



# High-level IT infrastructure to meet tpg's demanding requirements.

Transports publics genevois (tpg) has high professional standards. They operate 23 hours a day, with the objective of continuous availability 24 hours a day, 7 days a week, 365 days a year. To meet these demands, it is essential to have a highly accessible service

that operates continuously. This is why tpg's new IT infrastructure must be reliable, high-performance and scalable, to guarantee optimal operation and constant availability. fonctionnement optimal et une disponibilité constante.

## PROJECT DETAILS

- **Services**  
Professional Services
- **Sector**  
Transports Publics
- **Size of company**  
>2'000 employees

## TECHNOLOGIES

- Dell Connectrix / Cisco MDS
- Dell PowerMax
- Dell ECS
- Dell PowerVault
- Dell Power Scale
- Dell PowerEdge

## OUR PARTNER

**DELL**Technologies

« Our goal: to build the infrastructure of tomorrow, and we've done it!

We selected and placed our trust in Bechtle on the basis of objective criteria via a public invitation to tender. Bechtle presents itself as a trusted partner with whom we can work over the long term, and holds this position, which is very reassuring for our company. We're building together, and their experts are constantly on the lookout for solutions. »

Yoan Adida, PhD, Head of Infrastructure and Operations at tpg, Transports publics genevois.

**CHALLENGE.** Our customer's business requires a highly available IT infrastructure due to stringent business requirements. Prior to the implementation of this project, the existing infrastructure was aging and in need of improvement. The project was put out to tender under public procurement conditions, and included specifications for a complete overhaul of the infrastructure, with a solution guaranteeing enhanced scalability and reliability. The objectives of the project were to migrate to a reliable, high-performance, highly available and scalable solution, to ensure fault-tolerant service, to activate global maintenance, to reduce operating costs, and to find a partner capable of meeting the standards and requirements of its field of activity.

**THE SOLUTION.** We worked with our partner Dell to propose the right solution for our customer's needs. Drawing on our in-depth knowledge of tpg IT infrastructure - we had already implemented the infrastructure to be renewed - and providing regular support across the entire ecosystem of its infrastructure, we chose to provide an uncompromising response in the choice of designs. The solution chosen for the entire project was Dell. Our teams developed the technical solution, installed it, participated in project management in conjunction with tpg and then trained the teams on the technologies implemented.

Dell PowerEdge servers were chosen for their redundant connectivity, maximum density to keep the number of servers to a minimum, and full compliance with HANA/Dell compatibility requirements and NUMA best practices. The network was managed with Dell Connectrix and Cisco MDS, offering fiber connectivity, additional bandwidth, scalability and increased consolidation.

Block storage was managed with Dell PowerMax, the most advanced and high-performance platform in the Dell portfolio, offering a high level of functionality, performance and availability to meet the demands of planned workloads. The resilient solution offers up to 99.999'9% availability, with Stretch Metrocluster for seamless integration with Veeam solutions and snapshot immutability.

Object storage was managed with Dell ECS, offering unlimited scalability, multisite architecture and geosynchronous clustering, optimized costs and seamless integration with Veeam solutions and backup immutability. Video storage was managed with PowerVault, offering optimized cost per TB, 24/7 performance for video streams, compliance with best practices and ease of management.

A centralized supervision tool, Cloud IQ, was implemented to facilitate management of the whole system, whether it be network supervision, centralized supervision for object storage, or centralized supervision for video storage.

NAS storage was managed with Dell Power Scale, offering linear scale-out, availability with N+2:1 protection, synchronous inter-site replication, performance with native load balancing and performance, and multi-protocol support. Cloud IQ was also used as a centralized monitoring tool for NAS storage.

We operated rigorously and methodically, following our Bechtle Best Practices, to deliver a complete solution tailored to our customer's needs, using the most advanced technologies offering optimal performance and simplified management.

**BENEFITS.** „The benefits of implementing this solution are numerous. First of all, the solution proposed by Bechtle met all our requirements and constraints - particularly in terms of high availability - while being the most economically advantageous; and now the tpg company benefits from high-performance, modern equipment under warranty. What's more, users of our systems have noticed an improvement in the performance of their applications, and we are in the process of measuring these gains. Several recurring difficulties have been eliminated, both for operational teams and for application and project managers, breathing new life into all applications thanks to increased CPU, space and disk performance, thus improving execution speed and storage. Switching to these new systems has given us greater confidence in the future, thanks to the scale-up and scale-out possibilities we've gained. We can now add as many disks and servers as we need and expand our capacities, which will be positive in the long term. This enables us to better meet our business needs and optimize our operations. "concludes Yoan Adida.

**MORE** information : [BECHTLE.CH](https://www.bechtler.ch)



Transports publics genevois tpg is the benchmark public transport operator in the Geneva region. Its mission is to contribute to the management of mobility within its territory by offering a quality service that respects the principles of sustainable development. In all their actions, tpg strives for excellence in the service of the public community. They operate within the framework of a service contract renegotiated every five years with the State of Geneva. [www.tpg.ch](http://www.tpg.ch)

