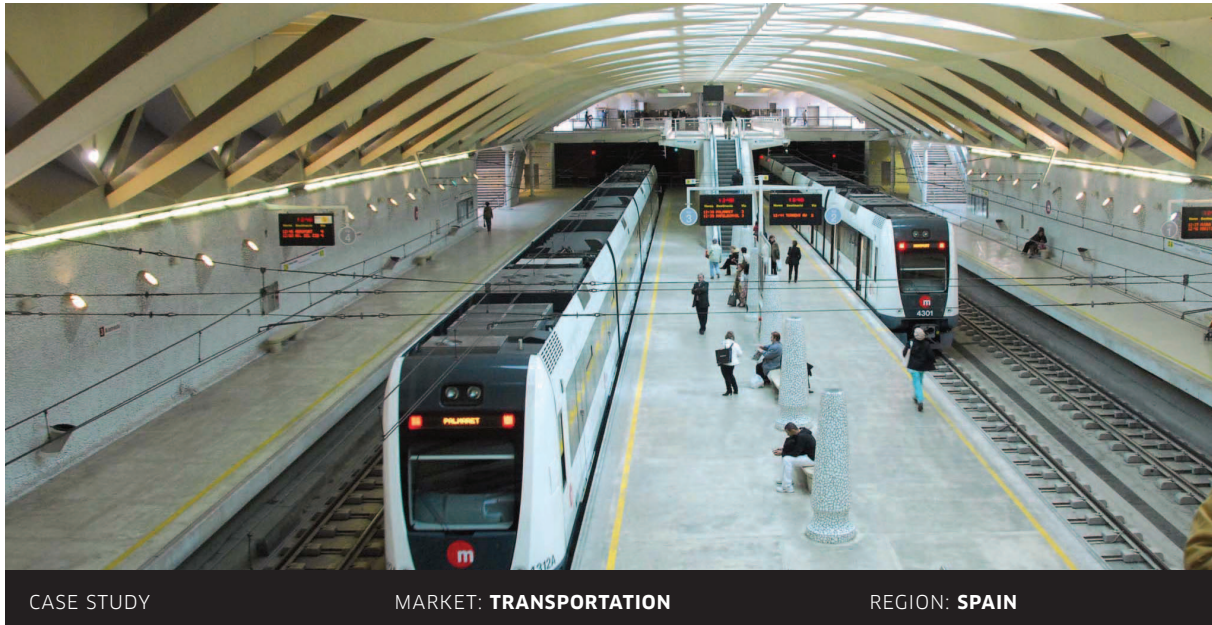


FERROCARRILS DE LA GENERALITAT VALENCIANA (FGV), A SPANISH PUBLIC RAILWAY OPERATOR, MODERNIZES DATA NETWORK INFRASTRUCTURE WITH SOLUTIONS FROM ALCATEL-LUCENT

ALCATEL-LUCENT HELPS FGV TO SIMPLIFY MANAGEMENT, IMPROVE RELIABILITY AND ENABLE NEW MULTIMEDIA SERVICES



CASE STUDY

MARKET: **TRANSPORTATION**

REGION: **SPAIN**



Ferrocarrils de la Generalitat Valenciana (FGV) is the public train operating company in the metropolitan area of Valencia, Spain. Since its formation in 1986, FGV has built the Metrovalencia underground network, introduced new tram services and now serves more than 70 million passengers a year across 277 kilometers of network.

CHALLENGES

- Modernize ageing network infrastructure
- Make more efficient use of available bandwidth
- Improve network redundancy and service reliability
- Enable new services across the network, especially video

SOLUTIONS

- Alcatel-Lucent 7750 Service Router
- Alcatel-Lucent 7210 Service Access Switch
- Alcatel-Lucent 5620 Service Aware Manager (SAM)
- Presales consultancy, implementation and ongoing maintenance and support from NextiraOne

BENEFITS

- The new network is more reliable and stable, achieving over 99 percent availability
- More efficient network management has reduced use of available bandwidth by over 80 percent
- Improved redundancy means services are no longer affected by a single point of failure
- Increased capacity and advanced technology features have enabled vital new multimedia services, including video surveillance

Alcatel-Lucent
Enterprise



“THE IMPLEMENTED SOLUTION ENABLES US TO MAKE MUCH MORE EFFICIENT USE OF THE NETWORK CAPACITY AVAILABLE, EVEN WHEN WE’RE DEPLOYING BANDWIDTH-HUNGRY APPLICATIONS LIKE VIDEO.”

Julia Iserte, Head of Communications, Ferrocarrils de la Generalitat Valenciana (FGV)

FGV WANTED TO INTRODUCE NEW MULTIMEDIA SERVICES. IT ALSO NEEDED TO IMPROVE RELIABILITY, AND MAKE BETTER USE OF AVAILABLE BANDWIDTH.

THE CHALLENGES

Data networks play a vital role in the running of modern urban railway systems, supporting everything from passenger information systems to signaling across a complex mix of services.

