

Treetimes

A Publication of Treehouse Software, Inc.

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Published Regularly Since 1987

First called "Treetips", then "Treetimes" – 47 issues so far – have featured many Treehouse customer success stories, interviews, and product features.

The entire back issue set of Treetips and Treetimes is available for downloading from the Treehouse Web site. Just go to:

treehouse.com/treetips.shtml

Download A Free Trial of DPS X-Link, the Instant XML Gateway for ADABAS.

Just go to:

treehouse.com/dpsxlnk.shtml



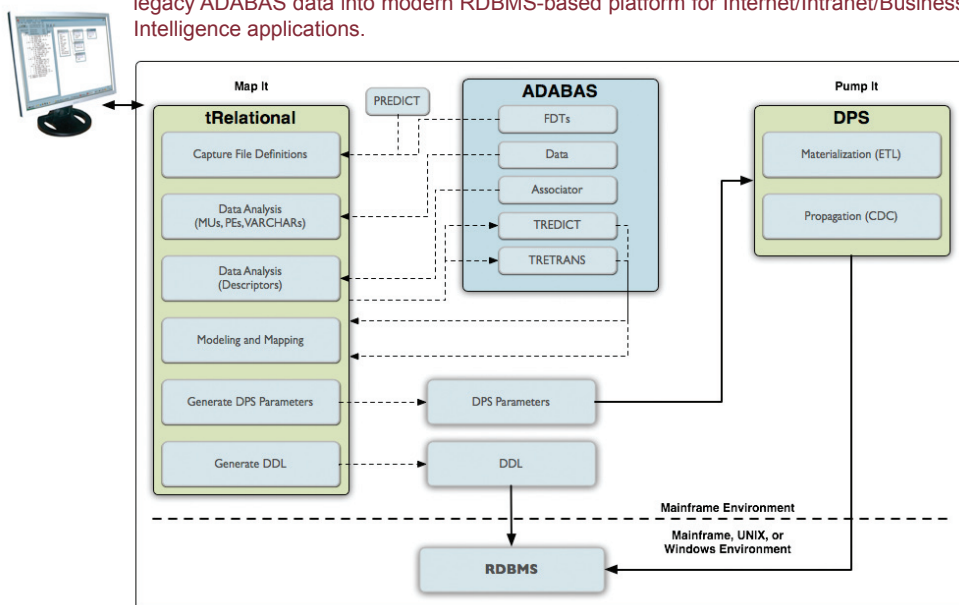
Treehouse Software, Inc.

BS2000 Site Chooses tRelational/DPS

Société Générale Bank & Trust, the subsidiary of Société Générale based in Luxembourg, has chosen TSI's ADABAS-to-RDBMS products, **tRelational** and **Data Propagation System (DPS)** for their data transfer needs. The IT & Back offices at Société Générale chose **tRelational/DPS** for their project because the products satisfy their requirements for future extraction of data out of ADABAS to be migrated and propagated to a planned Data Warehouse. **tRelational/DPS** provides the necessary ease of use, flexibility in mapping and modelling, and stability for future extraction of data from ADABAS databases. The products will help in all future IT projects and strategies.

Additionally, since **tRelational/DPS** supports Société Générale's BS2000 environment, the decision was simple.

tRelational/DPS is a robust product set that provides modeling and data transfer of legacy ADABAS data into modern RDBMS-based platform for Internet/Intranet/Business Intelligence applications.



About Société Générale

The Société Générale Group is the 7th largest French company by market capitalization, and one of the leading financial services groups in the Euro zone. It employs over 100,000 people worldwide. Its business mix is structured around three core businesses: Retail Banking & Financial Services, Global Investment Management & Services and Corporate and Investment Banking.

The Group is pursuing a profitable growth policy based on the selective development of its core activities through a combination of organic growth and acquisitions, and is drawing on a strong capacity for innovation geared towards satisfying its customers. The Group's three fundamental values are Professionalism, Innovation, and Team Spirit. •

Editor's Notes

by Joseph Brady



Over the past several months, TSI has held several special events, entitled “Simplifying the Management and

Sharing of Data - ADABAS and More”. Attendees of the day-long events 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.

So far, the events were held in Wiesbaden, Bonn, and Berlin in Germany; Belgium; São Paulo, Brasília, and Rio de Janeiro in Brazil; in Warwickshire, England; in Cape Town and Johannesburg in South Africa; and in Sydney, Canberra, and Melbourne in Australia.

