Issue #21 • December 2010

Tree•times

A Publication of Treehouse Software, Inc.

This Issue

Find out what our customers are saying:

www.treehouse.com/customercomments.shtml

eal-Time DABAS-to-RDBMS eplication...

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

Treehouse Software, Inc.

The Modernization Imperative

by Wayne Lashley

As COO of Treehouse Software, I try to visit customers as much as I can, in order to stay attuned to the kinds of issues that they are confronting. Gratifyingly, I find that TSI is viewed as a trusted partner by our customers, a source of knowledgeable and impartial advice and insight, and of quality solutions.

For several years now, you and your IT management have been telling me that a top priority is deciding the future of your mainframe applications, particularly those using ADABAS and NATURAL. For many of you, TSI has been instrumental in helping extend the lives and enhance the value of these applications, through use of our varied portfolio of data replication and integration solutions. Even so, application rationalization, overhaul, and modernization have become imperatives, to hone competitiveness and manage IT costs.

Many organizations are adopting a decision-making model espoused by Gartner that utilizes the **TIME** concept: **T**olerate, **I**nvest, **M**igrate, **E**liminate. The application portfolio is analyzed and elements of it are designated for one of the TIME dispositions.

A discussion of these categorizations and how TSI and our partners fit with them can be found in *"It's About TIME"* on page 7 of this edition of Treetimes. For now, I want to focus on decision-making in general, and the Migrate option in particular.

(continued on page 5)

Real World Series *(Part 13 of Many)*

by Joseph Brady and Chris Rudolph

Grede Foundries Tests Treehouse's Mettle

This is the 13th installment in a continuing series of articles featuring **tRelational** and **Data Propagation System (DPS)**, Treehouse Software's ADABAS-to-RDBMS product implementation, in several "real world" environments.

tRelational/DPS is a robust product set that provides modeling and data migration of legacy ADABAS data into new RDBMS-based platforms. The modeling and mapping facility (**tRelational**) auto-generates complete RDBMS schemata from existing ADABAS files and allows for easy mapping of ADABAS fields to already existing data warehouse or ERP schemata. After the mapping is completed, **DPS** can materialize (initially load) and propagate (subsequently keep synchronized) the ADABAS data into the RDBMS without requiring direct access to ADABAS.

(continued on page 3)

Editor's Notes

by Joseph Brady
Marketing Manager

Become a Beta Test Site for New Treehouse Product Releases

We are looking for current North American customers to become Beta test sites for new releases of Treehouse 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 Treehouse representative will contact you.

Find out the Latest on Treehouse Products

To find out about current versions of Treehouse 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.

Online Product Demos

Would you like to see Treehouse products in action before you request a trial? To set up a live, online demonstration of any product, simply fill out the short form on the Treehouse Software website at www.treehouse.com/onlinedemoform.html. All you need is an Internet connection to view how Treehouse products work right on your PC screen.

Tree times

Editing, Writing, and Design
Joseph Brady

Contributors
Wayne Lashley, Chris Rudolph

Distribution
Terri Hammerschmitt

Back issues are available on the Treehouse website. Documentation for all products is available on CD.

Hard Copy Circulation: 8,000

tcVISION Offers New Replication Processing Features...

tcVISION Version 4 ushers in a new era in enterprise data replication, featuring a greatly-enhanced modeling and mapping GUI and bi-directional replication between mainframe data sources and DB2, Oracle, and Microsoft SQL Server running on Linux, UNIX, and Windows ("LUW").

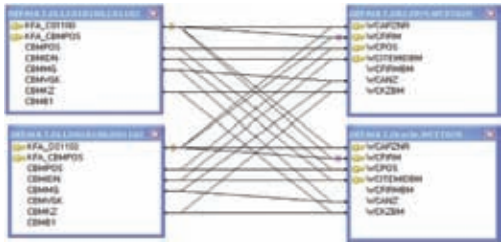
tcVISION's advanced GUI modeler allows for the creation of a relational target schema based on non-relational sources, as well as mapping that schema back to the source. Additionally, the modeler has built-in functionality to perform table lookups, rules to accept/reject source data, wizards to define regular expressions to modify data, and date/time conversion facilities.

