

# Treehouse

A Publication of Treehouse Software, Inc.

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## TSI Forms Strategic Alliance with **DataMirror**

### Delivering Data Integration, Data Auditing, and Business Intelligence Solutions for the ADABAS Market

The alliance leverages DataMirror's expertise with Change Data Capture (CDC) technology for moving data between disparate platforms and TSI's expertise with ADABAS databases, exemplified by **DPS X-Link**, TSI's product for XML-based ADABAS data integration. Together, DataMirror and TSI deliver the unique ability to integrate ADABAS databases in real-time with other platforms and databases. **See page 3 for more...**

## Newsflash:

**DPSync with tRelational/DPS** was recently chosen by **Dexia Banque Internationale à Luxembourg** over its principal competitors. For more details, go to: [www.treehouse.com](http://www.treehouse.com).



Treehouse Software, Inc.

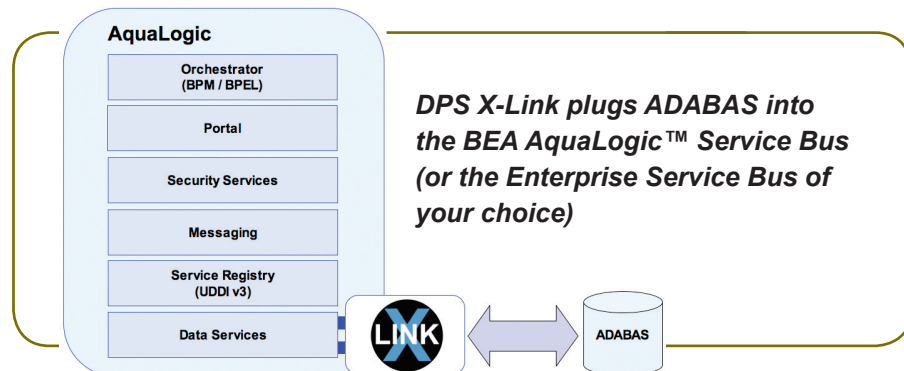
## DPS X-Link Integrates ADABAS with BEA's

**AquaLogic™ Data Services** by Dan Vimont and Chris Rudolph



### SELECT PARTNER

Treehouse Software, Inc. (TSI) is pleased to be working with BEA Systems, Inc. In recent years, TSI has delivered an increasingly rich and broad array of integration products for customers using ADABAS. With the BEA Partnership, TSI expands its offerings to the Web Services/SOA (Service-Oriented Architecture) marketplace to meet the needs of customers that want a proven, comprehensive SOA toolset. Additionally, being a Select BEA partner will allow TSI to effectively incorporate Web Services-based products, including **DPS X-Link**, into BEA's **AquaLogic™** Data Services Platform.



**DPS X-Link** is a true “plug-n-play” product that drops right into your SOA. **DPS X-Link**'s remote API components provide COM, DLL, Java, and SOAP/WSDL interfaces to easily enable any imaginable Web Services, client/server, or SOA configuration. Its SOAP/WSDL capabilities amount to instant deployment of ADABAS into the BEA **AquaLogic** universe.

In June, TSI participated in BEA's online event: “Service Infrastructure in the Enterprise” showcasing the new **AquaLogic** software from BEA, which was built specifically for SOA. As a BEA Select Partner, TSI is able to provide customers with powerful solutions involving BEA **WebLogic**, **WebLogic Integration**, and **AquaLogic** products. For ADABAS sites, TSI delivers one-stop shopping for best-of-breed SOA.

### About BEA Systems, Inc.

BEA Systems, Inc. is the world's leading application infrastructure software company, providing the enterprise software foundation that allows thousands of companies to benefit from service-oriented architectures. BEA provides the enterprise software foundation for more than 15,000 customers around the world, including the majority of the Fortune Global 500. Companies turn to BEA to help them evolve their existing enterprise software applications from inflexible, redundant, legacy architectures to highly responsive, mature Web infrastructures.

Additional information on BEA is available at [www.bea.com](http://www.bea.com). **AquaLogic** is Copyright 2005 © BEA Systems, Inc. All rights reserved.

