

Into the cloud... Based on a true story

Big data for everyone: Quick analytics and scalability with Postgres in the cloud





24/7
server availability



Up to 20x
higher performance



Millions of euros
saved in IT services

The background

Postgres with improved performance means more efficient big data analytics at a lower cost. Standard relational database management systems are quickly reaching their limits. Through its object-orientated approach, the open-source Postgres tool ensures that objects can also be stored in relational systems. This way, it provides databases that are perfect for a wide range of applications, in a variety of sectors.

With Swarm64 DA, its database acceleration technology, Swarm64 transforms Postgres into a powerful open-source solution for analytics and reporting. It offers a wide range of parallel functions, uses input-output (I/O) and memory bandwidth more efficiently, and it also enables hardware acceleration on field-programmable gate arrays (FPGAs). When a server has an FPGA, Swarm64 programmes hundreds of parallel processes on these networks to write, read, filter, compress, and decompress data in the database tables. This means that users can increase database server performance, and reduce CPU workload.

Since 2019, Swarm64 has worked with OVHcloud to create sophisticated dedicated servers for this purpose. With Intel's FPGA and Swarm64 technology, these machines deliver quick, on-demand results with a good price/performance ratio.

The challenge

Dedicated servers around the world for maximum performance on demand

Swarm64 develops solutions to improve Postgres performance. The Swarm64 DA accelerator is perfect for customers looking to use efficient and cost-effective Postgres databases for high-volume projects (data storage, IoT and SaaS systems, etc.). Hundreds of processes are then run in parallel on the FPGA co-processors, to boost the database's performance up to 20 times faster than non-accelerated Postgres.

In the past, it often took several weeks to deploy FPGA cards in customer datacentres, which represented a load, and delayed value creation. To solve this problem, the company decided to rely on rapid deployment of single-tenant servers in the cloud. These machines must be available 24 hours a day to provide consistent performance for customers in Europe, North America and Asia, regardless of time zone.

However, while the initial transition to cloud instances resolved the issue of deployment delays, the performance of this solution was not satisfactory. They proved to be insufficient in terms of processor cores, RAM and storage to support database acceleration. Swarm64 continued to look for a configuration that would offer its customers the best possible performance.

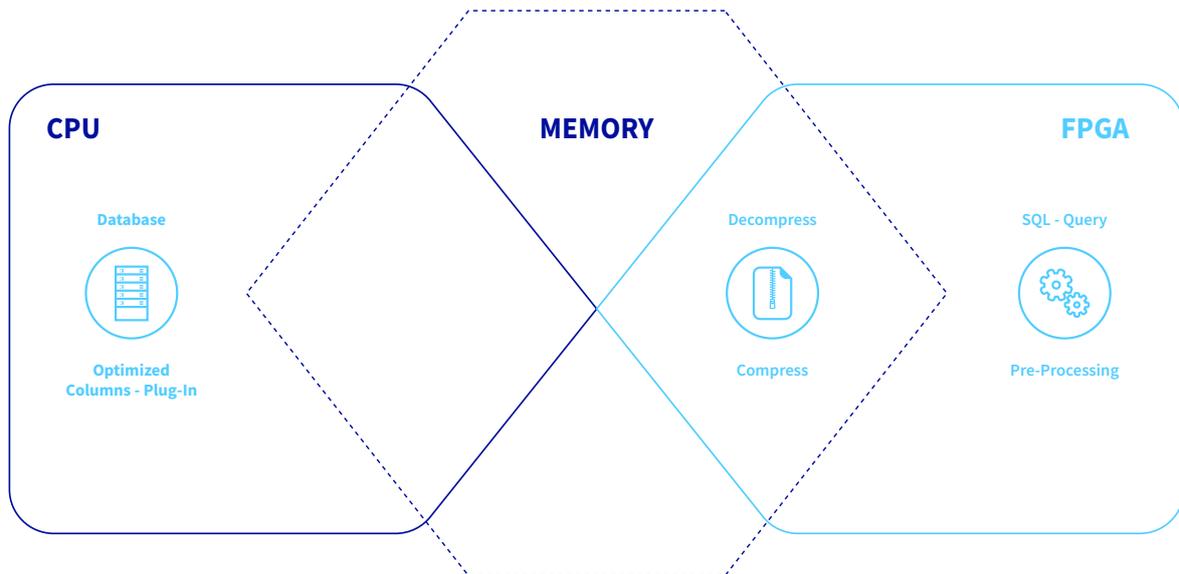


The solution

A new chapter in the acceleration of Postgres: quick availability and scalability

In collaboration with OVHcloud, Swarm64 deployed dedicated servers that meet the stringent requirements for accelerated Postgres. For a start, these machines had to be equipped with the right Intel FPGA coprocessors — but there was more. There were a number of other technical specifications to take into account, which a previous service provider was not able to deliver: 72 vCores, 384GB RAM, 2 x 480GB SSD storage for the operating system, and 8 x 900GB SSD storage for data. The quick deployment, good price/performance ratio, and global availability of OVHcloud servers also supported their choice of service provider.

Solution Architecture: S64 DA



“With OVHcloud, we are able to offer optimal service for our users. Servers are available quickly during deployment, so we don’t have to buy costly FPGA hardware that takes a lot of time to set up on-site. We provide a data accelerator that offers much better value for money.”

Thomas Richter, Co-Founder and CEO, Swarm64



By building servers in-house, OVHcloud provides a single point of contact for development, setup and maintenance. It can also provide configurations adapted to each application, for maximum performance. Operating the datacentres via a secure network also ensures a very stable system, to guarantee service continuity to an international customer base.

Swarm64 also benefits from the high degree of scalability offered by OVHcloud's infrastructures. Customers of the Berlin-based company use the servers directly, to load data and perform searches in Postgres. These machines power the single-tenant application, and offer expanded capacity as needed. For example, to query large databases or allow multiple people to access Postgres simultaneously, users can combine multiple dedicated servers into a group of distributed databases.

The result

More performance and savings for Postgres developers

With the power and scalability of OVHcloud dedicated servers, Swarm64 saves its customers' IT services several million euros annually. They do this by using open-source Postgres solutions instead of proprietary database systems, which are expensive for large-scale data projects.

Depending on their needs, the company can immediately deploy additional resources and new servers in OVHcloud global datacentres, without having to set up or operate their own on-premises datacentre. This has significantly improved the price/performance ratio of Swarm64 offerings, and enables the company to deliver better service with a consistent user experience across the globe.

“The positive effect of the collaboration with OVHcloud was immediately apparent for us and our users. One of our customers spoke enthusiastically about their first tests with OVHcloud servers, during which they noticed a 15% improvement in performance compared to Swarm64 DA on another cloud. In addition to this, their monthly fees have dropped by half. With OVHcloud, we’ve been able to take our solution to a whole new level worldwide.”

Sebastian Dreßler, Senior Solution Architect, Swarm64

OVHcloud is a global, hyper-scale cloud provider that offers businesses industry-leading performance and value. Founded in 1999, the group manages and maintains 30 datacentres across four continents, deploys their own fibre-optic global network and controls the entire hosting chain. Relying on their own infrastructures, OVHcloud offers simple and powerful solutions and tools that put technology at the service of business, and revolutionise the way that our more than one million customers around the world work. Respect for individuals, freedom and equal opportunities for access to new technology have always been firmly rooted principles of the company. “Innovation for freedom”.