

## Transforming in a pandemic

Digital and cloud in ASEAN and ANZ

As 2020 dawned, few business leaders or public sector executives in the ASEAN and ANZ regions harboured any lingering doubts about the need to accelerate their digital transformation. The covid-19 crisis, however, has driven home the urgency of building advanced digital capabilities, and the vital role of the cloud in helping to build them.

Organisations in the region have responded. Many are using their cloud-based capabilities not just to maintain operations and support home-working, but also to service customers and, in some cases, to do direct battle with the virus. The ability to scale bandwidth and computing power as needed has been vital, as has cloud support for AI (artificial intelligence)-based research and innovation.

There remain challenges to cloud migration, however. The complexity involved in managing multiple clouds is one, and IT leaders in the region look forward to developing or obtaining solutions that will help simplify it. Security concerns are another challenge, particularly as teams seek to slash the time needed to roll out new cloud-based applications and services.



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### The covid-19 challenge for IT leaders

From a technology perspective, 2020 has been "the best of times and the worst of times" for the technology and operations team at Singapore-based DBS, according to CIO Jimmy Ng. The downside is the long hours his team has had to put in to provision the organisation with the capacity and means to operate in such times. On the other hand, the covid-19 crisis has brought to the fore the benefits of the bank's digital transformation. "Mindsets have shifted," he says. "All of a sudden, things that weren't possible before have become possible."

Slow-movers in their digital transformation, by contrast, have found themselves in a quandary. A well-developed online presence and ready access to cloud infrastructure and services, among other digital advantages, have proven indispensable to maintaining operations and adequately supporting employees and customers. Organisations without such capabilities have had to gain access to them quickly or else flounder. DBS aside, many organisations in ASEAN and ANZ have found themselves in this position. A recent study from EY, a consultancy, found that businesses in the Asia-Pacific region as a whole were lagging in digital transformation behind those in North America and Europe.<sup>1</sup> Early indications from the crisis are that organisations are trying to make up ground fast. "Due to covid-19, digital transformation in this region has gone from being an objective to being an imperative for survival," says Sam Higgins, principal analyst with Forrester, a technology consultancy.

Far from all technology projects are proceeding ahead at full speed. Cloud-related initiatives, however, appear to have been a particular beneficiary of the crisis. According to research firm GlobalData, the pandemic has produced a surge in enterprise demand for cloud offerings right across the APAC region.<sup>2</sup>



## Asia-Pacific business and government spending on cloud software and services (US\$bn)

Source: Forrester Research, Asia Pacific Tech Market Outlook For 2019 To 2020, March 18, 2019.

1 "Asia-Pacific is lagging in digital transformation maturity today, but will take over in two years' time", EY media alert, March 17, 2020

2 "Cloud-based offerings outshine traditional products amid current COVID-19 scenario in APAC, says GlobalData", GlobalData press release, June 8, 2020

Wong Wai Meng, chief executive of Keppel Data Centres, which operates in Singapore, Indonesia, Malaysia, Australia, Hong Kong and China (as well as in European markets), has seen demand for cloud capacity surge during the crisis. He expects demand to remain strong in the foreseeable future, particularly as CFOs encourage cloud migration as a way of reining in IT capital expenditure during an extended economic contraction. The only question in his mind is whether there will be enough data centre capacity in all the company's markets to meet this demand, as infrastructure takes time to build and lockdowns have constrained labour availability.

#### The cloud steps up in a crisis

The most fundamental challenge that IT leaders everywhere faced when the crisis hit was to support the mass shift of employees to home-based working. That's been no different in ASEAN and ANZ, and organisations with a developed cloud presence—public and private—have had an easier time of this than those yet to begin a large-scale migration. DBS began its cloud migration in 2015, beginning with a virtual private cloud (VPC) and gradually expanding to public. This early start, says Mr Ng, meant it could scale bandwidth up quickly to help its employees telecommute and collaborate effectively and access critical business applications.

Cloud capabilities have been integral to the battle against covid-19. Flinders University in South Australia, for example, has put AI techniques to work to model the virus and, hopefully, to develop a vaccine to combat it. The university's public cloud access

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delivers the computing power needed to support the data-hungry modelling.<sup>3</sup> Researchers at CSIRO, Australia's national science agency, are conducting similar work to understand the virus.<sup>4</sup> Because their work is conducted in a public cloud environment, the results are accessible to researchers around the world, according to Brendan Dalton, the organisation's chief information and data officer.

