



# HIGH PERFORMANCE WI-FI NETWORK

## ADTRAN's Virtual Wireless LAN Supplies Complete Connectivity to the Municipality of Opera

### About the Municipality of Opera

The Municipality of Opera is located in the metropolitan area of Milan. The area is home to approximately 14,000 people and has 15 schools within the region.

### The Challenge

The Municipality of Opera required a single Wi-Fi network that could be monitored and managed by the Municipality's IT department. As fiber was not an option,

the Municipality needed a solution that could guarantee an excellent level of service, maintenance and security across the public network.

### The Solution

The Municipality of Opera deployed a complete Wi-Fi service with the ADTRAN vWLAN virtual appliance located in the Townhall technical room, plus indoor Bluesocket Access Points distributed within four schools across the region.

### The Benefit

The deployed solution allows a single platform administrator to guarantee the maintenance and quality of service at all schools, while multiple domain administrators can grant Wi-Fi access to whoever needs network connection within each school in a controlled and monitored mode. The Municipality can provide high speed Internet access via Wi-Fi using consistent security policies across all connected schools.

# SUPPLYING COMPLETE CONNECTIVITY

## Connecting One Municipality, 15 schools

The Municipality of Opera is located in the metropolitan sector of Milan. The area is home to around 14,000 inhabitants and has 15 schools within its territory. Each school in the Municipality requires the ability to manage various device connections and allow students to access academic materials from all classrooms on site – a task that demands a robust Wi-Fi service.

Wi-Fi service in this scenario is driven by a number of key requirements:

- Common and homogeneous security policies controlled by a single point of management;
- A unique captive portal, allowing seamless connections to teachers and students;
- Unique authentication of devices and users;
- Traffic shaping depending on roles (directors, teachers, students, etc.);

- Unified access policies for Ethernet and Wi-Fi users; and

- A low total cost of ownership for up to five years from the initial deployment.

## An Immense Challenge

None of the schools in the Municipality had a direct fiber network connection to one another, nor with the Municipality itself. Rather, the existing public access to the network was via a DSL link, which was provided by a number of different service providers. A new Wi-Fi solution had to support all of its schools whilst providing a single, central point to manage and monitor the network in terms of quality of service and access and security policies, but also allow for independent management of local and temporary accesses.

Furthermore, the new Wi-Fi solution needed to integrate with the schools' existing IT infrastructure and the various multimedia devices already in use, such as interactive whiteboards. This equipment is subject to strict security policies controlled by the IT department via the Municipality

EDC (Electronic Data Center), responsible for maintenance tasks and upgrades and located at the Town Hall.

Add to this the fact that some schools already had an established Wi-Fi service, whilst others needed to start the process from the very beginning. The biggest challenge was to find a single homogeneous solution that could be distributed widely, but would allow the same level of service and security policies via a single, central controlled entity.

## A Perfectly Tailored Solution

Following an open tender process judged on a technical (55%) and economic (45%) basis and taking into account hardware quality and quantity, wiring costs and maintenance costs over a five year period, ADTRAN partner NEWEN Srl was selected to become the systems integrator for the design, implementation and support of the Municipality of Opera Wi-Fi network, including the aggregation switches.





The project was assigned in August 2014 and commenced in October of the same year. Installation began with the ADTRAN vWLAN virtual appliance located in the Townhall technical room, plus ADTRAN's Bluesocket 1920 indoor access points, powered over Ethernet and distributed within four schools across the region. Additionally, Netvanta 1531 and 1234 switches were part of the network installation to offer unified access to the IT classrooms of each school.

## Enhanced quality, reliability and security

In the weeks after deployment, the schools and their users easily recognized the increased quality and reliability of the new Wi-Fi solution, paving the way for the Municipality of Opera to seek additional opportunities in the future.

Due to the Multi-tenant Unit concept that was deployed, a single platform administrator can guarantee the mainte-

nance and quality of service to all schools. Additionally, multiple domain administrators can now grant Wi-Fi access to whoever needs to connect to the network within each school in a controlled and monitored mode. The Municipality can now provide a high speed Internet access via Wi-Fi using consistent security policies across all school LANs to which the fixed IT laboratory PCs are connected.

Looking to the future, the new Wi-Fi service will allow the school management team to make its own decisions on how to enhance its services. Administrators can improve existing computer suites, increase the number of interactive whiteboards in classrooms or promote innovative projects to replace previously printed materials with digital versions immediately accessible to teachers and students via any device.

It's all about creating new opportunities—by keeping the infrastructure simple, functional and accessible, it can grow to meet the classroom needs of teachers and students both now and in the future.





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