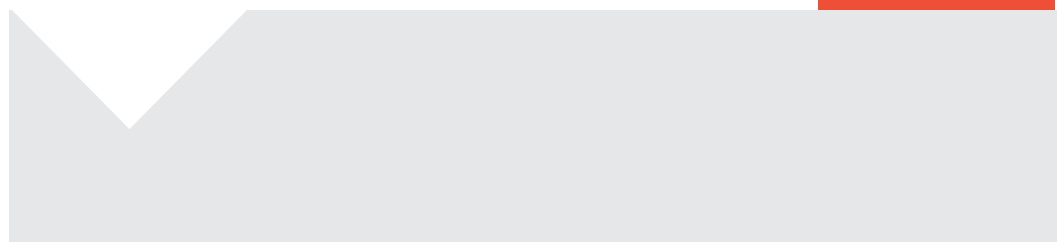
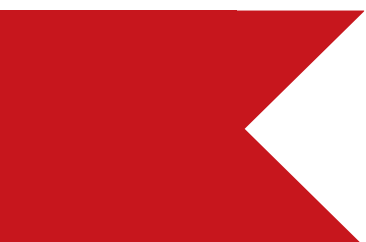
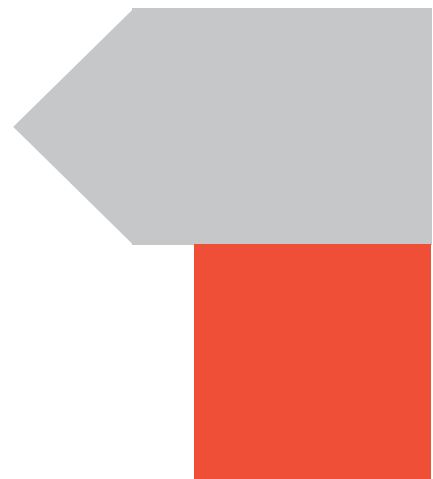


# ***The Evolving Cloud-Scape***

## **Telin Singapore 1<sup>st</sup> Advisory Council Roundtable 2H2016**



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**Telin** Singapore  
by Telkom Indonesia



## Introduction

There is no question that hybrid cloud deployments are gaining traction over traditional on-premises rollouts, with anecdotal evidence of enterprises blending this with private cloud or even multi-cloud deployments to leverage their most compelling capabilities.

In line with the official opening of the Telin-3 data centre in November 2016, the Telin Singapore Advisory Council (TSAC) held its first meeting to gain better understanding of the evolving cloud landscape, and use these insights to determine the business impact on colocation, as well as the design of future colocation spaces.

The process involved a roundtable discussion to garner feedback from council members on their viewpoints and current requirements regarding the current state of the cloud and colocation data centres. This aimed to broaden and deepen Telin Singapore's understanding of the industry so it can provide better services in various areas, including provisioning, security, and managed services options.

The valuable input of Telin Singapore's own customers and partners is also helpful in helping achieve progress that will ultimately benefit them, as well as the company and its partners in the data centre and telecommunications business.

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## Council Members

**Victor John Carey** is the director and owner of AT Advanced Technologies in Singapore. With 30 years of experience of which the majority are in Southeast Asia, Victor is an Uptime institute (UTI) accredited tier designer with expertise in data centres, microelectronics facilities and buildings with stringent noise control requirements. His company offers design, integrated systems testing and UTI accreditation support for high tech buildings including data centres, and was also engaged in the commissioning management and support for the UTI accreditation of Telin-3 data centre in 2016.

**John Lee** is the co-founder and COO of Vodien Internet Solutions, where he is responsible for all aspects of operations, sales and customer care. He works closely with the product and technical divisions of Vodien, and helps to guide the company's sales strategies, focusing on promotional campaigns that drive the company's growth. As part of the overall drive to increase customer satisfaction, John ensures that only the highest levels of service and support to all customers.

**Lim Boon Chuan** is the managing director of Webzilla Singapore, an enterprise hosting company with a presence in North America, Europe and Southeast Asia. Boon Chuan was the founder of 8 to Infinity prior to its acquisition by XBT Holding, which owns Webzilla. Boon

Chuan remains passionate about web hosting services today, and he delights in providing customers with what they need to succeed.

**Terence Lim** is the director and co-founder of RED Technologies. He has more than 20 years' experience in the IT and Telecom industry where he is involved in the design, build and maintenance of infrastructure. RED Technologies specialises in fibre network build and maintenance, data centre remote hands support, IT project management and its associated service support with presence in Singapore, Hong Kong and Malaysia.