Public cloud capabilities support other fronts in the war against the virus. In Thailand, for example, cloud-based AI techniques are being used by a major Bangkok hospital to diagnose CT scans.<sup>5</sup> Cloud has also been vital in helping life sciences companies to service their customers. Zuellig Pharma, headquartered in Singapore, began migrating to a public cloud environment in 2019. When the crisis took hold, it was able to launch new cloud-based services, such as digital ordering and payment platforms for customers in its Asian markets. This helped it to maintain the flow of drugs and medical supplies to hospitals, clinics and pharmacies throughout the region.6

In these and other examples, businesses and public-sector organisations alike are finding the

<sup>3 &</sup>quot;Vaccine candidate against SARS-CoV-2 being tested", Science Daily, April 3, 2020

<sup>4 &</sup>quot;COVID19: Actionable insights from genomic information", CSIRO website

<sup>5 &</sup>quot;MDES joins hands with HUAWEI, brings AI solution in tackling COVID-19 situation", Bangkok Post, April 2, 2020

<sup>6 &</sup>quot;The cloud and COVID-19: Pivoting in a crisis to protect lives", Microsoft website, May 19, 2020

scalability advantages that the cloud offersand particularly the public cloud environments hosted by the "hyperscalers" such as AWS, Microsoft, Google and Alibaba—are critical to their ability to respond to the highly fluid circumstances the crisis has created.

### **Growing pains**

The crisis may have catalysed an accelerated cloud migration in ASEAN and ANZ, but optimising its use is not straightforward. A broad trend in the region, according to Forrester's Mr Higgins, is a gradual shift from private to public clouds, and the use of hybrid strategies to manage the transition. IT leaders are generally clear about the relative merits of each model, he says, but there is a good deal of complexity and confusion around how to manage a multi-cloud approach. "IT leaders often struggle today with how a decision to use a specific provider for a specific purpose will affect their broader cloud strategy," says Mr Higgins.

Mr Dalton of CSIRO is trying to enlist the help of its public cloud providers to develop a solution to the multi-cloud management challenge. Through joint efforts, he envisions the development within the next 12 months of "a single pane of glass", a dashboard which can help his IT team to efficiently monitor and control the different clouds the organisation is using.

Security is also a lingering concern for organisations. Not, says Mr Higgins, with security of public cloud platforms, but rather with that of their own applications and data they are migrating. "If there are vulnerabilities related to the cloud, that's where they will be," he says.

For banks, security remains one of the biggest challenges to cloud migration, according to Mr Ng. More often than not, he says, misconfiguration of cloud services is the chief source of vulnerability. "We have to be very methodical about how we put information out into the public realm," he says.



### You must optimise workloads to realise the cost benefits of cloud.

Application workloads must also be optimised prior to migration to ensure the best results from cloud. According to Mr Wong, companies need the knowledge and expertise to determine which workloads to migrate first, which to hold for later and how precisely to move them. "The power of the cloud is the ability to optimise your workloads," he says. "You must optimise to realise the cost benefits of cloud. Otherwise you may end up spending more than if the applications remained on-premise."



### Looking ahead

The momentum behind cloud adoption in ASEAN and ANZ is likely to remain strong, at least in the near term, if not longer. There will remain clear differences in cloud maturity between advanced markets such as Australia, New Zealand and Singapore and less developed ones elsewhere in region. But the growth trajectory is high in most of them. The cloud's advantages have become clear to large organisations, and governments in the region are actively encouraging small and midsize businesses to accelerate their migration.<sup>7</sup>

Meanwhile, organisations at a more advanced level of cloud maturity such as DBS and CSIRO are anticipating the emergence of new sets of public cloud services. For example, Mr Ng's plans for leveraging AI more widely rest partly on the bank's ability to access suites of AI, machine learning, 5G, IoT (internet of things) and blockchain services available in the cloud.

# For science organisations like ours, that's the brave new world.

"I'd love to have super-computing-as-a-service accessible from clouds," says Mr Dalton. Interoperability of tools, cloud automation (in which AI powers self-monitoring and selfhealing of systems, among other capabilities) and data tracking in multiple clouds are other capabilities he looks for CSIRO and its cloud providers to develop in the coming months and years. "For science organisations like ours, that's the brave new world."

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<sup>7</sup> A good example is the GoCloud initiative launched in 2018 by Singapore's Infocomm Media Development Authority (IMDA): "IMDA rolls out new measures to help infocomm media sector ride on emerging tech trends", *The Straits Times*, November 22, 2018; Malaysia's government has also been encouraging businesses to adopt a "cloud first" technology strategy: "MDEC continues to push Malaysia to emerge as regional cloud services leader", *New Straits Times*, April 27, 2018