The bi-directional replication feature provides additional flexibility by allowing users to move data back and forth between the mainframe and LUW. For example, with **tcVISION**, replication can be performed between IDMS on z/OS and DB2 for Linux running on a mainframe IFL processor. As always, thanks to tcVISION's unique "stage processing" architecture, most of the CPU workload can be placed on the LUW platform, thus minimizing mainframe CPU utilization.

The following illustrate some **tcVISION** replication processing examples:

n:n Replication

This example shows replication of two DL/I segments into a DB2 table. Simultaneously, replication also takes place to an Oracle table with an identical layout.

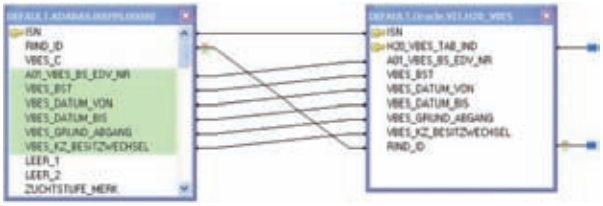


Processing Definition Wizard

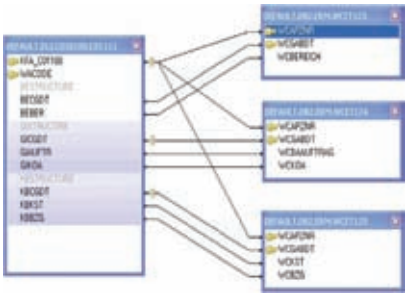
In addition to the normal field type-based conversion of input data to output data, field contents can also be created or processed based upon defined functions (e.g., expressions and operations).

Multiple Connections

Processing definitions can accommodate a target field or column being derived from different sources.



Record Type Replication



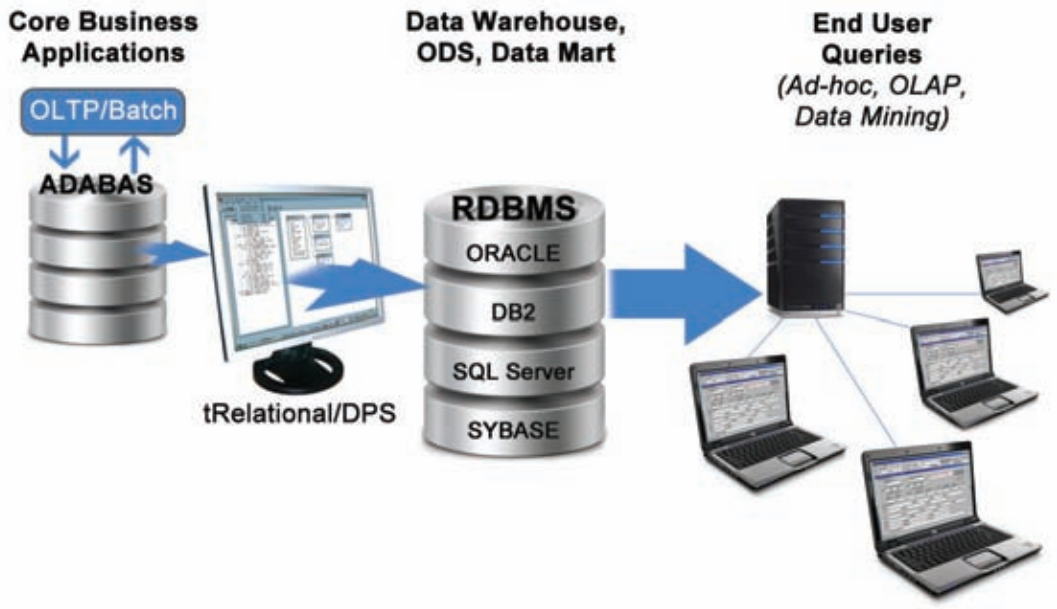
For cases where input data includes a "record type indicator" field/column, the data can be split to different output tables based on the content of the indicator. The structure of the input data may differ depending on the record type. In this example, the record identifier is field WACODE. The indicator field itself is not linked to an output field because it is not part of the replication.