Stay tuned for more worldwide events in 2006! We are already busy scheduling events in Brazil, England, Germany, Austria, and Switzerland, to name a few.

Tree·times

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The Ease of RDBMS-to-ADABAS Replication

by Chris Rudolph and Joseph Brady



Anyone keeping up with happenings at the Treehouse knows that for the past several years, we've been touting our best-of-breed ADABAS-to-RDBMS data transfer products. However, in recent years, customer demand for Change Data Capture (CDC) technology that integrates data from other production systems *into* ADABAS has been on the rise. This demand is now easily fulfilled by using **DataMirror Transformation Server/ES™** software along with **DPS X-Link**, TSI's middleware that provides read and write access to ADABAS from XML-based content. Through our DataMirror partnership, we are able to offer this powerful combination that allows enterprises to benefit from a real-time, low-impact flow of information *to* ADABAS.

Transformation Server/ES enhances the data integration, data auditing, and business intelligence capabilities of TSI customers by delivering CDC technology that moves data between production systems, with **DPS X-Link** providing continuous access to reliable data.

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 enterprise application integration (EAI), business process management (BPM), and service-oriented architecture (SOA) environments.

See for yourself...

For those who would like to see a demonstration via Webex, just let us know. We will show you how **DPS X-Link** hooks into **Transformation Server/ES** to allow the RDBMS to update ADABAS via **Transformation Server/ES** CDC. You'll see real-time replication of changes from an RDBMS to ADABAS, as well as the components involved in the replication. Under the hood, DataMirror's **Transformation Server/ES** uses CDC technology to grab changes made to an RDBMS and writes all of the changes to an XML document that is based on the **DPS X-Link** XML schema. **Transformation Server/ES** sends this XML document to **DPS X-Link**, via a Java Message Server (JMS) message. **DPS X-Link** then processes the XML document and updates ADABAS.



Drag-and-Drop Mapping

The real highlight of the demo is the GUI mapping tool inside of **Transformation Server/ES**. You'll be surprised at how easily you can replicate RDBMS data to ADABAS with a familiar drag-and-drop PC interface.

Contact **Mitch Doricich** (mdoricich@treehouse.com) at TSI today for more information on RDBMS-to-ADABAS replication, and on our DataMirror DataWorld partnership, which enables Treehouse to market the full line of DataMirror products.

The Comparison Test:

Questions Any ADABAS Replication Vendor Should Be Asked

Compiled by Larry Jones

Does the product guarantee replication of all modification transactions (from ADABAS to the RDBMS), in the same time sequence as the original ADABAS transactions, in all cases?

DPSync: Yes, even if communications are lost for extended periods, or if any component fails and is restarted.

Other Vendors: _____

If the product does not guarantee replication (and thus if data can sometimes be lost), what are the procedures for recovering the lost data?

DPSync: Not applicable – data cannot be lost.

Other Vendors: _____

Does the product guarantee that no duplicate transactions will be applied to the RDBMS server?

DPSync: Yes. No duplicates are updated to the RDBMS under any circumstances.

Other Vendors: _____

Is the ADABAS region ever caused to wait while disk I/O is performed by the replication server software, the messaging software, the RDBMS server software, or any other component, during normal processing, during volume spikes or under any other circumstance?

DPSync: No. Not under any circumstance.

Other Vendors: _____

For the initial loading of the RDBMS, does the system make use of the ADABAS high-speed extraction utility ADASAV and the high-speed RDBMS loaders?

DPSync: Yes. Both ADASAV and high-speed RDBMS loaders are utilized.

Other Vendors: _____

What is the procedure for performing a synchronized backup of the ADABAS RDBMS and mainframe ADABAS systems, in a manner where these backups can later be restored and the two databases kept in sync?

DPSync: No need to pause the mainframe ADABAS or DPSync.

- Back up ADABAS using the high-speed ADASAV utility.
- Run the DPSync "Materialization" process to create the RDBMS load file from the ADASAV file. This load file is in the format for the RDBMS high-speed loader.
- (Optional step) Transmit the RDBMS load file to the RDBMS server where it can be staged until it is needed for a restore.

Other Vendors: _____

What is the procedure for restoring such a backup, and re-synchronizing the updates?

