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Using Your Database Infrastructure To Support Your Revenue Goals

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Revenue and profitability are the most used measures of success in modern business. Investors scrutinize revenue growth and seek out future success predictors. They look for companies that are innovative, disruptive, and have the right elements (team, momentum, sales process, R&D, etc.) in place. They bet on companies with an upward trajectory.

Accessible data and performant applications are essential to such trajectories. At the core of it all is database technology — the infrastructure upon which modern applications and businesses are built.

There are three boxes in database infrastructure that must be checked in order for the rest of the organization to grow at scale, as fast as required:

✓	✓	✓
Your database infrastructure must be secure and performant. To meet customer and shareholder expectations of today, as well as service level agreements (SLAs), most databases must be highly available.	You must be able to meet the expectations of your users (internal and external). This is easier said than done as expectations (concerning outages, uptime, usability, etc.) are skyrocketing.	You must build the right infrastructure to support your unique business requirements. This ensures you are building on a foundation that allows you to increase efficiency and lower costs.

These might seem like simple enough considerations, and on paper, they are. Despite this, many companies struggle with these in some form or another. This can affect business growth and success.

Data: The lifeblood of modern business

Data is the lifeblood, or currency, of modern businesses. Modern businesses use their data to try and accelerate revenue, reduce costs, and make business decisions. Storing, analyzing, and processing vast amounts of data is the new normal. But this new normal comes with additional expectations and requirements, especially concerning security and availability.

Avoid data leaks: Your reputation and business are at stake.

Keeping control of your data is critical to ensure the growth and future viability of any business. Losing control of your data can be incredibly costly. Not only can you be fined (GDPR, HIPAA, etc.) and even face criminal penalties, but you also risk revenue and reputation loss as you lose the trust and business of your customers. Once you lose the confidence of your customers, it is extremely difficult and costly to regain it.

The impact of GDPR

In the five years since the General Data Protection Regulation (GDPR) went into effect, hundreds of thousands of data breaches have been reported, and eight- and nine-figure fines have become all-too-common. The biggest single fines (shown as follows in USD) have been levied at Meta ($1.3 billion in 2023), Amazon ($781 million in 2021), and Instagram ($427 million in 2022).

High-profile companies experiencing major data breaches are now regular news items. But these data breaches take place in every conceivable industry and hit companies of all kinds. With smaller companies, the scale of the breaches and the fines aren't anything like the Meta magnitude, but those smaller companies can suffer a lot more than a tech behemoth with billions in reserve. The reality is that breaches can be devastating — to customers and companies of all sizes.

The reality also is that many breaches can be easily avoided. In fact, most are caused by human error or overlooked steps in security practices, rather than by someone actively targeting a business.

Think about it: What would it take to win back your business if someone leaked your personal details?

Meeting user expectations

User expectations are higher than ever. A Google study found that if your application does not respond in 3 seconds or less, more than half of mobile website users will leave your site. With the majority of web traffic coming from mobile devices, this can really affect your bottom line.

You cannot survive in business if you do not take care of your users. Whether this is customers or your internal team, users being unable to get what they need, when they need it, leads to frustration and loss of confidence. So, how can you set up your database infrastructure to ensure you exceed your users' expectations?

- **Build flexible systems** that allow you to add database nodes, replicas, or other components, to scale up and down to meet the demands of your application.
- **Upfront design** — with a focus on high availability — is crucial. Bad design can lock you into poor performance down the road.
- **Consider the advantages** of open source databases, including: lower costs, no vendor lock-in, faster innovation, quality control, and data portability.
- **Ensure your backup is effective and performant.** Percona XtraBackup performs a hot backup of your MySQL data while systems are running.
- **Test and review** database performance every few months.

Build the right infrastructure

There have never been more technology options for moving your business forward. Businesses are adopting cutting-edge technology that helps them quickly analyze and understand critical trends and patterns in their data. This innovation can become a game-changer, but if you use the wrong tool or use a resource incorrectly, technology can also cause massive disruptions.

In the past when you wanted to add a new tool or software into your environment, you had to go through a process. This involved getting IT to provision new hardware, getting the servers set up and configured, and gaining access. This process acted as a sort of gatekeeper, allowing technology experts to ask critical questions and offer better, or more secure, options.

The rise of XaaS has enabled many users and developers to circumvent much of the IT process and avoid the centralized oversight that existed in the past. This is especially true in the database space.

Database vendors have spent significant time making it easier for anyone to get started. In fact, the popularity of many database technologies is fueled by how easy they have made it.

These days, adding a database into a cloud setup can seem relatively simple. Developers and other users in companies commonly attempt it without assistance from a DBA or other database expert.

This is where many database leaks happen. Someone moves data over to an external service, they don't know how to properly secure the data, and it is left exposed.

Database security considerations

In order to build the right database infrastructure for your business from the start, you should keep the following in mind:

There is no single database that does it all, but there are many different proprietary and open source options available. Make sure you do your research to find the ones that best meet your needs.

Keeping your database portable helps you avoid vendor lock-in. Before signing any agreement(s), ensure you negotiate entry/exit plans in case you want to move vendors. And be sure to keep an eye on auto-renewals!

Being cloud-native is key as methodologies, enhancements, and tools for applications have outpaced databases.

Build resilient and fault-tolerant applications and systems from the beginning, and plan for them to fail. If you keep this in mind, you are better prepared for the day it actually happens.

Employ a multi-vendor database strategy. A single vendor may not provide everything you need for your applications; so think about using multiple vendors and capitalizing on their individual strengths.

No AI, automation, or tool can completely handle all database-related needs. You will still need access to expert database support and advice.

Conclusion

If you want to grow revenue, you should make sure your database infrastructure is set up to facilitate this. If your applications are not up and running, if you are losing data, if your customers do not trust you, and if your users can't get what they need when they need it, you're going to have a hard time building revenue.

Technology was, is, and will continue to be, a driving force for modern business growth. The efficient management of data and databases should not be taken lightly.

Percona is a leading provider of unbiased open source database solutions that allow organizations to easily, securely, and affordably maintain business agility, minimize risks, and stay competitive.

You can maximize your application performance by using expert Percona Support, Managed Services, and Consulting solutions for open source databases located on-premises, in the cloud, and in hybrid environments. We have extensive experience advising companies on the best way to configure, manage, and run high availability databases to ensure that they are not just secure but also continue to drive revenue growth.

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Contact us

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