The colored shading of the fields after GISTRUCTURE and KBSTRUCTURE indicate that the data record has been redefined from this point on or a new structure is used.

(continued on page 4)

tRelational/DPS is the answer for sites looking to completely replace a legacy ADABAS system, as well as for those wanting long-term data transfer and synchronization.

A key differentiator of ***tRelational/DPS*** *from the competition is its long-standing presence in the marketplace. For over 15 years,* ***tRelational/DPS*** *customers have been enjoying this mature, full-featured product.*



Whether a site is completely replacing a legacy ADABAS system with an RDBMS-based system as was done at Grede Foundries (now Grede Holdings LLC), or if the need is a long-term data transfer and synchronization solution for data warehousing/Internet/Intranet/ERP applications, **tRelational/DPS** is the answer.

This article illustrates how Treehouse Software's **tRelational/DPS** product set and expert consultants helped Grede Foundries migrate its mainframe data to it's new home—on time and under budget. Grede Foundries chose the Treehouse products for migration of their legacy ADABAS data as part of their plan to move from the mainframe by the end of June, 2010.

About Grede Foundries (Now Grede Holdings LLC)

Grede is a full-service manufacturer and supplier of innovative metal components to the transportation and industrial markets. Headquartered in Novi, Michigan, with sales and technical support throughout the United States and Europe, Grede delivers quality products to a global customer base.

Additionally, Grede's customers look to the company to manage logistics, packaging, and freight to ensure their products arrive on schedule. This requires leveraging global purchases, and working with suppliers to ensure they're meeting Grede's quality and delivery expectations.

A Time For Change…

Until recently, Grede had relied on their mainframe database and file environment, which was running ADABAS v7.4.4 and NATURAL v3.1.5. The mainframe applications were to be retired, and the data had to be stored in a queryable format for archival purposes. The target RDBMS for data storage was SQL Server 2008 running on Windows Server 2008 64-bit.

A particularly challenging aspect of the migration was that many of the files were going to be active until a few days before the end of the project, and some files would be active the morning of the last day of the project.

Treehouse Was The Logical Choice

Treehouse had been a long-time provider of remote and on-site DBA services for Grede Foundries, and years ago, Grede was one of the very first **tRelational/DPS** users.

When the decision was made to retire their mainframe system, the Grede team contacted Treehouse and asked if it was possible to migrate all of their ADABAS data in a very tight time frame.

The migration plan needed to address the volume of files and records that had to be migrated in an extremely short period of time. The Grede mainframe was scheduled to be shut down for the final time the evening of June 30th. This meant that only 3 ½ weeks were available from the start of the project to migrate 108 ADABAS files containing 63.7 million records. Additionally, 25 files were in use on June 29th, and 5 of those files were still in use the morning of June 30th. This meant that the final conversion of 25 files, containing 24.5 million records, had to be migrated from ADABAS to SQL Server during a 24-hour window.

(continued on page 4)

Real World Series *(continued from page 3)*

The migration of the Grede's data was delivered by TSI consultants in four phases.

The Predict metadata for each ADABAS file was imported into **tRelational** for analysis and auto-generation of a relational schema. **tRelational** batch jobs were then run to build SQL DDL statements (later used to create the relational schema) as well as parameter files for **DPS** to be used during the data extraction process.

The ADABAS files were backed up to an Adasav, and then **DPS** jobs processed the Adasav using parameters created by **tRelational** in Phase 1. **DPS** generated record counts showing the amount of data processed, which were then compared against the Adarep. The **DPS** output was then FTPed to Windows 2008, split using the DPSSPLIT utility, and bulk loaded into SQL Server. During this process problems with the data, such as unprintable characters, duplicate MU/PE names across ADABAS files, etc. were discovered. Modifications were made to the **tRelational** data model, and pre-written column and field routines were added to the **DPS** parameters to handle the problems with the data.