DPSync:

- Stop the mainframe ADABAS system, the mainframe DPSync, and the DPSync RSU.
- Begin the restore of the ADASAV to ADABAS, and the RDBMS load file to the RDBMS, using the high-speed utilities.

- When the ADABAS restore completes, restart ADABAS and the mainframe DPSync system. No need to wait for the RDBMS restore to finish. When restarting the mainframe DPSync, specify a "pseudo gap" with a date/time matching the time of the ADABAS restore. Any ADABAS updates that occur after the ADABAS restore and before the RSU is restarted will be queued.

- When the RDBMS restore completes, restart the RSU. All the previously queued updates (since the ADABAS restore) will be applied to the RDBMS.

Other Vendors: _____

Error recovery/retry: Can the customer optionally cause the system to automatically retry certain types of RDBMS errors (such as a "row locked")?

DPSync: Yes. DPSync's error recovery allows the customer to identify what action will be taken for specific types of errors. As an example, for a "row locked" condition, the customer may specify that DPSync pause for 1/2 second then retry up to 5 times, before treating the condition as an error subject to a defined "escalated" handling procedure.

Other Vendors: _____

Error recovery/retry: Can the customer cause the replication system to automatically halt for certain (selectable) types of RDBMS errors?

DPSync: Yes. The customer identifies the specific error or group of errors and instructs DPSync to "halt" when/if they are encountered. Mainframe ADABAS continues normal operations while DPSync is halted. The customer may "restart" the halted system, either retrying or skipping the erroneous transaction. At restart, DPSync automatically resumes replication, with the original transaction time sequence, with no loss data, regardless of the amount of time the system was halted.

Other Vendors: _____

Error recovery/retry: Can the customer cause the replication system to automatically skip certain (selectable) types of RDBMS errors, writing them to an error log and allowing the replication process to continue to run?

DPSync: Yes. The customer identifies the specific error or group of errors and these transactions will be written to an error log if they are encountered. The customer may display the error log and (later) direct the DPSync system to retry individual transactions.

Other Vendors: _____

Error recovery/retry: Does the system offer administrator notification facilities?

DPSync: Yes. The customer can identify specific RDBMS errors (or groups of errors) which, if they occur, will cause notification to be sent to the appropriate person(s) by email or pager.

Other Vendors: _____

Does the product offer tools to assist in designing the RDBMS and producing the metadata?

DPSync: Yes. DPSync can analyze the actual values/ occurrences of ADABAS data to determine the true usage of

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The Comparison Test:

Questions Any ADABAS Replication Vendor Should Be Asked

(continued from page 3)

variable length character fields and other data content.

It also examines the structure of the ADABAS database to offer recommendations on how the target RDBMS should be structured. It will, for example, evaluate repeating groups (PEs) and repeating fields (MUs) and recommend child and grandchild tables where applicable. It will use PREDICT to recommend table and column names. All these recommendations are presented to the user, and may be modified until the final design is satisfactory.

The user may also define transformation rules, such as concatenation of fields, normalization of PEs and MUs, date conversions, ISN usage, null value processes, etc.

All the above result in the production of a metadata repository that is used during the real-time replication of ADABAS updates.

Other Vendors: _____

How is the target RDBMS defined (how are DDL statements produced)?

DPSync: The system generates the DDL statements for defining the RDBMS.

Other Vendors: _____

What are the functions that can be performed by the interactive, Windows-based GUI system monitor/console?

DPSync:

- Display statistics, most recent and average: latency times (delay times between ADABAS and the DPSync components), time spent in the RDBMS update, time spent in queues and total time from ADABAS to completed RDBMS update.
- Counts: number of ADABAS transactions, before images, after images, PLOG blocks, SQL statements, SQL blocks (transactions) and errors.
- Display system state: Mainframe-to-RDBMS-server connection (i.e., if disconnected), paused state, volume overruns.
- Task statuses for the mainframe tasks (i.e., waiting for locks, waiting for TCP/IP response, etc.).
- "Grant" and "Revoke" access to the system (DPSync Console security).
- Halt/restart the replication process, and pause/resume the replication process.
- Display/retry RDBMS transactions that are on hold due to RDBMS errors.
- Display RDBMS transactions that were successfully applied.
- Restart the system after an RDBMS error invoked a system halt, optionally retrying or skipping erroneous transactions.
- Display/modify the run-time parameters of the DPSync system.
- Display/modify the RDBMS error recovery specifications, including retry criteria, email/page specifications, etc.

