Mercy University Hospital see major efficiencies with licensed wireless

Mercy University Hospital in Cork is a forward-thinking hospital determined to deliver an efficient, reliable service to patients. Standardising on licensed wireless as one of its network technologies has become an integral part of delivering on this mission.

With the help of AirSpeed Telecom, Cork's Mercy University Hospital has transformed its telecoms infrastructure, replacing a combination of aging technologies with a cost-effective, secure, flexible licensed wireless network which provides a minimum 100Mbps access for each of Mercy's key remote sites.

Based in the heart of Cork City, Mercy University Hospital is Cork's second-largest hospital, with almost 1,000 staff. The Mercy is a general acute hospital catering for both public and private patients with a bed capacity in excess of 300. The Mercy has 10 remote locations dotted around the city which house staff including administration, HR and finance, as well as consultants' offices and the Centre for Nurse Education.

Staff in remote locations constantly log on to the hospital's main network to access clerical, financial and patient information. However, outages were a recurring feature of the hospital's aging remote connectivity infrastructure, which consisted of a combination of technologies including laser, leased lines and low capacity wireless typically operating at 1Mbps. The lack of reliability not only limited access to key applications, but also made certain advanced systems - like high-bandwidth PACS (Picture Archiving and Communications System) – off limits to remote staff.

To address these issues and create an inclusive, hospital-wide network, Mercy University Hospital began looking for a reliable access technology that would connect its remote sites with speeds of at least 100Mbps, capable of supporting bandwidth intensive applications like PACS. Given current budgetary constraints, return on investment would also be a key requirement.

Mercy University Hospital assessed solutions including unlicensed radio, fibre and dark fibre. However, licensed wireless soon emerged as the only suitable solution that met all the hospital's requirements from both a technological and cost perspective. Mercy's own experience had already proven that the reliability and bandwidth of licensed wireless was more than adequate for its needs, according to Noel Connolly, ICT Senior Systems Administrator at Mercy University Hospital.

> *"Our remote locations aren't even remote anymore. Using licensed wireless, they have everything that users in the main hospital have: access to all the data and images, at the speeds and reliability of the main network."*
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> **Noel Connolly**
> ICT Senior Systems Administrator
> Mercy University Hospital

"We had installed a single 100Mbps licensed wireless link from AirSpeed Telecom around three years ago," he says. *"During that time it proved extremely reliable; we had no faults or call outs on that link in all that time."*

Licensed wireless delivers for Mercy

Working closely with Mercy staff, AirSpeed Telecom designed and provisioned a new licensed wireless network to connect Mercy's main building and its remote sites. Noel says the indications are that the network, which has been deployed on a phased basis, is delivering all the efficiencies and productivity enhancements his team had hoped for.

A major bandwidth boost: Old 1Mbps links to key remote sites, largely using leased lines, were replaced with five dedicated licensed wireless connections, delivering 100Mbps to each location.

Efficient rollout: Installation was very simple, Noel says, with each connection operational within one day. *"The AirSpeed Telecom engineers are extremely experienced and they do a*

very neat job," he said. *"It gives me great peace of mind to know we are dealing with such a reputable company."*

Significant cost savings: Mercy's one-off capital investment for each licensed wireless link means bandwidth is much more cost effective compared with technologies like leased lines. And because upgrading the licensed wireless links in future from 100mbps to 200mbps requires only a software code rather than additional hardware investment, the hospital is happy that its initial investment is future-proofed. The new licensed wireless network also carries voice traffic between its sites, providing a considerable saving on call charges.

Better productivity and better service: Consultants and staff at Mercy's five remote locations now have access to the hospital network and key systems at the same speeds as central staff. Radiologists and consultants can now access PACS in remote campus offices, an advance which improves service quality for patients.

In addition, the hospital's Patient Administration System (PAS) – a legacy application which is sensitive to network dropouts – runs more efficiently and reliably on licensed wireless, explains Noel. *"If PAS running in remote offices suffers 2-3 seconds of downtime, the application can fail and this can lead to database corruption; dropped connections in our previous connectivity model made this a problem,"* says Noel. *"With PAS running over the licensed wireless network, we don't get any connectivity breaks at all. The application is operational and available to staff 99.9 % of the time".*

Enhanced business flexibility: Licensed wireless technology has not only extended the usable life of the hospital's existing legacy software, but has also given Mercy the freedom to plan and deploy new, bandwidth-intensive applications with confidence.

"Within the next 12 months we are replacing PAS with an enhanced system called IPM, which will be fully supported over the AirSpeed Telecom network and available to all remote locations," Noel says. The network's stability and the freedom it gives Mercy to cost-effectively scale up bandwidth offers important business flexibility to the hospital as it plans for future needs.

Return on investment: Mercy was able to offset the costs associated with the actual capital purchase of the microwave hardware against recurring leased line charges, making the purchase cost neutral within 14 months, and saving the hospital thousands in subsequent years. The licensed wireless equipment can also be easily relocated with minimal costs should some remote buildings become obsolete.

For Noel and his team, licensed wireless has also made a real difference in their day-to-day jobs.

"There's no doubt that with reliable inter building connectivity, which we now have, we get no calls about issues with remote network availability, which means we are freed up to focus on other tasks."

The rock-solid reliability of the AirSpeed Telecom technology has actually brought about a change in the way he and others in the main building think about the hospital's remote sites.

"The technology is exceptionally reliable: you just plug the links in and you don't need to look at them again," explains Noel. *"From our point of view this means that our remote locations aren't even remote anymore. Using licensed wireless, they have everything that users in the main hospital have: access to all the data and images, at the speeds and reliability of the main network. For any new building we take on, licensed wireless technology will be our number one choice."*