Bredbandsbolaget (B2)
Makes *the Connection with MySQL Cluster*

Bredbandsbolaget (B2) is one of Sweden's largest broadband internet providers. The growing network currently serves over 600 000 customers. The main office is situated in Sweden. According to independent surveys, the company has the most satisfied broadband customers in the Swedish market.

Broadband Internet Access and VoIP

B2 maintains one of the world's largest Ethernet LANs for private customers. B2 is also one of the first companies in the world that provides an infrastructure consisting of a bidirectional broadband network based on an Ethernet LAN and optical-fibre cables. This gives B2 added efficiencies by being able to provide multiple services on the same network, including VoIP, TV broadcasting and broadband internet access.. However, VoIP services use dedicated IP-addresses and gets higher priority over broadband internet access so that it is not affected by high internet access traffic using the same network. In addition, B2 has the advantage of providing new services to their customers faster and easier than other ISPs by being able to centrally manage and monitor their network.

"With MySQL Cluster we've had the infrastructure to grow our subscriber base with several hundred percents while offering new value adding services."

Lars-Åke Norling
CTO, Bredbandsbolaget (B2)
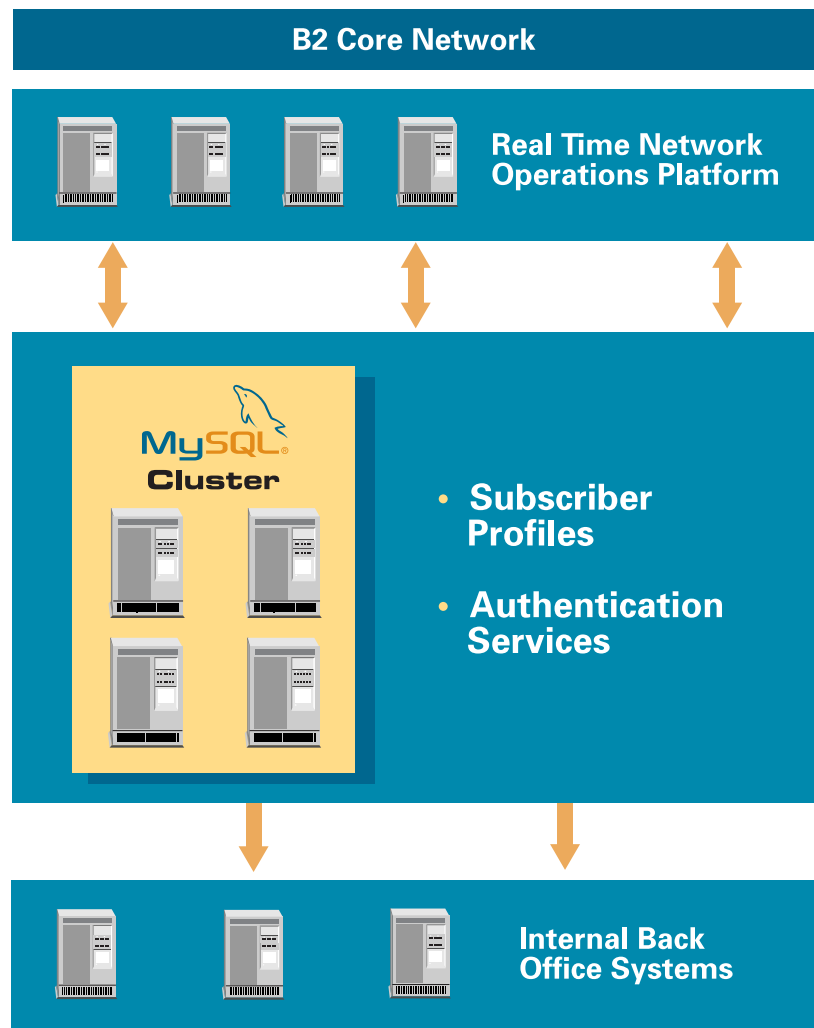
Continuous Service Required

B2's rapidly growing customer base and the delivery of new services puts a lot of pressure on the network operations software. This pressure will continue to increase as B2 increases the number of customers it serves. In order to maintain their high level of customer satisfaction and grow their user base, B2 must be able to continue to quickly and easily add new users and services. To meet this requirement, B2 must have a high-availability solution to keep the system running even in the case of network, hardware, or software failure. A distributed infrastructure that provided no single point of failure was critical to B2's success.

