

IDC ExpertROI® SPOTLIGHT

Singtel Delivers Robust Hybrid Cloud Services Through Partnership with VMware and Adoption of the VMware Cloud Provider Platform

Sponsored by: VMware

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Overview

Singapore Telecommunications Ltd. (Singtel) is the largest telecommunications provider in Singapore, with operations in Asian, African, and Australian markets. Today, businesses in 21 countries rely on Singtel and its portfolio of information and communication technologies (ICTs) and services to do business in a competitive digital world. To support these customers, Singtel undertook a companywide digital transformation initiative in 2013 to increase its ability to win business related to data and digital services. In 2018, Singtel's digital and ICT business made up about one quarter of its total revenue.

An important driver of this digital and ICT business has been Singtel's development of a robust cloud services offering for both enterprise and government customers. Singtel's private cloud services have grown in recent years as its customers have sought to increase their IT agility and operate more cost effectively while also supporting business expansion. Singtel has worked closely with VMware through the VMware Cloud Provider Program (VCP) and deployed various VMware technologies that form the VMware Cloud Provider Platform to run and support these private cloud services.

Sudesh Shah, Vice President of Cloud at Singtel, reported that customers have more recently begun focusing on hybrid cloud solutions that allow them to leverage public cloud capabilities. Singtel has worked to develop a robust and highly functional suite of hybrid cloud services to address this demand. In line with these efforts, Singtel and VMware announced an expanded partnership in 2018 to build a Digital Transformation Foundry in Singapore on VMware technologies.

Business Value Highlights

Organization: Singapore Telecommunications Ltd.

Location: Singapore

Challenge: Develop and deliver robust and secure hybrid cloud services

Solution: Partner with VMware to deploy hybrid cloud solutions powered by the VMware Cloud Provider Platform, which includes NSX, vSAN, vSphere, VMware vRealize, and VMware vCloud Director

Financial Benefits:

- 52% CAGR; hybrid cloud solutions over five years
- >\$100 million in additional revenue from hybrid cloud solutions

Other Benefits:

- 70% of hybrid cloud revenue from transformation and managed services
- 84% efficiency for platform management team
- 78% productivity gain for development team

Beyond the Digital Transformation Foundry, Singtel will concentrate on delivering four types of services – (1) private cloud, (2) hybrid cloud, (3) digital workplace, and (4) multicloud managed services – on the VMware Cloud Provider Platform, namely, NSX, vSAN, vRealize, and vCloud Director. Shah noted that the hybrid cloud service offering is intended to provide the security and flexibility customers require to support application mobility, disaster recovery, and ease of migration between different cloud environments.

Shah explained that Singtel sees substantial potential for generating revenue through the sale of hybrid cloud services – through the sale of both capacity and related professional and managed services. He noted that, based on the VMware technologies, "what we provide to our customers is a hybrid, multicloud portfolio of services where the value that we deliver is helping them optimize their IT operations." Ultimately, Shah described Singtel's objective as "being the digital enabler for our customers' digital transformations and empowering them to accelerate how they bring new services to their clients in this digital world."

Shah described Singtel's VMware partnership and use of VMware technologies as critical not only to providing these hybrid cloud services but also to maintaining cost-effective and efficient internal operations. He and his team cited significant efficiencies for staff working with VMware technologies related to automation, policy, and performance for IT operations and development teams.

Based on interviews and discussions with Shah and other members of the Singtel Cloud team, IDC created a model that quantifies the business potential for the company's hybrid cloud services as well as internal operational efficiencies related to its use of VMware technologies. Among key findings, IDC projects that Singtel will realize a 52% CAGR over five years for its hybrid cloud service offerings, even as it benefits from significant internal IT operational and cost efficiencies.

