ARTICLE

Gover-mation-as-a-service: An effective no-code future key to improve the capacity and speed of innovation

Recognised for its global leadership, DBS has been named “World’s Best Bank” by Euromoney, “Global Bank of the Year” by The Banker and “Best Bank in the World” by Global Finance. The bank is at the forefront of leveraging digital technology to shape the future of banking, having been named “World’s Best Digital Bank” by Euromoney. In 2019, DBS was also lauded by Harvard Business Review as one of the top 10 business transformations of the decade.

CLOUD IS NOW A DE-FACTO PLATFORM WITH 95% OF DBS WORKLOADS BEING BUILT ON IT WITH DBS HEADLINING THE ADOPTION OF THE CLOUD SERVICE

Cloud is now a de-facto platform with 95% of DBS workloads being built on it with DBS headlining the adoption of the cloud service – a reflection of its vision to become a digital-first company with technology as its core. With Cloud, DBS Bank is able to experiment fast, do so with low costs and empower it further to scale successful experiments as needed.

This readiness to invest in technology enabled them to introduce several innovative products such as DDEX - Digital Exchange, Partior– the blockchain payment platform, Sailor - NAV Planner, and marketplaces for property, cars, travel, education.

The challenge now for DBS is to keep accelerating the capacity to innovate. One of the key drivers to innovation is the ability for business teams to provision new services independently, without compromising on security as befitting a financial services institute. This, DBS believes, is key to maintaining its position as a global leader in innovation.

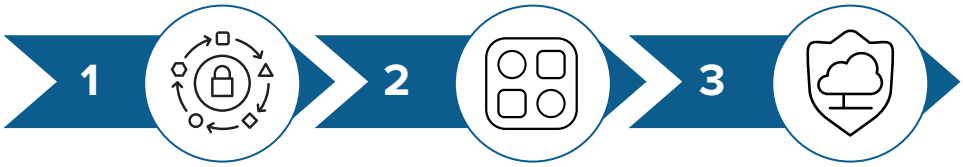
Improving the capacity and speed of innovation.

TRADITIONAL CONTROLS OFTEN LEAD TO THE INABILITY TO SCALE OR REACT TO CHANGES

While the cloud allowed for rapid infrastructure and app provisioning, the controls enablement cannot keep up in User-to-App, App-to-App, and App-to-External in a manner as befitting a highly regulated industry. Because of this, traditional controls often lead to the inability to scale or react to changes. They do not have the speed to match the changes that happen within seconds/minutes as compared to days/ weeks in the past. Hence, the outdated controls that are not based on business outcomes put pressure back on people and process, reducing the efficacy of automation.

Figure 1: Four challenges that affect the speed of innovation

To overcome this, DBS needed to create the right governance mechanisms that are agile and flexible. For this to happen, DBS required a custom mechanism, one that created guardrails to allow flexibility within a sandbox and detection rules that can automate identification of deviation from guardrails. DBS also developed a 3-pronged approach to support this transformation of the governance layer.



XaaS
(Everything as a Service)

Gover-mation

Evolve PavedCloud road for public cloud use

Figure 2: 3-progoned approach to transform the software lifecycle

#1 XaaS (Everything as a Service)

DBS created a XaaS (Application Services) control enablement system that follows a governing framework “Day 0 – Day 1 – Day 2” for its entire delivery cycle (Figure 3)

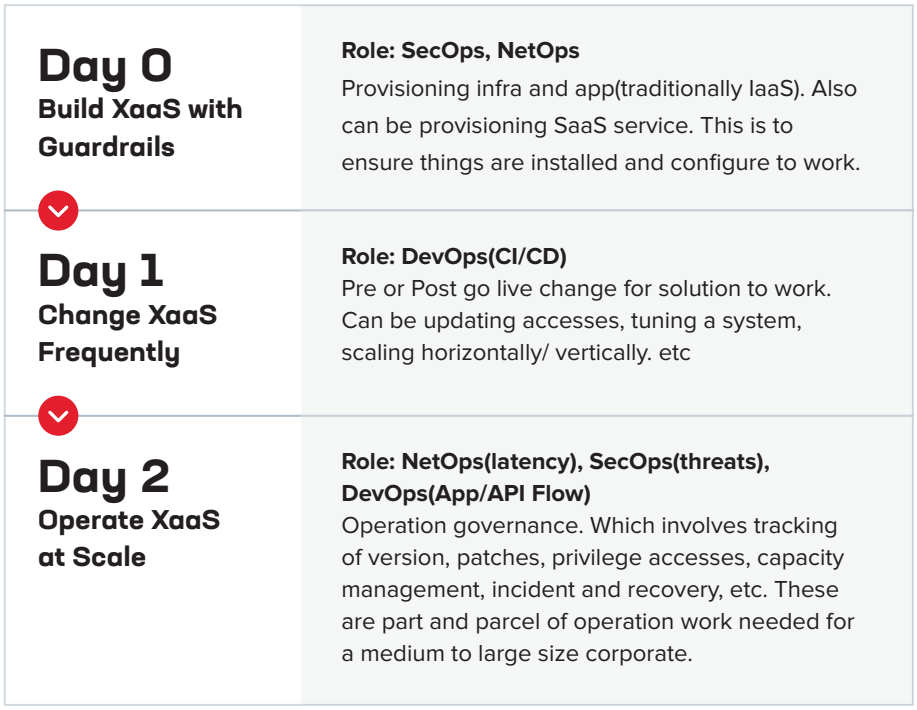
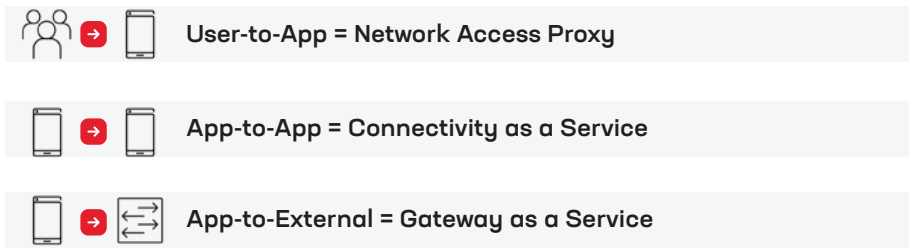


