the Oracle Modernization Alliance (OMA), which brings together vendors with the best products, processes, solutions, and architectures, providing a one-stop-shop for organizations that are looking for ways to take advantage of new technology while preserving the business content of their existing applications.

The OMA categorizes its members into a number of areas based on the type of vendor solution as well as the type of offering (Treehouse is an "Automated Migration Partner").

More information can be found on Oracle's website at: www.oracle.com/technology/tech/modernization/.

Become a Beta Test Site for New TSI Product Releases

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.

Tree'times

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Treehouse Software "Opens Up" ADABAS Replication

Treehouse Software recently announced a major advance in the upcoming release of its industry-leading real-time ADABAS data replication product, **DPSync**. The new product is branded "**DPSync EC**" to reflect its extended capabilities for opening up ADABAS replication by:

- Supporting peer-to-peer or subscription-based message retrievals through Java Message Services (JMS) and other message-queuing systems;
- Providing public Java classes for retrieving replication data in real time, for use by custom application programs and third-party products;
- Presenting replication data in SQL, XML and other standard and open formats;
- Enabling event publishing.

DPSync EC also provides a set of "foundation classes" forming the basis of TSI's planned real-time ADABAS-to-ADABAS and RDBMS-to-ADABAS replication facilities.

"With DPSync EC, we are giving the customer total control over all replication data—publishing to multiple targets, filtering, splitting, enriching, transforming—in order to meet any requirements," said TSI COO **Wayne Lashley**. *"Once again, TSI innovation raises the bar for ADABAS replication and laps the competition."*

About DPSync

DPSync delivers information stored in ADABAS to relational databases in real time, providing immediate access to updates without impacting Adabas performance. An off-the-shelf, fast and comprehensive solution for native, real-time transformation and propagation of ADABAS data to RDBMSs, **DPSync** provides all of the tools for analyzing ADABAS data, defining the RDBMS and transformation processes, generating metadata, extracting, transforming, and loading the RDBMS tables, and transforming and applying the updates. For more on **DPSync**, see this issue's cover story on the State of Delaware, or visit the Treehouse website at <http://www.treehouse.com/dpsync.shtml>.

New Faces at the Treehouse

We are very happy to report that **Steve Tomsko** has joined Treehouse Software as a Senior Technical Representative. Steve was a Sales Engineer at Software AG for eight years, delivering the technical sales support that consistently made his team tops in the United States. He will become our in-house technical expert on **tcVISION** (see page 5), but will also learn the other Treehouse products. His skills in Software AG products, as well as Java and .NET, will prove invaluable in this multifaceted role.

We are also pleased to announce that **Peter Brodsgaard** is now part of Treehouse Software in a senior sales role. Peter brings a wealth of experience in mainframe software and legacy modernization sales. This experience will be of great benefit as he will focus primarily on developing the market for **tcVISION**, as well as being a key part of our team to expand our presence and build success in legacy modernization and migration.

We all look forward to working with Steve and Peter in their new roles!

What is The Delaware Division of Revenue?



As the primary revenue collector for the State of Delaware, the Division of Revenue's mission is to collect 100% of the taxes and other revenues required by law to be remitted to the state. DoR collects all income tax, gross receipts tax, withholding tax, and business license fees. They also receive tax returns, reconcile them, contact taxpayers when necessary, issue refunds, make assessments, and effect collections. In addition, DoR also participates in voluntary and involuntary compliance measures to see that everyone pays their fair share. The Delaware Division of Revenue is consistently ranked, by Governing Magazine, as one of the top state revenue agencies.

"...with the real-time capabilities of DPSync, up-to-date worklists can easily be generated from ORACLE any time they're required."

Irving Schechtman
Assistant Director of the
Division of Revenue
State of Delaware

To ensure their place at the top of the rankings, DoR is constantly looking for ways to improve access to the information they have, for both internal operations and internet applications. One example of improvement is for the Billing and Collections group. **Irving Schechtman**, Assistant Director of the Division of Revenue explains: "Currently, for example, our billing and collections people get worklists of accounts to 'handle'. The worklists are based on information which is loaded into ORACLE every night from ADABAS, so first thing in the morning, the lists are accurate. But by midday, when new transactions have come in, or when other workers have handled accounts, the worklists are no longer accurate because the information has been updated. New worklists are too difficult and time consuming to generate on the fly from ADABAS, but with the real-time capabilities of **DPSync**, up-to-date worklists can easily be generated from ORACLE any time they're required."