Implementation

Singtel has used VMware technologies to support its private cloud service offerings for many years and has in recent years moved to building out a software-defined infrastructure based on VMware technologies. Shah explained, "We've been leveraging the VMware stack and technologies to deliver software-defined solutions, software-defined infrastructure, and a software-defined network for our customers for at least the past five years." Shah elaborated, "A lot of our private cloud environment runs on a VMware stack, including VMware Cloud Foundation, NSX, vRealize, and vCloud Director. We deploy these technologies internally as well as for many of our clients."

Singtel has closely monitored its services to ensure it meets customer demand. This requires having a sufficiently robust technological foundation. The company has worked hand in glove with VMware to do this: "VMware has been releasing new technologies, and we've worked closely with it to understand how we can employ those new technologies and capabilities to better service our customers through new offerings and optimizing our operations."

"We are helping our customers move to a software-defined landscape of IT operations and operating more simply across this hybrid cloud environment, and this is how we've leaned upon the VMware Cloud Provider Platform as a core part of our overall offering in go to market."

In the last year or so, customer demand has shifted toward hybrid cloud service offerings that enable customers to leverage public cloud capabilities. For Singtel, this not only has created substantial new potential revenue streams but also necessitated developing robust and attractive hybrid cloud services to meet this demand.

Last year, Singtel and VMware entered into a partnership to create a Digital Transformation Foundry in Singapore based on VMware technologies. Shah explained the purpose of the Foundry: "The objective of a Digital Transformation Foundry is to help our customers understand the various technologies that are available to them as well as test the various capabilities that are needed for different workloads in Windows and Linux environments."

In addition to the Digital Transformation Foundry, Singtel will deliver four types of services to its customers to meet varied and changing demand: private cloud, hybrid cloud, digital workplace, and multicloud managed service. He commented, "We are helping our customers move to a software-defined landscape of IT operations and operating more simply across this hybrid cloud environment, and this is how we've leaned upon the VMware stack as a core part of our overall offering in go to market."

He further explained Singtel's view of its changing service offerings, "We are creating what we call a Liquid Platform, our overarching tool landscape that includes tools like CloudHealth from VMware, as well as tools like vRealize, automation, and integration with other cloud services offerings." Shah called these services – and especially hybrid cloud services – as fundamental to Singtel's enterprise cloud growth prospects.

Shah expects Singtel's partnership with VMware and use of VMware technological solutions to deepen in the coming years. In particular, Singtel is evaluating the potential for offering VMware Cloud on AWS and related professional and managed services. He said, "VMware Cloud on AWS is something else we're working closely with VMware on bringing to market to help our customers rapidly move to a hybrid cloud environment."

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Benefits

Singtel's partnership with VMware and use of VMware technologies are driving two core benefits in delivering services that enable its customers' digital transformation efforts. First, Singtel has brought to market a robust hybrid cloud service to meet increasing customer demand. Second, Singtel has captured operational efficiencies that allow it to move more quickly to meet customer demand and offer services at a more attractive price point.

Development of Hybrid Cloud Business

Singtel has observed a change in customer demand patterns in the direction of hybrid cloud services. Shah explained that meeting this demand requires hybrid, multicloud service offerings that enable customers to use their existing private cloud environments and investment in on-premise technology while benefiting from the agility and cost optimization potential of public cloud. He commented, "We've definitely seen an upshift in the public cloud adoption, and we're receiving a lot more requests from our customers about how to bridge their on-premise workloads to the public cloud."

Shah noted several major drivers of this shift in customer demand to hybrid cloud services, including:

- **Focus on workloads, not infrastructure:** "Customers used to have an infrastructure-led discussion previously, but it's becoming a workload-led discussion."
- **Need to increase automation and orchestration:** "Our customers are looking for more agility as well as cost optimization, and that's the value that we add. Hybrid cloud services based on VMware technologies enable them to move toward a more orchestrated and automated IT landscape that is easier to operate and takes away a lot of those challenges for them."

