

# KEOLIS

## Leading urban transport operator enhances business application performance with XtremIO



### ESSENTIALS

#### Industry

Transport

#### Turnover

4.9 billion euros

#### Business Challenges

- Optimize the VDI infrastructure
- Accelerate access to surveillance videos
- Resolve performance issues

#### Solutions

- EMC XtremIO All-Flash Array

#### Results

- 200,000 IOPS with 1 ms latency over all volumes from a single server
- Easy installation

CUSTOMER PROFILE

### THE COMPANY

The Lyon metro; The Lille, Le Mans, or Melbourne tram systems? Keolis helped to design these transport systems and operates them on a daily basis. As the largest urban transport operator in France and the leading tram operator worldwide, the company operates 85 urban transport networks and covers 74 French counties with interurban links. In 2012, Keolis transported 2.2 billion passengers and achieved a turnover of 4.9 billion euros. Its philosophy? Placing innovation at the heart of its approach to modes of transport, associated services, and information technology.

### BUSINESS CHALLENGES

With this philosophy in mind, Keolis Orléans wanted to strengthen the efficiency of its IT systems, particularly with regard to operations and production. One of the organization's objectives was to make increasing use of VDI technology through VMware View 5.1, which is already partially deployed in its infrastructure. Keolis Orléans wants a solution that is able to anticipate business evolution: the number of virtualized desktops will not be known in advance, and the volume of associated data will be even harder to predict. A high-performance, scale-out array is therefore needed, one that can be easily integrated into the highly virtualized IT environment.

### THE SOLUTION

After keeping a close eye on technological developments, Keolis Orléans ultimately selected the EMC XtremIO array, as it meets the specifications perfectly. The arrival of this new class of All-Flash storage systems on the market redefines what can be offered in terms of performance. "When we chose an XtremIO array 18 months ago, it was the most advanced product on the market, with the most functionality at a reasonable cost. We're actually talking about a device built to perform Flash by design, and not a variety of disk arrays to which you would just add SSDs," explains Olivier Parcollet, Information Systems Architect at Keolis. The array combines the use of Flash technology as a storage medium with systematic use of data deduplication to minimize Flash wear and maximize capacity utilization. Because the architecture is based on a scale-out design, performance increases with the number of nodes in the storage cluster. The aim is also to ensure that the array automatically optimizes itself in such a way that no fine-tuning or manual resource allocation is required.

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With two nodes, Parcollet says "that the performance level is quite impressive." During scalability tests, Keolis managed to achieve more than 200,000 IOPS with 1 ms latency over all volumes from a single vSphere 5 server on a 4Gb/s dual-channel FC card.

## "The performance level of these native All-Flash arrays is just as impressive for VDI as it is for databases."

OLIVIER PARCOLLET, INFORMATION SYSTEMS ARCHITECT AT KEOLIS

### OPTIMIZED VDI AND VIDEO SURVEILLANCE

With the XtremIO array, there can be 100, 200, 300, or even 1000 variations of an instance using the same version of Windows on the same device without taking up space, as this instance is only populated by small references. This eliminates the need to manage linked clones and their often complicated migration. Keolis is also counting on the high-performance array to meet its video surveillance requirements. The existing video systems contain metadata that is used to analyze the content of recorded images, if requested.

"By putting the database for these images on All-Flash arrays, you reduce the time it takes to find a sequence from a few minutes to just a few seconds. This means we can very quickly resolve any issues, for example if someone submits a complaint," explains Parcollet.

### ANTICIPATE FUTURE NEEDS

Mobility and the management of personal tablets and smartphones in a BYOD context will result in many additional devices being present in the company. Again, Keolis cannot yet determine the exact amount. This is why the scale-out aspect of the XtremIO will be a decisive factor and will enable the system to evolve alongside the IT environment. Finally, the company has initialized a Big Data project to analyze passenger data. "We want to simulate and finely tune the offering in relation to requirements: number of carriages, timing, and so on. We need to collect a whole host of information using ticketing tools to analyze the monitoring of passenger journeys and hone the offering. Previously, the technology used to handle this data relied on databases, and it could take days to simulate. With the XtremIO arrays, I am confident we will realize productivity and efficiency gains, not to mention the time savings," adds Parcollet.

In the future, the company will come up against open data issues, as increasingly formal requests to make data available are made by transport organization authorities. There is no doubt that the XtremIO array will be a precious ally in this regard.

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