The final extraction and load of the ADABAS data into SQL Server was conducted. Phase 3 began on static ADABAS files while Phase 2 continued on dynamic files. Then on the evening of June 29th, Treehouse consultants started the final extract and load of the last 25 ADABAS files.

The metadata stored in **tRelational** was extracted into several SQL Server tables and loaded into SQL Server. These tables show the ADABAS file and field names from Predict as well as the equivalent names in SQL Server.

In the end, the Grede team was very pleased that the migration went so smoothly and the new system was up and running on time, with no problems.

Treehouse Software is Ready to Help with Your ADABAS-to-RDBMS Project

Treehouse Software's **tRelational/DPS** product set has been the trusted best-of-breed ADABAS data migration solution by hundreds of customers since the mid-1990's, and is a proven solution for moving ADABAS data to relational databases, either for coexistence with, or full migration to new systems.

For more information on **tRelational/DPS** and Treehouse Software's consulting services, contact **Mitch Doricich**, at 724.759.7070. x109 or mdoricich@treehouse.com. •

tcVISION Features *(continued from page 2)*

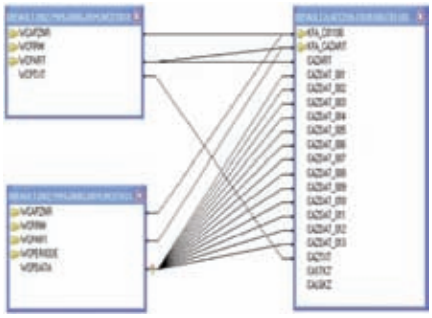
Reverse Replication Record Type Processing

Multiple independent input sources can be replicated into one output table. The origin of the data is indicated by field content in the output table.

Replication of ADABAS PEs/MUs

ADABAS recurring fields can be mapped into separate output tables.

Reverse Replication of a Field Table



Data from an ADABAS PE or MU or a field table can be distributed to multiple target tables. During reverse replication, **tcVISION** ensures that the correct occurrences are created.

CDC for LUW RDBMSs

In addition to the previously-supported mainframe data sources, **tcVISION**'s change data capture functionality has been extended to also support data sources like DB2 LUW, Oracle, and Microsoft SQL Server.

IMS Batch CDC for z/OS

Also, a new collector type of 'IMS-Batch' allows capture of from z/OS IMS batch applications (this had previously been available only for VSE). The current list of supported data sources is as follows:

Name	Bulktransfer	(Near-) Real-time	Log-Files	Batch-Compare
VSAM FCT	✓	✓	✓	✓
VSAM Batch	✓	✓	✓	✓
DATACOM/DB	✓	✓	✓	✓
IDMS/DB	✓	✓	✓	✓
IDMS/Batch	✓	✓		
DB2 for VSE	✓	✓	✓	✓
DB2 for VM	✓	✓	✓	✓
DB2 for z/OS	✓	✓	✓	✓
DB2 LUW	✓	✓	✓	✓
Oracle[2]	✓	✓	✓	✓
MS-SQL Server[3]	✓	✓	✓	✓
ADABAS	✓	✓	✓	✓
IMS/DB	✓	✓	✓	✓
DL/I	✓	✓	✓	✓

Name	TCP/IP Direct	Loader	API	ODBC
MS-ACCESS				✓
File output	direct			
MS-SQL		✓	✓	✓
DB2 for VSE	✓	✓		✓
DB2 for VM	✓	✓		✓
DB2 for z/OS	✓	✓		✓
DB2 LUW	✓	✓		✓
Oracle		✓	✓	✓
mySQL				✓
General ODBC				✓
Websphere MQ			✓	
tcACCESS*	✓			✓

***tcACCESS** *(also sold by Treehouse Software)* supports replication to VSAM, CA-DATACOM, CA-IDMS, DB2, ADABAS, IMS and DL/I.

For more information, contact us today! •

The Modernization Imperative *(continued from page 1)*

It's self-evident that good decision-making requires good information. Yet many customers I talk to have no idea of the size of their application portfolios, the interdependencies within them, the preponderance of usage of various languages and technologies, and the relative value of various applications to the organization.

