

Case study: **PROEXE**

PROEXE is the company that created BlueOnline.TV – a turnkey solution for entities that want to build their own Internet TV (OTT/VOD/Live Event). Thanks to its innovative approach, this solution is gaining more and more customers. On the Polish market, PROEXE services are used by VECTRA, VOD Warszawa, and Red Carpet. BlueOnline.TV is used also by customers from abroad. The most interesting implementation is the Arabic television service WideKhaliji.com that, month after month, is breaking popularity records.

Blueonline.TV

PROEXE wanted BlueOnline.TV to be repeatable, easy to install at any customer's, quickly implementable, and not to necessitate having physical resources in different parts of the world. Another challenge was posed by spikes in the numbers of users. The most popular programs, for example, soccer games, attract many viewers at the same time. To ensure high availability of services, BlueOnline.TV was designed to use cloud computing to automatically scale resources. As a result, the customer does not have to bear the costs of a scaled infrastructure – they pay for the resources actually consumed in the specific period of time. But when the service's popularity explodes, all the users retain stable access to the paid content.

The BlueOnline.TV platform also consists of a number of client applications:

- mobile applications: Android, iOS;
- TV applications: Android TV, Apple TV, Samsung Smart TV, LG WEB OS, Chromecast, Fire TV, ROKU;
- Web applications.

Maintaining them requires tools to analyze errors that may occur on end devices. This task is facilitated by Firebase – a platform for creating mobile and web applications, which is a part of GCP.

Solutions used

For the project, a rich array of cloud technologies and solutions was used, such as: Load Balancing with CDN cache, automatic scaling of VM instances (Instance Group Autoscaling), a database with read-only replicas, BigQuery. PubSub and Internal LoadBalancer (after the REST API) were used for event queuing and interservice communication, Memory Store (Redis) as the database and cache for applications and job queuing support, static website hosting on CDN, Cloud Run for some microservices, stack driver for collecting logs from applications and, from these, building metrics for detailed monitoring, Cloud Storage.



Memory Store (Redis)

as the database and cache for applications and job queuing support



PubSub Internal LoadBalancer

event queuing and interservice communication



Stack Driver

collecting logs from applications

Achieved results

Currently, the application developed by PROEXE is used by six TV systems maintained on Google Cloud resources in various regions of the world. Combination of the refined product and the advantages of cloud computing allows PROEXE to build stably running services that it can implement in any market. Maintaining the systems does not require DevOps resources on the customer's side. This is another advantage of Google Cloud – thanks to the automation of many tasks, managing the environment is not as time-consuming as in a classic on-premise IT model, for example:

- if there is a need to temporarily increase the resources of virtual machines, Google Cloud will do it automatically and inform the team about it in a notification;
- we are able to increase the efficiency of the database through a mechanism of database replicas, which mechanism can be modified without system downtime;
- each customer has defined metrics, which the PROEXE team keeps track of on an ongoing basis. Depending on the instantaneous value of the metrics, the system itself will inform you about any potential threats.

It took us a lot of work to develop the right mechanisms ensuring stability and flexibility of the application, which would not fail even with a scale of operation counted in millions of viewers. Fortunately, the PROEXE team could count on support from OChK and Google Cloud experts, allowing us to make the most of the advantages of this public cloud's technology.

„Google Cloud services can be purchased in various models, including through OChK. There are a number of advantages to working with OChK: support from experienced engineers highly familiar with the environment, which significantly reduces application development time. Knowledge transfer is of no lesser importance – the PROEXE team participates in training courses shared by OChK”.

Maciej Bakalarz, PROEXE

