



Designing the right Wi-Fi experience
for your Business

wanstor

Across all customer facing businesses over the past 10 years, the IT trend of Mobility has had a significant impact on how their company is run. Customers now expect to be connected at home, at work, whilst waiting for the train or eating in a restaurant. The key enabler of *mobility* for consumers has been Wi-Fi.

For many restaurant, retail, leisure, hotel and café businesses, Wi-Fi gave them a new lease of life, and a new way to attract customers into their premises. Many of these companies thought that once they had purchased a Wi-Fi solution, that was it; customers would be able to connect, stay for long periods of time on their premises, spend more money and leave fantastic reviews about the time they had spent there.

We all know, however, that this utopian dream of Wi-Fi presenting no problems once deployed is just that - a dream.

The reality for many B2C businesses is that their Wi-Fi solution presents a Jekyll and Hyde situation. If the Wi-Fi works, everyone benefits - customers through connectivity, the business through longer dwell time, with more food, drinks and other products purchased, and great customer reviews.

On the negative side, however, if the Wi-Fi fails to function, customers will complain, may leave poor reviews, might not stay as long, and spend less whilst at one of your business locations.

Unfortunately, at Wanstor, we have seen many B2C businesses invest in what they believe to be an 'out of the box' Wi-Fi solution. By not taking the time to consider the design, cost and complexity of installing and maintaining Wi-Fi across their estate, they may in fact be doing themselves more harm than good.

While setting up a standalone Wi-Fi access point (AP) is deceptively simple, building a mission critical IT infrastructure out of these APs is a very different prospect.

In this article, Wanstor's Wi-Fi experts have pooled their Wi-Fi design, deployment and management experience to develop a best practice guide for B2C businesses.

What's your wireless vision?

Before you start buying APs, switches or routers, Wanstor suggests that your IT team take the time to work with relevant stakeholders across the business to think about the purpose of Wi-Fi within the environment in which it will be deployed. Who are you serving? What might they be doing over the WLAN? Will it be just a convenience, or will it become the primary service delivery system for network access?

Understanding how the WLAN might be used both today and into tomorrow within your environment will affect how you plan, design and fund your Wi-Fi deployment.

Securing the right budget

Wireless has been, and still is, viewed as a luxury or 'nice to have' by many finance managers when evaluating which solution to buy. This usually results in the cheapest option (with a basic service management contract) being purchased, as it shows the greatest ROI. The fact is that this approach may represent false economy.

For example, many cheaper Wi-Fi solutions are not able to handle the vast quantities of traffic from a wide range of devices at different times of the day. Additionally, as more people use Wi-Fi at home, they will become increasingly dissatisfied if wireless is not ubiquitous or available when they visit a restaurant or a shop.

Additionally, as Wi-Fi is heavily dependent on the type of environment it is deployed to, a 'one size fits all' approach rarely (if ever) works for a retail, hotel or restaurant business. Quite often when implementing Wifi many moves, changes, or additions may be needed in order that it function to the required standard.

By taking the time to allocate a budget for ubiquitous WLAN operation across each location, it means the costs of having to pay for IT staff when things go wrong can be significantly reduced.

Additionally, by understanding the cabling requirements for a wireless solution early within the planning cycle, the right level of budget can be allocated to this aspect of the deployment as well.

Planning considerations

With a vision and funding in place, the IT team should now be ready to start planning the WLAN deployment. It is critical that IT teams take the time to understand and validate WLAN requirements in detail.

To ensure that the optimal WLAN experience is delivered, the following questions should be asked:

Who and where is the potential wireless user population that you will be providing this service to?

Are they located across different sites within the estate?

How and when are they likely to use wireless?

What is the size of this population?

Taking the time to understand your wireless users and the impact they are likely to have on the network will help the IT team to put in place the right design requirements for access, performance and the scale for the WLAN infrastructure.

Key questions the IT team should be asking at this stage include:

What services will the WLAN support?

If the WLAN is mission critical, are we factoring in requirements for fault tolerance, load and load management?

What is a comfortable performance margin?

Will wireless be an overlay upon the existing wired network or will form part of the primary network?

What does a reliable Wi-Fi service mean to key stakeholders and customers?

How quickly will the user population adopt the wireless network as a primary means of connectivity?

When the Wi-Fi service is launched will it be ready for variety of traffic and devices that will need to be successfully connected to it?

To assess performance requirements, it is also important to determine the applications and services that may be used over the WLAN. Will you support applications with real-time, latency sensitive traffic such as video and voice? Will you serve outdoor spaces as well as those indoor?

What is your security policy? Security can be a real mixed bag. Every business needs IT security, especially if they are running guest and business networks off of the same AP.

The reality is quite often businesses do not want to pay for it as it is seen to be expensive in exchange for what they receive.

At Wanstor, our advice is to purchase the best possible network security that your budget will allow. One hack could mean lost customer data, bad customer reviews and a serious loss of confidence in your brand.

Finally, have you really looked to the future? Don't underestimate user appetite for wireless. If your coverage is not ubiquitous from day one, at the very least take the time in advance in order to verify that your WLAN design is scalable so that it will be able to provide ubiquitous access once the need arises.

People considerations

With every new technology comes the requirement for skilled resources to plan, design, install and maintain that technology. Wireless is no different.

Choosing a WLAN offering whose features and support minimise the need for additional skilled personnel should be a top priority for your business.

WLAN design

With the detailed requirements ready, the IT team should now be in a position to design a WLAN that meets capacity, coverage and performance goals with a path for future expansion whenever the business demand arises. By taking the time to determine required capacity at the design stage, businesses can save themselves time and headaches in the future.

At Wanstor, we recommend restaurant IT teams use the following as a guide for usage requirements - 1 to 2Mbps per user for data, or 5 to 10Mbps per user if you believe that video will dominate. The average TCP throughput of a 2.4GHz AP is approximately 20 to 30Mbps, while a 5GHz AP can often deliver 75Mbps or more in a typical open restaurant environment.

However, the IT team should remember that the average TCP throughput is much lower, depending on the number of clients on the AP. As well as usage, you should also take into account coverage area as well - how far is each potential user away from the AP? Are there any thick walls, doors or glass in the way?

All of these things will affect the coverage area of your wireless solution. When the design is ready, a physical walkthrough of each site should take place to ensure that nothing has been missed in terms of coverage or potential capacity required by users.

Finally, before the Wi-Fi network goes live, a pilot test should take place across a variety of devices with different traffic volumes to make sure the best possible user experience will be available when accessing the Wi-Fi. If any issues present themselves during this test phase, the IT team will have the opportunity to identify these, rectify them and make sure that the appropriate IT support is in place to prevent reoccurrence.

Summary

A robust, ubiquitous and high performance WLAN can deliver a quality experience to your customers and staff. By following the best practices laid out in this article, Wanstor believes that B2C businesses can set themselves up for wireless success, and enhance the customer experience in a way that is cost effective to the business.