Friendster Scales-Out *with MySQL Network*

Social Networking Site Handles Over One Billion Database Queries per Day

Helping 17 million people stay in touch with their friends and make new connections with others is a big job. A *really* big job. However, as the largest social networking site on the Web, Friendster is up to the task — even with 60 million page-views each day. To manage such a large (and growing) enterprise, Friendster selected MySQL Network to provide the right combination of affordable database reliability and scalability.

Launched in 2003, Friendster hit upon Internet users' desire for online community at just the right time. The site registered its first million users in just six months. Soon after, however, Friendster became a victim of its own success: its explosive popularity was dragging down its Web sites' performance to a crawl and its system architecture was buckling under the heavy traffic load. Users were beginning to complain that the site was often inaccessible, slow, or didn't work properly.

Friendster's original engineering team had not expected so many users so fast. The company brought in more staff with expertise in building large-scale database-intensive Web sites. Their challenge was to re-engineer the site's entire MySQL database environment from the ground up as quickly as possible, without interrupting service for the hundreds of thousands of new users that were joining each month.

friendster

"Using a proprietary database like Oracle was never an option — it would've been way too expensive for what we needed to do. We saved millions of dollars by leveraging MySQL Network and commodity 'white-box' hardware instead."

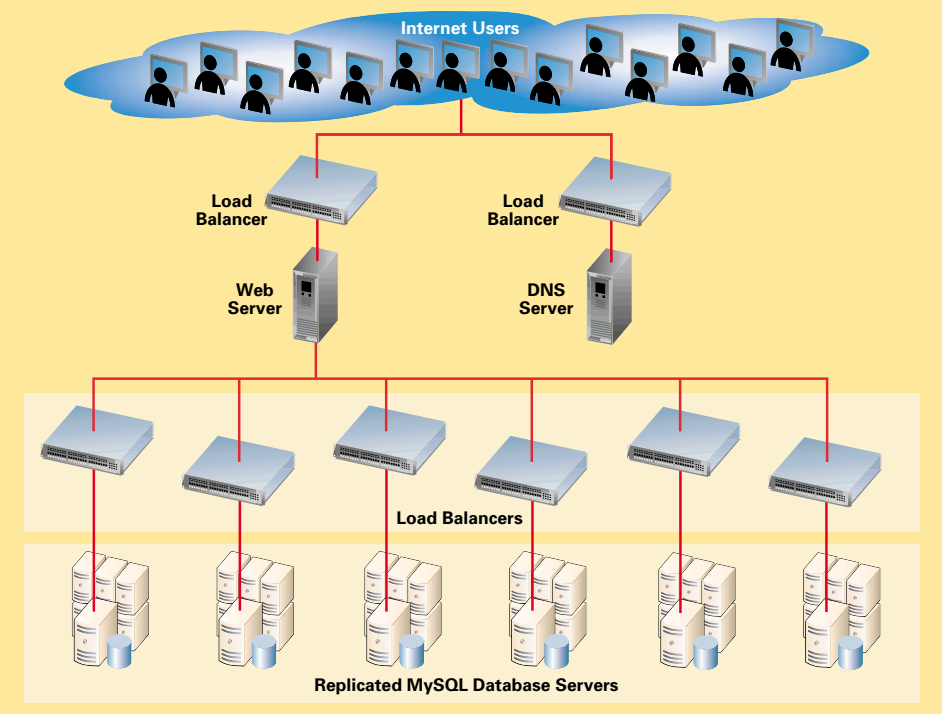
Dathan Pattishall
Senior Database & Software Engineer
Friendster

MySQL

Scaling-Out a High Volume LAMP Application

Friendster's engineering team decided to continue to base their site's infrastructure upon a foundation of open source software popularly known as the LAMP stack, an integrated combination of LINUX operating system, Apache Web server, MySQL database and PHP programming language. They were confident that LAMP would give them the performance, reliability, and flexibility they required. However, they needed to completely redesign their database server architecture to keep up with the site's high traffic volumes.

