

## Alstom sets digital clone on the right track

CUSTOMER

**Alstom**

LOCATION

**Saint-Ouen, France**

INDUSTRY

**Transportation**



The city of Amsterdam improved traffic management using a hyperconverged solution from Alstom and DXC Technology based on VMware.



### Challenge

- Modernize IT platform for traffic management
- Ensure scalability and security
- Address IT skills needs



### Solution

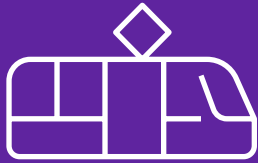
- Software-defined data center and VMware private cloud with DXC Hybrid Cloud and Multicloud services



### Results

- Created a digital clone for the city of Amsterdam in a few weeks
- Adopted a hyperconverged platform for many other projects
- Replicated the model based on VMware solutions to provide ever greater agility





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The city of Amsterdam manages its tram and subway traffic using a hyperconverged solution implemented by Alstom and its partner, DXC Technology, based on VMware software.

“Where a traditional model would have taken several months, the digital clone only required a few weeks of work, including validations.”

— Mehdi Belahcen,  
Senior cloud architect, Alstom  
Digital Mobility

Alstom is a global player in the railway sector with more than 75,000 employees worldwide in 60 countries generating annual sales of €15.5 billion. Its business consists of producing rolling stock - high-speed trains, trams, and subways — as well as signaling management services and maintenance of the equipment in circulation.

Within the Alstom IT department, Mehdi Belahcen is a senior cloud architect. He is in charge of the technical architecture of the cloud and data center platforms that host various production resources of Alstom’s businesses.

“My mission is to support the employees in the Alstom Digital Mobility (ADM) department, which produces rail traffic management systems, not only towards the modernization of the production platform but also to address the outdated IT pool while guaranteeing the scalability and security of the technical infrastructures at their

disposal,” explains Belahcen. In this case, a pool of more than 3,000 servers was hosted on Alstom’s premises in a private cloud, managed by the ADM entity itself.

## Digital clone: a few weeks of work versus several months

In 2016, ADM delivered the traffic management systems for the Amsterdam city tram and subway system.

“As part of this large-scale project, ADM’s experts used the platform we provided to create what is known as a ‘digital clone’ (or digital mock-up) and demonstrated to our Amsterdam client the viability of the proposed solution.

# 1,500

virtual machines in private cloud

# 21

hyperconverged units integrating storage, CPU and RAM

# 5X

Expansion in virtual machine usage in 2 years

Where a traditional model would have taken several months, the digital clone only required a few weeks of work, including validations,” Belahcen says.

Technology partner DXC Technology has been supporting Alstom since 2015. With more than 137,000 employees, including 3,000 in France, DXC Technology is one of the major players in IT services in the world. Alstom’s private cloud, public cloud, and legacy infrastructure environments are operated by DXC Technology’s technical teams.

## A secure and scalable hyperconverged platform

In response to the successful project for the city of Amsterdam, DXC Technology, with the support of its manufacturer and publisher partners - in this case VMware - integrated a Dell EMC VxRail™ hyperconverged platform combined with a software-defined data center (SDDC) and VMware Cloud Director™. For more than 15 years, DXC has been developing IT solutions that leverage VMware technologies to modernize data centers and integrate with public clouds, modernize applications and transform security.

“Security is a strong demand from Alstom. In response to this demand, we integrated the VMware NSX™ Data Center software suite to segregate its production environment and secure it as a whole.

Segregation allows us to isolate all environments operated and hosted on the VxRail platform and provide a level of security and exchange around applications,” explains Stéphane Torlet, chief technology officer, EMEA, DXC Technology. In the end, the platform is a pre-packaged solution of 21 hyperconverged units integrating storage, CPU and RAM. It allows Alstom’s project needs to be met in complete security and remain scalable.

## Looking ahead

“The Amsterdam success story has accelerated the adoption of this platform by other business projects within the group,” Belahcen says. “We have gone from a base of 300 virtual machines to more than 1,500 virtual machines, in less than 2 years. And in the future, I intend to go even further by replicating this model based on VMware solutions in the public cloud to bring even more agility and scalability to all of Alstom’s businesses.”

“The VMware solution has enabled us to achieve a level of delegation of actions that are completely optimized and directly consumed by Alstom’s businesses, in an autonomous and perfectly secure manner,” adds Torlet.

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