IDC CUSTOMER SPOTLIGHT

Veolia Water Brings its IT Infrastructure into the Digital Era with AWS

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Introduction

Veolia Water France, part of Veolia Group, is a world leader in water and wastewater services. It is involved in all stages of the water cycle: it withdraws water from the environment, produces and distributes drinking water and industrial process water, and collects and transports wastewater to Veolia's treatment plants where it is made fit for recycling or is discharged back into the ecosystem. In France, Veolia Eau France, serves approximately 8 million customers with a B2B2C business model and generates revenue of about €2.7 billion.

To be aligned with the evolution of the water business, Veolia Water's mainly mainframe-based IT infrastructure needed to be updated to become more agile and flexible. Datacenters were becoming obsolete, and application run and maintenance costs were on the rise. All this was constraining the company from operating as it needed to. It was increasingly urgent to modernize the company's infrastructure and systems. Rather than using traditional techniques, the company decided to go beyond them and radically transform its approach by embracing the new possibilities offered by cloud.

"Cloud is a major tool to drive the company's digital transformation that the ICT infrastructure needs, and to provide agile operations and support innovation," Veolia Eau France explained.

Building the IT Systems of Tomorrow

In the summer of 2014, after a proof of concept was carried out on a few solutions (including the intranet and a marketing application), Veolia Water embraced cloud. The motive was twofold: to move existing infrastructure into the cloud, and to prepare the IT environment for new cloud-native development.

With this plan in mind, the company set up an infrastructure of virtual datacenters with environments for production, development, and training. With the

Solution Snapshot

Organization: Veolia Water provides water and waste-water services to roughly 8 million customers in France.

Operational Challenge: IT infrastructure was increasingly obsolete, so the company decided to embrace cloud to support its present and future business needs.

Solution: Veolia Water France set up a virtual datacenter infrastructure to develop new applications and migrate legacy applications, such as "Gestion Nouvelle," which manages relations with its 8 million customers.

Project Duration: In 2014, cloud was embraced, and by June of 2017, 80% of company infrastructure will be entirely in the cloud. About 1,200 servers and 400 applications will have been migrated by the end of the process.

Benefits: Through the shift to AWS for the mainframe system, Veolia is dividing its use costs by 10, and is opening up innovation opportunities on previously fixed platforms.

availability of cloud infrastructure, the migration of legacy applications started with a lift and shift approach — move first, then optimize and transform.

"Gestion nouvelle" was one of the core legacy applications to be modernized and replatformed. This customer care and billing solution is at the core of Veolia Water's operations in France. Used to manage its 8 million customers, it was a mainframe-based application developed in the '70s, unable to support the new digital services and channels the company needs to offer to its customer base. During replatforming, the solution was enriched with new functionalities requested by the business, and the application runs on a shared virtual datacenter. The global saving to keep the system in operational condition is about 55%, with an annual cost reduction of €1.7 million. The computational power was optimized, and can be temporarily increased when needed, for instance when billing cycles require more capacity.

Veolia Water's cloud strategy focuses not only on modernizing what was already available, it also supports the company in providing the flexibility needed to exploit new possibilities related, for example, to the Industrial Internet-of-Things (IIoT). Leveraging AWS IoT, in 2016 Veolia launched a new platform that analyzes Big Data collected by thousands of sensors in water tanks. The aim is to have a real-time monitoring solution enabling Veolia Water France to follow certain key indicators such as temperature, purity of water, pH levels, and flow, as well as to reduce maintenance costs and intervention time, and be able to predict water requirements.

Managing the Transformation

Before the company's decision to radically move to the cloud, Veolia was already using some small French players for marginal applications. Nonetheless, its cloud transformation required the selection of a partner capable of handling the variety and complexity of the needs of such a large corporation. Many suppliers were evaluated in terms of offering capabilities, flexibility, price, and security. A key decision-making element was the localization of data with respect to French and EU regulations. At the end of the evaluation, AWS was selected. The company opted for AWS because it allowed the building of virtual datacenters and systems as required without constraints.

The adoption of cloud and collaboration with AWS goes beyond the water business unit. A framework agreement has been signed at a group level, and many other Veolia units are also leveraging it for their IT transformation.

Veolia Water's ICT organization managed the transition to cloud, bringing on board the business side. Extensive training was organized to explain how this technical approach is a fundamental enabler of the company's digital transformation. The focus was mainly on explaining the new business capabilities and the agility that cloud would bring to the company's operations. Organizational barriers were overcome with management commitment to the choice of cloud and the benefits it generates.

On the ICT side, the adoption of cloud required the development of new skills, both technical and organizational. Workshops and courses on security and network connectivity were organized, and IT professionals needed to learn everything about cloud. Veolia moved to DevOps, automated and reduced low-value–added tasks, and reallocated resources to more advanced troubleshooting.

It is Not just about Costs — Capabilities Matter Most

The need to modernize IT infrastructure was the instigator of Veolia's cloud journey. Since the beginning, the goal was twofold: radically reduce costs while at the same time pushing forward innovation and business agility.

In terms of cost benefits, the plan to move to a cloud-first approach was built on very aggressive cost-saving expectations: 30%–45% compared to the on-premise datacenter environment. This would free up resources to provide more functionalities to the business. Costs included both capital expenses (annualized) and operating expenses, as long as they were linked to infrastructure elements replaced by AWS IaaS/PaaS solutions. Savings were expected in staff,

energy, hardware capex, system management software licenses, and hardware maintenance fees. So far, the data available demonstrates that the goal was not too ambitious.

For new application development, the usage of platform-as-a-service has reduced costs six-fold, compared with the previous on-premise approach. The annual running costs of most critical applications, such as Gestion Nouvelle, have been cut by more than 50%, while running costs for newer applications are around 10% lower.

In addition to cost reduction, the move to cloud has accelerated the applications development cycle. The time to provision a new environment has been reduced from several weeks to one or two days. System performance has been significantly improved, meanwhile. It is very simple to increase or reduce the power of an environment; it is simply a matter of managing a configuration on the administration tools provided by AWS, and this is done in a few minutes. Security awareness has also improved thanks to detailed reporting that was previously unavailable.

In summary, by collaborating with AWS, Veolia Water has already been able to achieve important cost reductions, and has improved security and business agility.

What's Next: Cloud as the Propeller of Veolia Water's Digital Transformation

By June 2017, Veolia Water's transition onto cloud will have moved about 1,200 servers and 400 applications, representing 80% of total portfolio. The 18 proprietary datacenters will be progressively decommissioned. Since all of Veolia Water's business applications have been assessed as eligible for cloud, the expectation is that by 2018 the entire company will be completely cloud-based.

Applications standardization, transformation, and optimization will continue, and the company will leverage the full spectrum of services that AWS increasingly makes available.

Thanks to the thrust of cloud services, Veolia is now in the position to easily try out innovative ideas, such as the usage of Industrial IoT to deploy smart water solutions.

"We have adopted a cloud-first strategy to boost our power of innovation," company representatives said.

Methodology

The project and company information contained in this document was obtained from multiple sources, and most importantly from direct interviews with Veolia Water executives by IDC analysts.