Earlier this year, we announced TSI's role in bringing the **Enterprise Application Viewer (eav™)** to market. **eav** is a comprehensive and robust documentation and analysis solution that automatically collects and analyzes elements of your mainframe application portfolios—source code, file definitions, CICS transactions, JCL, etc., for a wide variety of popular technologies including ADABAS and NATURAL—to create up-to-the-minute documentation and reports that deliver enterprise-wide insight. The information that **eav** harvests is stored in a relational database that can be shared across the team and across the enterprise—and harnessed on the desktop via an intuitive user interface. **eav**'s "View" concept allows components to be associated with business functions, and technical and business subject-matter specialists can impart their knowledge into **eav** and share it with others.

*As with most other TSI products, **eav** is available for a free, 30-day trial evaluation. See page 6 of this issue for more information, and visit the TSI website at www.treehouse.com as well.*

eav, then, is an enabler for TIME style decision-making.

While any portfolio is likely to have applications that fall into each of the TIME categories, our customers show particular interest in the Migrate option. This is not surprising; we know that a large number of applications are long-lived, business-critical and are not easily replaced or rewritten. Yet concerns about scarcity of technical staff and the cost of operation of the underlying technology are driving customers to seek ways to transform the applications to modern technologies while retaining the business value that was built up over years—perhaps decades—of development and enhancement.

A familiar solution is source code translation—taking a body of NATURAL or COBOL code and using automation to generate "equivalent" Java or C# code. In the case of NATURAL, some customers are interested in "modernizing" to COBOL.

For those who know and love NATURAL, translating NATURAL to COBOL may not seem like much of a modernization, but it should be recognized that there are a number of non-mainframe COBOL compiler-and-infrastructure providers out there, and their offerings facilitate integration of COBOL applications with those written in Java, C, C# and other "modern" languages. So in that sense, COBOL can be an avenue to real modernization, and it is a fact that there is a reasonable pool of COBOL-skilled people available—and that pool is even being replenished, albeit somewhat slowly.

While capabilities are improving constantly, the principal complaints that customers express regarding translation are that the resulting code is difficult to maintain, and it does not fully utilize the target platform's architecture and facilities. You end up with Java, but it may be Java that your Java developers would never write—and have trouble understanding. Much of this can be attributed to "paradigm impedance"—attempting to re-express code written in a procedural language and fashion it into a modern object-oriented implementation.

A few vendors have sought to address the code-maintainability issue through automated re-architecting. Rather than employ a "line by line" approach, re-architecting leverages automation to extract business rules and critical processing from application code and redeploy these within a modern language and framework. Much of the legacy "plumbing" code can be simply discarded as irrelevant in a modern implementation, and much of the modern "plumbing" is provided by standard frameworks. The resulting application should faithfully carry forward the critical business value of the application while being properly-architected and maintainable. This approach tends to incur a higher price tag than translation, so the cost/maintainability trade-off must be assessed.

Large projects to rewrite legacy applications "by hand" are fraught with risk: experts suggest that up to 80% of these projects fail. Furthermore, most organizations do not have the staff to undertake such projects—so they often get outsourced (and/or "offshored")—and they don't have the time to wait for the results.

While each approach has its place in the galaxy of modernization solutions, they suffer from a common handicap. This was expressed to me by a customer as the "FedEx box problem": you "put your application in a FedEx box" and send it off to one of these vendors, and at some future date you "get a FedEx box back" with your new application. As my customer said, "Where in the process do we make best use of the knowledge and skills of our own people?".

Despite the well-publicized "skills shortage", in fact many customers have good, knowledgeable, experienced people on staff who maintain the legacy applications day in and day out. These are the people who know the business rules and how they are expressed in the application. They know the application flow and use cases. They know what parts are used and what parts are dead (or should be made dead!).

(continued on page 6)

The Modernization Imperative *(continued from page 5)*

These are the people who should be at the heart of the modernization initiative, yet they are often ignored or relegated to a minor role because—being "legacy developers"—they lack skills in the new technologies. Frankly, many are not much interested in being retrained, as they are looking ahead to retirement in a relatively short time.

