

GALWAY ROSCOMMON EDUCATION AND TRAINING BOARD

A new world of learning is revealed to over 22,000 students, thanks to a high-speed Aruba wireless network, designed and deployed by Agile Networks

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Overview

Galway and Roscommon ETB (GRETB) provides full-time educational services in Colleges of Further Education, Post Primary Schools and in Community National Schools. The organisation also operates extensive Further Education and Training programmes including Youth services

Spread across 60 different locations and serving a population of over 324,000, GRETB caters for a community with diverse educational, social and cultural needs. It is the second largest ETB in terms of geographical area in the country and the promotion of Gaeilge as a living language is an essential element of its core service.

The importance of developing appropriate systems and structures in Information Technology is recognised by senior management and this is viewed as a cornerstone of continuing to provide the type of responsive, real-world educational and support programmes that the region demands.

The availability of a high-performance, wired and wireless infrastructure plays a key role in delivering this digital objective.

Business Challenge

Digital technologies have become more prevalent in the classroom in recent years. The ability to connect to global information resources opens up a new world of instructional and self-learning. Children and young adults expect to be able to harness the power of the internet as they make their way through academic life.

Central to the provision of reliable, high-speed internet services is a stable, low maintenance network. Irrespective of location throughout the counties of Galway and Roscommon, staff and students want to connect to resources through desktop, laptop or mobile devices and enjoy a seamless experience in doing so.

While there was patchy wireless access available across various locations, staff at GRETB were keen to standardise hardware across the campus and introduce a greater level of management and control. Management of the network was a key issue, which it was hoped would be resolved by upgrading the wired and wireless infrastructure.

Following an open public tender process, Agile Networks were chosen to engage.

Network Management and Control to the Fore

With over 60 locations spread across a wide geographic area and a small network support team, easy management of the data network was critical for John O'Donnell in IT.

Seamless internet connectivity via wired and wireless devices is a service expected by staff and students alike, but with a mix of hardware and software deployed and no uniform platform to manage devices, the need to improve troubleshooting and support of this critical piece of infrastructure was clearly identified at the outset.

As a first step, the Agile team carried out a detailed assessment of an initial 16 sites and applied network design principles which would achieve John's core objectives.

Aruba wired and wireless devices together with Aruba Central management software were recommended and accepted by John and the board. The process of conducting wireless surveys and deploying access points in the most appropriate locations throughout the buildings began in earnest.

"Management of the network was the trigger for this project. Our services are growing and we needed an access solution that could be managed remotely from head office or delegated to some of the more experienced members of staff."

John O'Donnell, IT, Galway Roscommon Education and Training Board

Technology At A Glance

Aruba Hardware

- Aruba AP303 - Access Point

The Aruba 303 Series is an affordable mid-range campus access point, which delivers high performance 802.11ac with MU-MIMO (Wave 2) for medium density environments. With integrated BLE and support for 802.3af power, the Aruba 303 Series AP is particularly suited to educational environments thanks its low total cost of ownership.

Cloud-Based Network Management

- Aruba Central

Aruba Central is a powerful cloud-based network management and orchestration console for Aruba devices. It provides a single pane of glass for overseeing both wired and wireless devices deployed at GRETB. The technology leverages Artificial Intelligence and Machine Learning to simplify network operations, a key requirement for GRETB staff.

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Aruba AP303 - Access Point

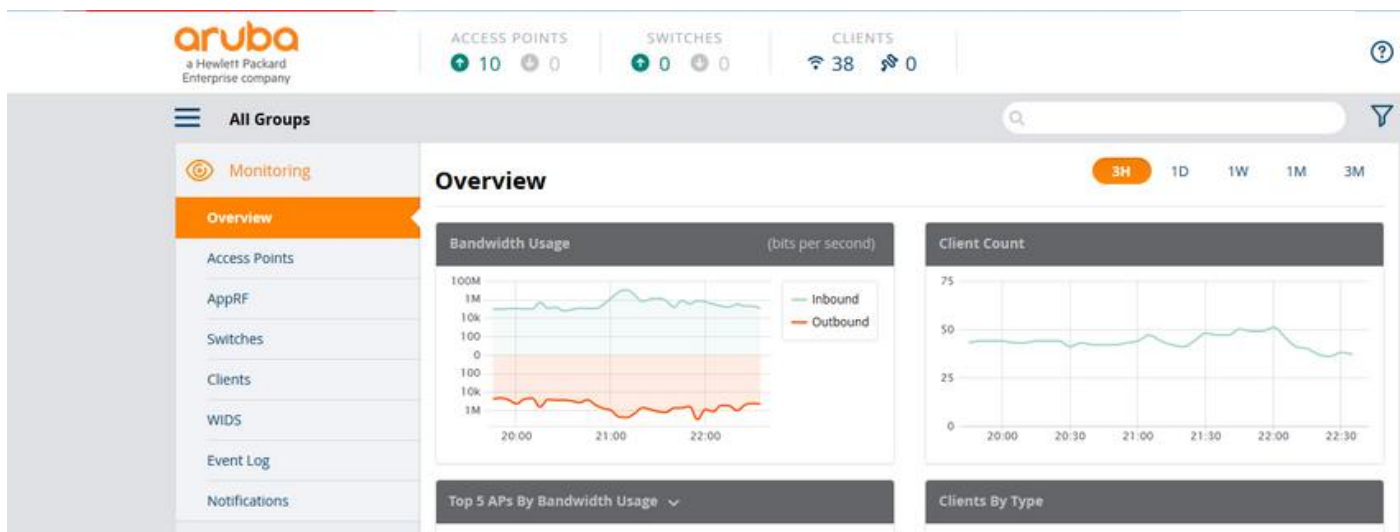
- Maximum concurrent data rate of 867 Mbps in the 5GHz band and 300 Mbps in the 2.4GHz band
- Up to an aggregate peak data rate of 1.2Gbps
- Integrated Bluetooth 5 and 802.15.4 radio or (Zigbee support) to simplify deploying and managing Meridian and IoT-based location services.