Note: DPSync also includes tRelational, its interactive tool for ADABAS data analysis, RDBMS design and metadata specification. This is a separate component and as such is not included in this description of the DPSync "Console".

Other Vendors: _____

Transformation: Will the vendor-supplied software support mapping PEs and MUs to child and grandchild tables, with full adherence to foreign key constraint rules?

DPSync: Yes.

Other Vendors: _____

Transformation: What options does the PE-and-MU-to-child-table transformation process offer?

DPSync:

- Treat null PE and MU occurrences as though they contained spaces or zeros.
- Bypass null PE and MU occurrences.
- Concatenate all or selected PE and/or MU occurrences into a single column.
- Bypass some occurrences while including other occurrences, based on occurrence numbers.
- Treat the occurrence number as data.

Other Vendors: _____

Transformation: Can the data from a single ADABAS record be transformed and replicated to multiple tables, or multiple rows in a single table, or multiple rows in multiple tables?

DPSync: Yes -- without restrictions.

Other Vendors: _____

Transformation: Can the "non-data items" (such as ISN and PE/MU ordinal occurrence numbers) be transformed as though they were data?

DPSync: Yes.

Other Vendors: _____

Transformation: Can literals be inserted into the transformation process?

DPSync: Yes.

Other Vendors: _____

Transformation: Can multiple ADABAS fields be concatenated into a single RDBMS column value?

DPSync: Yes.

Other Vendors: _____

Transformation: Can substrings be extracted from ADABAS fields and used as data, and even treated as a different datatype (e.g., packed values embedded in alphanumeric fields)?

DPSync: Yes.

Other Vendors: _____

Transformation: Does the system support filtering, value-based mapping (dynamic assignment of data to tables depending on field value content) and ADABAS "record types"?

DPSync: Yes.

Other Vendors: _____

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The Comparison Test:

Questions Any ADABAS Replication Vendor Should Be Asked

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Transformation: Does the system distinguish between null ADABAS fields and fields that actually contain spaces or zeros?

DPSync: Yes.

Other Vendors: _____

Transformation: Does the system support conversion of proprietary NATURAL datatypes, such as NATURAL dates, times and logical fields?

DPSync: Yes.

Other Vendors: _____

Transformation: If a need arises to modify the transformation process, what is involved? (For example, to add an additional field and column to the transformation.)

DPSync:

- There are no application programs to modify.
- Use tRelational to display and modify the previously-defined

transformation specification, adding the new column and identifying the ADABAS field(s) and transformations for populating it.

- Stop DPSync.
- Re-materialize the RDBMS using the ADABAS high-speed ADASAV utility and the high-speed RDBMS loader. The newly added field and column will be included in the transformation.
- Restart DPSync. The replication process will now include the newly added field and column.

Other Vendors: _____

Do the solutions to any of the above items require implementation of custom-developed application software (i.e., are not handled by off-the-shelf software)?

DPSync: 100% off-the shelf. Absolutely no programs to develop.

Other Vendors: _____

How does the vendor's product rate, on a scale of High, Medium, Low, Not Available, or "customer must write own program" (CMWOP)?

	Robustness of Features	Ease of implementation (requires no development?)	Ease of Operation (including facilities for RDBMS error notification and automatic recovery)	Ease of software maintenance (when the RDBMS or transformation process changes, when migrating to new OS, etc.)	Ease of metadata maintenance (when the RDBMS or transformation process changes)	Performance (including never putting ADABAS into a wait for I/O)	Reliability	Data Integrity (guaranteed replication, in sequence, without duplicates)
Analysis and RDBMS design tools	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____
Extraction, transformation & load facilities	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____
Interception and delivery of changes	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____
Transformation (from complex ADABAS files to sophisticated RDBMS structures, mapping fields to columns and other comprehensive conversions)	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____
Application of the updates, notification of and recovery from RDBMS errors.	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____
Special functions, such as synchronized back ups and restores.	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____	DPSync: High Other Vendors: _____

VBL's 10 Years With N2O... Article Supplied by Dipl. Ing. Stefan Fröhlich

In 1995, TSI's change management tool, **N2O** was introduced for the project "Integrierte Sachbearbeitung Versicherung und Leistung" (ISVL) at Versorgungsanstalt des Bundes und der Länder (VBL) to administer software objects and their life cycles.