Easier Access of Information

DoR looked at other solutions for moving ADABAS data to ORACLE, but it was clear that **DPSync** was the best option. DoR plans to use **DPSync** to replicate all critical mainframe ADABAS data in real time to ORACLE. Since **DPSync** has been placed into production earlier this year, about 13 million rows of data have been loaded into their ORACLE 10g database, with approximately 500,000 adds / updates / or deletes propagated weekly. This represents only about a third of the data that will eventually be replicated.

Other Benefits of Using DPSync

Now that **DPSync** is keeping the ADABAS data replicated in real-time to ORACLE, Mr. Schechtman said, "We have the ability to do faster matches, build faster responses to customers, and do it with more facile programming tools."

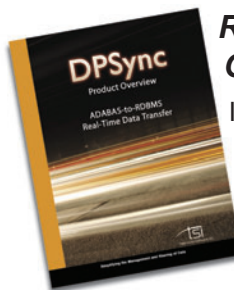
For future projects, Mr. Schechtman said, "We are also working with a system from Attachmate called Verastream Host Integrator, which you can think of as a super screen scraper. It gives the user a GUI presentation of the data which is stored in ADABAS, and provides the navigation between a myriad of mainframe screens to gather and present individual fields on those screens, where the fields may come from different mainframe screens. We can speed this process up by having the data drawn from ORACLE rather than from ADABAS, since the data is totally and exactly replicated. We can then proceed with the screen navigation and possible resulting update to ADABAS files, where those updates will then, almost immediately, be replicated in ORACLE. In this way, we can use **DPSync** and VHI to give added life to our legacy mainframe systems."

Treehouse: What Does 12 Years Give You?

Since 1995, Treehouse Software has been developing and refining the most robust and mature ADABAS data replication products on the market. As a result, customers benefit from Treehouse's experienced developers and consultants who are fully conversant in both the mainframe and non-mainframe Software AG world, as well as mainframe and non-mainframe RDBMS environments.

Additionally, Treehouse Software provides support 24 hours a day, 7 days a week. Customers can speak directly to our attentive support staff during our regular business hours and have access to up-to-date support information on the Treehouse web site's on-line support center (www.treehouse.com/service.shtml). The support staff can also be reached by e-mail and fax. After hours, Treehouse representatives are continuously "on call" to ensure that customers receive answers to their questions and solutions to their problems as quickly as possible.

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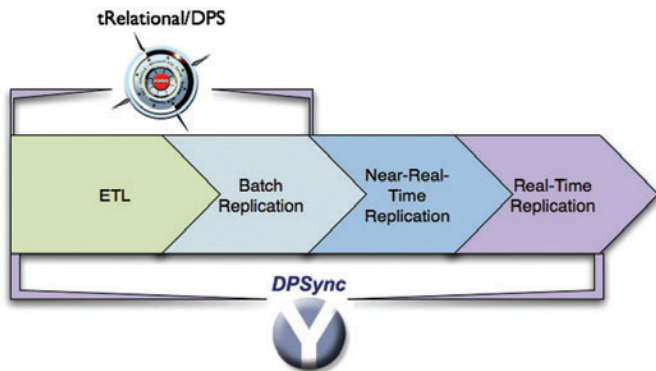


Request a DPSync Product Overview...

If you would like to receive a full-color **DPSync** product overview, please contact Treehouse Sales at sales@treehouse.com.

Real World Series: Part 11 (continued from page 3)

With over 12 years of having our ADABAS replication solutions used in customer production environments, Treehouse Software is the clear leader.



Treehouse was the first vendor to introduce to the market a comprehensive analysis, modeling, ETL (Extract-Transfer-Load) and CDC (Change Data Capture) product set, **tRelational/DPS**, in 1995. These products have been enhanced and extended over 12 years and persist today, not only as products unto themselves, used by some 70+ customers, but as components within our **DPSync** product.

There's No Need to Do It Alone...

