



Software

VENDOR ANALYSIS **HYDROME**

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HYDROME VENDOR ANALYSIS

This document contains the Vendor Analysis carried out to satisfy Hydrome requirements. Global market offers plenty of solutions regarding database services. The remaining modules needed to complete the proposal are too specific and particular to be found as already implemented solutions, and for that reason they will be developed internally.

DATABASE

EVALUATION CRITERIA

There are many criteria to evaluate a database. In this special case, an important requirement comes from the customer itself. Database need to be secure in order to guarantee the privacy of users. Another criterium is given by the price, because we have obviously to try to satisfy customer's budget requirement. Moreover, we know that Hydrome is expanding its market, so it is important to provide a scalable solution that can be exploited for many years with an increasing number of users. Reliability is another important benchmark to evaluate a database, since it is important that that data contained in it are consistent and their usage led to well-founded analysis.

Considering that the data stored present the same categories and schemas, relational databases only are taken in account.

MICROSOFT AZURE SQL

Description

Azure SQL Database is a smart database cloud service that provides high scalability and compatibility with SQL Server Engine. Microsoft Azure SQL Database includes built-in intelligence that learns app patterns and adapts to maximize performance, reliability, and data protection. One of its typical use cases is to manage app databases.

Link: <https://azure.microsoft.com/it-it/services/sql-database/>

Pro

- Data management and transfer is secure: there is no possibility for information theft from external sources (Always Encrypted Technology).
- High Scalability and Availability: no performance reduction.
- Agile platform: easy to add and remove resources, in terms of time and costs.

Cons

- No functions to analyze performance and maintenance tasks.
- Setup speed is not top level.
- Initial migration from other databases is not so easy.

Price: 1937,28 € per month.

AMAZON AURORA SQL

Description

Amazon Aurora is a relational database created for the cloud and compatible with MySQL and PostgreSQL. It combines performance and high availability typical of enterprise databases to simplicity and low cost of open source databases. Aurora is available as part of the Amazon Relational Database Service (RDS). Aurora provides users with performance metrics, such as query throughput and latency.

Link: <https://aws.amazon.com/it/rds/aurora/>

Pro

- High Speed: considering this feature, one of the best databases on the market.
- Easy Scaling: both horizontal and vertical scaling is easy to perform.
- Compatible with MySQL: old dataset and tools compatibility.

Cons

- Support for additional engines need to be developed.
- Amazon Aurora needs to improve the ability to restore backups as needed.
- Can add just read-only nodes.

Prices: 1799,40€ per month

GOOGLE CLOUD SQL

Description

Cloud SQL is a fully-managed database service that makes it easy to set up, maintain, manage, and administer your relational databases on Google Cloud Platform. Cloud SQL automates backup, replication and failover to ensure the reliability of your highly available and flexible database to adapt to your performance needs.

Link: <https://cloud.google.com/sql/docs>

Pro

- Easy configuration.
- Easy setup, especially if you are already familiar with Google Cloud Platform.
- Long term reliability: Storage scaling, backups, and maintenance can be scheduled to occur automatically.

Cons

- Few integrations: third party vendor support is missing.
- It could allow you to customize more.
- Secure access is complicated to set up.

Prices: 2499,37€ per month

FINAL SELECTION

Our final selection fell on Microsoft Azure SQL. Even though this solution is slightly more expensive than Amazon Aurora SQL, the difference in terms of costs is justified by the security feature provided by Azure SQL. Moreover, scalability is top-level too. Google Cloud SQL in this particular context does not achieve satisfying results.

Final ranking is contained in the following table. Each vote is assigned in a range between 0 and 5.

	WEIGHT	AZURE SQL	AURORA SQL	GOOGLE SQL
SECURITY	0.3	4.6	3.5	3.5
PRICE	0.3	4.2	4.6	3.8
RELIABILITY	0.2	4.0	4.0	4.5
SCALABILITY	0.2	4.5	4.5	4.4
RANK		4.34	4.13	3.97