Enter **eav Rapid Program Modernization (eavRPM™)**, a unique solution that enables "do it yourself" modernization.

eavRPM is built on top of **eav**, so it includes all the documentation, analysis and navigation capabilities that **eav** offers. Using **eavRPM**, NATURAL and COBOL developers use their knowledge of the legacy applications to extract critical artifacts (screens and business rules) and automatically transform them into elements of new, native Web applications that are properly object-oriented, properly architected and adhere to standards and common frameworks. No particular knowledge of the new technologies is required, yet behind the scenes **eavRPM** constructs fully-functional applications using Java, C#, HTML, Javascript, Struts, etc. You can choose between a Java-based or C#-based implementation. And the resulting applications can be simply imported into the IDE of your choice (Eclipse, Visual Studio, etc.) for further development, enhancement and maintenance by your Java or C# teams.

*eavRPM effectively complements TSI's standing core competencies in legacy data replication and migration. Repeatedly, customers have told me that they love our solutions like **tRelational/DPS**, **DPSync** and **tcVISION** that deliver legacy data into modern, standard relational databases (RDBMSs), but they also need a solution for application modernization. **eavRPM** requires use of one of the leading RDBMSs (Microsoft SQL Server, DB2, Oracle Database), so any legacy database must be modernized into an RDBMS (note that there are no restrictions or limitations on how you design your RDBMS schema). Fortunately for our customers, this is exactly where TSI has built its reputation for the past 15+ years of our 28-year history.*

There is no need for any code to "leave the building". Everything can be done on your own schedule, using your own resources. There is no after-the-fact run-time licensing or environment. You just have new, modern, "Cloud-ready" applications on the platform of your choosing, embodying the best aspects of the legacy systems that you can now leave behind.

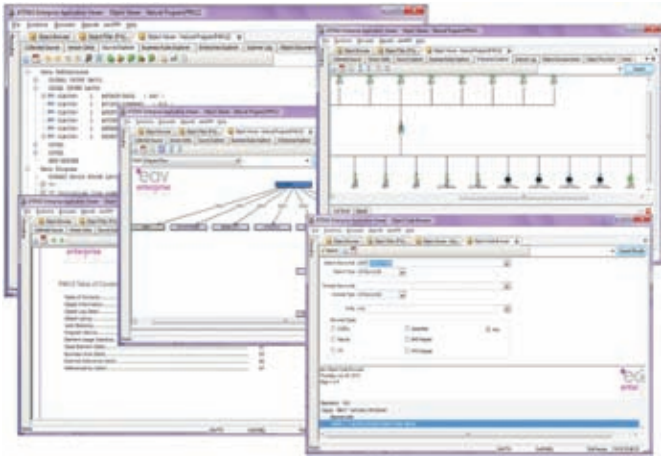
We believe that **eavRPM** addresses a critical gap in today's modernization solutions, and we believe all of our customers should have a look at it. To facilitate this "look", we are offering customers a "pilot project", wherein one of our skilled consultants will conduct an on-site, end-to-end modernization of a small application or function, including data migration as necessary, in a condensed timeframe of 3-5 days, and at a nominal cost. Your people will get up-close exposure and skills transfer in using the products—using your own applications and data—, you'll see the tremendous value that they deliver, and your organization will be positioned to build on the pilot project to tackle the whole application portfolio—or at least those parts that you designate for the **Migrate** option.

Overview

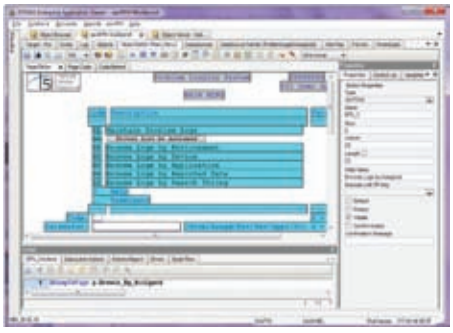
eav and eavrpm

eav™ (Enterprise Application Viewer) - A Windows-based Application Portfolio Management tool that facilitates analysis and documentation of COBOL and NATURAL applications and JCL, and other mainframe object types.