## Editor's Notes

by Joseph Brady

Over the past few months, TSI has held several special events, entitled **"Simplifying the Management and Sharing of Data - ADABAS and More"** that brought together top ADABAS/NATURAL product vendors and authorities in data warehousing, integration, business intelligence, and disaster recovery.

The day-long events were met with much interest and enthusiasm by standing-room-only groups. Attendees learned about the latest products and services that can help maintain, protect, and extend their investment in legacy ADABAS/NATURAL systems. They also found out how to easily integrate legacy ADABAS data into Service Oriented Architectures (SOAs), Web Services, and RDBMS-based platforms for use in Internet/Web-based and business intelligence applications.

The events were held in Germany; Belgium; three locations in Brazil: São Paulo, Brasília, and Rio de Janeiro; and in Warwickshire, England. Additionally, November sees the TSI events traveling to Cape Town and Johannesburg in South Africa.

**Stay tuned for more worldwide events in 2006!**

## Tree·times

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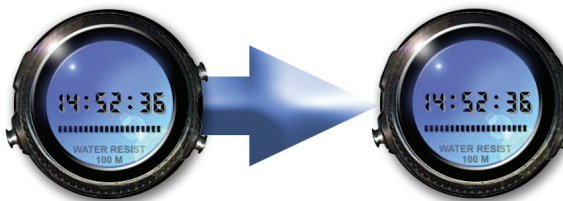
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## How Does DPSync Interact with ADABAS in Real Time?

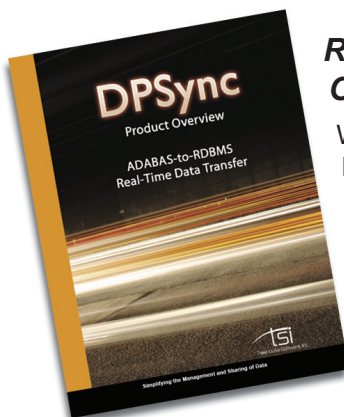
by Wayne Lashley



**DPSync** is TSI's comprehensive product for 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 using technology incorporated into **DPSync** from E-Net Corporation's **RRDF** (Remote Recovery Data Facility). As a standalone product in the market for over 15 years, E-Net's **RRDF** is the industry standard for software-based disaster recovery for a multitude of mainframe data sources, including ADABAS. It is in use at many of the largest and most critical data centers in the world. As such, the **RRDF** technology has proven itself over and over in the most demanding real-world environments. Furthermore, the impact of PLOG data acquisition using **RRDF** technology is, in most cases, too small to be measured using ADABAS performance monitoring tools.

The only time that **DPSync** would need to acquire data from the PLOG archives themselves is when there has been such an extended outage in processing (e.g., when the RDBMS is unable to receive updates for a period of many hours, a situation that would only occur under the most unusual circumstances) that the internal--and completely configurable--**DPSync** queueing capacity has been exceeded. In such situations, when the service is once again available, **DPSync** automatically, *and in parallel with acquisition of new updates* being generated out of ADABAS, recalls the required PLOG archives and begins the patented "gap recovery" process. **DPSync** maintains complete awareness of the contents of each PLOG archive (as well as the currently-active PLOG datasets) in its duplexed control files so as to be able to recall or reposition to any point in time.

One point that must be emphasized is that **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.



### Request a DPSync Product Overview...

We recently sent out over 1000 full-color **DPSync** product overviews to customers. If you didn't receive one, but would like one mailed to you, please contact **Mitch Doricich** at [mdoricich@treehouse.com](mailto:mdoricich@treehouse.com).

## TSI Forms Strategic Partnership with DataMirror *(continued from page 1)*

As the leading ISV for Software AG technology, TSI will market DataMirror software solutions to its existing base of ADABAS customers worldwide. The alliance addresses customer demand for CDC technology that integrates data from other production systems into ADABAS. By using **DataMirror Transformation Server™** software with **DPS X-Link**, TSI's "plug-n-play" middleware that provides client applications with fully-automated, real-time, read/write access to ADABAS data and metadata in XML format.

"With a solid reputation for delivering solutions that meet the needs of the ADABAS market, DataMirror is pleased to welcome Treehouse Software to the DataMirror Partner Program," said **Stewart Ritchie**, Senior Vice-President, Worldwide Sales, DataMirror. "In forming an alliance with Treehouse, DataMirror enhances the data integration, data auditing, and business intelligence capabilities of existing Treehouse customers by delivering Change Data Capture technology that moves data between production systems and **DPS X-Link** to provide continuous access to reliable data."