Starting with the original environments project development (PEU), consolidated development (KEU), preproduction (VORP) and production (PRU), including the related archives, a system was developed that consists of 75 environments, as well as 585 migration paths (Masterevents).

Figure 1, to the right shows the configuration management. Between the environments belonging to the same level, we realized further foreign supply paths. The single environments are separated from each other by a separate NATURAL-Installation and NATURAL Security, as well as by RACF.

N2O offers us the ability to migrate objects between these environments. Since **N2O** allows us to define an archive to any given environment, we have flexible handling of the environments, while allowing us specific, but independent versioning. By using **N2O**'s "autocompile" feature, only objects migrated through **N2O** are catalogued in the target environment. This prevents us from doing a Catall within the target environment (e.g., at times of comprehensive program changes).

Basically, we handle four different object types with **N2O**: NATURAL Objects, SYSERR error messages, PREDICT Objects, and Rest Objects. We separate the Rest Objects into: Helptext, Metadata, Tomas tables, JCL skeleton, and further specific technical object types. The Tomas tables are stored in ADABAS files, because, among other things, they are used to drive the application, and therefore they have to be available to the application at any time. In order to be migrated by **N2O**, the Rest Objects are unloaded into a PDS member via unload programs, and from here **N2O** administers it, versions it, and migrates it into the target dataset. They are then stored in the target ADABAS files automatically. By administering all of these object types through **N2O**, we achieve a standardized selection, administration, and versioning process for our objects.

Based on organizational reasons, VBL decided to create separate migration paths for each of these object types. This helped during the implementation of the versioning concept, and was uncomplicated and quickly attainable with **N2O**.

We also use the "Check-out/Check-in" functionality of **N2O** for any of the object types in the same manner. We can determine which object is checked out by whom, and in which library (e.g., further development) at any time. Furthermore, Check-out/Check-in ensures that we avoid a concurrent update of objects. The requirement for the distribution of centrally used objects was solved through creating multiple target events, enabling us to migrate objects out of one library in up to 10 different libraries in parallel. Therefore, versioning within the security of **N2O** became essential for us.

Since the implementation of **N2O** in the year 1995, the migration volume is rounded as follows:

NATURAL:	384,000 objects
SYSERR:	19,000 objects
PREDICT:	6,000 objects
3GL / OTHER:	45,000 objects

This corresponds to around 49,000 object movements per year, or more than 200 per day.

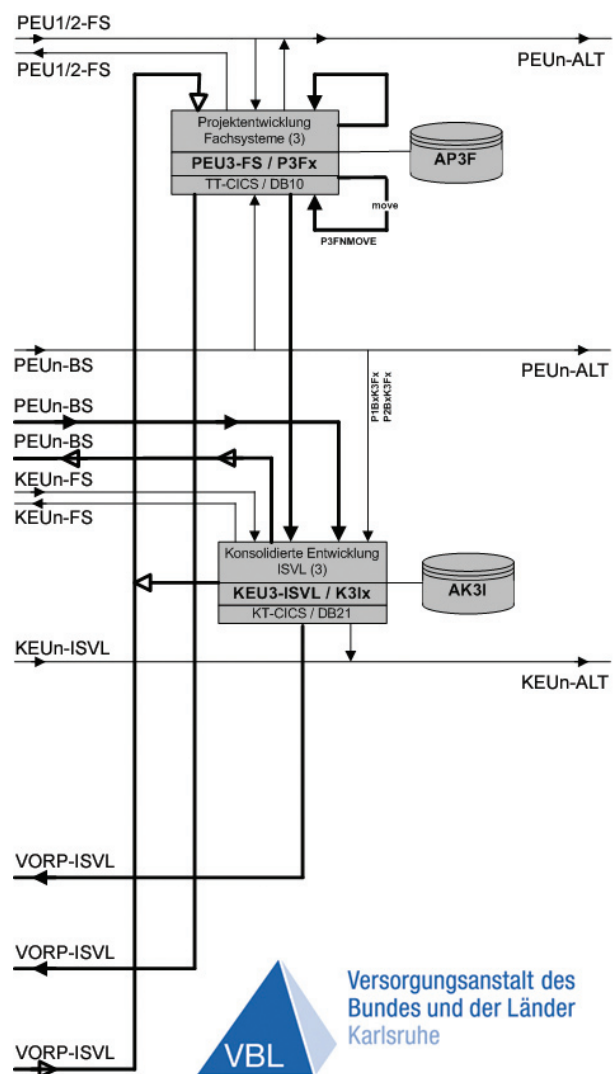
Our current **N2O** system environment consists of the mainframe-hardware IBM z/890 model 360, with 24 GB main memory and 489 Mips, and operating system z/OS, Release 1.6.