Explore, Analyze, and Document with eav...



eavRPM™ (eav Rapid Program Modernization) - An extension to **eav** that enables mainframe NATURAL and COBOL programmers to quickly develop Web-based, properly-architected .NET and Java applications using artifacts from legacy NATURAL and COBOL systems.



eavRPM: Cut and Paste, Drag and Drop Legacy Modernization…

Legacy mainframe developers, or even business analysts with no prior programming skills, can specify the basic screen processing needed to enhance and modernize business systems. They use point-and-click master page definitions and build templates with consistent headings, footers and look and feel. They can also split, merge or change screens for ease of use. Depending on scope, a complete application can be prototyped in a matter of hours or even minutes. Style sheets are leveraged to maintain visual consistency in your modernized application.

Contact TSI today for further information and to discuss your own pilot project! •

It's About TIME by Wayne Lashley

Gartner, Inc., describes a categorization strategy for application portfolio overhaul, known as **TIME**:

Tolerate: Keep the application but rehost for lower TCO.

Invest: Enhance the application with new capabilities such as SOA enablement.

Migrate: Transform the application to leverage new technologies and capabilities.

Eliminate: Retire the application, possibly replacing its functionality with a package.

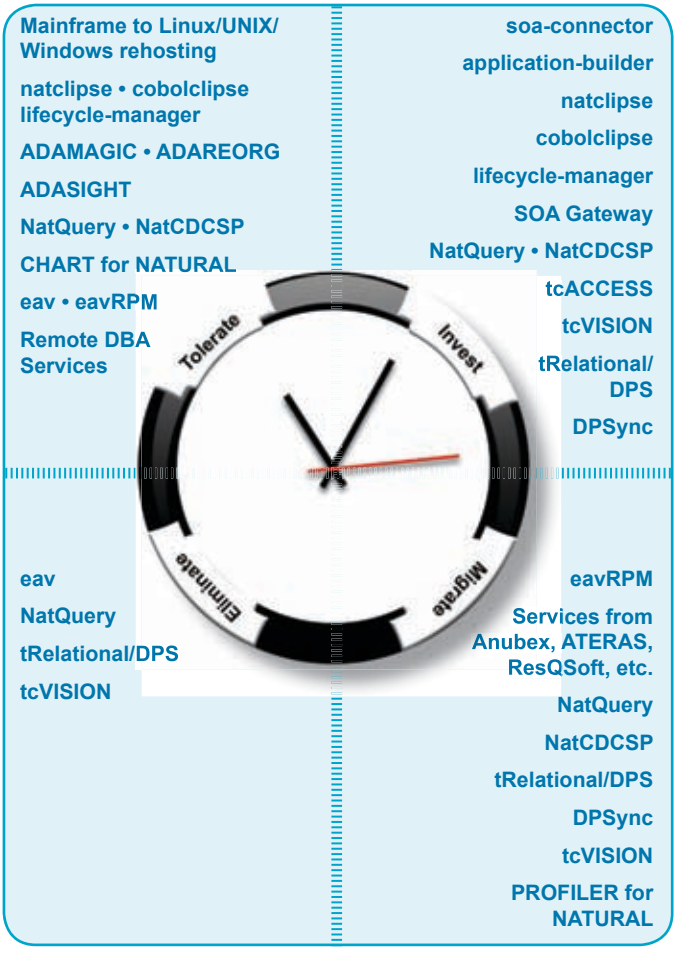
The **Tolerate** decision fits applications that may have limited business value but which are maintainable. If there is no particular urgency to replace them or significantly extend them, rehosting to a Windows or UNIX/Linux (including z/Linux) platform can reduce cost of operation and perhaps facilitate technology architecture consolidation. Yet the calculus is not straightforward: consideration must be given (particularly for ADABAS/NATURAL applications) to the availability of third-party and infrastructure products, the availability of skilled technical human resources, the anticipated quality of new (or extended) vendor relationships and the cost of acquiring the requisite licensing to operate mainframe applications on non-mainframe platforms. Nevertheless, customers looking to rehost ADABAS/NATURAL applications to open systems will find that TSI offers a range of products to facilitate the rehosting process and subsequent application and database management and enhancement. TSI also maintains relationships with leading third-party vendors such as Alchemy Solutions to offer facilities for rehosting batch and COBOL workloads.