By forming a strategic sales and marketing alliance with DataMirror, TSI enhances its solution offering and becomes the first DataMirror partner to market DataMirror **Transformation Server ES**, a real-time solution for integrating the flow of information to message-oriented middleware. DataMirror offers more

than 10 years of leadership with best-of-breed real-time data integration, data audit, data protection, and Java database solutions.

For more information about **Transformation Server ES**, visit [www.datamirror.com/eventserver](http://www.datamirror.com/eventserver).

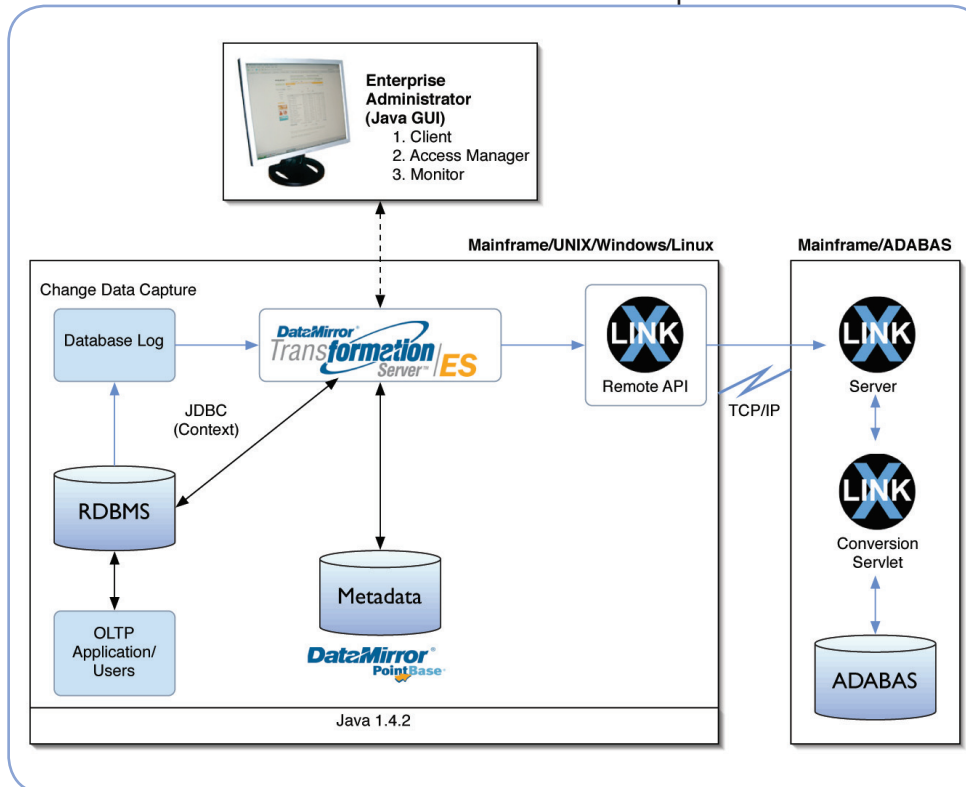
"Treehouse Software welcomes the opportunity to work with DataMirror to deliver enhanced data replication solutions to ADABAS customers," said **Wayne Lashley**, Director of Technical Operations, TSI. "Together, DataMirror and Treehouse are prepared to deliver value to customers by enabling them to integrate 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."

### About DataMirror

DataMirror, a leading provider of real-time data integration, protection, and Java database solutions, improves the integrity and reliability of information across all of the systems that create and store data. DataMirror's flexible and affordable integration solutions allow customers to easily and continuously detect, translate, and communicate all information changes throughout the enterprise. DataMirror helps customers make better

decisions by providing access to the continuous, accurate information they need to take timely action and move forward faster.

Over 2,000 companies have gained tangible competitive advantage from DataMirror software. DataMirror is headquartered in Markham, Canada and has offices around the globe. For more information, visit [www.datamirror.com](http://www.datamirror.com).





