

Five ways to optimise your Enterprise Wi-Fi performance

By [Patrick Groot Nuelend](#)

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In the IT world, speed is the 'final frontier', to paraphrase from Star Trek. Download speed is a big deal, whether we're looking at mobile phones, wired or wireless networks. We saw this again with the launch of 802.11ac Wi-Fi networks, the fifth generation of the technology, with media coverage focused on the potential of Gigabyte download speeds.



Patrick Groot Nuelend

While the speeds are impressive, increasing by nearly a 1,000 times since the first networks were launched a decade or so ago, for businesses, there are more interesting advances taking place in Wi-Fi. Patrick Groot Nuelend, Zebra Technologies' head of product development for wireless, looks at some of the reasons why moving to Wi-Fi can help IT teams reduce admin, cut costs and boost productivity.

Supercharged Wi-Fi

Let's get the issue of speed out of the way first. The latest Access Points using dual radios of 5GHz and 2.4GHz achieve speeds of 975 Mbits - with the radios shared across up to 100 users each. But it's in the back office, the bits of the technology that users don't see, where more interesting improvements are taking place. And I'm especially excited about five key features and benefits that are found in the fifth generation of enterprise Wi-Fi equipment.

Simple, secure connectivity

Many businesses support working from home, but, concerns still remain about this. IT teams worry about whether home networks are secure, staff worry about the costs of using their own phone for work purposes and HR teams worry about whether people are 'shirking', not working.

The latest generation of Wi-Fi networks can overcome these problems. Compact Access Points (with an injector box) are easily connected by the employees to their home network and all IT has to do is pre-configure a line of code with call home details of the wireless controller. Once it's plugged in at the employees' home, it creates a secure IPSEC tunnel to the corporate network. Managed and controlled centrally.

It doesn't require a user to configure a VPN, but provides the same level of security that's used on the office network (EAP-TLS or PEAP.) In addition, the user's devices are easily on-boarded to the network and services such as Lync for VoIP can be used on people's mobile devices so the business - and not the users - pays for their calls.

As with the office network, IT can add other business features, for instance, VoIP calls can be automatically prioritised over other data streams so that calls are always of high quality, and the user's internet activity can be monitored. Rogue Access points terminated (WIPS) with real-time diagnostics to help service desks remotely resolve any problems. In essence, we can now mirror the office network and settings at home and so remove many of the concerns about allowing people to work from home.



Cutting the cables

While I'm not suggesting that cat cabling is a legacy technology, we don't need as much of it thanks to the higher capacity and speeds of 802.11ac. A good example is a Wi-Fi install I recently did in a friend's business. It was a company of 50 people that ordinarily would have seen the IT team run at least 120 pulls of Cat 6 cabling to each desk (for two ports per desk) at a cost of around two days in time and around £6,000 in cabling alone. Instead, we ran a handful of cables only (for three wireless Access Points, the wireless switch, and printers) and set-up a Wi-Fi network. We completed this in a morning.

While there are, of course, network equipment costs, these are affordable (for example a good enterprise Access Point is around £300 now) and you can see how, over a large office, the cost and time savings would increase markedly. In addition, if the layout of the office needs to change for any reason there's no need to move the cabling and, of course, any guests or employees using their own devices (e.g. iPads and MacBook Airs) that have no Ethernet port will have connectivity.

A 'no test' set-up

Equipment vendors are doing a lot to ensure that Wi-Fi becomes an intelligent network - a network that's easy to set up and monitor. In the past, a specialist supplier may have been called in to run a site survey, plan the best places for APs and set the network up. Now networks can do this themselves. Access Points self-register and controllers auto-configure - indeed, creating a new network is fast becoming a highly automated process.

More control

Featuring prominently in conversations, and among the biggest concerns of IT teams that I speak to, are security and a lack of time. The latest 5G Wi-Fi networks are designed to help on both counts. They offer strong, government-approved security standards and enhanced security capabilities. For instance rogue Access Points - that may have been connected to a network to bypass a rule that prevents iPad use - can be identified by the network and remotely shut down by IT. Also, filters can be set to prevent staff accessing certain content or websites. And to help save time, networks are designed to look after themselves.

We offer dual-band Access Points running both 2.4 GHz and 5 GHz frequencies that will change their settings based on what's happening around them to improve network performance. A common example is switching from the 2.4 GHz channel to 5 GHz if another company creates a network nearby that interferes with your coverage. While your IT team is alerted to auto-changes, many of the time overheads that we'd once associate with running a Wi-Fi network are now no longer a problem.

The productivity dividend

I'm often asked what's the number one benefit of Wi-Fi? For me, it's mobility, from allowing people to roam around the office to letting them work from home over a network that finally provides the same experience as being in the office. Add in falling equipment costs, automated network installation, remote management, and a high degree of reliability, and the fifth generation of wireless technology is delivering on Wi-Fi's promise to help us work in a more flexible, collaborative and productive way.

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