

## CASE STUDY

# THE AHNAC GROUP PROCURES RELIABLE, SECURE AND INTERCONNECTED LAN AND WIRELESS NETWORKS ACROSS ITS 12 SITES



How does a hospital group manage sites across an entire region of France whilst keeping costs down, offering new and better medical services and staying at the cutting edge of progress?

AHNAC hospital group comprises of 18 services shared across 12 sites. It cares for all patients and their families residing in the former mining area of the north of France. From birth to end-of-life care, AHNAC covers these people through its services in maternity and medical care, surgery, addiction clinics and retirement homes. Today, this not-for-profit group, with its 3,200 staff and approximately 1,600 beds, annually treats 70,000 patients in A&E, carries out 22,000 surgical procedures and processes 50,000 admissions.

"In order to operate without disruption, we needed a reliable wireless network for telemedicine, telemetry, teleradiology, Wi-Fi roaming, using and sharing digital medical files, as well as other services which will evolve over time," highlights Laurent Zannier, IT Systems Director at AHNAC.

### NEW COMMUNICATION REQUIREMENTS

In 2016, AHNAC found that the wireless access points and LAN networks within its network infrastructure were outdated. In fact, many new services had become crucial in the health centres, such as, among other things, digitising patients' medical records in line with a government mandate, and the need to secure and share these documents between medical staff, labs and specialists. In addition, there was increasing use of online devices and equipment. IP phone calls and the need to provide and improve web access for patients, visitors and staff were also becoming inevitable. All this required enhanced security for a simplified connection process and easier network access management.

### High performance networks for secure connections between sites

The rise in network traffic, especially wireless, due to the transfer and archiving of large medical image files, and much more, required increased resilience and power. For efficient mobile access, the WLAN needed to be as powerful, reliable and secure as the LAN. Managing and authenticating all devices on the network called for greater streamlining and security with less administrative maintenance.

Everything needed to be replaced: cables, optic fibres and switches. However, the real challenge was the investment. This was what made Laurent Zannier and his team, with advice from their integrator, Cheops, contact Aruba and test the brand's first switches and terminals on a pilot site. The results convinced them to roll out the Aruba solution to all their sites via a one Gbps network.

### High-performance services

Today, AHNAC provides a range of services which are made possible by its staff and its 1,600 workstations equipped with office computers, tablets and medical trolleys with internet. "We now have IP phone facilities, telemedicine services and telemetry, such as patient monitoring in cardiac rehabilitation, which communicates through our Aruba wireless access points," explains Laurent Zannier. "And because this infrastructure is compatible with third-party hardware, we were able to capitalise on our installation by using quite a high percentage of the existing wiring for these access points when we changed our telemetry system."

AHNAC also uses its network to transport anything to do with medical imaging, including scanners, MRIs and X-ray machines, which communicate with the dedicated archive server. This means that doctors can instantly view patients' digital files at any time and in any place.

### REQUIREMENTS

- Fast-track innovations to facilitate AHNAC's switch to digital
- Create an effective, reliable platform for mobile health and improved patient experience
- Guarantee secure internal and external access to data centres and medical data
- Provide secure flexibility for the use of devices, equipment and online systems
- Deliver reliable, fast and secure LAN and wireless networks to meet all hospital requirements
- Guarantee the installation's sustainability for new services in the future
- Ensure network compatibility with third-party providers

### SOLUTIONS

- AP-305 wireless access points
- Aruba-2930F campus switches
- Aruba Instant-AP wireless access point
- Aruba AirWave Network Management – WLAN and LAN
- Aruba ClearPass Policy Manager network access control solution
- Aruba AirMatch for automated RF optimisation
- Aruba ClientMatch for seamless Wi-Fi roaming
- Colourless ports and centralised VLAN policy automation
- Mitel IP Phone System
- Compatibility with Fortinet's FortiGate firewall
- Integration of ClearPass with VMware AirWatch MDM
- Philips wireless telemetry system
- Video surveillance platform

### OUTCOMES

- Greatly increased mobility across all sites
- Improved collaboration and productivity
- Highly secure access to LAN and wireless networks
- Simplified and automated network management, for example, VLANs and SSIDs
- Reduced TCO and 45% savings with Aruba solutions
- Streamlined implementation of new services for healthcare staff and patients
- Outstanding equipment and software adaptability

“ We wanted to replace our ageing and closed infrastructure. We chose Aruba because of the range of its offer, its broad compatibility with third-party providers, its reliability and its competitive TCO (total cost of ownership). We made savings of 45% and gained a much higher-performance architecture. ”

**LAURENT ZANNIER**  
IT SYSTEMS DIRECTOR, AHNAC GROUP

## USE OF EXISTING HARDWARE AND VIRTUALISATION

Aruba's campus switches have enabled AHNAC to overcome the double challenge of huge file sizes combined with the relatively old optical fibres in some of its buildings, such that they have not only kept these wires but have also enhanced them to reach data speeds of 10 Gbps. If the cabling had been of a different type, this would have been impossible and the optic cables would have had to be replaced.