VBL is the biggest institution for supplementary pension in the public sector

For more than 75 years the VBL, Versorgungsanstalt des Bundes und der Länder [supplementary pension institution of the German Federal Republic (Bund) and the countries (Länder), for non civil servant public employees], has managed the occupational pension for employees in the public sector. Collective agreements between employers and trade unions are base on the occupational supplementary pension. The VBL administers contributions and allocations by employers and employees exceeding 10 billion Euros. About 1 million pensioners receive a supplementary pension of the VBL in addition to its old-age pension. Altogether VBL pays around 340 million Euros as supplementary pensions monthly. Currently, approximately 5,400 participating employers and around four million employees use the service of the institution governed by public law in Karlsruhe.

Figure 1

Fach-Systeme (3)



German Version:

Um die Softwareobjekte und ihren Lebenszyklus verwalten zu können, wurde 1995 mit dem Projekt ISVL „Integrierte Sachbearbeitung Versicherung und Leistung“ das Migrationstool **N2O** eingeführt. Von den ursprünglichen Umgebungen

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VBL's 10 Years With N2O... (continued from page 6)

Projektentwicklung (PEU), konsolidierte Entwicklung (KEU), Vorproduktion (VORP) und Produktion (PRU) mit den jeweils dazugehörigen Archiven wurde zwischenzeitlich ein System entwickelt, das aus 75 Umgebungen sowie 585 Migrationswegen (Masterevents) besteht.

In der Darstellung ist die Konfiguration-Management-Architektur grob abgebildet. Zwischen den Umgebungen einer Ebene sind des weiteren Fremdversorgungswege realisiert. Die einzelnen Umgebungen selbst sind durch separate Natural-Installationen, Natural Security sowie RACF voneinander abgegrenzt.

Aber **N2O** bietet uns die Möglichkeit, Objekte zwischen diesen Umgebungen zu migrieren. Da das Produkt zulässt, an jede beliebige Umgebung ein Archiv zu definieren, ermöglicht uns **N2O** eine flexible Handhabung der Umgebungen einerseits und eine gezielte, voneinander unabhängige Versionierung andererseits. Via Autocompile werden nur die von **N2O** übergebenen Objekte in der Zielumgebung katalogisiert. Dies erspart uns ein Catall in der Zielumgebung, wie z.B. bei umfangreichen Programmänderungen. Grundsätzlich verwalten wir 4 unterschiedliche Objekttypen über **N2O**: Natural-Objekte, SYSERR-Fehlermeldungen, PREDICT-Objekte und Restobjekte. Die Restobjekte unterscheiden wir weiter in: Hilfetexte, Metadaten, Tomas-Tabellen, JCL-Gerüste und weitere fachspezifische Objektarten. Die Tomas-Tabellen sind in Adabas-Dateien abgelegt, da sie unter anderem zur Applikationssteuerung genutzt werden und somit jederzeit der Applikation zur Verfügung stehen müssen. Für die Migration mit **N2O** werden die Restobjekte durch eigene Entladeprogramme in PDS-Member gestellt, von dort aus mit **N2O** bis zum Zieldataset weitertransportiert, verwaltet und versioniert. Hier werden sie dann automatisch in die Adabas-Dateien der Zielumgebung übertragen. Durch die Möglichkeiten alle diese Objekttypen mit **N2O** verwalten zu können, erreichen wir eine einheitliche Selektionsoberfläche, Verwaltung und Versionierung unserer Objekte. Aus organisatorischen Gründen hat sich die VBL dafür entschieden, für jeden Objekttyp separate Migrationswege anzulegen. Dies erleichterte die Umsetzung der Anforderungen des Versionierungskonzeptes und war im **N2O** unkompliziert, wie auch schnell realisierbar. Durch die Checkout/Checkin-Funktionalität des **N2O**, die für alle Objekttypen gleichermaßen zur Verfügung steht, können wir jederzeit bestimmen, welche Objekte von wem in welcher Library in Bearbeitung (z.B. Weiterentwicklung) sind. Zudem verhindert das Checkout/Checkin ein konkurrierendes Update auf Objekte. Die Anforderung der Verteilung von zentral genutzten Objekten lösten wir mittels der Multiple-Target-Events. Sie erlauben uns Objekte aus einer Library in bis zu 10 unterschiedliche Libraries parallel zu übertragen. Die Versionierung mit dem Komfort des **N2O** ist für uns unverzichtbar geworden.

