



# HIGH PERFORMANCE WI-FI NETWORK

## Comprehensive Insitutute of Verdellino-Zingonia delivers multimedia interactive learning with ADTRAN's Gigabit Wi-Fi

The Comprehensive Institute of Verdellino-Zingonia is close to the town of Bergamo and includes around 7,000 inhabitants and 5 schools in the territory. Each school had different needs in terms of Internet access, together with a common interest to use multimedia interactive devices for educational purposes and provide Wi-Fi coverage to all classrooms. The new Wi-Fi infrastructure had to integrate with the IT laboratories, the multimedia blackboards already installed in the schools and other existing equipment that had to be subject to strict security policies controlled by the Institute staff of the school Direction.

### The Challenge

The Scholastic Institute of Verdellino-Zingonia wanted to have a single Wi-Fi network monitored and managed by the staff office in order to guarantee the same level of services, maintenance and security policies to all schools by using the public network access available to each site as there was no direct fiber connection available.

### The solution

Scholastic Institute of Verdellino-Zingonia deployed a complete 802.11ac high performing Wi-Fi service with a vWLAN 1U appliance located in the Elementary school of Zingonia technical room. In addition, Bluesocket 802.11ac indoor Access Points powered by NetVanta 1531P Gigabit switches were distributed in 5 schools spread across the Comprehensive Institute.

### Benefits

- High speed Internet access via Wi-Fi having the same security policies across all schools
- Multi-tenant support enables single platform administrator to deliver guaranteed quality of service to all schools
- For special events, domain administrators at each school can grant Wi-Fi access to guests in a controlled and monitored mode

# HIGH PERFORMANCE WI-FI

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## Introduction

The Comprehensive Institute of Verdellino-Zingonia is close to the town of Bergamo, in Northern Italy, and includes around 7,000 inhabitants and 5 schools on the territory.

The Comprehensive Institute of Verdellino-Zingonia has a single Direction and Secretary Service, including different school orders, from the kindergarten to the secondary schools.

Some schools already had Wi-Fi services, while others needed to start with it. The Direction was trying to find a single homogeneous solution that could be used by all areas, allowing the same level of service and security policies under a central control entity. Furthermore each school had different network connection types and bandwidth and there needed to be a solution that could handle the differences.

ADTRAN partner NEWEN Srl was selected as part of an open tender process to which three companies were invited to become the system integrator for the design, implementation and support of the Wi-Fi network including the aggregation switches for the Comprehensive Institute of Verdellino-Zingonia. In addition, NEWEN Srl was asked to take on the responsibility for post-installation maintenance tasks and upgrades.

## The System and the Challenge

The Comprehensive Institute of Verdellino-Zingonia had a private network connection via DSL provided by a regional service provider. Furthermore, the Scholastic Institute was looking for a Wi-Fi solution that could satisfy all schools providing a single point of management and monitoring of the network in terms of quality of service, access and security policies, while also allowing for independent management of local and temporary accesses, depending on time and the needs of each school.

The key requirements included:

- High performing Wi-Fi network
- Common and homogeneous security policies controlled by a single point of management
- Single captive portal, allowing seamless connection to teachers and students
- Unique authentication of devices and users
- Traffic shaping depending on roles (Directors, Teachers, Students, etc.)
- Low TCO for up to 5 years from the deployment

The project was assigned at the beginning of July 2016 and was completed in August 2016, with the installation of ADTRAN Bluesocket 2030 802.11ac indoor access points, vWLAN Appliance and Netvanta 1531P switches allowing the powering over Ethernet of all APs installed in each school.

## A Robust Wi-Fi System

Tailored services as part of the network included:

- Multi-Tenant Unit (MTU)
- Traffic shaping
- Captive portal
- Switch management from single point
- Access control and scheduling

# SCHOLASTIC INSTITUTE OF VERDELLINO

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## Summary

With the beginning of the school year in September 2016 and after the Training sessions joined by the school Domain and Platform Administrators, all users recognized the quality and reliability of the new Wi-Fi solution. The Headmaster of the Institute sees additional opportunities on the horizon. The school and municipality are also in discussions to extend coverage within the Municipality buildings (Town hall, library, center of social aggregation, etc.).





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