All the AHNAC sites are also equipped with Aruba IAP-305 wireless access points. This device range virtualises the mobility controller capacity on the access point, which creates a local wireless network. This brings the multiple benefits of not having a physical controller, including cost reductions, ease of installation and scalability. The hospital group uses the system of wireless access point clusters coupled with AirWave, a powerful management platform for wired and wireless multi-developer infrastructures, to administer and monitor its whole network infrastructure.



## Controlled access

To complete the package, AHNAC selected the Aruba ClearPass solution for network access control. The first priority was to implement a captive portal for patients and residents. This portal is connected to social networking sites, and allows users an open, albeit DIS-filtered, connection to the internet through their Facebook, Google or LinkedIn accounts. With an available data allowance of five Mbps per person, patients can browse websites, retrieve messages, post content on social networking sites and make video calls. Alongside this, AHNAC has made a second captive portal available to external service providers. This is also managed by ClearPass, but here an account is created by automatic registration validated by a specific employee. This access route has the benefits of better bandwidth and VPN services. Thus, the Aruba solution is applied to users outside the hospital group as well as being used by the DIS for its own network security.

## Automated security

"Previously, we had VLANs which were all visible on the networks, and our port switches had to be configured manually via a PC, IP phone or device," continues Laurent Zannier. With ClearPass, the ports are configured automatically by profiling the connected device and assigning it the network and relevant access permissions. A certificate placed on the sides of the computers indicates that a workstation belongs to the hospital group in order to access its specified network. Any without this label are quarantined. As a result, all VLANs are sealed. This solution automates and centralises the AHNAC security policies and reduces the administrative strain on IT teams. For mobile devices, the DIS will shortly be installing VMware AirWatch. This tool, which is also compatible with ClearPass, is designed for MDM (Mobile Device Management). The way it works is simple: a software agent is installed on each mobile device, AirWatch detects it and verifies whether it is following the security protocols. If not, ClearPass is notified and quarantines the device.

## ENVISAGING NEW USES

"While we cannot, unfortunately, increase the time spent with each patient, we can increase the number of patients treated," points out Laurent Zannier.

Achieving this has required increased efficiency as well as activity, process and resource savings.

For example, telemedicine has enabled medical staff to have appointments with elderly patients without moving them out of their care homes. This helps them to remain in their place of familiarity and trust, eliminates transport costs and saves time for all staff involved. Patients have an improved experience, ambulance services can concentrate on emergencies and doctors can potentially treat more patients due to the overall time saved. The same goes for cases such as monitoring injury recovery, which can be done via video link. Network connectivity is extremely critical for these services to be carried out day and night without disruption. The Aruba solution put in place fully meets these availability and reliability requirements.

## Multipurpose smartphones

Doctors will soon have a dictaphone function on their mobile phone. Once their smartphone is recognised by AirWatch, the app is instantly accessible to them. The annual savings for the DIS could be as much as €20,000. Also, practitioners will be able to easily digitalise a document with their tablet or smartphone, send it to the patient's digital medical file and access it there. All this is also under the control of AirWatch and ClearPass. Using tablets or smartphones, at a unit cost of around €300 instead of five or six scanners costing €5,000 each, is paying dividends.

## Open solutions

For Laurent Zannier, the openness of the Aruba solutions to other worlds and standard protocols has enabled him to keep his own firewall and to shift the entire IP phone system over to Mitel, both of which have happened smoothly with the help of Aruba support. "We had, for example, a bug on an Aruba switch for a communication protocol in the telephone system. Very quickly, in less than 48 hours, Aruba support had responded and sent us new firmware to resolve the issue. It was a superb experience," confirms Laurent Zannier.

## SIMPLIFIED ACCESS FOR MEDICAL STAFF AND PATIENTS

Today, consolidated SSIDs and authentication of employees' devices mean staff can connect to the same network on any AHNAC site, via Wi-Fi or a wired connection. They can also move around freely without any disruption to their service, thanks to Aruba AirMatch, which intelligently automates the optimisation of the Wi-Fi signal, and Aruba ClientMatch, which manages the transfer of mobile clients between access points for seamless roaming and no loss of service.

Things are also streamlined for the VLANs and the complexity of the switch network. In the past, each port was dedicated to a specific device (PCs, printers, medical equipment), and the switches had to be manually programmed for the assignment of ports and users. Now, the ClearPass profiling capabilities associated with the centralisation of security policies enable the dynamic assignment of VLANs and appropriate permissions to ports depending on the types of device which are online.

## Service monetisation

AHNAC currently uses an external service provider to bring streaming services such as Netflix, for a fee, to patients' rooms. In future, AHNAC will be able to use ClearPass as a single sign-on service, in a bridging role to third-party providers. An invoicing app could be included where patients and other guests can subscribe, pay for the service and access a secure high-quality connection managed by ClearPass. In this way, Aruba would enable AHNAC to save on supplier costs, improve its monetisation and increase its return on investment.

## A very satisfied customer

If there was a catchphrase to describe the advantages Aruba technology brings to AHNAC, it would undoubtedly include flexibility. Laurent Zannier sums it up: "We were able to keep the fibre optics and the wiring, dispense with physical controllers, automate our security compliance, integrate third party providers and even get hardware with a lifetime guarantee. Our infrastructure is working perfectly and I have saved 45% on my total cost of ownership (TCO). What else can I say?"

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