# TSI Harnesses the Power of Open Standards Interoperability

by Dan Vimont

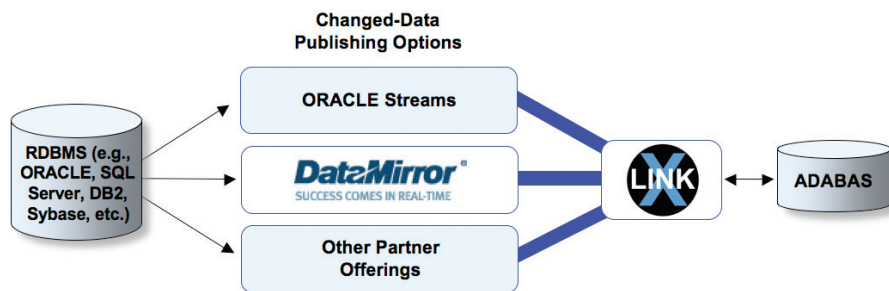
**DPS X-Link** is TSI's instant XML Gateway for ADABAS. **DPS X-Link** is the perfect complementary plug-in to round out SOA and Web Service implementations for prospective customers with legacy ADABAS environments. Besides providing instant remote read/write access to ADABAS via a SOAP/WSDL interface, **DPS X-Link** also presents all ADABAS data in XML format and ADABAS metadata in XML Schema format, so interoperability with your third-party products (and J2EE/.NET applications) is all but guaranteed. The fact that an entire ADABAS database is presented as one large conceptual XML document makes **DPS X-Link** amenable to XPath-formatted queries, providing an additional means of *open-standards integration*.

TSI has been providing THE proven solution for highly automated and highly efficient transformation of ADABAS data into RDBMS format for years, and we now offer an instant and automated ADABAS-to-XML solution in **DPS X-Link**.

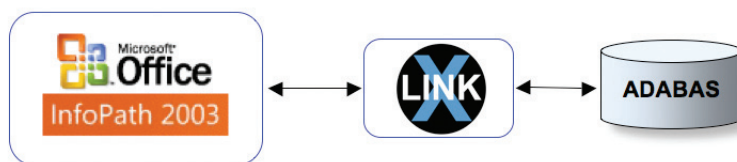
The diagrams to the right show **DPS X-Link's** seamless interoperability with the SOA (Service Oriented Architecture) offerings of TSI's technology partners **DataMirror**, **Microsoft**, **ORACLE**, **SAP**, and **BEA Systems** to instantly bring your ADABAS databases into the world of Web Services, SOAP/WSDL, and XML. **DPS X-Link** functions invisibly with these leading-edge technologies.

For more information or to download a free trial of **DPS X-Link**, please check out the TSI Web site at: [www.treehouse.com/dpsxlink.shtml](http://www.treehouse.com/dpsxlink.shtml). •

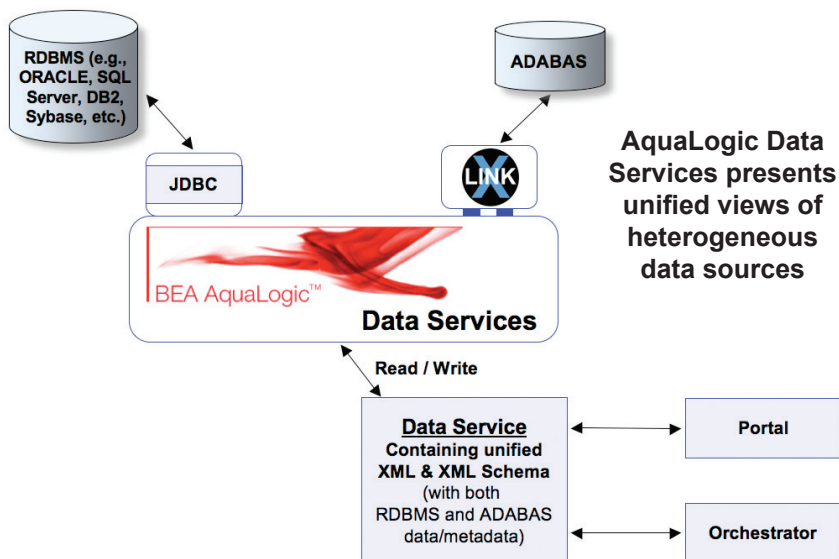
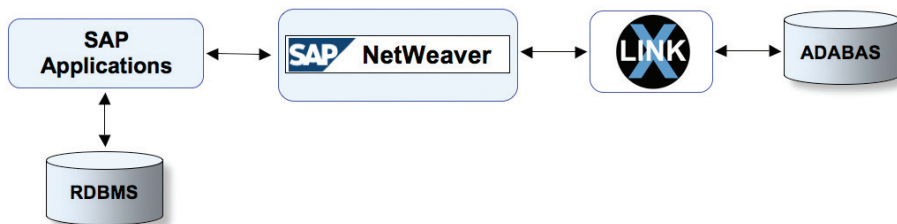
## RDBMS-to-ADABAS Propagation