Singtel views both the Digital Transformation Foundry and its hybrid cloud service as fundamental to addressing this customer demand. Shah noted that customer efforts to use public cloud offerings have sometimes floundered because of high migration costs and migration-related risk. He cited Singtel's partnership with VMware and use of VMware technologies as integral to addressing these concerns: "Where we're leaning in tightly with VMware is around tooling, network extension, how we get fluidity between datacenters and the cloud, and how we take out the golden triangle that kills most cloud projects: time, risk, and cost."

Singtel partnered with VMware on the Digital Transformation Foundry to provide its customers with the opportunity to test and implement hybrid cloud services with greater ease. Shah described it "as a sandbox environment to help our customers test various capabilities." Singtel views the Digital Transformation Foundry as important for customers that want to move traditional workloads to the hybrid cloud with its services: "These are often monolithic applications that our customers want to test with various hardware requirements, and the Digital Transformation Foundry allows them to do this."

More generally, Singtel's hybrid cloud service offerings run on VMware technologies. Shah explained that VMware technologies will not only power the performance of Singtel's hybrid cloud solutions but also ensure the manageability of the solution for customers, helping differentiate its hybrid cloud offerings: "Our customers will eventually end up with a private cloud environment and a multicloud landscape that they will need to manage, and this is where products like vRealize come in. VMware is a tool stack that simplifies management and operations." Likewise, Shah sees value from vCloud Director: "It gives us the opportunity to provide customers with granular control and support for their cloud environments, which they simply cannot get in the public cloud spectrum."

Further, Singtel relies on its partnership with VMware to optimize its pricing through consumption-based pricing and more efficient internal operations. This increases the attractiveness of Singtel's hybrid cloud services and factors into the company's optimism about its growth prospects.

According to Shah, Singtel expects growth rates for its hybrid cloud service to surpass those of its more mature private cloud service in the next several years. This is true for its sale of capacity through hybrid cloud services as well as its transformation and managed services offerings that it provides. Shah elaborated on the role that VMware technologies play in helping Singtel differentiate its hybrid cloud services: "Our growth will be driven by a differentiated value proposition, which is helping our customers manage their new hybrid multicloud ecosystems simply and with a low barrier to entry."

"Our customers will eventually end up with a private cloud environment as well as a multicloud landscape that they will need to manage, and this is where products like vRealize become a big part of that VMware is a tool stack that really helps simplify management and operations."

Supporting More Efficient Internal Operations

Singtel has also leveraged VMware technologies and its partnership to ensure cost-effective and efficient operations. As a service provider in a highly competitive industry, establishing and maintaining a cost-effective operating model is critically important for Singtel.

The efficiencies for Singtel with VMware technologies begin with building its own datacenters to run its services. Shah cited NSX as especially impactful in terms of leveraging virtualization across its network environment: "Using VMware NSX is one of the easiest ways to realize cost savings. It's a simple way to virtualize existing IT landscape to drive efficiency in the way traditional hardware is used."

Beyond the cost of building out datacenters, Singtel has leveraged VMware technologies to increase its own use of automation. "We've used nearly the entire VMware tooling suite to completely automate large aspects of our operations. There's benefit to us, and we can pass the cost savings on to the customer, and they get better, more efficient services."

The result for Singtel is that it has grown its business without needing to commensurately grow teams responsible for IT operations and platform management, while also freeing up staff time to take on other projects and initiatives. According to the Singtel team, these efficiency benefits are especially impactful as the company expands its hybrid cloud services business. Further, the team noted that VMware technologies have helped deliver more effective and efficient development operations. Its development teams can now more easily create and take down testing environments; provision required compute, storage, and networking capacity; and effectuate actual deployment of new applications, services, and features in less time.

Shah commented on the overall value of operational optimization with VMware technologies and the expected impact as it grows its hybrid cloud services business: "We are actually optimizing our end-state operations, which drives cost saving benefits as well as agility across the organization. As we are moving into the multicloud world, we need to achieve these efficiencies, and this is where vCloud Director and vRealize really start to add a lot of value."