Growth Outpacing Infrastructure

B2 relied on a conventional database solution that used replication to ensure that data was preserved during network interruptions. Significant custom coding resulted in a system that didn't scale well, was difficult to maintain, and failed to provide the high availability. B2 required to provide continuous service to its customers.

For example, hardware and software failures would result in network interruptions that disconnected customers. To compound the problem, clients would automatically request new IP addresses as part of the reconnection process. As a result, the system would be put under a massive load. This created a vicious circle leading to an unstable network which could take hours or even days to correct.

MySQL Cluster enables B2 to ensure continuous service availability to their subscribers.

MySQL Cluster has delivered 99.999% availability since 2003

B2 needed a solution that met three primary requirements:

◆ A database clustering solution that maximized service availability.

◆ A system that was self-healing and did not require any manual intervention to recover.

◆ A Network Operations Platform that would stabilize itself within five minutes following a fault.

B2 developed a new application called Nexus to authenticate and grant customers access to B2 services including broadband internet access, VoIP and TV broadcasting. MySQL Cluster is used to make the authentication and authorization services highly available.

Since MySQL Cluster automatically handles system faults, the B2 programmers were able to focus on developing functionality and the business logic, saving significant development time as well as reducing the time and effort to maintain the application.

Having evaluated several database and clustering offerings in the market, B2 choose MySQL Cluster. The most important reasons behind B2's decision were:

◆ The distributed MySQL Cluster architecture ensures no single point of failure.

◆ It is a true cluster solution with master-master replication that provides 99.999% availability.

◆ MySQL Cluster provided automatic sub-second failover to guarantee continuous service.

◆ Failed nodes dynamically restarted and reconfigured themselves without manual intervention of the operations staff.

◆ The MySQL Cluster price / performance ratio was several times lower than with other offerings.

◆ Custom hardware. Currently running on five dual-core Opteron 8Gb memory servers. At peak hours, we achieve more than 30,000 transactions per second.

"Service availability is the number one requirement for our customers. MySQL Cluster delivers the high-availability that enables us to guarantee continuous broadband internet access and VoIP services to our subscribers. This has had an immediate impact in significantly improving customer satisfaction, and has reduced the cost of operating our network."

Lars-Åke Norling
CTO, Bredbandsbolaget (B2)

Why Industry Leaders Depend on MySQL

About MySQL Cluster

MySQL Cluster combines the world's most popular open source database with a fault tolerant database clustering architecture so you can deliver mission-critical database applications with 99.999% availability. MySQL Cluster enables you to:

- Cost-effectively deliver 5 nines availability using a parallel server architecture with no single point of failure.

- Deliver the performance and high throughput required to meet the most demanding enterprise applications.

- Incrementally scale your applications in a linear fashion as your needs grow without having to invest in expensive hardware.

MySQL Cluster has a flexible distributed architecture which gives you complete control over the level of performance, reliability and scalability you need to match your application requirements.

About MySQL AB

MySQL AB develops and supports a family of high-performance, affordable database products. The company's flagship offering is 'MySQL Enterprise', a comprehensive set of production-tested software, proactive monitoring tools, and premium support services.

MySQL is the world's most popular open source database software, with over 11 million active installations. Many of the world's largest and fastest growing organizations use MySQL to save time and money powering their high-volume

"In january 2007 we upgraded our live environment to MySQL Cluster 5.0 without any disturbances in customer service."

Lars Torstensson
Senior System Manager, Bredbandsbolaget (B2)

Web sites, business-critical systems and packaged software -- including industry leaders such as Yahoo!, Alcatel-Lucent, Google, Nokia and YouTube.

With headquarters in the United States and Sweden -- and operations around the world -- MySQL AB supports both open source values and corporate customers' needs in a profitable, sustainable business model. For more information about MySQL, please visit **www.mysql.com**

![MySQL logo]

The World s Most Popular Open Source Database