## Bi-directional InfoPath-to-ADABAS Integration



## Bi-directional SAP-to-ADABAS Integration



# Automated Migration of ADABAS/NATURAL Applications

## Another TSI Partnership Offers More Options

The Software Revolution, Inc. (TSRI) and Treehouse Software, Inc. (TSI) have combined their mutual strengths and distinctive competencies to bring a never-before-available capability to the legacy modernization market. This alliance allows fully automated transformations of ADABAS/NATURAL into .NET, Java, etc.

The cooperation of the two companies provides a very powerful offering in the legacy modernization marketplace by utilizing TSRI's highly automated, model-driven modernization (MDM) expertise in concert with TSI's unquestionable expertise with NATURAL language and ADABAS database modernizations.



The Software Revolution, Inc. (TSRI) provides automated legacy computer system modernization services to both government and industry. TSRI's low-cost and low-risk services are derived from a highly-advanced artificial intelligence-based software re-engineering toolset called **JANUS™**, the technology for which is based on research initiated at the Air Force's Rome Labs in the 1980s and early 1990s.

From its establishment in 1995, TSRI provided Y2K inspections for a multitude of applications through 1999. Since 2000, efforts have focused on the Automated Software Modernization (ASM) market. A trusted supplier for an array of internationally recognized system integrators, TSRI has automatically modernized over 35 major systems, comprising a wide variety of legacy source languages and database structures and ranging from the business systems of the National Endowment for the Arts, Premera Blue Cross, and the Air Force to mission-critical operational systems aboard military ships, aircraft, and spacecraft.

TSRI is a privately-held small business based just east of Seattle in Kirkland, WA and has a highly-qualified technical staff and a fully-equipped facility capable of handling any size or type of legacy system modernization project.



Treehouse Software, Inc. As customers know, TSI has traditionally been oriented towards mainframe security, control, auditing and performance enhancement. The primary focus today is new software and services that help Software AG customers and others to leverage their investment in legacy systems with data integration, data

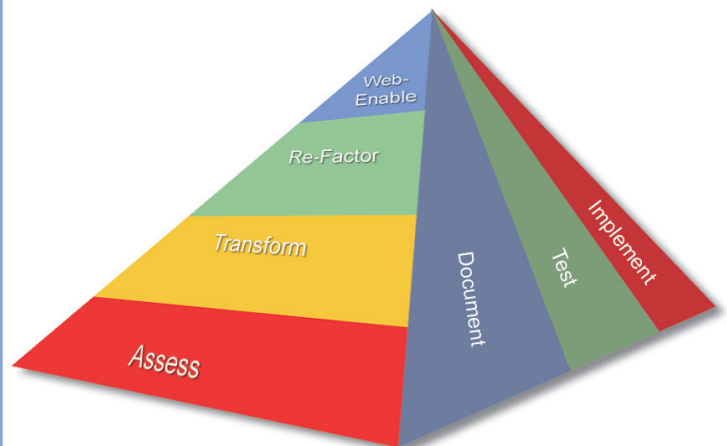
warehousing, data distribution and conversion, and other new technologies. Since its introduction in 1996, TSI's **tRelational/DPS** toolset has been the industry standard for mainframe ADABAS-to-RDBMS data migration and change data capture, and with **DPSync** these capabilities are delivered in real time. TSI's **NatQuery/NatCDC** products provide desktop-tool integration, ETL and CDC for ADABAS on any platform. Comprehensive data integration capabilities are offered through TSI's own products as well as through partnerships. Data migration and integration tasks are accomplished more quickly, reliably, and cost-effectively using TSI's products and services than through any other means.

