PERCONA

Guarantee your database environment, with no limits to growth and scalability.

With Percona, you can:

- **Accommodate rapid growth and application development**
- **Support unlimited numbers of physical, virtual and cloud servers**
- **Maximize flexibility and scalability**

Percona support and consulting provides your company with:

- **Excellent performance**
- **Higher availability**
- **24x7x365 SLA's**

Bringing immediate, noticeable and long lasting benefits at a price matched to meet your budget and needs.

Top 5 Causes of Poor Database Performance

Your company relies on its database to do business. Whether you provide gaming services, SaaS services or ecommerce services, you need a functioning database to achieve great application performance. If your database has performance problems, so does your business.

Correctly understanding the true cause of database performance problems allows for a quick and efficient resolution – yet enterprises often lack this crucial information. Without it, your solution could require more time and resources than necessary, or inefficiently address the issue. And contrary to popular belief, the problem is not always the database itself!

Below are the top five reasons for poor database performance.

Poor Database Design

Design-based performance issues are a worst case scenario, because they are very expensive to change. Is your environment workload high-read, high-write, or both? Is your workload steady, or does it change based on specific events? What type of database engine are you using? Does it match your workload type? These are just some of the questions that should be asking (and answering) when designing a system for your data.

Poor Deployment

Even a well-designed and implemented system must be deployed correctly. A lot of deployment issues are trivial: using the wrong hardware, the wrong instance type in the cloud, an inappropriate amount of memory or spinning disks instead of flash-based storage. These types of issues are all typically caught quickly and easy to resolve.

Network-related issues are the biggest cause of most deployment related issues. Even in the same data center, adding multiple switches and some slow firewalls between the application server and the database can multiply latency. If you place the database server and application/web server in different availability zones (or different data centers) for example, the latency increase gets even more dramatic.

Poor Software Configuration

Poor software configuration is another issue that causes all kinds of problems ranging from application performance to downtime, and can include data corruption and data loss.

The configuration of many software components are important to database performance. Most components are going to be correctly configured most of the time, but just one misconfiguration might cause huge problems.

From the application standpoint, a misconfigured driver is a common database-related issue. Configuring a Java connection pool to be too small, for example, can often cause low performance and application errors. Setting it too large, on the other hand, can cause connection errors, poor performance or even crashes. Setting the wrong isolation mode in the connection settings, without understanding the implications, can cause the application to work incorrectly and potentially cause data corruption.

Resource Saturation

Another common reason for poor performance is a lack of resources. The system has only so much memory, CPU, disk IO and network resources. It can't do more than these constraints allow. By optimizing your software configuration, schema, queries, etc., often the same actions will require less of these types of resources. So one of the best questions to ask when improving performance is whether you're facing a lack of resources, or if the system isn't optimized enough.

Is It the Database?

Finally, there is the database configuration. When users start complaining about application performance, how do you know when it is the database and not something else (like the issues above) causing the performance degradation? Sometimes the answer is simple: you might find the application's queries running for more than 30 seconds in the database process list. In other cases, it might not be so obvious.

Percona can help you determine if your database issues are one of the items above, or something else entirely. Our Database Performance Audit, performed by any of our database experts, is a great first step.

Percona Consulting

Percona consultants have decades of experience solving complex database and data performance issues and design challenges. Our global 24x7x365 expert database team has worked with over 3,000 clients worldwide, including the largest companies on the Internet, who use Percona Server for MySQL, Percona Server for MongoDB, MySQL®, Amazon® RDS for MySQL, Google Cloud SQL, MariaDB® and MongoDB™. Our consultants work both remotely and on site. We can also provide full-time or part-time interim staff to cover employee absences or provide extra help on big projects.

About Percona

Percona is the only company that delivers enterprise-class software, support, consulting and managed services solutions for both MySQL and MongoDB across traditional and cloud-based platforms that maximize application performance while streamlining database efficiencies. Our global 24x7x365 consulting team has worked with over 3,000 clients worldwide, including the largest companies on the Internet, who use MySQL, Percona Server, Amazon® RDS for MySQL, MariaDB® and MongoDB.

Contact Us Now

To learn about how Percona Care can help you and for pricing information, please contact us at +1-888-316-9775 (USA), +44 203 608 6727 (Europe) or sales@percona.com.