

# HEALTHCARE AT THE EDGE

EDGE TECHNOLOGY:

POWERING THE HEALTH SERVICES  
OF THE FUTURE





## HEALTHCARE IS ONE OF THE MAIN SECTORS THAT WILL BENEFIT FROM EDGE TECHNOLOGY

An Edge technology deployment is a critical communications solution that is characterised by its proximity to end-users or the source of the data to be processed. It is due to this proximity that the core strength of Edge computing is realised, namely its ability to support applications that demand a significant amount of bandwidth, require rapid response times and are latency sensitive. Telehealth services are an example of one such application.

Healthcare at the Edge is where health organisations implement local telehealth solutions so that the assessment and care of patients is no longer tied to the physical location of the doctor or hospital, and all the information they require is accessed and stored onsite or nearby.

Telehealth services can give patients extended access to healthcare systems and healthcare facilities, so that:

1. *Regular appointments can go virtual.*
2. *Follow up care can be done virtually.*
3. *Medical distancing can be achieved.*
4. *The demand for medical supplies can be lessened.*

Forward-thinking healthcare organisations are moving to adopt Edge computing, in which data is analysed and acted upon at the point of collection, and they are finding it can positively affect health outcomes when seconds count.



## TELEHEALTH SERVICES IN AUSTRALIA

Telehealth is an important tool in the fight against the epidemics and pandemics. For example, increasing the types of consultation services available by telehealth is the next important step in the Australian Government's response to COVID-19.

Services delivered via telehealth will reduce avoidable exposure of patients and health professionals during an epidemic or pandemic, for the times when it's suitable to deliver treatment by phone or videoconference.

Telehealth has long been an underutilised service in Australia. Until early 2020, telehealth consultations were only covered by Medicare under certain circumstances. While the many benefits of widespread telehealth availability were clear, uptake has been held back by regulatory, financing and delivery models, along with a lack of standard technology across the health system.

As of April 2020, the expansion of telehealth services in Australia got underway, in response to COVID-19.

To ensure an effective, lasting shift, there is a need to integrate the new solutions as much as possible into existing infrastructure and payment mechanisms and gather intelligence on what is working best as the solutions are rolled out.

## TECHNOLOGICAL DEVELOPMENTS IN HEALTHCARE

There are key technological developments affecting healthcare including the increased application of the Internet of Things (IoT), Machine Learning and Deep Learning.

IoT has opened up a world of possibilities in medicine, from smart monitoring systems for cancer treatments right through to an Apple Watch app that monitors depression.

One thing that is clear - the use of deep analytics will have a positive impact on the quality of care that can be provided in the near future.

## USE CASE

A multi-campus healthcare system is a good example of where the impact of technological developments in health can be realised. Right now, in many hospitals, there are hundreds of systems generating a large amount of data in differing formats and levels of quality.

Each medical practitioner has their own way of labelling the data, often making it hard to use the information produced by different practitioners. Edge computing makes it possible to leverage collaborative machine learning to gather all related data from multiple sites. And because such highly personal data can't ever leave the hospital due to privacy concerns, this type of analysis needs to happen at the Edge.



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## MODULAR DATA CENTRE CAPABILITY AT THE EDGE

Edge data centres are now being built in a modular fashion. Modules can be added, integrated or retrofitted into an existing data centre or combined into a system of modules, allowing customers to take a building block approach and simply add another block when they need to.

A module can be shipped to a location, craned onto concrete pads or piers, and be set up and made operational in hours or days, whether in the car park of a medical centre or at the base of a mobile phone tower.

In the case of a hospital, a modular approach means that a purpose-built Edge data centre can be constructed outside the hospital building, allowing the current IT rooms to be converted into hospital beds.

Modular deployment is rapid, taking a few months instead of the few years for traditional data centres. It represents one approach designed to increase installation and operational efficiencies of data centre hardware infrastructure – enabling businesses to future proof sudden technology changes and market demand opportunities.

To find out more about **DXN Modules** and **DXN Data Centre** solutions and their application for the healthcare industry, register your interest here or book a virtual data centre tour.

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## GIVING YOU THE EDGE

**Rapid Deployment**

**Modular**

**Different**

DXN is a vertically integrated data centre company. DXN design build operate and own and lease data centre infrastructure. DXN build rugged, resilient and purpose-built Edge data centres. Engineering and manufacturing are completed locally in Australia and DCs deployed to any site globally. DXN customers tailor environmental and physical security to suit their requirements, all certified by the Uptime Institute.

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