

Warehousing



Ruckus provides bulletproof wireless infrastructure for Bidvest Panalpina Logistics' parts distribution centre

As one of the country's most respected and well-known logistics partners, Bidvest Panalpina Logistics (BPL) has a presence that spans the South African transport network. The company provides logistics services to myriad business sectors, but the motoring sector is one of its particular strengths. And it's in this space that it manages a parts freighting, storage and logistics service that manufacturers like Nissan rely on daily for vehicle assembly to proceed without hindrance.

One of the most impressive motor parts storage and distribution facilities BPL manages is located in Rosslyn, Gauteng — one of South Africa's motor vehicle manufacturing hubs. The site is approximately 61 000m² in size and comprises a small administrative office and a massive storage yard filled with parts containers that are stacked three-high around the property.



While providing wired and wireless access to the administrative office was never a challenge, providing blanket wireless networking coverage to the open air storage yard (thereby allowing crane operators the ability to receive instructions on their Windows-based Intermec thin-client terminals and retrieve required containers timeously) was an entirely different matter.

Wireless LAN — the partner tasked with rolling new wireless infrastructure out at this site — found that the arrangement of BPL's parts-filled containers around the property meant wireless networking signal was easily disrupted and blocked. Additionally, there was the size of the required coverage area to contend with, the facility's strange triangular shape to negotiate and the fact that providing a hard-wired Ethernet backbone — as most technology integrators would recommend — wasn't an option. "We immediately contacted Ruckus Wireless to enquire about a wireless mesh solution, as this seemed like the only remotely viable option to pursue," said Clinton Mackintosh, Wireless LAN Managing Director. "Ruckus proposed a solution to the challenges faced at BPL's Rosslyn facility quickly and timely."



For starters, the proposal recommended the use of two 7731 Outdoor Bridges to provide point-to-multipoint backhaul into the administrative office and the outdoor network respectively. Because these bridges are based on the 802.11n standard combined with a Ruckus smart directional antenna and as such support up to 190 Mbps of backhaul capacity at 1.5 kilometers, and up to 50 Mbps of backhaul capacity at 10 km (line of sight), they were perfect for the job.

OVERVIEW

Bidvest Panalpina Logistics' mission is to provide world-class supply chain solutions that aim to transform and expand the reach of its clients' businesses globally. Widely considered a leader in the provision of global supply chain and logistics services, the company provides comprehensive door-to-door solutions for any consignment whether it be by air, sea, road or rail, to and from anywhere in the world and throughout South Africa. It offers its clients that global reach whilst maintaining a local touch. The company's solutions include global forwarding, warehousing, transportation, supply chain management and consulting, financial services and customs solutions.

REQUIREMENTS

- Provide blanket Wi-Fi coverage for 61 000 m² of outdoor storage facility;
- Negotiate dead spots and interference created by 6m high stacks of metal filled containers;
- Ensure connectivity is reliable and self-healing;
- Provide two fast, wireless WAN links into facility; and
- Ensure entire solution functions on solar power.

SOLUTION

- 9 Ruckus ZoneFlex 7762 Outdoor Dual Band 802.11n APs;
- 2 Ruckus ZoneFlex 7731 Outdoor 802.11n Bridge APs; and
- 1 Ruckus ZoneDirector Controller 1112

BENEFITS

- Reliable coverage of previously difficult to reach areas with Ruckus' beamforming technology;
- Reliable connectivity provided to both indoor environment and large outdoor environment;
- Entire solution centrally managed with ZoneDirector controller;
- Solar power employed for ease of deployment and maintenance; and
- Easy, rapid & cost effective deployment



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“BPL’s operation in Rosslyn now functions efficiently. Not only is the network link into the facility’s administrative office quick and reliable, collection instructions can be issued from this office, received at a terminal in a crane or picking machine and actioned far more accurately and in a fraction of the time it took before...”

Alex Moir
BPL Chief Information Officer



Next, to ensure the entire outdoor facility was blanketed with coverage, Ruckus proposed the use of nine ZoneFlex 7762 Outdoor Access Points and one ZoneDirector Controller 1112.



Not only are the 7762 Access Points built to withstand the harshest of outdoor conditions, they’re designed to function as standalone access points or managed devices. Additionally customers can choose between connecting their 7762s to an Ethernet backbone or allowing them to seamlessly — with the help of a ZoneDirector controller — form a wireless mesh network with other 7762s or even 7962 indoor units. These benefits are rounded out by the 7762s’ ability to provide 150Mbps of performance (or more) between mesh nodes at distances of up to 300 metres and their interference avoidance and rejection technology.

In the context of BPL’s challenges, this meant no additional physical infrastructure was required — other than power — to provide blanket coverage to the facility.

Power provision was also dealt with rather innovatively. Given the cost to trench power to all nine remote sites and the reliability of ‘grid’ power, an ‘off the grid’ solution, based on solar power, made perfect economic sense. And this, coupled with the fact that the power requirements for the Ruckus solution could run off this innovative energy saving platform — the power solution recommended not only met requirements perfectly, but meant that maintenance would be kept to a minimum.

When it came to the physical installation of the solution, Wireless LAN says that Ruckus was there to oversee the process. And once the rollout was complete, no teething problems were encountered at all.

Mackintosh says it all “just worked. In fact, as a result of the solution implemented by Wireless LAN and Ruckus, BPL’s operation in Rosslyn now functions efficiently.”

Not only is the network link in to the facility’s administration office quick and reliable, yard management instruction can be instantly issued from this office on the fly. With wireless connectivity provided directly to a vehicle mounted Intermec terminal which is installed inside the stacker, the yard is managed effectively in real time faster and more accurately.