"We instinctively knew that Aruba Central with its user-friendly interface and intuitive troubleshooting capability would facilitate easier support and more consistent wireless services for students and staff."

Sean Nolan, Business Development Manager,
Agile Networks



Standardisation of Wired and Wireless Infrastructure



Sample Aruba Central Dashboard

At each school or training facility, network engineers carried out in-depth wireless surveys to plot the number and optimum location for each wireless access point.

Aruba AP303 access points were chosen as they are a cost-effective, high-performance solution, ideally suited to medium-density environments such as academia. And their Adaptive Radio Management (ARM) technology automatically assigns channel and power settings, ensuring that APs stay clear of all sources of RF interference.

In GRETB's newest second-level school at Clarin College in Athenry Co Galway an access point has been installed in every classroom. Teachers can network devices such as projectors, facilitating much better social distancing in the classroom.

Wireless printing has also become a reality. Mobility Print allows staff to send print jobs wirelessly from their smartphone to the print device which is closest to them. Greater wireless coverage gives staff much more freedom and flexibility in their working day.

In parallel to this, the Ethernet switching infrastructure was upgraded with Aruba 2930f Series 24-port switches, which enforce consistent access policies across the wired and wireless networks, to keep traffic secure and separate. Switches can be added to the network thanks to Zero Touch Provisioning and little to no IT support. This completes a homogenous networking environment, which is far easier to manage and monitor via a single pane of glass.

The Aruba Central portal (displayed above) shows the status of every device on the network. And thanks to Aruba's AI technology, staff with limited technical knowledge can easily troubleshoot network issues and resolve them in a speedy fashion.

John and his team have even given access to the local schools so they can get full visibility of the number of devices connected and the amount of traffic on the network, by application. For example, each school can see what percentage of total Wi-Fi traffic is from YouTube. This feature is proving exceptionally helpful in informing the school of network usage in a non-technical way.

"Standardising on a single vendor for the provision of wired and wireless networks was the pre-cursor of easy network management for GRETB. Having a single interface to view, manage and troubleshoot devices significantly reduces IT support costs."

John O'Donnell, IT,
Galway Roscommon Education and Training Board



Business Processes Transformed

The provision of reliable wired and wireless networks has also revolutionised the staff recruitment process at a time of Covid-19. Candidates now have the option of interviewing remotely or interviewing in the same building but in a different room, allowing for safe social distancing.



"We use our network technology in a much more clever way. It allows our staff to move around the building and still stay connected. They can socially-distance, protect themselves and their students and continue to work by bringing their mobile device with them."

John O'Donnell, IT,
Galway Roscommon Education and Training Board

Working with the Agile Networks team on this project combines the best of both worlds for John O'Donnell, i.e. sound technical expertise and sharp commercial acumen.

Having worked with Agile in the past, he was familiar with the high standard of support provided. In addition, the chosen technology in the form of Aruba represents high return on investment and a solution that's easy to support and maintain.

The support contract in place gives John and his team peace of mind that he can call on more in-depth technical knowledge on demand, acting as an extension of his own network support team on-site.

Overall Benefits At A Glance

- Consistent, high-performance, reliable wired and wireless network services now available
- Easier troubleshooting and support of the network for staff who have little or no technical knowledge
- Resolution of network issues now possible remotely, negating the need to travel cross-county for a site visit
- Reduced IT support and management overhead thanks to web-based, user-friendly dashboards and reporting
- Facilitates Covid-readiness with networking of devices such as projectors and provides the infrastructure to conduct remote interviews for recruitment purposes
- 'Follow me Print' together with location-independent access to computing resources facilitates greater productivity for teaching staff

"Wi-Fi service is one issue that we rarely get complaints about any more. We sometimes get support tickets that are vague in nature but through the portal, we can quickly identify the issue and in most cases resolve it remotely. This is hugely beneficial for our small network support team."

John O'Donnell, IT,
Galway Roscommon Education and Training Board

