# NTT DATA

Thailand | Healthcare

# Enabling Siriraj Hospital to deliver lifesaving diagnosis and treatment when every second counts

## Client profile

Siriraj Hospital is the oldest and largest hospital in Thailand, founded in 1888. It has more than 2,000 beds and treats more than 3 million patients each year. It acts as a specialist referral hospital for the entire country and its medical school trains 250 students each year.

## Which technologies?

- Cisco TelePresence SX10
- Cisco WebEx

## Which partners?

- Cisco

**Mahidol University**
Faculty of Medicine
Siriraj Hospital

"

The technology built into the mobile stroke unit is changing the face of how we provide medical care to stroke patients, allowing us to expand the reach of our medical care, even when the patients are not in the hospital. We can, in effect bring the hospital to their doorstep.

**Dr Yongchai Nilanont**, Chairman, Siriraj Stroke Center

## Summary

Siriraj Hospital in Thailand needed to reduce the time it took to provide essential treatment to stroke victims. In the event of a stroke, rapid treatment is critical and to address this, they worked with NTT and Cisco to create the Siriraj Mobile Stroke Unit, a special ambulance equipped with the technology needed to provide immediate care to stroke victims. The unit has a CT scanner, the ability to do blood tests, the appropriate medical supplies and is connected to specialists at the hospital via a Cisco Telepresence unit and Webex. This allows doctors to remotely diagnose patients and deliver potentially lifesaving treatment as quickly as possible.

This service is being extended, with plans to deploy an additional five units this year, paving the way for greater quality of care across Thailand.

## Business need

### Enabling the rapid treatment of stroke victims

A cerebrovascular accident or stroke is one of the leading causes of death and disability across the world. To ensure the best possible outcomes, in the event of a stroke, rapid access to treatment is critical. To ensure the correct treatment, proper diagnosis is vital and is lowering the risk of permanent brain damage and disability. Because of this, medical teams need to rush to get the patients to the hospital in time.

Siriraj Hospital has worked with Cisco and NTT in Thailand to develop a prototype of Siriraj Mobile Stroke Unit, a special ambulance which is equipped with essential technologies to enable the medical team to provide a proper emergency treatment to save the patients' life and lower the risk of their death and disability.

## Solution

### Partnering to create a pioneering mobile stroke unit

Rather than sending medical specialists out to the patient, the Siriraj Mobile Stroke Unit, makes use of telemedicine to connect the first responders in the ambulance to the experts at the hospital.

This allows doctors to diagnose and provide immediate medical treatment to patients during their transfer to the hospital, even if the ambulance is stuck in traffic or returning from a remote area.

The unit is equipped with medical equipment such as a CT scanner and is able to conduct blood tests and carries the specific medical supplies needed to treat a stroke patient. More importantly, its integrated IT and communication technologies allows doctors to diagnose the patient's condition and offer emergency medical treatment while the patient is on their way to the hospital.

Supported by NTT and Cisco, these communication systems allow the medical team to begin treatment immediately, increasing more chances for the patients to recover.

The ambulance is connected to the hospital with a high-speed multi cellular router. This enables the medical team to send high-resolution brain scans from the ambulance to the doctor for diagnosis via the internet allowing for rapid diagnosis.

The integrated Cisco Telepresence videoconferencing system allows the doctor to fully assess the patient's condition and provide advice to the medical team, enabling them to prepare the best treatment possible.

Using Cisco WebEx, the mobile and hospital-based teams are able to collaborate seamlessly, working together for the optimal outcome.

NTT was responsible for integrating the technology into the unit and continue to support it, ensuring that all the elements of the system are operating optimally and that communications from the unit to the hospital are securely delivered.

## Outcomes

### Leveraging technology to map the future of healthcare

The Siriraj Mobile Stroke Unit is revolutionizing stroke care in Thailand, providing a vision of how this kind of care can be delivered in future.

"The technology built into the mobile stroke unit is changing the face of how we provide medical care to stroke patients, allowing us to expand the reach of our medical care, even when the patients are not in the hospital. We can, in effect, bring the hospital to their doorstep. Using technology, we have access to essential information and we can connec to medical specialists from across the world, allowing us to improve the quality of patient treatment," said Dr Yongchai Nilanont, Chairman of Siriraj Stroke Center.'

By integrating IT with medical equipment, they can provide the necessary treatment wherever the patient is, reducing the risk of death and disability.

"Getting faster information about the patient's condition helps us make faster and more accurate decisions," said Dr Prasit Watanapa, Dean of the Faculty of Medicine, Siriraj Hospital Mahidol University.

"The communication system has to be able to send information accurately, especially images of brain scans, as the quality of the diagnosis is dependent on having access to reliable information," he said.

**Learn more about NTT DATA**
services.global.ntt

NTT Ltd. and its affiliates are NTT DATA, Inc. companies.