## Application Migration

The Software Revolution offers a highly automated, low-cost, and low-risk approach to legacy computer system software modernization. Employing state-of-the-art artificial intelligence-based technologies, TSRI's **JANUS™** toolset provides a unique capability to assess, document, transform, re-factor, and web-enable legacy computer systems. TSRI can migrate valuable and often-irreplaceable legacy application software and database to a modern, platform-independent computing environment without manual intervention.

### Approach

TSRI's approach to system modernization permits gradual integrated steps along the transitional pathway with all steps costing a fraction of the other available methods and taking dramatically less time to accomplish. Each step up the "pyramid of automated technology" includes valuable information to support your modernization processes and decisions.



(continued on page 6)

## Automated Migration of ADABAS/NATURAL Applications *(continued from page 5)*

**Step 1: Assessment & Documentation:** Captures and documents your legacy system's "As Is" state, providing a detailed evaluation of your existing system's design. This step also helps identify the baseline metrics that will support the transformation business case.

**Step 2: Transformation:** Rewrites the legacy code into object-oriented code (C++, Java, C#, etc.) and couples that code to relational or object-oriented databases, while accurately ensuring the conversion of all system internal and external interfaces.

**Step 3: Re-Factoring:** Re-engineers the resulting target language and components to improve the system's structure, performance, and maintainability. This includes:

- **Automatic Re-Factoring:** The removal of dead and redundant code without changing a system's functionality.
- **Semi-Automatic Re-Factoring:** The identification of situations within the code where customer-provided Domain Experts could opt to make engineering changes to the system.

**Step 4: Web Enablement:** Transforms the legacy applications into the requisite language to take advantage of J2EE, .NET, or CORBA components, while the derived components are segregated to operate on the client or server side of the application.

### Conversion Capabilities

**JANUS™** is the most advanced tool framework for software assessment, documentation, transformation, re-factoring, and web-enablement. **JANUS™** grammar systems have been defined for many programming languages, as well as for TSRI's proprietary Intermediate Object Model (IOM). The IOM is a language-neutral model into which all legacy source languages are transformed and from which all modernized target languages are generated, effectively a universal language modeling system.

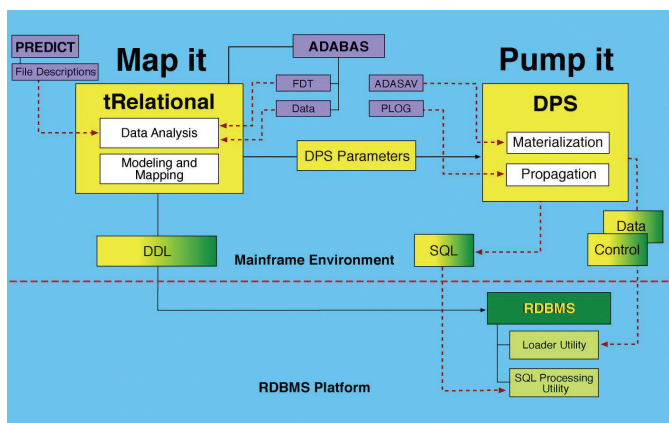
TSRI is uncompromising in its adherence to the Object Management Group (OMG) principles of model-driven architecture. All software transformations and analysis are carried out at the model level using domain-specific platform-independent high-level specification languages. For maximum efficiency, languages are mapped into TSRI's language neutral modeling formalism, the IOM. The platform-independent specification languages, JPGEN™, JTGEN™ and JRGEN™, are transformed into highly-efficient C++, C#, VB.NET, or Java, allowing applications of millions of lines of code to be processed

in only hours.

JPGEN™ defines compact, efficient grammar systems for mapping application source code into model bases. JTGEN™ defines complex rewrite rules that map between these model-bases to ensure that the source-language semantics are accurately re-expressed in the target language. JRGEN™ communicates between model bases and alternative representations, including design, documentation, software metrics, and visual presentations.