**Victor Yuk** is the CEO of Wizlearn Technologies, a leading e-learning solutions company in Singapore. Victor started work at Wizlearn Technologies as a system administrator, and subsequently became the vice president of operations where he led a team of 25 solution architects, system and software engineers. Victor has initiated several major e-learning projects which lead to an increased adoption of such systems in schools, corporate companies and government agencies.

The **strategy manager** works for a global content provider.

## The maturing public cloud

### *Perception of the public cloud is positive*

After initial introductions, the discussion kicked-off on the topic of the public cloud. Council members agreed that the public cloud is gaining in popularity, though Victor John Carey, expressed doubts that specialized industry verticals such as financial services industry (FSI) will move their core services to the public cloud anytime soon.

However, Terence Lim pointed out that the public cloud is obviously growing bigger, and called attention to how even enterprises are migrating workloads to the cloud. "I'm not sure if the word 'mature' is suitable, but they are getting there. They are getting bigger, they are building facilities and putting security in place. The enterprise side is getting more comfortable [with the cloud]," he said.

The perception of the cloud among small and mid-sized enterprises (SMEs) is positive, said John Lee. The result is a bias for these customers to lean towards cloud-centric offerings despite having no real inkling of its technological underpinnings or advantages.

However, many traditional IT systems based on legacy designs are not necessarily suited for migration into the cloud, according to Lee. It is to address this gap that a growing number of Software-as-a-Service (SaaS) cloud offerings have started to appear on the market.

### *The cloud offers scalability*

"Contrary to common misconceptions, the key benefit of the cloud is not cost, but how it supports and facilitates scalability from the get-go," said the strategy manager from a leading global content provider. "It is really nothing more than other people's computers," he said.

The scalability that the cloud offers is crucial as people are not very good at predicting the future, and can have an adverse impact on capacity planning and forecasting, he added. In this vein, the ability to immediately power up or power down compute capacity through the public cloud solves this problem seamlessly.

Among others, participants agreed that the unpredictable churn of streaming media provider Netflix as the perfect use case that underscores the importance of being able to add or remove compute on-the-fly. This is achieved with the use of a well-known public cloud platform, for which Netflix had publicly attested to on numerous occasions.

### *The cloud for new projects*

For many organizations, another useful characteristic of the public cloud is its ability to roll out new projects without having to first purchase expensive infrastructure ahead of time, said Lim Boon Chuan. The obvious benefit is how it allows businesses to test new services or to stress test its workflow ahead of a production deployment. And businesses can roll out new services entirely in the cloud without impacting their existing non-cloud infrastructure.

Yet for all the inherent capabilities of the cloud, Lim cautioned that not all clouds are the same. He outlined the diverging trend of managed and direct data centre offerings from that of cloud-based services. While the latter will become more common and widely used, they are typically targeted at consumers and may not incorporate the business-centric resilience or stringent service level agreement (SLA) of the former.

## **Why the hybrid cloud is here to stay**

### *Tied to a contract*

With so many clear advantages, why aren't most enterprises already running off the cloud? "One reason may be that businesses have already invested heavily in on-premises infrastructure that is still within the planned lifespan," explained Terence Lim. "If their data centre has been built within the last couple of years,

then from a financial perspective, they are unlikely to be able to make a transition to [the cloud]."

And considering that data centre capacity is typically planned in multi-year blocks, organizations operating within an existing colocation facility are also likely to be stuck on an existing contractual term that limits their ability to make big changes. "Familiarity with colocation means that a hybrid cloud deployment is the likely outcome even if all enterprises were to arbitrarily decide to tear up their contracts," he said.

Terence Lim suggested a scenario of a gradual migration as opposed to a cutover, with enterprises diverting more of their IT budgets to cloud deployments over time. He said: "[Enterprises] would have to go through the hybrid cloud approach first before they fully adopt the public cloud."

### *Regulatory and privacy considerations*

Even in the complete absence of contractual obligations, regulatory and privacy considerations mean that hybrid cloud deployments may be the only viable option for some. Victor Yuk shared how he recommends his customers to make a distinction between sensitive and non-sensitive data.

"This entails identifying non-classified information such as public web pages and hosting them in the cloud. This enables ease of access without compromising security; and it lowers cost by migrating

workloads from expensive on-premises hardware,” Yuk said. Sensitive data could continue to be housed within on-premises hardware, though he recommends that the data on the disparate networks not be synchronized in the interest of security.

This approach works for regulated industries too, as regulatory rules are often explicit about the types of information that can or cannot be hosted on a cloud server. “Keep your jewels in the safe; keep your loose change in the coin pouch,” said Yuk.