Treehouse Software is here to help you implement your ADABAS-to-RDBMS replication system, and our extensive experience and mature products can be the resources you need to accomplish your CDC project goals—quickly and cleanly. Just ask yourself: *Do I want to launch a multi-year project to sync up our z/OS ADABAS database with an RDBMS, or would I prefer to have it all up and running in only a few weeks with Treehouse Software's real-time CDC product, so we can move on to more pressing issues?*

Some shops have turned to middleware, ADABAS Stored Procedures and Triggers (SPaTs), and home-grown application programs (and the cash-cow, long-term gig that consultants could land if hired to write and maintain them) in an attempt to implement real-time ADABAS-to-RDBMS CDC. These approaches are programming-intensive and place an unacceptable demand on ADABAS and other system resources, driving up the cost and complexity of the technology architecture. Issues of transaction backouts, two-phase commit and rollback, platform-to-platform transaction semaphoring, recovery from component failure, and system monitoring are difficult to resolve, and detract from solution stability and data integrity.

Don't go it alone, and don't put your organization at risk with an inferior, immature and fragile solution. Choose **DPSync**, from Treehouse Software. •

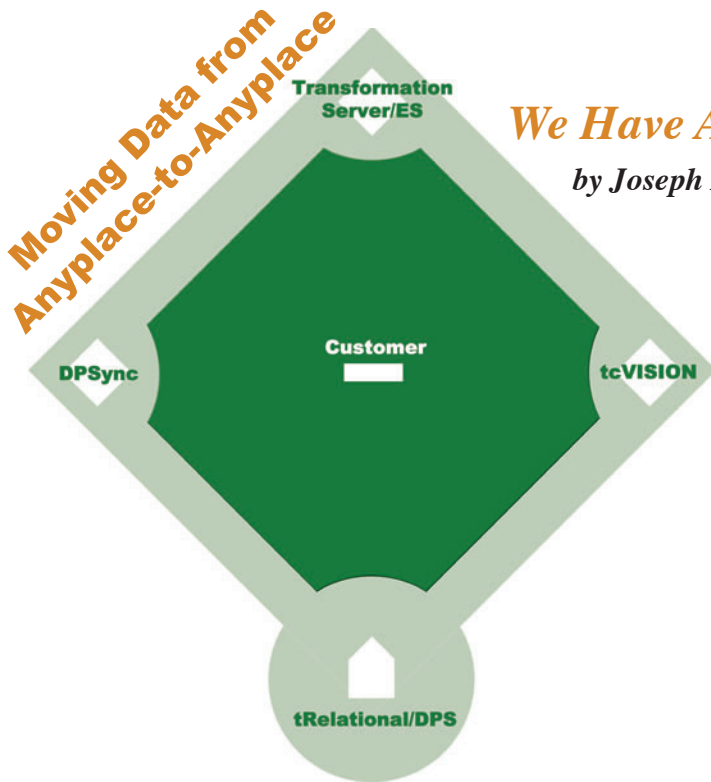
Helpful Treetips:

You'd Better Have a Plan!

It's critical to recognize the full scope of what is required to implement an ADABAS-to-RDBMS replication system. Here is a minimal checklist of requirements:

- ✓ Analyze the ADABAS database structure and content.
- ✓ Design the RDBMS tables and columns.
 - *Analysis and design of ADABAS-to-RDBMS data mapping requires an analysis and modeling toolset.*
- ✓ Produce the metadata for the transformation process.
 - *Metadata must be produced to direct the transformation process as it converts the ADABAS updates to a form that accommodates relational database updates.*
- ✓ Design, develop, and test the application programs (*not applicable to **DPSync***).
 - *If a site is not using **DPSync**, it will be necessary to design and write application programs to accomplish the more sophisticated transformations and perform other tasks, such as recovering lost data and initial loading of the RDBMS.*
- ✓ Extract the ADABAS data, load the initial RDBMS.
 - *Prior to deployment, the existing ADABAS database must be extracted and transformed, and the data used to load the initial values (starting point) for the RDBMS. Preferably, this should be accomplished using an ADABAS high-speed extraction utility and an RDBMS high-speed loader.*
- ✓ Deploy the system, activating real-time processes for:
 - *Intercepting the ADABAS modifications*
 - *Transforming to Relational (i.e., SQL)*
 - *Transmitting transformed updates to the RDBMS server*
 - *Applying the updates to the RDBMS*
- ✓ Maintain the application programs as requirements change (*not applicable to **DPSync***).
- ✓ Maintain the metadata as requirements change.
- ✓ Devise console facilities for operations: monitoring and managing the system in real time.
 - *On an on-going basis, the system must cope with the exceptions that will certainly arise, such as RDBMS update failures, lost TCP/IP connections, recovery from component failures (such as a power failure on the server, or a mainframe component having an unexpected, or abnormal, termination, etc.).*

Add these up, and for most sites, the required task is beyond their technical resources to develop; the cost to implement exceeds any reasonable budget; or the time to implement is unacceptably long—or most likely, all three.