Highly-maintainable applications that are business-critical attract an **Invest** decision. TSI, in conjunction with other reputable vendors such as GT Software, innoWake and Risaris, can offer customers a variety of approaches to enhance, extend and integrate such applications into modern technology architectures. These include SOA-enabling mainframe functions and data, restructuring applications for Web user interfaces and SOA, modernizing the development environment and integrating disparate applications through gateway and replication approaches.

TSI has been a key player in the **Migrate** arena for years as the market leader in ADABAS-to-RDBMS data migration and replication. This role has been dramatically expanded over the past few years, first with the addition of products that address migration and replication of other mainframe legacy data sources, and even migration between different RDBMSs on open systems. We have also joined with partners such as Anubex, ATERAS, ResQSoft and others, to offer complete solutions for migration of NATURAL to COBOL, C# and Java. Our ability to support complex phased implementations through multi-master data replication, including in real time, enables even the largest migration projects to be managed to success. And since application testing is a key component for delivering a migration project, we uniquely support use case analysis and execution path tracking for NATURAL. Finally, as described elsewhere in this issue of Treetimes, our new **eavRPM** offering delivers an entirely new capability that further differentiates TSI as the one-stop source for **Migrate** solutions.

Even in the **Eliminate** category, TSI solutions have a role. We provide for a final off-mainframe archival of application source code, including COBOL and NATURAL source as well as JCL and other components, while enabling any requisite analysis and documentation of the application. Subsequently, the application can be retrieved and reviewed for audit purposes. Regarding legacy application data, we have supported a number of customers with "data archiving" capability through short-term product licensing and/or services, enabling transitioning of the data into the replacement system (if applicable) and/or archival in an RDBMS or in flat files. This allows the data to be retrieved and queried long after the legacy database technology has been decommissioned.

The following quadrant diagram shows the positioning of various TSI offerings throughout the **TIME** spectrum. Please contact TSI to discuss your own application overhaul plans and learn how we can assist.



TREEHOUSE SOFTWARE, INC.
2605 Nicholson Road, Suite 230
Sewickley, PA 15143 USA

POSTAGE
INFORMATION
HERE

Tree·times

Treehouse Software Products

Legacy Data Modernization:

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

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

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

tcACCESS - powerful integration platform for users of IBM mainframes, allowing a transparent integration of mainframe data sources and mainframe programs into open system applications

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

Application Portfolio Management and Modernization

eav™ (Enterprise Application Viewer) - A Windows-based Application Portfolio Management tool that facilitates analysis and documentation of COBOL and NATURAL applications and JCL, and other mainframe object types.

eavRPM™ (eav Rapid Program Modernization) - An extension to eav that enables mainframe NATURAL and COBOL programmers to quickly develop Web-based, properly-architected .NET and Java applications using artifacts from legacy NATURAL and COBOL systems.

Natclipse - A state-of-the-art Eclipse-based development environment for NATURAL

Cobolclipse - A state-of-the-art Eclipse-based development environment for COBOL

Lifecycle-Manager - Software that automatically versions source files and continues to organize them throughout the development process

SOA-Connector - Lightweight middleware for mainframes and distributed systems that enables exposing (and consuming) functionality in COBOL, NATURAL, Java, .NET, etc. as services to the outside world, transforming the mainframe into a powerhouse of modern business functionality

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

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

Services:

Consulting and Remote DBA Services - Our expert consultants can provide ADABAS/NATURAL performance analysis, tuning, and optimization; development, training and implementation; help with special routines or user exits; product installation, upgrades, and training; data transfer/integration; and remote DBA services for ADABAS/NATURAL on the mainframe and open systems

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

Telemetree Systems
A branch of Treehouse Software, Inc.

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

Phone: 724.759.7070 **Fax:** 724.759.7067 **E-mail:** tsi@treehouse.com **Web:** http://www.treehouse.com