### Database Migration

Treehouse Software, Inc. (TSI) provides automated ADABAS-to-RDBMS and VSAM-to-RDBMS data migration services using its industry-leading products **tRelational/DPS** and **NatQuery/NatCDC**.



### Approach

TSI installs its tools on the customer's host system and undertakes data migration using a stepwise methodology that enables early discovery and resolution of data issues, maintains a metadata repository, and ensures an efficient and accurate migration using highly-productive tools. Analysis and migration activities are coordinated with the application migration to provide critical schema design and other decision-making input to the process.

**Step 1: Source File Implementation and Analysis:** Captures logical and physical source file structure definitions from the PREDICT data dictionary and from the ADABAS Field Definition Tables (FDTs) into the metadata repository and identifies discrepancies. Analyzes data contents, identifying anomalies and collecting statistical information on field usage to guide RDBMS design.

**Step 2: RDBMS Schema Generation:** Automatically creates target RDBMS schemata corresponding to source file structures, along with transformation specifications.

*(continued on page 7)*



## *Automated Migration of ADABAS/NATURAL Applications*

(continued from page 6)

- Step 3: Instantiate RDBMS: Automatically creates Data Definition Language for target RDBMS and allocates tables in the target database.
- Step 4: Materialization: Extracts samples of or complete source files and transforms data into RDBMS-loader-ready outputs, which are used to populate target tables.
- Step 5: Propagation: Optionally captures ongoing changes from source ADABAS files from Protection Logs and transforms them into SQL Data Manipulation Language (DML) statements to resynchronize target without requiring full refresh.

The process is iterative in nature, allowing for multiple trial conversions and ongoing change data capture for maximum project flexibility.

### *Conversion Capabilities*

**tRelational**, a mainframe NATURAL application, provides analysis, modeling, and explicit mapping of ADABAS data to RDBMS tables. The high-productivity **tRelational** tools extract source structure information and analyze data content to provide insight into usage of ADABAS repeating structures (MUs and PEs), alphanumeric fields and indexes (descriptors and superdescriptors), which guide normalization/denormalization decisions, datatype selection, and primary key definition. Full functional RDBMS schemata, DDL, and extraction and transformation specifications (parameters) for DPS are automatically generated. Transformations of the most complex nature can be specified.

**Data Propagation System (DPS)**, written in high-performance Assembler, provides Extract-Transformation-Load (ETL) and Change Data Capture (CDC) migration for ADABAS data. **DPS** extracts from static data sources rather than the source ADABAS database, placing no burden on the operational ADABAS database and delivering maximum efficiency.

**NatQuery/NatCDC**, a GUI-based toolset offering substantially similar capabilities to tRelational/DPS, enables data extraction on both mainframes and open systems and includes capabilities to extract directly from VSAM data sources (via NATURAL for VSAM). •

## *TSI's Worldwide Strategic Partners, Technology Partners, and Marketing Representatives*

For information on becoming a Treehouse partner, contact [partners@treehouse.com](mailto:partners@treehouse.com).

### *Strategic Partners*

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Anubex (Belgium)  
BEA Systems, Inc. (U.S.A.)  
The Benaroya Company (France)  
DataMirror Corporation (Canada)  
CCA Software Pty Ltd. (Australia)  
E-Net Corporation (U.S.A.)  
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Martin M & Associates (Argentina)  
VersaTec IT Services (Germany)  
CCA Software Pty Ltd.  
(Australia & New Zealand)  
Venezuela (Under Negotiation)

## Treehouse Software Products

### ADABAS-to-RDBMS Data Transfer:

**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

### UNIX:

**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:

**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

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

**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

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

**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.

**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.

**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.

**TSI is a BEA Select Partner, and is authorized to bundle solutions involving DPS X-Link with BEA products including:**

**BEA WebLogic Server 9.0** - The world's leading J2EE application server.

**BEA WebLogic Integration** - Converge two otherwise disparate activities- application integration and application development.

**BEA AquaLogic™** - The broadest line of Service Infrastructure products for successful SOA deployment. It consists of:

**BEA AquaLogic Service Bus™**

**BEA AquaLogic Data Services Platform™** (formerly BEA Liquid Data)

**BEA AquaLogic Enterprise Security™**

**BEA AquaLogic Service Registry™**

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