



P&C Communications Ltd

P&C Communications have over 25 years' experience in delivering complete business solutions including: - Telephony, Unified Communications, Network Infrastructures, Wide Area Networks and Wireless

Warehouse Wireless – Most Common Issues!

Warehouses and distribution centres are complex environments. P&C Communications have vast experience in the design and implementation of wireless solutions for warehouse operations, which provide optimum network performance for deployments of this nature. It is essential to plan for an ever-changing environment, therefore versatility and futureproofing your investment is very important, to ensure that it is fit for purpose now and ensuring it grows and adapts with your business needs. Handheld and truck mounted terminals, stock density and warehouse layouts require some consideration to adapt in line with client demands. Having experience of troubleshooting wireless networks of this nature, we can assist in alleviating the challenges you may be experiencing. Your network is business critical, if you are experiencing any of these common issues, contact the team at P&C for a diagnostic consultation.

Channel Planning

A warehouse environment typically has more access points than less complex environments. Due to the intricate integration of WMS, Mobility and Wireless you need expert assistance to ensure that everything runs smoothly. You need a network with agility, therefore if you are experiencing disruptions to service a possible reason could be as simple as choosing the wrong channel. 2.4Ghz is more commonly known in the Wireless world but 5Ghz has more channels to choose from and gives less channel interference. The key benefit of this is less conflict, less interference and a more productive and harmonious network. Utilising the same channels on access points in close proximity causes interference and so a suitable channel plan should be used to protect your network from these types of collisions. Keeping as much separation between use of the same channels as possible in the environment, to allow maximum client density and throughput. If you don't like what you are seeing, it could be as simple as changing the channel!

Interoperability of Devices.

A diverse range of client devices across different manufacturers will have varying performance characteristics, this all needs to be factored in to the design. Understanding your environment and more importantly changes to that environment are crucial. Now it's time for 'The Science Bit' ...There is great importance in understanding receiver sensitivity and selectivity in the planning and design of your network. Missing this step initially or even introducing new devices into an established environment could mean that some devices perform seamlessly, and other devices appear to struggle. This could be interpreted as an issue with the wireless network itself when in actual fact it is the integration of that particular device. Does your network fully enable the fluidity of roaming as it should? Roaming is one of the major issues that P&C observe in Warehouse environments and can assist in easing the pain and ensuring that you never drop a connection again.



Is Stock blocking your Signal?

In the initial design phase of a warehouse wireless network, proper planning is essential when considering the materials that will be stored within the warehouse racking, and whether the stock level at time of survey is typical, as this could seriously impact the performance of the network. Different materials can influence the signal in different ways, every environment is different and so this needs to be taken in to account from the initial design to accommodate a variety of possibilities. Changes in stock levels can alter the attenuation of the radio frequency signals, therefore a WLAN installation would need to account for this to prevent areas of poor coverage at busy periods throughout the year. A proper wireless site survey and RF design will go a long way to avoid issues such as this further down the line. A great example of this is what products reflect and absorb the RF signal, from metal, liquid, paper and wood. Could this be the cause of downtime and disruption you may be experiencing?

How many Access Points?

When it comes to Access Points, the industry known saying is 'Less is Best' there is a common misconception that in order to achieve the best possible coverage you need the maximum number of Access Points. As most wireless networks were designed to operate predominantly utilising the 2.4Ghz spectrum, the channel selection is inherently limited. This can cause an issue by bringing about what is known as 'co-channel interference' What this effectively means is that the access points are causing collisions among themselves and this is extremely harmful to the performance of your network. This problem can also be exasperated by high power settings on the access points. Imagine trying to have a private conversation at a Football match, can you hear clearly? Wireless is known as the polite technology, it listens closely and speaks only when required. Is your Wireless network trying to tell you something?

Choosing the right Antenna.

Selecting an access point with the correct antennas for your environment is crucial. There are multiple antennas on the market which provide different gains and radiation patterns. If you place access points on the ceiling of the warehouse to protect them from damage, the wrong access point with the wrong antennas could mean poor coverage on ground level. Position is crucial as this influences the coverage in accordance with rack layout and overall size and shape of the warehouse. In some situations, it may be necessary to have a variety of access point positionings and antenna types to achieve full coverage. In a typical warehouse environment, it is typical to have a blend of both ceiling mounted, omni directional and wall mounted, sector or patch antennas. Your business is unique and so is your environment and requirements when it comes to criticality of your infrastructure. Talk to P&C and we will be happy to assist you in troubleshooting your network.

**For more information, call our team now on 01704 542 420
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