

Business wi-fi coverage: How firms can plug the gaps

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It's no surprise that network coverage is an important concern for all users of mobile equipment. Quocirca research in 2008 showed that for businesses this concern related as much to the use of mobile phones at work and at home as to the public spaces in between.

The same research showed significant adoption of wi-fi was wireless access to LANs, with almost two-thirds of small and medium-sized businesses having some sort of wi-fi network in the office.

In many cases, this network might have been in specific areas of a given building. Some companies offer guest access in public-access areas, others provide it only to specific groups or individuals using wi-fi.

Three years on, and the adoption of wi-fi appears to have soared but so too have expectations of access anywhere. Some of the growth in usage is due in part to networking and facilities costs falling, some to increased user demand as the number of devices with embedded wi-fi has grown.

Wi-fi's knock-on effect on fixed networks

The growth in wi-fi has a knock-on effect on fixed networks. At one time, it might have been the norm to provide four network ports per desk for each employee, allowing for a desktop computer, fixed phone, occasional laptop and spare capacity.

That approach is expensive to deliver right across the business premises to every workstation or desk, just from a cabling and network equipment perspective, let alone the cost per square metre of office space.

As working patterns evolve, the dedicated desk with its associated services per employee is beginning to look like an expensive luxury or just plain inflexible.

Employees are more comfortable and potentially more productive with their mobile phones and mobile computers and do not need to be tied to a specific desk.

Hence the cost-effective network norm today is likely to be dropping to an average of only one port per employee, but the number of devices being carried and used by the employee is probably going to be heading upwards, especially with new form factors such as the tablet. Wi-fi will play a significant part in ensuring these growing numbers of devices can be connected.

Wi-fi coverage and the IT department

Unlike the indoor coverage of cellular networks, which requires support and devices such as femtocells from mobile carriers, wi-fi coverage is one issue that the IT department will be expected to fix by themselves.

Positioning wireless access points in meeting rooms and office spaces might seem an easy way to deliver sufficient coverage but there is an increasing problem of getting connectivity in more unusual spaces on the business premises, and this issue has been particularly exacerbated by the adoption of tablets.

Tablet users casually expect to have decent coverage everywhere, not just around desks and traditional work spaces. They want to access and share information with colleagues in the corridors, outside the buildings, in the staff cafeteria and even in less IT-friendly locations, such as the toilets. Since this access is a large element of the informal and collaborative appeal of this class of device, there will be pressure on IT to provide network coverage.

On top of these issues, the variety of applications being run on all other devices - from desktops and laptops to smartphones - is more demanding of bandwidth and, with growth in voice and video traffic over IP, becoming more sensitive to latency.

Increasing demand for wireless capacity

While fast wired networks to ports on the desk might have once taken the load, more mobile users are increasing the demand for capacity in wireless

networks, and satisfying this demand typically requires a redeployment with newer and faster access points.

One way to tackle this issue without incurring massive costs is to take a more holistic approach to the issue of providing network access. IT should no longer think in terms of desks, zones or hotspots but of a blanket of coverage.

Such coverage needs to be formed from wired and wireless points, complete indoor as well as outdoor, and different iterations of 802.11 standards all treated as part of the same network, rather than separate silos of access and control.

Network vendors, especially some from a traditionally wi-fi camp, are starting to adopt this approach with their new product announcements. So those responsible for providing network access for employees should look to those who can offer mixed and hybrid environments, with seamless access for the user and seamless management for themselves.

The cost reductions, or at least containment, from this type of approach can come from several budgets, involving technical aspects such as reducing the need for cabling as well as facilities issues such as reducing the need for office space.

Already deployed wireless networks

It could also work out well for those who have already deployed wireless networks based on the older standards, such as 802.11g, but are now looking to provide faster networks based on 802.11n to cope with the increased demand for network performance.

While faster wireless networks will be required in all primary working spaces, as the load shifts from wired ports to wireless access points, simply providing blanket coverage will generally be sufficient in the gaps frequented by passing tablet users. This coverage could readily be accomplished by redeploying older access points in those lower traffic locations as they are replaced by faster ones in the high-traffic areas.

Although this approach involves overlapping networks, it should result in no loss of service, providing vendors are selected carefully for their ability to play nicely and integrate and span the different network types without introducing silos or gaps in either coverage or management systems.

As tablets continue to encourage informal in-office mobility, more organisations are going to find their network infrastructure needs to evolve to keep pace.

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Through researching perceptions, Quocirca uncovers the real hurdles to technology adoption – the personal and political aspects of an organisation's environment and the pressures of the need for demonstrable business value in any implementation. This capability to uncover and report back on the end-user perceptions in the market enables Quocirca to advise on the realities of technology adoption, not the promises.

Quocirca research is always pragmatic, business orientated and conducted in the context of the bigger picture. ITC has the ability to transform businesses and the processes that drive them, but often fails to do so. Quocirca's mission is to help organisations improve their success rate in process enablement through better levels of understanding and the adoption of the correct technologies at the correct time.

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