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Quantifying the Benefits

Based on interviews with Shah and several other members of the Singtel Cloud team, IDC has quantified the company's expected revenue from hybrid cloud services as well as operational efficiencies based on its use of various VMware technologies.

Increased Revenue

Singtel sees significant opportunity to address changing customer infrastructure demand patterns with its hybrid cloud services. Shah explained that "we see that hybrid cloud business ramping up over the next couple of years to be almost equal or more than our private cloud business." Based on Singtel's current revenue from hybrid cloud services and forecast growth, IDC projects that Singtel's revenue from hybrid cloud services will grow at a strong CAGR of 52% over five years to over \$100 million per year. This hybrid cloud-related revenue will be divided between the sale of capacity and the sale of professional and managed services, as described in the sections that follow.

Infrastructure as a Service

Singtel projects that about 30% of its hybrid cloud revenue will come from the sale of actual capacity running on VMware technologies. For Singtel, the sale of infrastructure as a service (IaaS) has somewhat lower margins than the sale of related services but constitutes an essential aspect of its business strategy. According to Shah, "We have to look at that landscape and provide IaaS components through our hybrid cloud services at a very competitive rate in order for our customers to maintain their private cloud real estate."

Transformation Services

Singtel perceives substantial opportunity in offering services related to helping its customers migrate their applications to a hybrid cloud environment. It projects that about 45% of its hybrid cloud revenue will come from these types of transformation or professional services that support customers "moving from private or legacy monolithic application environments through to a public cloud world."

Managed Services

Singtel expects that the remaining 25% of revenue related to hybrid cloud services will be from its managed services offering. It offers various levels of managed services depending on its customers' needs, but all are geared toward helping them optimize their use of Singtel hybrid cloud services. Shah explained: "Our platinum-level managed services may include our managed security services wrapped into it and takes care of everything from the infrastructure network through to the microservices and their applications."

More Efficient Datacenter Operations

Singtel is leveraging virtualization, automation, and orchestration with VMware technologies – including NSX, vRealize, and vCloud Director – to establish efficient operations related to its hybrid cloud services offering. The result is that it has been able to redirect staff resources to focus on other projects and business development effort even as it grows its business. Two teams in particular have benefited from these VMware technologies:

- **IT operations team** leverages automation to streamline the creation, patching, and provisioning of portals for Singtel customers' cloud services. Singtel estimated that this team has achieved efficiencies of around 45% on average with VMware technologies.
- **Platform management team** takes advantage of automation and having robust technologies to minimize the day-to-day effort in terms of running Singtel's platform. The company attributes an 84% efficiency for this team to its use of VMware technology, which has allowed it to "refocus these team members on providing hybrid services and migration to the public cloud, including VMware Cloud on AWS."

More Effective Application Development

Singtel has also benefited from its VMware partnership and VMware technologies in terms of its application development efforts. The Digital Transformation Foundry is fundamental to its efforts to improve development, with Shah calling it "basically a full hybrid cloud lab in which we've been able to rapidly develop and deploy new products and services for the market." His team further described the benefits of VMware-driven automation and orchestration for development: "Development used to be very hardware specific, with long wait times and procurement issues. As we've moved to this more software-driven world and the tools have gotten better, it's definitely upped our game in terms of speed to market and speed to development." The Singtel team reported going from needing 6-12 months to deliver a major new application or service to only around 2 months on average, reflecting 78% higher productivity levels for developers working on its VMware-based development platform.

Methodology

IDC conducted several interviews with Shah and other members of the Singtel Cloud team to understand the impact of partnering with VMware and using VMware technologies to support service delivery in terms of Singtel's business results and operations. IDC gathered the information needed to quantify the benefits and investment associated with the company's hybrid cloud business running on VMware technologies and created a financial analysis from the results.

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