Seit der Einführung von **N2O** im Jahr 1995 stellt sich das Migrationsaufkommen gerundet wie folgt dar:

NATURAL:	384.000 Objekte
SYSERR:	19.000 Objekte
PREDICT:	6.000 Objekte
3GL / OTHER:	45.000 Objekte

Dies entspricht ca. 49.000 Objektbewegungen pro Jahr bzw. mehr als 200 pro Tag.

Unsere aktuelle Systemumgebung im Umfeld von **N2O** besteht aus der Großrechner-Hardware IBM z/890 Modell 360 mit 24 GB Hauptspeicher und 489 Mips sowie dem Betriebssystem z/OS Release 1.6.

VBL ist größte Zusatzversorgungseinrichtung im öffentlichen Dienst

Die VBL, Versorgungsanstalt des Bundes und der Länder, führt seit über 75 Jahren die betriebliche Altersversorgung für Beschäftigte im öffentlichen Dienst durch. Grundlage der betrieblichen Zusatzversorgung sind die Tarifverträge zwischen Arbeitgebern und Gewerkschaften. Die VBL verwaltet Beiträge und Umlagen von Arbeitgebern und Beschäftigten in Höhe von etwa 10 Milliarden Euro. Etwa 1 Million Rentner erhalten neben ihrer gesetzlichen Rente eine Zusatzrente von der VBL. Insgesamt etwa 340 Millionen Euro zahlt die VBL monatlich an Zusatzrenten aus. Derzeit nutzen rund 5.400 beteiligte Arbeitgeber und etwa 4 Millionen Versicherte die Dienstleistung der öffentlich-rechtlichen Einrichtung in Karlsruhe. •

"VBL (Versorgungsanstalt des Bundes und der Länder) has been using N2O as their migration tool for more than 10 years now.

Due to changes and expansions of our environment structures, it has been necessary to continually adjust N2O to these new structures. These adjustments were accomplished easily with N2O.

Additionally, as the complexity of our structures has increased, N2O has always proven stable and dependable.

N2O has proven itself as an efficient management tool. Through the multiple reporting functions of the Reporting Subsystem, it is possible to retrace the migrations at any time.

Thank you very much for the competent support through the support team of Treehouse Software, Inc. and the good collaboration with our team."



Dipl. Ing. Stefan Fröhlich

- Process Engineering -
VBL. Versorgungsanstalt
des Bundes und der
Länder
Karlsruhe, Germany

German Translation:

"Über 10 Jahre ist N2O als Migrationstool in der VBL (Versorgungsanstalt des Bundes und der Länder) im Einsatz.

Aufgrund von Änderungen bzw. Erweiterungen unserer Umgebungsarchitektur, ergab sich seither mehrfach die Notwendigkeit, N2O der neuen Architektur anzupassen. Diese Anpassungen ließen sich problemlos vornehmen.

Auch bei den immer komplexer werdenden Strukturen arbeitet N2O stabil und zuverlässig.

N2O hat sich als ein effizientes Verwaltungssystem bewährt. Durch die vielfachen Funktionen des Reporting Subsystem ist es jederzeit möglich, Migrationen nachzuvollziehen.

An dieser Stelle vielen Dank für die kompetente Unterstützung durch das Supportteam von Treehouse Software, Inc. und die gute Zusammenarbeit."

Dipl. Ing. Stefan Fröhlich

- Verfahrenstechnik -
VBL. Versorgungsanstalt des
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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

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:

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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:

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

BEA AquaLogic Enterprise Security™

BEA AquaLogic Service Registry™

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