The situation at Ferrocarrils de la Generalitat Valenciana (FGV), a public rail provider in the Valencia region of Spain, is no exception. Since forming in 1986, FGV has carried out an ambitious program of modernization, adding a Metro network and tram lines to existing overland train services. This physical infrastructure requires constant surveillance, maintenance and management – a task that is assisted greatly by applications and media run across the data network – connecting central administration offices, stations and other facilities. If passenger services are to run smoothly and efficiently, the performance and functionality of this network is critical.

Assessing the options

As part of an ongoing modernization program, FGV decided to completely renew its data network in 2009. The company knew its existing SDH based network was unable to support new video based services and there were also problems with bandwidth capacity. In addition, FGV wanted to find ways of creating greater reliability and redundancy within the network.

Julia Iserte, Head of Communications(Research and Projects) for FGV, explains: “We found the old network was holding us back whenever we wanted to introduce a new application or service, both because of available bandwidth and the standards the network supported. We also had a pressing need to improve availability. If a single system failed, it often meant the whole network went down.”

FGV instructed a consultancy to find a solution, initiating a detailed two-year selection process that involved the assessment of several different technologies and a year of rigorous product testing. “We had to make sure we got this process right,” Iserte continues.

THE SOLUTION

After completing the selection process, FGV chose NextiraOne, Europe’s leading experts in communications services, to implement a new MPLS network based on equipment from Alcatel-Lucent. The solution comprises service routers, access switches and the Alcatel-Lucent 5620 Service Aware Manager, which provides simplified, end-to-end management across the new network. “We were very impressed with the solution,” says Iserte. “It proved to be highly reliable during testing and, in terms of functionality and standards, provided a perfect match for our requirements.”

Crucially, Iserte was impressed by NextiraOne’s recommendations in the bid process. “They proposed the best technical solution that was appropriate to our needs,” she says. “In addition, they were able to demonstrate that they have locally-based people with extensive experience in implementing and supporting the kind of network we were looking for.” NextiraOne worked closely with FGV in designing the solution, establishing the physical and logical topology of the network, and defining the various levels of service to ensure consistent availability and quality of service.

How does it work?

FGV’s new network consists of two core service routers at its central office, a further six distribution nodes and over 70 access switches spread across the edge of the network. The Alcatel-Lucent 5620 SAM adds management capability, making it simple to provision new services, prioritize traffic and trouble shoot issues as they occur, via a series of management procedures and alarms that were developed with NextiraOne. Because the network is MPLS-based it is also inherently redundant, making it possible for FGV to isolate services and prevent a single point of failure from crashing the network.

BENEFITS

In terms of new services, Iserte and her team have already been able to roll out new video services, including surveillance systems and a new passenger information service in stations. Remarkably, the introduction of these services has not had a negative impact on bandwidth, in fact, quite the opposite.

“The Alcatel-Lucent technology enables us to make much more efficient use of the network capacity, even when we’re deploying bandwidth-hungry applications like video,” says Iserte. “So far, we’ve reduced our use of the bandwidth available on our fiber optic cables from 80-90 percent to around two percent.”

Iserte has been able to achieve some impressive figures in terms of network reliability. “Because of the improved redundancy we have, we now achieve over 99 percent availability. This has an impact on the service we provide to our customers, ensuring minimal disruption to services, information and ticketing.”

CUSTOMER SUMMARY

Customer Name: FGV

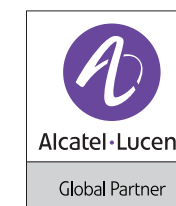
URL: www.fgv.es

Industry: Transportation

Number of Employees: 1700

Passengers per year:

Over 70 million

The NextiraOne logo, which consists of the word 'nextiraOne' in a bold, sans-serif font. The 'O' in 'One' is stylized with a cluster of orange dots above it. Below the main text, the tagline 'THE COMMUNICATIONS EXPERTS' is written in a smaller, all-caps font.

NextiraOne designs, integrates, deploys and operates communication solutions. Thanks to its communications expertise - data centers, contact centers, unified communications, secure networks – NextiraOne helps its clients to transform their organizations by making the complex simple. NextiraOne has offices in 15 European countries and United States. and manages over 60,000 clients. www.nextiraone.eu

“OUR SOLUTION IS PERFECT FOR DEVELOPING AND GROWING A NETWORK BEFITTING A MODERN, 21ST CENTURY RAIL SERVICE.”

Julia Iserte, Head of Communications, Ferrocarrils de la Generalitat Valenciana (FGV)

Ongoing support and management

To cover any risks, FGV went for a NextiraOne maintenance and support contract, ensuring the new network is supported by locally-based experts, highly experienced in the technical nuances of modern, advanced networks that support multimedia services. Ongoing management of the network will be handled by FGV, from the Alcatel-Lucent 5620 SAM. “We rely on this management software to proactively monitor issues and solve them as they occur,” says Iserte. “The 5620 SAM is suited for managing large-scale networks such as ours. It was a key part of our decision to choose our solution.”

FUTURE STEPS

FGV has already migrated all its services to the new MPLS network. In the future, the communications department is confident it will be able to integrate new services seamlessly and efficiently, giving it single network for all the services it provides to the FGV business.

“We’ve already made big advances, especially with the introduction of video applications that we weren’t able to deploy on the old SDH infrastructure,” says Iserte. “Our solution is a perfect platform for developing and growing a network befitting a modern, 21st century rail service.”

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