We Have All Your Bases Covered

by Joseph Brady and Mitch Doricich

Even Baseball's World Series Champion, the Boston Red Sox, couldn't field a better team than this! Treehouse Software not only offers the proven, best-of-breed product set for ADABAS-to-RDBMS data migration (**tRelational**, **DPS**, **DPSync**, and **DPS X-Link**), we've also expanded our offerings to include DataMirror's **Transformation Server/ES**, B.O.S. Software Service's **tcVISION**, and NatWorks' **NatQuery/NatCDCSP** products.

We are very excited about having this robust suite of products in the Treehouse product portfolio, because this means that we can offer Change Data Capture (CDC) basically anywhere—**connecting anything to anything**.

DataMirror® - An IBM® Company

The Treehouse team-up with DataMirror allows us to leverage DataMirror's expertise with CDC technology for moving data between disparate platforms and Treehouse's expertise with ADABAS databases, exemplified by **DPS X-Link**, Treehouse's product for XML-based ADABAS data integration. Together, DataMirror and Treehouse deliver the unique ability to integrate ADABAS databases in real-time with other platforms and databases.

The DataMirror alliance addresses customer demand for CDC technology that integrates data from other production systems into ADABAS. By using DataMirror **Transformation Server/ES** software with **DPS X-Link**, TSI's middleware for providing read and write access to ADABAS from XML-based content, enterprises benefit from the real-time, low-impact flow of information to and from ADABAS.

Together with Treehouse Software, DataMirror enhances

the data integration, data auditing, and business intelligence capabilities of existing Treehouse customers by delivering CDC technology that moves data between production systems and **DPS X-Link** to provide continuous access to reliable data.



Treehouse Software welcomes the opportunity to work with DataMirror to deliver enhanced data replication solutions to ADABAS customers. Together, DataMirror and Treehouse are prepared to deliver value to customers by enabling them to integrate data from a wider range of applications, which translates into better decision-making abilities and a full realization of IT investments. Our alliance with DataMirror allows us to widen the capability gap in our already-substantial lead over other replication and integration solutions in the ADABAS market space.

B.O.S. Software Service

Treehouse also scores big by teaming with B.O.S. Software Service und Vertrieb GmbH of Haar, Germany, to distribute and support B.O.S.'s **tcVISION** mainframe data replication product worldwide.

The **tcVISION** solution focuses on changed data when transferring information between mainframe and workstations or open systems.

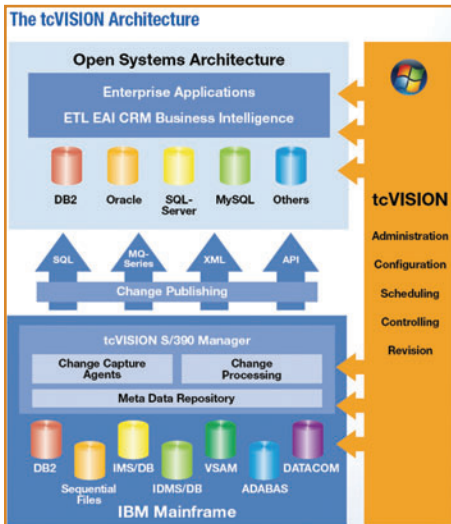
The B.O.S. Software alliance allows Treehouse to market an innovative technology that offers comprehensive abilities to identify and capture changes occurring in mainframe databases, and to publish the required information to a variety of targets.

tcVISION's change capture facilities identify changes in mainframe data sources without programming effort. The changed data is transferred to target databases and applications in real time, in time intervals, or in response to events.

tcVISION guarantees transparent and auditable data transfer between sources and targets, and provides powerful

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Moving Data from Anyplace to Anyplace (continued from page 5)



processors to perform fast, efficient, and reliable transfers of mass data.

tcVISION reduces the amount of data that must be transferred between the different systems to an absolute minimum (only data that has been changed is transferred).