Figure 3: XaaS Delivery Lifecycle

It created a control enablement environment that is not dependent on humans and where control effectiveness is through codes. DBS XaaS codifies connectivity that becomes valuable instantaneously. By partnering with technology vendors such as F5, DBS was able to develop and institutionalize their solution. A solution in which network and security XaaS services (User-To-App, App-To-App, and App-To-External) connectivity are built, changed and operated on a SaaS-based solution for centralised control and visibility:



The vision is to have a No-Code / LowCode approach, create more reusable services and speed up the non-functional requirement development of an application.

DBS IS WELL-AWARE OF THE IMPORTANCE OF THE PUBLIC CLOUD, ESPECIALLY IN SUPPORTING DATA, AI, ML AND ADVANCED CAPABILITIES.

#2 Gover-mation

DBS builds governance mechanisms with the power of automation for their IT infrastructure. It combines governance with automation (Governance + Automation = Gover-mation), helping the bank achieve a higher system administrator to VM ratio of more than 3x the industry norms. In addition, it helps the bank in security hardening, system patches, and privilege password management.

The XaaS platform gets RBAC access to NetOps, SecOps and DevOps, allowing the teams to collaborate, automate and enforce policies. With everyone working on a common application and XaaS data dictionary defined on a common platform, DBS neatly accomplishes automation and governance without any misunderstanding or misconfiguration, which often results from the manual stitching of XaaS. Furthermore, the use of automation as a muscle to govern the IT infrastructure enables the bank to:

- Receive compliance updates that are timely (in minutes instead of weeks/month)
- Get real-time compliance reports that provide insights and drive toward recommended actions/focus areas instead of a data dump
- Integrate compliance checks directly from the report, and take automated actions rather than human intervention

#3 Evolve paves the road for public cloud

DBS is well-aware of the importance of the public cloud, especially in supporting data, AI, ML and advanced capabilities. The public cloud environment requires guardrails that are preventive, allowing the system to experiment within its boundaries. At the same time, detect and fix deviations as and when they arise. To execute this, DBS institutes a centralised control and distributed policy enforcement system with Evolve PavedCloud, a developer-first continuous delivery engine that enforces controls based on the following principles:

- **Directive –** Ensures that desired outcomes are achieved by design based on threat studies.
- **Preventive –** Limits possibility of undesired outcomes by preventing deployment of certain actions or events.
- **Detective –** Detects deviations for fixes as fast as they are created
- **Ensures data security –** Trust no one in cloud

It consistently provides the operations team with the confidence that network, security, and application policies (guardrails) are enforced in all locations. This also ensures that all new applications and sites (public cloud, private cloud, the internet edge and the enterprise edge) deployed will have consistent policies.

How did DBS benefit from transforming its software lifecycle?

THIS INNOVATIVE MINDSET WITHIN DBS ENABLES IT TO LEVERAGE THE TRUE POWER OF TECHNOLOGY, TO BUILD AND OPERATE PRODUCTS AND DIGITAL ASSETS AT SCALE.

With this three-stage future state, DBS establishes a control enablement environment that phenomenally increases the speed of infrastructure and application provisioning and deployment.

DBS saves time, reduces human resource involvement, and increases the speed of its XaaS delivery lifecycle. The bank can convert everything as a service and build a future of app development and deployment (No-Code / LowCode) – an opportunity to make more reusable services to speed up an app's non-functional build requirement. Through gover-mation, DBS can;

- Receive timely compliance updates that produce insight-led compliance reports to make informed decisions.
- Minimise human handover and miscommunication between the Infrastructure Operations team and the Application Development team.
- Scale Day 2 operations easily, as the number of deployed apps and app changes increases rapidly, without having to hire more staff.
- Allow DevSecOps to operate at high speeds with the XaaS application infrastructure and application security services within controlled guardrails.
- With XaaS built on cloud-native, Kubernetes-based architecture, the reusable app infrastructure and app security services inherently become portable across a multi-cloud environment

About F5

F5 (NASDAQ: FFIV) powers applications from development through their entire lifecycle, across any multi-cloud environment. This enables our customers—enterprise businesses, service providers, governments, and consumer brands—to deliver differentiated, high-performing, and secure digital experiences.

For more information, go to f5.com.

You can also follow @f5networksAPJ on Twitter or visit us on LinkedIn and Facebook for more information about F5, its partners, and technologies.