Seizing the business opportunities offered by big data; with a varied, scalable, and industrialisable infrastructure

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EPSILON

2 billion
logged transactions

600 million+
transactions in 12 months

- 400 %
processing time

The background

For several years now, coupon marketing has become a key strategy. It is flexible, customisable and financially affordable, and has helped brands boost their power at an incredible rate.

A major customer loyalty programme, based on distributing coupons, has completely reworked its digital platform. One of its objectives was to offer users the ability to load discount coupons directly onto the distributor's loyalty card.

To help this feature take shape, they called upon the skills of Epsilon. This data-driven agency specialises in customer relationship management solution architectures, and supplies tools for data integration, management and recovery. It also helps brands design and tailor content for their omni-channel customer experience. Today, Epsilon manages 50 platforms (single customer databases, data lakes, customer loyalty programs, data management platforms, e-CRM tools) for popular brands in France, and around the world.

At Epsilon, the professionals that handle data are organised into two complementary skill types: data science and data management. Data scientists explore and analyse all of the data, to provide models that can transform customer data into actionable data. Data managers develop effective platforms that make the customer data and defined models (segments, clusters, scores, etc.) actionable.

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The challenge

Enriching the customer experience with a big data platform

Epsilon overcame several challenges to ensure that they met their customer's needs.

Developing the right solution

They needed to find a software ecosystem that was innovative, open-source, interoperable and scalable. The new ecosystem would need to help them orchestrate storage, and explore, process and manage data. It would also need to support the development of an environment that could offer a collaborative, secure workspace.

Building the infrastructure

The first part of the infrastructure needed to be on-premises (internal), in order to collect and organise personal data flows. The second part needed to be cloud-based (external), in order to give both data scientists and data managers an exploration space adapted to their needs in terms of resources (including scalability). By adopting this approach, the agency wanted to benefit from the scalability offered by this technology, while managing its costs.

Guaranteed security

Since the agency handles personal data, it was vital to have rules in place regarding data isolation, pseudonymisation and security. They also needed to ensure that these rules would be followed throughout the entire process.
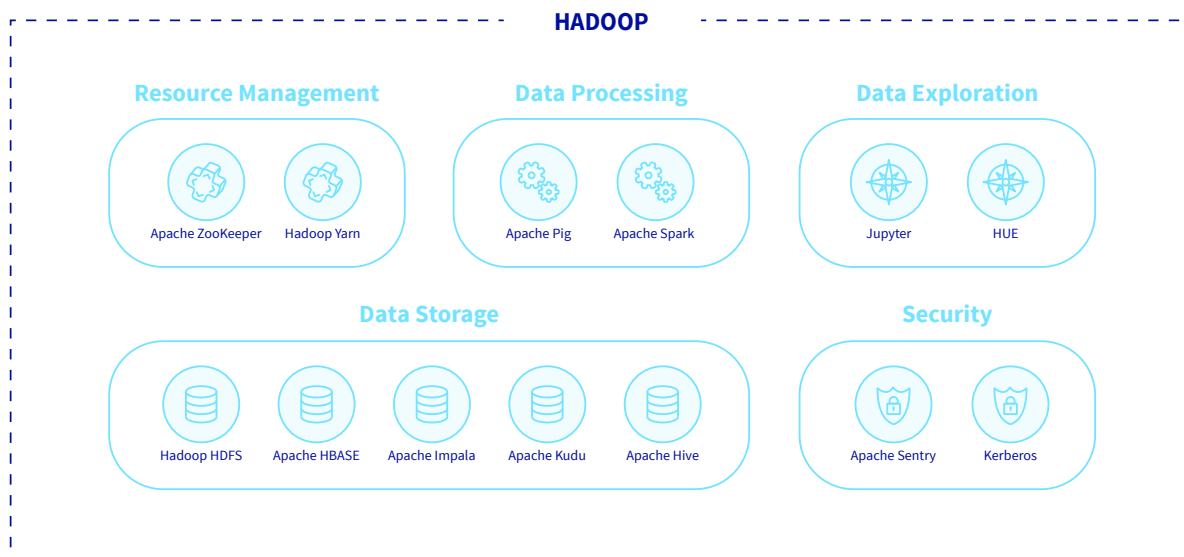

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The solution

Solutions that meet both customer requirements and agency specifications

There was a long list of limitations to take into account — data security, certification, hosting regulations in France, and much more.

The software layer

Epsilon decided to use the Hadoop framework — a tried and tested solution with a vast, varied ecosystem. Due to the complexity involved in assembling these technologies, they decided to use a distribution, and selected one from Cloudera, an open-source big data platform publisher. As a market leader and a contributing member of the Hadoop community, Epsilon assessed this solution and decided it suited their needs perfectly: a centralised platform, high security, encryption, and more. With the Cloudera Enterprise solution, they had a managed, scalable and secure cloud solution.

The hardware layer

Epsilon chose OVHcloud as their cloud provider. In addition to guaranteeing that the data would be hosted in France, the agency could build a varied infrastructure composed of Hosted Private Cloud solutions and HG Dedicated Servers.

With the **OVHcloud Hosted Private Cloud**, they get a fully-dedicated, scalable, high-availability infrastructure, with ISO 27001 certification. It also offers VMware virtualisation and **NSX** software-defined networking (SDN) solutions. This way, Epsilon can up or downscale its infrastructure as required, and add or delete resources on-demand.