Friendster addressed this challenge by employing an innovative database strategy called "Scale-Out" that allows dozens of MySQL database servers to share a heavy workload – as opposed to the traditional "Scale-Up" approach that requires a continual investment in larger and more expensive hardware and proprietary database licenses to tackle application scalability. As a start-up company, Friendster's staff knew that they could not afford the cost of the constant infrastructure overhaul associated with Scale-Up.



Friendster employs 36 replicated MySQL database servers to address the heavy needs of their 17 million registered users.

Today, their engineering team estimates that their Scaled-Out MySQL implementation has saved them several millions of dollars by allowing them to use easy-to-implement technology components, such as cheaper, off-the-shelf PCs and the cost-efficient LAMP software stack.

Friendster's database architecture now revolves around 36 concurrent MySQL servers that coordinate separate sections of the social network site – such as member profiles, photo galleries, messages, testimonials and other interconnected user information. In front of each database cluster is a NetScaler load-balancing appliance that manages and monitors the performance and health of the servers. MySQL's robust design allows the system to easily replicate and failover to additional servers during peak traffic periods and occasional hardware failure.

In this way, the Friendster system is able to reliably handle over a billion queries a day.

MySQL Network Gives Friendster Speed, Scalability & Production Support

Friendster chose MySQL Network as their database platform so they could realize significant cost savings and technical benefits, including:

- **Fast Performance** – Even with more than one billion queries per day, Friendster's MySQL database applications are lightening-fast.
- **Reliable** – easy-to-maintain replication and failover allows Friendster to affordably monitor the health of their 36 concurrent database servers – keeping them optimized and online at all times.
- **Extensible** – Taking advantage of MySQL's flexible architecture and open source code-base, Friendster built its own storage engine to add customized functionality and improve performance three-fold.
- **Easy Integration with open, less expensive components** – Friendster has been able to scale out their entire infrastructure with affordable, commodity hardware and open source software – allowing them to save millions of dollars.
- **High-Quality Technical Support** – MySQL Network gives Friendster's IT staff direct access to the MySQL knowledgebase and senior technical advisors. Friendster has appreciated their fast response, product knowledge and creative solutions.

"We would not have been able to achieve our goals so quickly without the high-quality support we have received through MySQL Network. The rapid response and creative solutions provided by MySQL's trained staff have been invaluable."

Chris Lunt
Director of Engineering
Friendster

Friendster Technical Environment

Hardware/CPU:	Dual 64-bit AMD Opteron Servers
RAM:	8GB
OS:	SUSE LINUX Enterprise Server 8
Database:	MySQL Database Server
Language:	PHP
Storage:	Hitachi SAN
Load Balancer:	NetScaler
Database Size:	– 7.3 Terabytes – 100s of Millions of Rows – Over 100 Tables

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MySQL Network

All-in-One Enterprise-grade Database, Support and Services from the Developers of MySQL

MySQL Network is a comprehensive set of certified software, production support and premium services that helps a corporate IT staff ensure the highest levels of reliability, security and uptime for their business critical database applications. As a proactive service that helps eliminate problems before they occur, MySQL Network is a single, easy-to-buy offering – providing developers and DBAs with everything they need to successfully develop and deploy solutions with MySQL.

About MySQL

MySQL AB develops and supports the MySQL database server, the world's most popular open source database. Over six million installations use MySQL to power high-volume Web sites and other critical business systems — including industry-leaders like The Associated Press, Yahoo, NASA, Sabre Holdings and Suzuki.

MySQL is an attractive alternative to higher-cost, more complex database technology. Its award-winning speed, scalability and reliability make it the right choice for corporate IT departments, Web developers and packaged software vendors. MySQL is available through an open source GPL licence or MySQL Network, a comprehensive offering of certified software and premium support services.

For more information about MySQL, please go to **www.mysql.com**.

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