

Coldflow: A Ruckus Case Study of Enterprise Wi-Fi Success



Coldflow, a leading Australian HVAC company, partnered with Intellect IT to replace unreliable warehouse Wi-Fi with a Ruckus WiFi-6 network designed using RF modelling tools, eliminating black spots so staff can reliably scan inventory in real time across 13 distribution centres; leveraging BeamFlex antenna technology and centralised control, the solution has removed manual stock-takes, improved efficiency and profitability, and supported Coldflow's rise from mid-tier operator to clear market leader.



Solving the Wi-Fi Coverage Problem

After a decade of investment in technology & systems improvements; including extensive staff training and re-skilling, Coldflow has established itself as the market-leader in the Heating Ventilation and Air Conditioning (HVAC) industry.

It was well known the HVAC industry was historically low-tech. Manual recording of the movement of stock was standard and reporting not that reliable. Just-in-time inventory management was a pipe-dream to many of the operators in the industry due to the lack of technology infrastructure and systems.



One of the last pieces to fall into place in Coldflow's digital transformation was ensuring reliable Wi-Fi coverage in its distribution centres. As recently as 2022, patchy coverage was still an issue for the business. This meant there was still a dependency on manual record keeping in aspects of its operation.

The Strategic Partnership:

Jason Dodd, who manages Coldflow's Finance and IT functions, engaged the respected Melbourne-based MSP, IntellectIT, to solve the problem. It was a shrewd decision and thanks to their collaborative partnership, together with Ruckus hardware, the business now has best-in-class Wi-Fi network coverage in each of its thirteen distribution centres across the country. Manual record keeping and constant physical stock-takes are now a thing of the past.

The Turning Point: 2010

Jason explains that the business exploded back in 2010. Which coincided with the time he and his two brothers took over the running of the family-owned business which their parents established in 1967.

For the Dodd brothers, scaling and expansion into new markets was firmly on their agenda. To be able to service the demand for their products and services, they committed to a technology overhaul. Jason says the goal was to 'be running digital' where every step in the inventory, sales and delivery pipeline is logged when and where it happens.

Vision for Integration

Their goal was to have a complete integration between a digital picking system and their ERP and CRM systems. He refers to that period around 2010 as when they were 'totally blind.'

Intellect IT Partnership

Stephen Allan, a founding partner of Intellect IT, led the Wi-Fi project and was impressed by Coldflow's advanced fleet tracking and inventory scanning, which he described as cutting-edge, in contrast to the previous "hit and miss" Wi-Fi caused by poor access point design and placement.

Warehouses are Challenging Environments

The Snowball Effect
Inefficiency costs snowball in summer (50 jobs/day).



Inventory Visibility
Managing 6,000+ SKUs requires absolute precision.



Warehouse environments like Coldflow's are challenging environments for reliable Wi-Fi coverage. Separate buildings, vast floor-spaces, 12 meter ceilings with 10-meter-high metal racks holding an array of large metallic component parts such as ductwork, narrow aisles for the lifters (forklifts) to operate; all of these factors are a natural enemy for the stable transmission of radio signals that a Wi-Fi network needs to be reliable. Plus, stock is moved to and from different sites all the time.

Wi-Fi black spots were common, and staff had to roam around to find coverage where they could make a clean scan on their hand-held devices or otherwise manually 'pick' an item and manually record it in the system.

The Intellect IT Engineering Approach



Steve explains that IntellectIT came in with a great deal of experience in this kind of work in warehouse logistics. 'We use market-leading tools for Wi-Fi design. This includes using software that enables us to simulate the Wi-Fi environment, map out where all the racks are, the height and all the other variables that need to be put into a model that is used to 'predict how the radio signals are going to behave.' This meant we could plot any point on the floor plan on how strong that signal should be.' Steve describes this simulation enables them to 'visualise the Wi-Fi network before it gets rolled out.' After the customer signs off on the modelling, the site is then cabled. Jason affirmed Steve's assertion that it is rare for them to come back to do 'any kind of tweaking or anything' after the cabling installation. He said it has been 'great.'



Intellect IT developed a detailed WI-Fi design for each site. Then they set about installing several hundred Ruckus WiFi-6 R550, R650 and R750 access points across Coldflow's network.

Along with Ruckus switches to provide power and connectivity. The entire network is controlled by a Ruckus Virtual SmartZone (vSZ) network controller. The vSZ enables full control of every aspect of the wired and wireless network and is ideally suited to scale to a multi-site environment such as this.

The BeamFlex Advantage: A Ruckus Case Study

Steve explains that Ruckus access points are ideally suited to the challenges that warehouses present to a successful WI-Fi deployment. This is due to unique patented features that set them apart from the competition.

Principal among these features is BeamFlex. BeamFlex effectively allows each RUCKUS AP to focus a high-gain directional WI-Fi signals to each client device while simultaneously minimising noise to nearby devices and other APs. BeamFlex not only focuses RF energy where it's needed, thus increasing relative signal strength, but also mitigates interference coming from other directions. Jason adds that they no longer have any WI-Fi black spots. 'Staff can scan first time, every time, anywhere in the building.'

For Jason Dodd, the IntellectIT/Ruckus combination has been a clear winner for the business. 'Our investment in the WI-Fi network overhaul has paid for itself in a number of ways. It has boosted profitability and has 'helped develop a culture of efficiency and accountability which their staff have got on board with.' We've grown Coldflow from being third or fourth in the market' to the clear market leader over the past three years.

