ABOUT AQUA RAY

- Cloud Service Provider based in Paris (FR)
- Founded in 2003
- Offers services to small and medium-sized organizations

How Aqua Ray Leverages OpenIO's Conscience Technology to Build a Flexible Storage Infrastructure

QUICK DATA

3 datacenters	**800+** servers
200 TB storage	**20%** storage growth/year

Aqua Ray needs their storage infrastructure to be flexible and easy to use, without having to sacrifice overall TCO and reliability. This is why they have chosen **OpenIO SDS** as a back-end for their cloud storage services. Thanks to Conscience technology, OpenIO SDS's object store is easy to adopt and continuously adapts to new and demanding business needs.

" We can run the software on any kind of server, on any hardware, with small amounts of CPU and RAM.

→ Guillaume de Lafond, Technical Director, Aqua Ray

When we add a new node it is immediately available without rebalancing, without redistributing data and network traffic. "
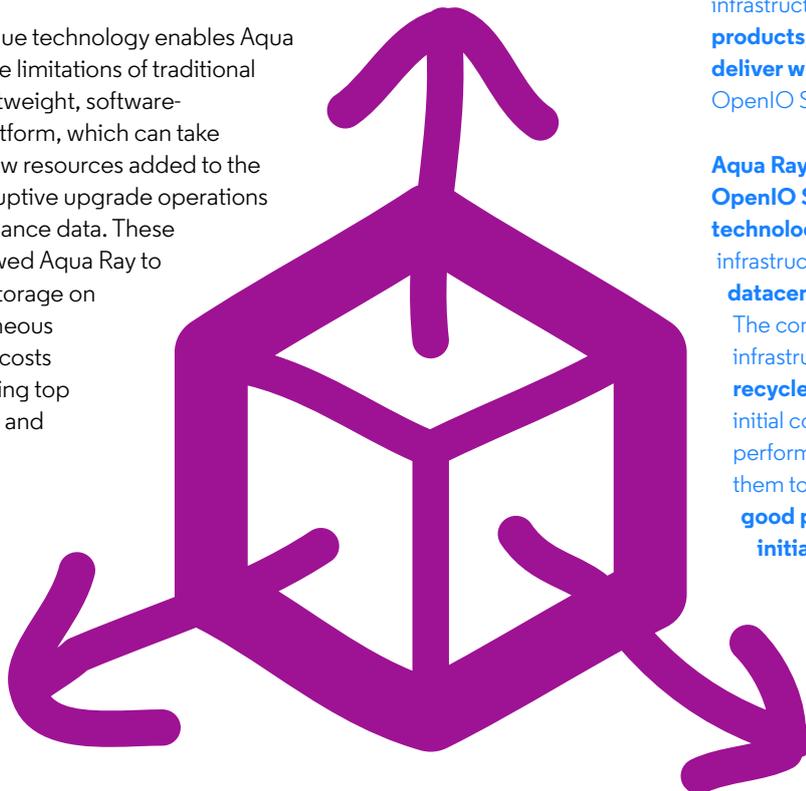
The context

Aqua Ray is an agile, dynamic cloud service provider based in Paris (FR), offering cloud infrastructure services to small and medium-sized organizations both in the private and public sectors. Founded in 2003, hosting on Apple hardware, the company moved to Linux in 2009, and has been expanding its service portfolio since then. It now offers solutions based on Amazon AWS, as well as other platforms.

Aqua Ray serves more than 1,500 customers, with an infrastructure distributed in three data centers, and more than 800 servers under management. The company has a 20% year-on-year growth rate.

Aqua Ray's success is based on the quality of its services and its ability to react swiftly to new market needs. With a lean organization, managed by a small team of highly-skilled IT professionals, Aqua Ray designed its infrastructure to grow quickly, in accordance with changing market needs. This strategy needed a storage infrastructure with the best flexibility, scalability, and availability, but, at the same time, with a low cost to remain competitive in the market. This is why they have chosen OpenIO SDS for their new storage infrastructure, on which they provide resources for cloud, compliance, backup, and archiving services.

OpenIO SDS's unique technology enables Aqua Ray to overcome the limitations of traditional solutions. It is a lightweight, software-defined storage platform, which can take full advantage of new resources added to the cluster without disruptive upgrade operations or the need to rebalance data. These characteristics allowed Aqua Ray to begin with object storage on recycled heterogeneous hardware, keeping costs down, while providing top notch performance and reliability.
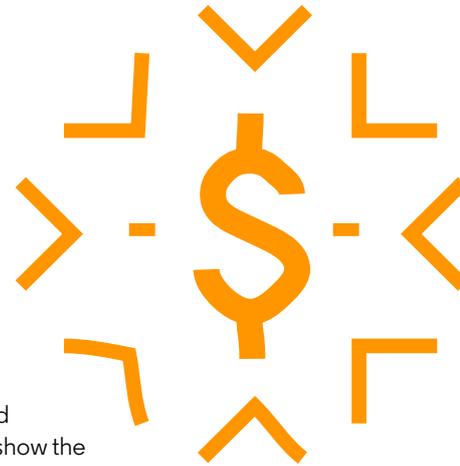
The choice

Aqua Ray wanted to radically change the way they build and consume their storage infrastructure. They wanted to make it more flexible, manageable, and scalable, while reducing costs.

Traditional object storage solutions are usually expensive when the initial installation is small, and are very rigid when it comes to cluster design and expansion. This makes it difficult for local service providers to build a cost-effective and competitive cloud storage infrastructure. **Aqua Ray tested several products, but most of them didn't deliver what was promised**. Only OpenIO SDS met all their needs.

