CASE STUDY

Warehouse

MILFOS
INNOVATIVE DAIRY SOLUTIONS

Milfos Improved Warehousing Efficiency with Ruckus Smart Wi-Fi

Milfos, one of New Zealand's leading manufacturers and distributors of dairy equipment and milking solutions, was looking to implement a barcode system in an effort to increase efficiency in their warehouse operations. In order to realise the benefits afforded from the barcode system, Milfos needed to first of all have the right wireless infrastructure in place to support it.

Over eighty Milfos employees work out of a two-storey complex combining warehousing, engineering and assembly works on the ground floor in an open-plan environment, with the top floor dedicated to sales, administration and support responsibilities.

Secure and industrial strength Wi-Fi in Milfos' warehouse and dispatch area was the primary wireless requirement, with the business also determined that the Wi-Fi solution should be capable of replacing the legacy WLAN used by the office staff.

Only 4 Ruckus ZoneFlex access points were required to outfit Milfos' two-storey warehouse complex full of steel shelving and high-interference machinery.

The incumbent Wi-Fi system comprised of two consumer-grade standalone access-points (APs) capable of providing wireless access to only a small segment of employees.

The lack of centralised management with the legacy Wi-Fi meant any installs, management or monitoring of APs and wireless enabled devices was a manual process. For example, enabling connectivity for any new devices to the Wi-Fi network required a technician to manually upload the MAC address to APs individually before restarting the AP.

Furthermore, signal strength was weak, coverage was patchy, and mobile devices had to be in line-of-sight with an AP for connection to be established. "We had two APs in the office but the WLAN couldn't support more than a select group of staff smartphones and the odd laptop," states Brett Schwarz, Milfos' Internal Technical Support Team Leader. "If we were going to invest in a Wi-Fi network for a barcode system, it made sense to find one that could improve the existing Wi-Fi service for all of our staff as well," Schwarz concludes.

Milfos contacted their network infrastructure specialists, Elite Business Systems, to discuss their plans for Wi-Fi, stating the requirement for an appropriate solution for the planned barcode system as well as a Wi-Fi upgrade for the general office.

Fortunately, Andy Holdsworth, Technical Manager for Elite Business Systems, had recently rolled out a similar wireless network for another customer in the warehousing industry, using Ruckus ZoneFlex APs. Holdsworth was confident of replicating the successful outcomes his

OVERVIEW

Milfos International Limited was formed in 1987 and has grown to become one of New Zealand's leading manufacturers and distributors of dairy equipment and milking solutions. The company employs over 100 staff throughout five operating divisions and is headquartered in Hamilton, New Zealand.

REQUIREMENTS

- Ubiquitous Wi-Fi coverage within multi-purpose complex
- Consistent and reliable connectivity within a hostile RF environment
- Centralised management and ease of administration
- Secure and convenient guest networking capabilities
- Automatically provisioned security parameters and settings for staff smartphones and laptops

SOLUTION

- Two (2) ZoneFlex 7962 Dual-Band 802.11a/b/g/n Access Points
- One (1) ZoneFlex 7363 Dual-Band 802.11a/b/g/n Access Point
- One (1) ZoneFlex 7762 Outdoor Dual- Band 802.11n Access Point
- One (1) ZoneDirector 1012 WLAN Controller

BENEFITS

- Complete Wi-Fi coverage across the complex that is consistent in performance and stability
- Patented BeamFlex adaptive antenna directs Wi-Fi signals over best performing path and mitigates RF interference
- Single point of management for indoor and outdoor APs
- ZoneDirector simplifies management and troubleshooting, increasing efficiency and maximising security
- Seamless roaming between indoor and outdoor locations
- Ruckus guest networking and Dynamic Pre-Shared Key capabilities provide greater flexibility within secure environment

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Brett Schwarz
Internal Technical Support Team Leader, Milfos

other warehousing customers had experienced with their Ruckus Wi-Fi.

As Holdsworth prepared Milfos a trial kit to demonstrate Ruckus's ZoneFlex system, Brett Schwarz from Milfos did his own research into the Wi-Fi market place. "On paper, Ruckus seemed capable of the security, reliability, coverage and manageability we were looking for at a price point that was very competitive. It also appeared to be far less complicated to deploy and manage than the big name competitor we were looking at. We decided to go ahead and test it to see if it delivered what it promised to," states Schwarz.

Two Ruckus 7962 access-points were installed in the warehouse for the trial along with a ZoneDirector 1000 WLAN controller for centralised management. In the absence of working barcode scanners, a cache of laptops and smartphones were employed for the testing. To replicate the constant movement of barcoding devices, the mobile devices attempted connectivity to the APs from a multitude of locations throughout the warehouse.

As the trial got underway, what Schwarz found was consistent and optimal Wi-Fi signal strength and coverage across the warehouse in its entirety, and the customisable dashboard of ZoneDirector provided a snapshot of the network for easy monitoring and troubleshooting. Says Schwarz, "I was impressed with the coverage levels achieved in the trial, and ZoneDirector made deployment and management a much simpler task. It was a vast improvement from what we used to have."

Milfos proceeded with the ZoneFlex Smart WLAN system from Ruckus, citing technical and commercial aspects such as pricing and local support from Ruckus and their New Zealand distributor, Connector Systems, as contributing factors to the decision. "Our Wi-Fi is designed to automate an otherwise manual process, so any downtime means a loss in time and money," states Schwarz. "It was important that the technical features had to deliver, but that local support would also be available if anything was to go wrong."

Since investing in the Wi-Fi network of only four APs, Milfos have been able to deliver wireless coverage throughout their 4500 square metre premises in its entirety, with the APs centrally managed and automatically tuned. A lone external AP supplies wireless access for staff working in the courtyard and welding shed, which is a testing environment in itself due to exposure to outdoor elements and a high concentration of dust and flying debris generated through the welding process. Another two APs blanket the building's ground floor in Wi-Fi, and where two APs used to give spotty coverage on the second floor only one Ruckus AP is needed to provide complete wireless coverage.

"Warehouses can be challenging environments for Wi-Fi connectivity," Schwarz advises. "You've got lots of steel shelving and machinery that can interfere with the signal, plus mobile devices that are constantly changing location and orientation. We found in a warehousing environment Ruckus's adaptive antenna steers around interference and enables high performance consistently."

According to Schwarz, the new Wi-Fi network has also provided Milfos with greater flexibility in network services offered to staff and guests, without compromising network security or requiring additional resourcing for management and administration.

To meet on-demand connectivity needs of visitors to the premises, Schwarz set up a guest network with ZoneDirector's Guest Pass feature allowing wireless access through a time-limited unique access code. The guest network is one of four separate VLANs for Milfos providing tiered wireless access to network users.

Ruckus' Dynamic Pre-Shared Key (PSK) feature has also assisted Milfos with access control for staff mobile devices such as laptops and smartphones. A unique key is created for each user attempting connection to the WLAN for the first time, with the device then automatically configured with a predetermined wireless setting without requiring any manual intervention.

"From a management perspective we have seen a huge difference from our WLAN," states Schwarz. "From the onset our goal was to improve efficiencies in our operations, and through ZoneDirector's powerful management capabilities and the performance of ZoneFlex APs we've been able to achieve that."

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