



# Department of Disease Control Secures Public Health Data with Sovereign Cloud

The [Department of Disease Control](#) comes under the purview of the Ministry of Public Health in Thailand and is responsible for the public health of the Thai people through disease prevention and control, including leading the response in times of health crises, such as the COVID-19 pandemic.

## Industry

Healthcare

## Partner

[Cloud HM](#), a VMware Sovereign Cloud Provider, offers infrastructure as a service, backup as a service and disaster recovery as a service.

## VMware footprint

Cloud HM Services built on VMware Cloud® technologies

- Cloud HM Sovereign Cloud

Following its newfound recognition from battling COVID-19, the Department of Disease Control (DDC) in Thailand faced difficulties in spinning up new resources in its on-premises data center to cope with increased website traffic and cyberattacks. The organization migrated to the Cloud HM Sovereign Cloud built on VMware Cloud technologies which enables the DDC to be scalable and flexible while ensuring the privacy and sovereignty of national data. The DDC website is now continuously accessible to visitors, even during system maintenance. With Cloud HM managing the security, the number of cyberattacks also went down significantly. The DDC is planning to move its open data application to the sovereign cloud for improved stability.

## Taking disease prevention to international standards

Tasked with protecting the people of Thailand from infectious diseases, the DDC within the Ministry of Public Health came to the fore when it led the country's battle against COVID-19.

While the DDC aims to be benchmarked to international standards by 2037 for its prevention of diseases and health risks to the Thai people, it is already gearing up for the next pandemic.

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## Keeping sensitive data secure and compliant with sovereign cloud

In its search for a cloud services provider, the DDC specified in the Terms of Reference that the services provided had to be of an international standard, especially in areas of security and cloud infrastructure. It also stated that the cloud should be hosted locally to meet compliance requirements.

After a stringent selection process, the DDC selected Cloud HM, a VMware Sovereign Cloud Provider. With the secure and compliant Cloud HM Sovereign Cloud, the DDC can help protect patient data by keeping it on sovereign soil while complying with healthcare regulations. It will also allow the DDC to conduct research to uncover new insights while protecting the privacy of patient data.

Cloud HM helped the DDC to seamlessly migrate its mission-critical workloads to the sovereign cloud over a month at the end of last year. Currently, its web applications, which include database, report and data analytics are residing in the cloud. Other highly confidential workloads remain on premises.

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Cloud HM also started the DDC on its adoption of cloud native technologies, by trialing VMware Tanzu® Kubernetes Grid™ in the sandbox.

“Cloud HM Sovereign Cloud has built-in enterprise Kubernetes, which will enable the DDC to modernize its existing apps and build cloud-native apps that can quickly adapt to the fast-changing environment,” says Na-pajra Umpudh, CEO, Cloud HM.

Additionally, Cloud HM is helping the DDC to manage security through a next-generation security approach by Palo Alto Networks and VMware.

“The data center migration was smooth, and Cloud HM is providing services at the level we require. We’re very satisfied with them,” says Dr. Yongjua.

## Unable to roll out new services quickly

During the pandemic, the DDC went from being a little-known department to becoming the reliable source of information on COVID-19. Its website started attracting a lot of attention, from residents checking for daily pandemic updates to hackers interested in the data collected from across the country.

Although its data center is ISO 27001-certified as a secure data center, the DDC wanted to beef up its cybersecurity efforts further. It also wanted to introduce new services that would help the public become more health conscious. However, the DDC was not able to do all that as it could not easily scale up resources in the on-premises data center. As a government agency, requests to procure hardware had to be made at least two years in advance, which might not be approved.

“Even if the budget comes through, the procurement specifications are based on data from two years ago, and technology would have progressed by then,” says Dr. Yongjua. “If we can’t scale easily, we’re constantly trying to catch up, and will always be behind in providing the public with innovative services. And if another pandemic hits again, we won’t be able to be flexible and agile in tackling it.”

To achieve scalability and flexibility, the DDC had long considered migrating its data center to the cloud. However, as the government agency collects personal and proprietary data, concerns over data security and residency held it back.



## Flexible, scalable and always in control

With key workloads in the cloud, the DDC can now reap the benefits of cloud infrastructure like scalability and flexibility while ensuring the privacy and sovereignty of national data.

One immediate benefit was the improved uptime for the DDC website. In the past, whenever the system needed maintenance, servers at the on-premises data center had to be turned off, which led to the website going down. With Cloud HM Sovereign Cloud, there's no longer any downtime, thanks to the low latency from a locally hosted cloud.

"Our website can now be accessed at any time, and visitors won't be affected by limited bandwidth or system maintenance. If we want to be a reliable source of information, we need to make sure our services are always stable and available," says Dr. Yongjua.

After migrating to the cloud, the IT team has been able to better cater to the provisioning needs of the many divisions in the DDC. Previously, internal users would have to route a request for virtual machines to the IT team, who might take a few days to respond depending on their workload.

Now, the IT team can simply forward the requests to the dedicated Cloud HM team, who can spin up the VMs in a matter of hours, enabling the various business teams to innovate faster.

Moreover, with Cloud HM managing the infrastructure and network, the IT team can now be re-deployed to projects of strategic value to the organization, instead of working on mundane tasks.

## Protecting national health data

When the DDC was thrust into the spotlight, the number of cyberattacks also shot up. "Hackers like to use government websites as their training ground," says Dr. Yongjua. Due to resource limitations, the DDC was not able to monitor

the attacks 24x7 and the team could not identify root causes when the attacks occurred.

Currently, Cloud HM provides continuous monitoring backed by robust security controls and zero trust access, taking a big load off the DDC IT team.

"With Cloud HM helping to manage our security, the number of attacks has decreased significantly. They are able to check log files and provide us with a monthly report on the attacks," says Dr. Yongjua.

While keeping data 'in' is a key concern for sovereignty, it is also necessary to securely share data outside of Thailand when needed. Cloud HM Sovereign Cloud allows the DDC to securely share and extend data with other countries for cross-border policing activities and collaboration.

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It also enables the DDC to unlock the value of national data and fuel innovation by leveraging advanced services from trusted partners for data insights and data integrity without violating privacy laws.

"Global disease threats are going to be on the rise, and we can confront them through advanced computing and analysis of data to find solutions quickly. The infrastructure and services from VMware and Cloud HM have empowered us to be on the cutting edge of health security, so that we can be the health protection agency that the people can trust," says Dr. Yongjua.

## Taking open data to the sovereign cloud

Around the world, governments are promoting open data to unleash economic and society benefits for their countries. Likewise, the DDC is developing a responsible and robust open-data program, which is currently residing on premises.

"We definitely have plans to move the open data application to the sovereign cloud for improved stability and uptime while complying with data security regulations and protocols," says Dr. Yongjua. "This will enable millions to have always-on access to our data, so they can build new applications and services that generate value for all."