

Database Performance: A Guide to Tools and Analysis

Your company relies on its database for vital information. It helps keep you connected, engaged and in touch with your data. Countless decisions are made based on information contained in your database. With so much riding on it, you'll need a careful plan in place to ensure optimal database health. Use analysis and tools to check the performance of your database regularly. Ensure that it's capturing all of the information you need. If it's not, you'll need to implement a plan to improve. By choosing a qualified and experienced database administrator or remote DBA service provider that uses reliable tools and best practices of analysis, you can measure, test and manage your company's database in a proactive manner.

Analyzing Your Database

Is your company's database in good health? Would you know if it wasn't? Making sure that your technology, security and privacy protocols are up to date lowers the risk of problems in the future.

Setting Up Your Database

If you haven't set up your database or you're transitioning to a new platform, take the time to analyze your needs and requirements before moving forward. Your database administrator (DBA) and developers should talk to the users to determine what platform is best, what platforms are best suited to your company and what the process should look like.

- DBA and developer expertise and experience play a critical role in mapping out the right approach.
- Choosing the right features can save your company money. It also helps to determine the architecture that will best serve your business.
- Use proactive analysis before you set up your database. When using Oracle, for example, it's important to choose and design the layers, drivers, physical systems and various technologies.

Evaluating Your Current Database

If you're having issues with your present set-up or you need to set baselines for performance as you revamp your processes, choose tools that let you use the best practices for data collection.

- Install specialized proactive diagnostic tools that can detect trends and problems before an issue arises.
- Set up metrics for analysis.
- Use monitoring tools that don't disrupt the speed and performance of your database.
- Collect data using a top-down method.



- Review Oracle instances and system memory allocation for your System Global Area.
- Review database resource usage to identify the type, location and amount.

Checking Your Database Performance

It's important to have someone who's qualified and familiar with your database system to routinely check its performance and measure its effectiveness. Choose diagnostic tools that can monitor daily health and performance.

- The amount of time that your end users have to wait for applications is a strong indicator of your system's efficiency and performance.
- Review the time lapse between queries and responses to determine whether there are bottlenecks in the system.
- Look into specific instances of Oracle delays.
- Once you've identified the problems, they can be addressed and corrected.



Be Proactive

When you're analyzing performance issues, understand your needs and set up alerts within your system to catch potential problems before they happen. Taking care of problems when there are minor hiccups prevents larger disruptions down the road. This saves your company money and minimizes any down-time associated with database performance solutions.

- Analyze alerts to determine their causes and effects.
- Record and monitor database growth and table space size.
- Review performance ratios under normal conditions to establish baselines.

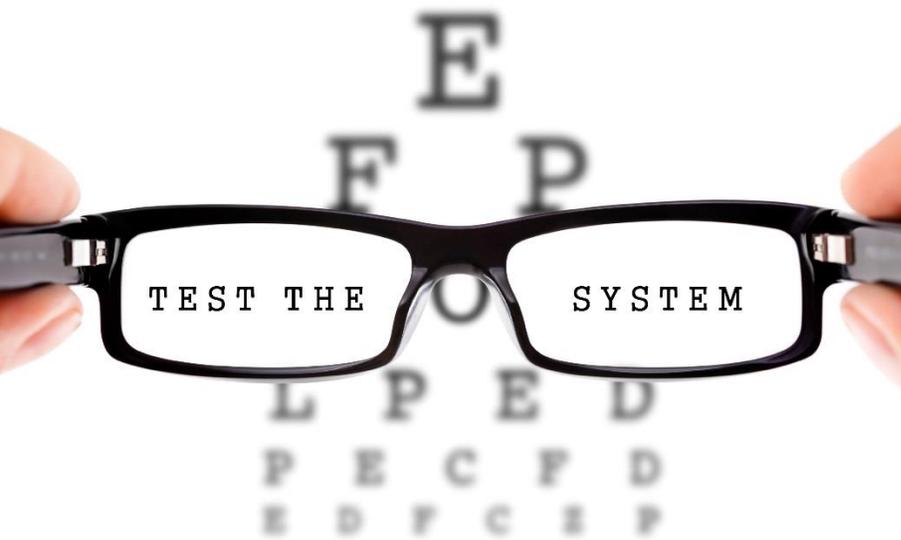
Testing Your System

Optimum database performance is critical to efficiency. By testing your system regularly, you'll know if you need any improvements and, if so, what they are. Make sure that the person handling testing is qualified and well-versed in database testing and performance.

- Do a test of the required number of records needed per minute and see how long it takes for the system to respond and complete the requests.
- Use invalid data to determine whether the system can detect it, then test how it handles different invalid data sets.
- Test data input and output times for routine tasks.
- Use automated tests to minimize the amount of hands-on time needed. This also standardizes the testing approach.
- See how the system reacts to unauthorized and restricted users by attempting to perform high security level tasks with lower or non-existent clearances.
- Use simple test queries to limit reactions to the parts of the system that you're trying to assess.

Improving Your Database Management

Once you have chosen and set up a monitoring and alert system, use it. After you determine any trouble spots, diagnose the cause and correct the problems. An experienced DBA or established remote DBA service (combined with their monitoring and tools) are typically the best people to manage your company's database.



- Determine the cost of storing data and store only what you need.
- Make sure your tool users are authorized and licensed to use them.
- Set up a redundant back-up system that is easy enough for authorized personnel to access it.
- Avoid duplicative data capture and storage locations aside from redundant back-ups.
- Understand the full effects of making changes to the system before you implement them.
- Create reliable back-ups of your data before changing and upgrading any hardware or processes.
- Limit the administrative control of people who don't understand the nuances and effects of the database system.

Conclusion

A database is often the lifeblood of a company's daily operations and decision-making processes. If you don't have a system in place to analyze and monitor your company's data, now is the time to change that. Hire a DBA or engage a remote DBA Provider to determine the strengths and weaknesses of your current set-up, as well as map out your company's data collection and storage needs. Database management tools and analysis can enhance performance, security and user efficiency. Allow only authorized, qualified and experienced people to set up, test and manage your database system.

To discover how Database Specialists can help your company better analyze and manage your database system's tools and performance as well as provide a robust monitoring and alerting tool through remote DBA and consulting services, contact us at (888) 648-0500.

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About Database Specialists

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