

VERSANT

Arum Systems Ltd.

Keeping an eye on success

Arum DataEye provides companies with fast visual access to their key performance indicators. Keeping objectives in view, team leaders and executives can closely monitor company processes and respond to operational needs more quickly.

An embedded object-oriented database "db4o" delivers data in near-real-time mode.



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Arum Systems, an IT consultancy located in Edinburgh, Scotland, UK, enables banks, debt buyers, debt collectors and utility companies all over Europe to tune their business systems and to make their operations more efficient. "Business success or failure often depend on how fast managers and team leaders can react to current events and operational crises," tells Chris Brind of Arum. This is the application domain for Arum's product DataEye, a web based management information system.

DataEye in near-real-time mode

"Our experience in helping our customers optimize their collections operations showed us that many managers were highly dependent on reports that were at best a day, often as much as a week or more out of date," says Chris. "On the other hand, we could see that collectors responded well to having access to information about their performance."

Arum DataEye presents this information in near-real-time – and helps collectors to work more effectively by showing them their relative performance as a dashboard on their computer.

Arum's first customer was BCW Group, the UK's largest debt collection agency. With DataEye, BCW Group's managers have full rapid control over the visual presentation of their key performance indicators. DataEye enables the early identification of areas where resources are needed and helps to decide where extra training may be required. Front line staffs are very quickly able to compare their own performance with their workmates and against their own targets, while team leaders can see how individuals and teams are performing.

Integrated with any system

"The modularity of the system allows us to integrate Arum DataEye with virtually any system or database, and Versant's db4o provides us with a persistence layer that is affordable, invisible for the customer and performing well enough to provide data to a browser based front end in what looks like real-time," Chris describes the situation. "When we started product development in March 2008, we were looking for a persistence layer to match our work in OSGi and Java. We also decided that we did not want to have to worry about what RDBMS our customers were using, nor have to worry about setting one up

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Chris Brind
Software Architect
Arum Systems Ltd.

ourselves. So we selected db4o as an embedded database. This solution is especially ideal for customers who have a light infrastructure, which is often the case with smaller debt collection agencies.”

db4o outperforms MySQL

Before Arum started to develop the product in March 2008, they actually considered using a database like MySQL and object-relational mapping technology such as Hibernate. However, “this would have resulted in spending much too much time designing the relational structure and implementing the mapping for the ORM – time that is much better spent on implementation of business critical function,” tells Chris. The time schedule was very tight, and a first version had to be deployed six months later. So the Arum software developers decided to get rid of time-consuming and processing-intensive mapping – and started to evaluate db4o.



Arum DataEye provides fast visual access to key performance data



Db4o reduced time and costs

After a series of performance tests the Arum software developers determined that db4o not only matched their requirements – it outperformed MySQL/ Hibernate for every operation, even data warehousing.

With db4o, Arum was able to release a first version of DataEye in October of 2008. After completion of an integration phase, DataEye’s first customer BCW Group went live with an implementation in April 2009. “db4o reduced time and cost of developing Arum DataEye by approximately 30% in comparison to

using a ‘traditional’ RDBMS and ORM, while remaining flexible and scalable”, explains Chris.

Constructed from OSGi bundles

DataEye is using the OSGi framework, an open standard Java-based service platform that offers a complete and dynamic application life cycle management and component model. Applications or components in form of bundles can be installed remotely. The DataEye application is constructed from a composite of OSGi bundles that store transactional data using db4o for persistence – each having slightly different requirements. Db4o is accessed via abstract interfaces using OSGi’s Service Registry, and real-time data is stored in a custom data warehouse that is backed by a dynamically changing collection of multiple db4o embedded databases. The file-based embedded approach makes it very easy for system administrators to backup the data – and

if required, migrate it between different instances of DataEye by just using file system operations.

Db4o enables DataEye to store and dynamically retrieve billions of objects – and years worth of data that can later be used for analytics, allowing further enhancement to a customer’s business. Arum’s software developers look ahead optimistically. “db4o continues to improve with every release - giving us enhanced performance simply by upgrading the db4o OSGi bundle, without affecting any of the existing code base.”

Certainly, they will keep an eye on it.

DataEye – Highlights

Management Information System
Near real-time access to key performance indicators
Quick response to operational needs

OSGi / Java / Flex

Application areas

Credit management

Database features

Object-oriented database db4o
Embedded
Easy-to-use API
No mapping layer
Fast near-real-time access

Easy data backup



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