Central Banks Worldwide Rely on Bank of Finland's MySQL Based Simulator

Database:
MySQL Embedded

OS:
Windows

"MySQL represents a very reliable and strong foundation for a computational analysis application like ours, and has been a key to its success."

Matti Hellqvist,
Bank of Finland

Bank of Finland Overview

The Bank of Finland (BoF) acts as Finland's central bank, national monetary authority, and member of the European System of Central Banks and the Eurosystem.

The BoF has developed a versatile Payment and Settlement System Simulator (BoF-PSS2), for making payments and settlement system simulations. The simulator can be used for analyzing liquidity needs, risk issues, settlement algorithms as well as changes in behavioral patterns, authority policies & regulations, settlement conventions and pricing or costs issues. It is freely available for research purposes at http://pss.bof.fi.

The Business Challenge

The BoF initially developed the first version of the Simulator for its own needs in the late 1990's before Finland joined the European Monetary Union. The approach was found to be useful and a new revised version, that experts in other central banks could also use, was delivered.

The Simulator is managing large data sets and thus needed a robust database as its foundation. Key requirements to select the database included:

- **Low Costs**: High database license fees would likely have hampered the adoption of the simulator as a research oriented tool.
- **Performance & Scalability**: Stress testing of the market infrastructure with large volume of payments and simulations of different failure scenarios involve dealing with a large amount of data. The database needed to be highly reliable and highly scalable to guarantee fast response times.
- **Ease of Use**: Flexibility & ease of use of the simulator were also essential to its adoption by economic experts, and the underlying database had to ensure such manageability.

The MySQL Solution

In 2003, the BoF selected MySQL as embedded database within its PSS2 product in order to provide the turnkey, easy to use and powerful simulation application they were hoping other central bank economists would also adopt. Developed in Java, they wanted to ensure optimal performance of the simulator and requested expert consulting help from the MySQL team. "MySQL was very easy to use and to integrate within our Java application, but the MySQL consultant really helped us get the most of it by optimizing several areas of the database" recalls Matti Hellqvist, Economist in the Simulator Development Team and the key expert in BoF-PSS2 development at the BoF. While some components of the application are open source, others are not, and the software is not released under the GNU GPL License, the BoF therefore purchased commercial OEM licenses of MySQL in order to distribute it.

The PSS2 application has since then been widely adopted by central bank Economists. As of the summer 2010, it was used by over 50 Central Banks worldwide, as well as other financial and academic institutions for research purposes. "It is a challenge to deliver an application that is very easy to use, yet allowing niche experts to work on plenty of various simulations and scenarios according to their needs" continued Matti Hellqvist, "but PSS2 is now extensively used and no other such tool has been developed, so I think we can call it a success!" The BoF arranges a yearly seminar in Helsinki where users from all over the globe gather and share their research and best practices.

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 embed- ding 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

MySQL Embedded Server is Ideally Suited for:

Software Applications

- Network & Performance Management
- Monitoring Systems
- 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 world's most popular open source database software, with over 100 million copies of its software downloaded or distributed throughout it's history. With its superior speed, reliability, and ease of use, MySQL has become the preferred choice for Web, Web 2.0, SaaS, ISV, Telecom companies and forward-thinking corporate IT Managers because it eliminates the major problems associated with downtime, maintenance and administration for modern, online applications.

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 - including industry leaders such as Yahoo!, Alcatel-Lucent, Google, Nokia, YouTube, Wikipedia, and Booking.com.

Learn more about MySQL at: www.mysql.com
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