Aqua Ray took full advantage of OpenIO SDS and its Conscience technology, implementing an infrastructure distributed across **two datacenters** to get the best reliability. The company initially built this infrastructure with a **number of small recycled servers**, which optimized initial costs, but without limiting performance. This formula allowed them to have a **small failure domain, good performance, and a minimal initial investment**.

"As our storage needs more capacity, we're going to add new nodes, which is easy, thanks to Conscience. We'll be able to add storage nodes that are completely different from what we've been using so far".

Why Object Storage

Object storage is key to building innovative cloud storage services. By coupling it with remote file gateways, backup applications, and other third-party solutions, the service provider can easily extend their services portfolio and provide end-to-end solutions to its customers.

Local, S3 compatible, and affordable, object storage services are in high demand from enterprise customers and public organizations that need to keep data locally, especially in the EU. Thanks to OpenIO SDS, local service providers can build such a service and be competitive with large hyperscalers.

Object storage is becoming a relevant component of any large-scale infrastructure, thanks to its characteristics of scalability, reliability, and availability. **OpenIO SDS lowers the barrier to entry and allows local service providers to start small and grow quickly** according to business needs.

Why OpenIO SDS

Aqua Ray's success is based on its ability to respond quickly to new market needs. Aqua Ray wanted to show the quality of innovative cloud storage services to its customers and invest as market demand increased, but without compromising on initial quality, performance, or reliability. At the same time, the infrastructure had to be ready to scale quickly over time, without impacting existing customers and services. After testing several competing solutions, they chose OpenIO SDS because it offered all these key features, and helped them start up quickly, without hardware investments, and with no constraints on future expansions.

Limited Initial Investment
OpenIO SDS is an open source software-defined solution; the software is free, and the customer pays only for support services. This allowed Aqua Ray to set up a very small infrastructure at the beginning, limiting their investment, and grow the infrastructure later when more capacity is required.
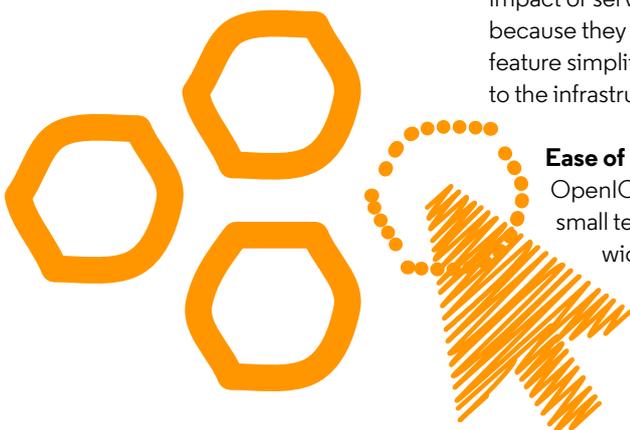
Heterogeneous Hardware
OpenIO's Conscience technology is a set of services and algorithms that continuously monitors the nodes in the cluster, assigning a quality score to them in real-time. More resources available mean a higher score, and each operation on the cluster is assigned to the most available nodes at that precise moment. This mechanism enables Aqua Ray to mix nodes of different generations and configuration in the same cluster while assuring the best response and availability for each operation.

Never Rebalance
OpenIO's Conscience technology also brings additional advantages. New nodes can be added to the cluster without rebalancing data, avoiding any performance impact or service disruption. New nodes will have better scores than older ones because they are underutilized when new and are able to accept more data. This feature simplifies Aqua Ray's capacity planning, allowing them to add new resources to the infrastructure and take advantage of them immediately when needed.

Ease of Use
OpenIO SDS is easy to use, and even large installations can be managed by small teams. The web UI, CLI, and a comprehensive management API offer a wide range of options to manage and integrate the object store with the rest of the infrastructure. Thanks to the WebUI, Aqua Ray's team can view the status of the cluster at a glance and give prompt support to their customers.

" OpenIO is open source, so we can see how it's developed, what the public roadmap is on GitHub, which gives us much better visibility than what we can see with a closed source project. "

→ Guillaume de Lafond, Technical Director, Aqua Ray
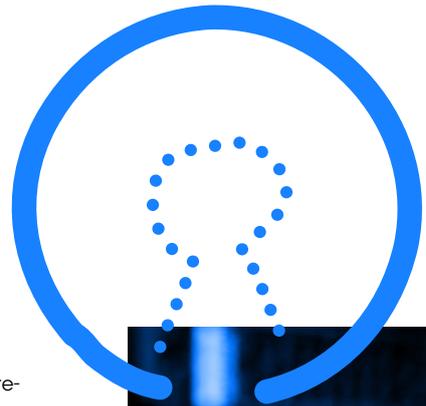
Key advantages

OpenIO SDS is a next-generation object storage solution which combines unmatched flexibility, ease of use, performance, and TCO.

Its core features, including Conscience technology, make it the most flexible solution on the market. Organizations of all sizes can start very small, beginning with a minimum of three nodes, and easily scale up to dozens of petabytes with heterogeneous hardware.

Cutting edge technology and a software-defined, open source approach add flexibility and freedom of choice while reining in overall infrastructure TCO.

This is why Aqua Ray, a local, flexible, customer-focused provider, found that OpenIO SDS was the best answer for its storage infrastructure.

OpenIO SDS is a next generation object storage solution which brings together unmatched flexibility, ease of use, performance and TCO

Learn more at
openio.io