Danfoss selects Sun's MySQL database to power its large-scale air conditioning system AKM

Danfoss Overview

Danfoss is one of the largest industrial companies in Denmark. The global group is a leader within research, development and production, sales and service of mechanical and electronic components for several industries. Danfoss' activities are divided into three main business areas: Refrigeration & Air Conditioning, Heating & Water and Motion Controls, each leading within its industry. Danfoss has a large ownership share in one of the world's leading manufacturers and suppliers of mobile hydraulics, Sauer-Danfoss. Danfoss seeks to obtain its goals with a minimal consumption of raw materials and energy, the least possible impact on its surroundings and the most efficient use of resources. Danfoss has a long tradition for a social responsibility towards both employees and the surrounding environment.

The Business Challenge

Danfoss' AKM (Adap-Kool Monitoring) application is an advanced PC programme for setup, start up, log presentation and alarm-handling of large-scale air conditioning systems. The AKM software enables commercial facilities, such as grocery stores, to monitor and control temperature levels inside store premises, or service technicians to manage the daily monitoring of refrigeration plants.

"Previously, the system was limited to a single user, but we have noticed an increasing desire among our customers to share their AKM information," said Martin K. Iversen, Project Manager for AKM at Danfoss. "Our challenge was therefore to allow for an unlimited number of users of the application without compromising its performance nor its reliability."

The MySQL Solution

AKM handles large volumes of air conditioning information in each facility, and the system manages hundreds of thousands of queries on a daily basis. In order to ensure high reliability and also create a flexible software platform for future development, Danfoss migrated from a limited Betriever database to MySQL.

"We will now be able to have an unlimited number of concurrent users of AKM – a very positive step, both for us and for our customers," says Martin K. Iversen. "Moreover, we are improving AKM's reliability and performance by migrating to MySQL."

"Danfoss has selected to deploy MySQL as a key component in its highly advanced and capacity-demanding air conditioning application," said Magnus Stenberg, MySQL Sales Manager for the Nordic & Benelux region at Sun Microsystems. "Danfoss uses MySQL wisely, as they focus on reliability and availability of the key functions and have not overloaded their system with superfluous functionality."

Manufacturing

OS: Windows XP and Windows Vista

Language: Visual Studio and .NET

Database: MySQL Embedded

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Danfoss' AKM data architecture
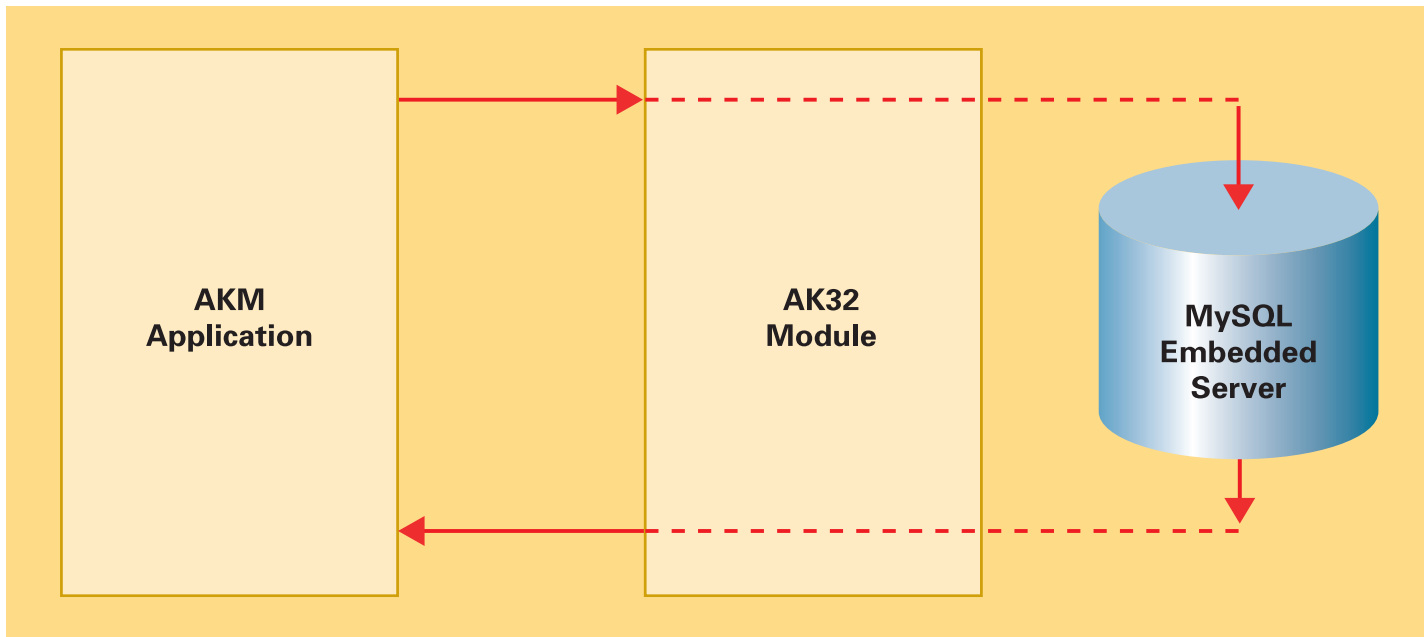
Danfoss' AKM application continuously interacts with a module AK32. This is the interface between AKM and the database. Whenever Danfoss performs a certain operation in AKM that involves data interactions, the application sends out a generalized query to AK32. AK32, in turn, forms the actual query regarding all relevant data and sends it to the MySQL embedded database. AK32 retrieves the requested data in order to return it to the AKM application.