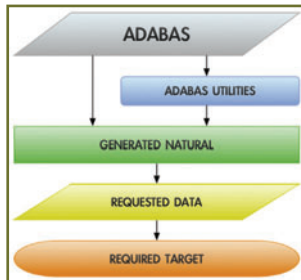
generated NATURAL code and standard ADABAS utilities. This means that the products are suited to any platform where ADABAS/NATURAL runs—z/OS, OS/390, VSE, VM, BS2000, Unix, Linux, and Windows. We are hearing increasingly from customers that have migrated their ADABAS/NATURAL applications from the mainframe to an alternative platform or who run an operation where both mainframe and non-mainframe platforms are used for ADABAS/NATURAL. Now, with **NatQuery** and **NatCDCSP**, TSI offers a comprehensive, multi-platform offering for ADABAS ETL/CDC.

The “native NATURAL” orientation of **NatQuery** also means that it can be used to extract from DB2 and VSAM data sources where NATURAL for DB2 or NATURAL for VSAM, respectively, is installed. Finally, we have been approached by customers in the past asking for ADABAS-to-ADABAS ETL/CDC in **tRelational/DPS**, but we have thus far elected against undertaking the development to provide this. However, **NatQuery** and **NatCDCSP** do have this capability, propagating ADABAS data to both same-structure and differing-structure ADABAS targets.

NatWorks, Inc.

Our winning team is rounded off with NatWorks, Inc. Most Treetimes readers have heard of NatWorks and the **NatQuery** and **NatCDCSP** ADABAS data extraction products. Treehouse Software provides principal worldwide sales, marketing, and technical support for those products.

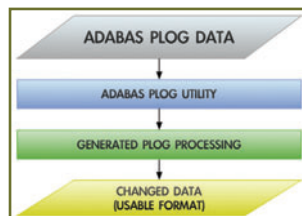
This partnership expands and completes our capabilities in several key areas.



NatQuery is a GUI-based tool that intelligently generates NATURAL code, delivering effective and efficient ADABAS data extraction that requires no mainframe installation and requires no intensive training to use effectively. It supports both end-user extraction needs and

data warehousing requirements.

NatCDCSP is an add-on to **NatQuery** and was designed to embrace the use of NATURAL in conjunction with ADABAS utilities to create immediately usable data out of the ADABAS PLOG.



This partnership gives Treehouse Software an offering for mainframe customers who need an ADABAS extraction tool that is easy to deploy and use to populate spreadsheets, desktop and server databases, and XML/Web targets. **NatQuery** and **NatCDCSP** can be an ideal fit for organizations seeking value-priced ADABAS extraction and/or CDC products that are particularly easy to deploy and use. The run-time architecture of these products consists of

The Treehouse Dream Team Has Arrived!

Treehouse Software now offers an unequalled roster of comprehensive ETL/CDC products. When one considers our total extraction/integration portfolio, it is very clear that we have the right product or combination of products to meet any conceivable customer requirement. We not only have all of your bases covered, we also have the depth of skills and technology to bring home a victory for any CDC project.

You will be hearing much more about Treehouse team-ups, new team members, and new products, so keep checking the Treehouse Software Web site for the latest news at www.treehouse.com! •

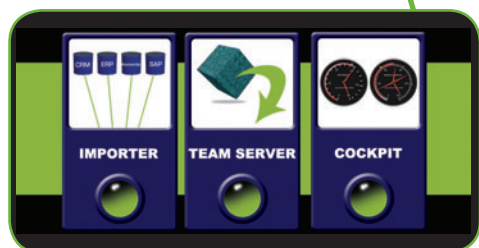
Free, On-line Demos of TSI Products

Would you like to see TSI products in action before you request a trial? 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 how TSI products work right on your PC screen.

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.shtml.

Be The Information Superhero Of Your Company...



Use your handy Cubeware utility belt to save the day!