By opting for **Big-HG Dedicated Servers**, the agency could customise its servers in order to handle intensive workloads, and boost high-performance processing with next-generation processors.
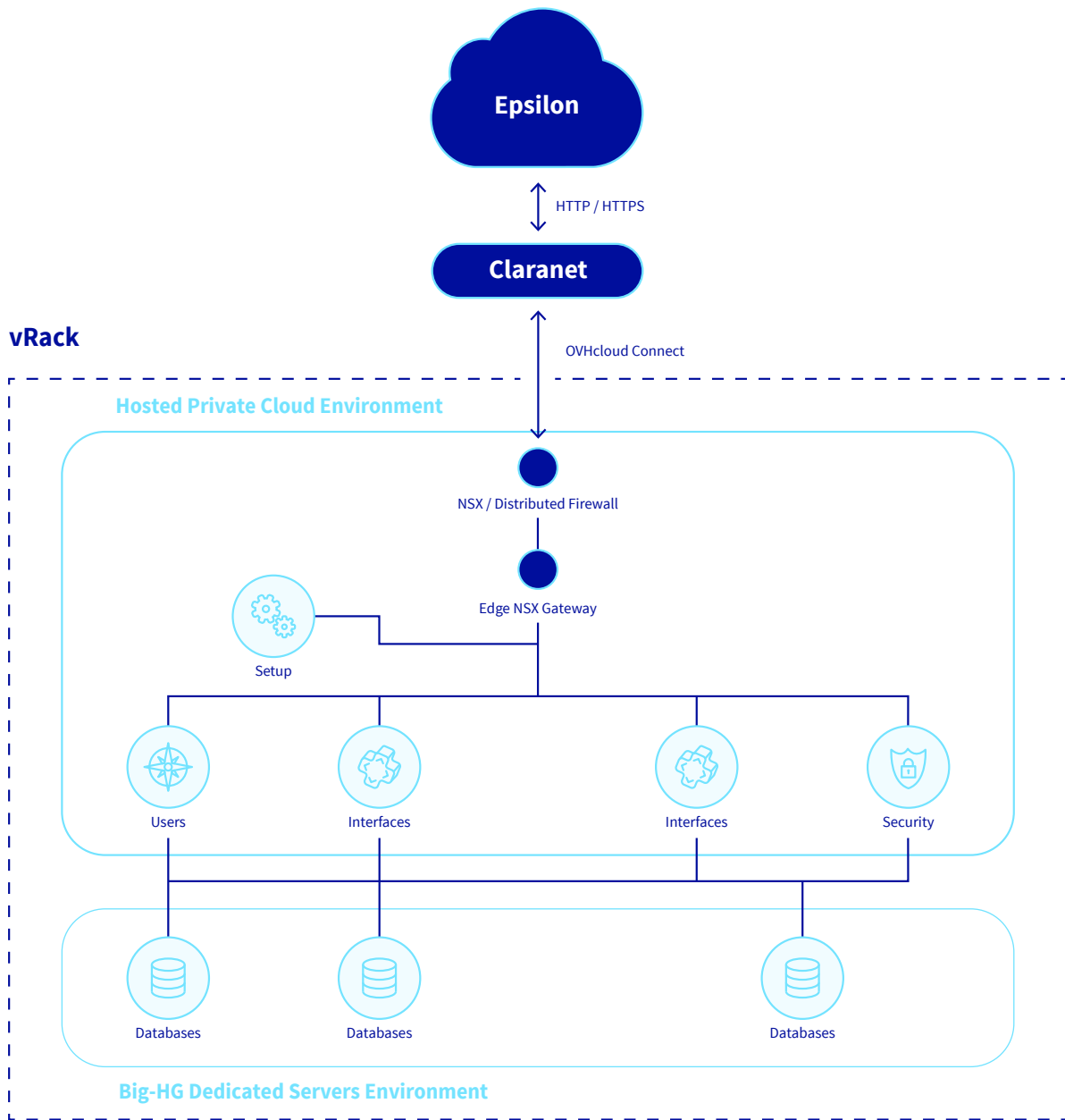
Thanks to its partnership with Claranet, Epsilon also benefits from **OVHcloud Connect**. They can use this solution to create an isolated, secure network connection between their own network and the OVHcloud private network.

Configuring and managing the platform

Epsilon has entrusted Claranet, its established partner, with this responsibility, as Claranet's expert teams specialise in data projects. This way, the agency could focus on its core business, and delegate the technical aspects of it without any hassle.

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Critical Data Ecosystem OVHcloud (DNS, supervision, etc.)

Epsilon

HTTP / HTTPS

Claranet

vRack

OVHcloud Connect

Hosted Private Cloud Environment

NSX / Distributed Firewall

Edge NSX Gateway

Setup

Users

Interfaces

Interfaces

Security

Databases

Databases

Databases

Big-HG Dedicated Servers Environment

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The result

Since October 2017, the platform has been functional and stable. It has helped significantly improve two aspects of the business:

1. Customer relationships, by authorising the use of new algorithms.
2. The productivity of data scientists, since it has reduced processing time by 400%.

With this big data platform setup, Epsilon can now industrialise the model, in order to deploy it for other projects. The agency will also be able to offer machine learning on a much larger scale, and for an increasingly wide range of applications.

Through a supervised machine learning approach, they will be able to generate algorithms capable of forecasting an event (e.g. a product purchase) and a quantity (e.g. a sales prediction).

Unsupervised machine learning will organise customers with similar behaviour into segments.

And finally, unstructured data — namely text mining — will provide automated classification models for documents and insight detection, targeted towards the luxury goods industry.

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*".