The Future with MySQL

Danfoss chose to migrate to MySQL Embedded Server and enter into an OEM agreement with Sun in order to embed and deploy MySQL within its air conditioning software, and benefit from technical support direct from Sun's database experts.

"By powering our system with MySQL, we have full access to the source code which makes the debugging process significantly more efficient," continues Danfoss' Iversen. "It also facilitates our development of future versions of AKM."

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MySQL Embedded Server for OEMs, ISVs, and VARs

MySQL Embedded Server is a full-featured, zero administration database that enables ISVs and OEMs to bring their applications and solutions to market faster. MySQL's small footprint, zero administration and support for 20+ platforms gives ISVs and OEMs ultimate flexibility to ship a highly reliable SQL compliant, transactional database with just about any software application or hardware appliance.

MySQL Embedded Server enables OEM/ISV/VARs to:

- **Reduce COGS and improve profitability** by embedding a cost-effective database without artificial license restrictions on CPU, memory, and servers

- **Bring applications to market faster** by embedding a proven database rather than building and maintaining a proprietary database in-house

- **Deliver a differentiated solution** that can capture, store and report on data with speed and granularity by embedding a full-featured, relational database

- **Win competitive comparisons** using a SQL compliant, relational database with superior performance and reliability

- **Deliver a Zero Administration solution** so that their customer don't have to hire dedicated DBA resources

- **Make reporting and analysis easy** using a cost-effective open source reporting solutions like Jasper for MySQL: OEM Edition.

MySQL Embedded Server is Ideally Suited for:

Software Applications

- Network & Performance Management
- Monitoring Systems
- CRM & ERP
- Educational Software
- Email, Anti-spam software
- VoIP & Online Messaging
- Healthcare & Practice Management
- Biotech

Hardware Appliances

- Networking Equipment
- Routers & Traffic Controllers
- Security Appliances
- Retail Kiosks
- Point-of-Sale (POS) Systems
- Diagnostic Instruments
- Sensory Devices
- And more...

About MySQL

MySQL is the most popular open source database software in the world. Many of the world's largest and fastest-growing organizations use MySQL to save time and money powering their high-volume Web sites, critical business systems, and packaged software. At **www.mysql.com**, Sun provides corporate users with commercial subscriptions and services, and actively supports the large MySQL open source developer community.

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For more information, go to **www.mysql.com/cluster**

To learn more about MySQL in the Telecommunications industry, go to **www.mysql.com/communications**

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