CASE STUDY

WI-FI ENABLING THE WAREHOUSE FOR STOCK MANAGEMENT AND TRACEABILITY

At mineral water producer Spadel, its Aruba wireless network is now a key part of its industrial strategy. Yes, the network has the usual laptops and tablets attached, but far more important to the company is that Wi-Fi connects its production and stock management staff too – even its fork-lift trucks are Wi-Fi enabled and are networked via Aruba.

IT manager Pierre-Yves Legrand says that Spadel started implementing Wi-Fi in 2009, migrated its main production sites in 2011, and now has Aruba systems covering seven sites in four different countries – Belgium, France, the Netherlands, and Wales (UK). Five of these are production sites, where the Wi-Fi is used industrially as well as within offices and meeting rooms.

The most important element of Spadel's entire IT set-up is its SAP enterprise resource planning (ERP) system: its operations are reliant on this and the Wi-Fi is completely integrated with it. "Traceability and stock management are primary within the company, and we cannot afford to lose them as it has a direct consequence on Spadel productivity," Legrand explains. "Due to the criticality of this infrastructure, we rapidly decided to add redundant mobility controllers for resilience and fault tolerance."

The company now has three Aruba 3600 controllers and over 150 access points (APs), and the number of APs is still growing. Legrand says that while 90 percent of the APs are indoor models, Spadel also has a number of external APs to provide coverage for the loading areas. The network's primary role is to connect mobile data terminals from industrial specialist Zetes and a Wi-Fi enabled automated storage system called Storax Ranger.

BENEFITS

- The Aruba wireless ensures product traceability by providing full cross-site connectivity for mobile data terminals
- Multiple redundant Aruba controllers assure network availability
- Outdoor access points provide connectivity for loading areas too
- Aruba wireless provides office and meeting room connectivity for trusted laptops
- Skilled technical support from Aruba and the local IT partner has also proved essential in overcoming the challenges of integrating other warehouse technologies.

"The infrastructure carries two types of service," Legrand explains. "The first is dedicated for the offices and mainly the meeting rooms, but it is the second one that is really critical because it ensures the traceability of the goods produced by Spadel: traceability from raw materials through to bottling, then through water storage on pallets within the warehouses and on to truck loading."

> Our Wi-Fi has become critical – it carries the traceability of our goods, and without it we cannot deliver to our customers.

Spadel IT manager Pierre-Yves Legrand

He adds that providing good Wi-Fi coverage on all the different sites was a challenge, but was also vitally important, given that the handheld terminals really might need a connection anywhere on site. "We achieved good coverage within the two-floor storehouse by installing directional antennas and by deactivating the ARM ARP functionality," he says.

"Then we built the system with a local breakthrough architecture, so it still had a connection to the Internet even if the link between the main sites dropped. And we used architecture evolution based on the type of service instead of the type of encryption – that became a requirement because

there are more requests to access the Wi-Fi architecture, with consequently more simultaneous connections."

So what advice would he offer to anyone else who is about to undertake a similar Wi-Fi installation or upgrade project? He says that the first thing is to choose the right network integrator, because Spadel expects the partner to provide a turnkey service. "A network integrator that you can trust is the most important requirement in my eyes," he says. "They absolutely need to have the right competencies, must be very reactive and must also have the right contacts with the supplier so they can get technical help when required."

Aruba's policy of working only through trusted and highly-capable local installation partners was a big help here he says. He adds: "The network integrator who positioned Aruba during our discussions was convincing due to his good knowledge of Aruba portfolio and his ability to configure the architecture despite the challenging production requirements from Spadel.

"We also had the opportunity to evaluate the technical skills from Aruba when a problem came through: after a major software upgrade within our architecture, we had some difficulties with provisioning and commissioning our automated carts within the warehouses and their remote controls. After inside escalation at the right level, we received the right level of support from the partner and from the vendor."

His second piece of advice is to make sure you pick the right architecture with the right vision and strategy from the vendor. For example, he says Aruba's Adaptive Radio Management (ARM) functionality was a notable benefit when it came to deploying Wi-Fi in Spadel's offices, and adds, "I am confident with Aruba Networks as they do not invent things for the pleasure of inventing them!

"We were really convinced to work with Aruba thanks to its centralized architecture," he continues. "It's controller-based architecture allows us to centrally manage all our different sites, and monitor them continuously via a single interface."

And thirdly, he recommends that not only must an organisation carefully study and analyse its existing environment in order to clearly define the right wired and wireless infrastructure, but it also needs to be forward-looking. "We need to try to define what the business objectives of the company are for a term of two to three years in order to maximize the return on investment," he explains.

Legrand adds that if Spadel's Aruba installation has proved anything, it is the value of mobility, whether for industrial or office uses. "Next to the production environment, we also note a growth amongst our staff and guests for additional mobile connectivity," he says. "This is why I was really attracted by the Aruba motto, 'People move, networks must follow.'

"The wireless network is currently only accessible for trusted devices which are clearly identified in the directory, but based on this evolution we are looking at the possibility of integrating BYOD. ClearPass from Aruba with a specific container from Citrix could be a good route, but BYOD is still under discussion and will be implemented in a second phase."

In conclusion, he says that the Aruba Wi-Fi network has become an essential tool for Spadel, enabling it to build up its productivity and its ability to track its products. "Spadel is a very stable company which evolves with the integration of new technologies," he explains. "Today, the Wi-Fi infrastructure has become very critical. If it does not work, we cannot load the trucks and we cannot deliver to our customers."