There you sit... a mild mannered employee of your company, when suddenly, you are assigned the duty of gathering operational and financial corporate data for reporting and analysis. Company data is everywhere, sitting... waiting. You then begin to realize that there is no efficient or cost-effective way to access and utilize that data. So, it sits, and you sit in a sheer panic, wondering how you're ever going to get this job done.

Whether your guise is Controller or Department Manager in Finance, HR, Supply Chain Management, Marketing, or Sales, understanding how you can better maximize the value from your company's data is paramount to maintaining success and market leadership. And if you are in IT, it is necessary to be aware of how your business users wish to use their data to make informed decisions.

Never Fear... Cubeware is Here! Save The Day With The Power Of "BI"

The dual powers of your keen awareness of your company's business needs, along with a comprehensive, cost-efficient Business Intelligence (BI) software tool can instantly provide your company's decision makers with what they require, while leveraging your existing infrastructure. Provide this for your company, and you emerge as the **Information Superhero**.

As more organizations are looking for ways to optimize business processes, decisions, and actions, they are turning to BI tools to provide insight and knowledge from their data, especially solutions that connect to many disparate data sources.

Cubeware from Telemetree Systems allows companies to mine and turn overwhelming amounts of data into coherent information that can be used for a wide range of business tasks, such as monitoring sales or keeping track of inventory.

It might not be X-Ray Vision, but **Cubeware** helps you view your company's operations, drill-down and drill-through your valuable data—on demand.

Cubeware connects to any data source; imports the data into a cube (holding area); and allows users to access the data for analysis, planning, reporting, forecasting, and dashboarding—anytime—Windows or Web.

Cubeware helps increase the credibility and quality of communication. It's not good enough to just deliver numbers. When your company's data galaxy has been saved, your reports will quickly become a treasure-trove when they provide long-term forecasting and performance measurements, and show a broader, more qualitative, and detailed picture of opportunities, challenges and strategies. You will become stuff of which superheroes are made—brave, bold, and visionary.



Cubeware Cockpit V6pro

For More Information, Visit:



Telemetree Systems
Treehouse Software's
Business Intelligence Branch
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Your work here is done... and you're ready for that promotion!

Treehouse Software Products

Legacy Data Modernization:

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

DPS X-Link - Instant XML-based read/write access to ADABAS

DPSync - Real-time ADABAS-to-RDBMS data propagation (CDC) software product set

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.

NatQuery - GUI-based tool that intelligently generates NATURAL code to handle all of the complexities of data extraction from ADABAS

NatCDC - Add-on to NatQuery designed to create immediately-usable data out of the ADABAS PLOG

tcVISION - Data replication product that focuses on changed data when transferring information between mainframe and workstations or open systems

Software AG Related:

ADAMAGIC - Tool for converting mainframe ADABAS files into ADABAS for UNIX/Linux/Windows, flat file, or comma-delimited formats

ADAREORG - File reorganization tool for ADABAS

ADASTRIP - Data extraction utility for ADABAS

AUDITRE - Generalized ADABAS auditing facility

CHART for NATURAL - NATURAL application analysis and documentation tool

EspControl - Change control system for NATURAL on open systems

N2O - NATURAL application change management system

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

PROFILER for NATURAL - NATURAL quality assurance and testing tool

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

TRIM - ADABAS and NATURAL performance monitor

Mainframe Emulation:

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

TSI is a DataMirror DataWorld partner, and is authorized to market the full line of DataMirror products, including:

Transformation Server/ES - Detects events as they occur in mission-critical production applications and creates useful business information to feed into the message queues of leading EAI, BPM, and SOA environments.

Integration Suite™ - Combines all of DataMirror's real-time integration software and global services.

Transformation Server™ - Real-time multi-platform data integration and transformation with zero-programming required.

iCluster™ - Manage clustered iSeries environments.

LiveAudit™ - Capture all data that is inserted, updated, or deleted to create real-time audit trails.

PointBase™ - Java relational database, mobility and synchronization products.

iReflect™ - Mirror ORACLE database transactions in real-time from the primary system to the recovery system.

DB/XML Transform™ - Powerful Java-based, XML-driven engine for bi-directional data transformation between XML, EDI, database and text formats.

Constellar® Hub - Powerful ORACLE-based EAI tool.



Cubeware Analysis System - Everything needed for easy-to-use, self-service business intelligence for decision makers, managers, and departmental users

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