### *The multi-cloud way*

A multi-cloud approach is more desirable than a single-cloud one, according to the strategy manager. There are two reasons for this, and it ranges from concerns over potential vendor lock-in to a proprietary cloud platform, as well as how multiple cloud providers can be leveraged for enhanced resilience.

He said: “If you can connect to all the cloud providers, then you can achieve better resilience.” This is notable as a multi-cloud deployment is similar to a hybrid cloud deployment from an architecture perspective, and underscores why hybrid cloud deployments are here to stay.

## **The strong colocation market**

### *Finite colocation capacity*

Despite the gathering momentum towards cloud deployments, Telin Singapore’s Advisory Council members did not think that the role of colocation will diminish in importance any time soon. Indeed, the lengthy lead time it takes to build new colocation facility and the propensity of cautious data centre operators to delay rollouts means that it is often a challenge for mid to large-sized colocation customers to find a suitable space, said the strategy manager.

“Data centres don’t grow on trees; it takes years to build them. If [customers] have a sudden need for six megawatts of capacity, where do they get that from?” asked the strategy manager. “For most markets, I think the hesitance to build their own colocation facility is due to fears that it’s not going to [sell]. A lot of times, there’s always a pent-up demand or compressed demand for colocation.”

### *Demand from enterprise data centres*

In addition, there will always be a demand from certain segment of customers for the reliability and service guarantees that only a data centre operator can provide, noted Lim. “For professional services, the enterprises will always go to the specialized data centre providers for their resilience,” he said.

Importantly, enterprises are increasingly arriving at the conclusion that their on-premises data centres are not cost effective to operate, and more are looking to colocation for the inherent resilience and cost efficiency that a purpose-built

data centre can offer. This migration of enterprise data centres will only add pressure on existing colocation capacity.

“Financial institutions that have built on-premises data centres in their own facilities 10 to 15 years ago are now putting it into a colocation facility, and handing the space back to the landlord or using it for office space,” observed Carey, as he shared that the rental for a prime commercial location used as a data centre costs about a million dollars a year.

### *Cloud providers need space, too*

For all the talk about the cloud and colocation as separate entities, the incontrovertible fact is that both resides within physical data centres. However, licensing and regulatory hurdles mean that few cloud providers jump straight into building their data centres from the get-go. Utilization is another consideration, as a large facility is typically needed to achieve the required economies of scale for cloud providers.

The result is that cloud providers opt for colocation in the Asia Pacific due to the limited economy of scale involved, said the strategy manager. “A lot of times, when they do the maths, it doesn’t make sense, and [cloud providers] will go and rent out from existing colocation providers,” he said. “All the compute that is residing in colocation right now, even if they move to the cloud, doesn’t disappear into some black hole.”

## Differentiating from the rest

### *Building a marketplace*

So how can Telin Singapore differentiate itself from the competition? One area that was brought up more than once would be the value of establishing a strong cloud ecosystem of Software-as-a-Service (SaaS) or infrastructure-as-a-service (IaaS) services that customers can easily tap into.

Yuk observed that customers are no longer interested in details pertaining to the infrastructure, but assumes that resilience and scalability are a given for a good data centre. What customer are more interested in are ready-made solutions that they can quickly access and leverage to meet their specific business requirements. This necessitates the creation of a marketplace ecosystem to deliver the true value of the cloud.

“If I can have a marketplace where I have multiple services and products that I can connect directly with minimum latency so SMEs and enterprises can gain convenient access to them, that would be great,” summed up Terence Lim.

### *Better connectivity options*

Lee elaborated at length about the cost of bandwidth in Singapore, noting that competitive consumer broadband speeds have outpaced business options due to the high cost of IP transit. He mooted the idea of an Internet Exchange where customers of Telin Singapore can access



ample bandwidth at a competitive rate, allowing the company to dispel bandwidth worries.

Lim suggested that Telin Singapore may want to consider taking the first step to peer with other organizations. He noted that low latency connectivity to top Internet Exchanges in Singapore is a key reason why service providers host at a competing data centre. “Currently, there are not that many differentiating factors between Telin and other data centres,” he said.

Closely related to the topic of connectivity is the ability to weather crippling DDoS, or distributed denial of service attacks, which are network-based cyberattacks where attackers flood the target network with high volumes of traffic. According to Lim, many of the smaller providers in Singapore simply do not have the capacity to defend against significant DDoS attacks.

“DDoS attacks of 10Gbps or more are not uncommon anymore, [but] most service providers in Singapore can only effectively fight 10Gbps,” said Lee. On his part, the strategy manager agreed with the various challenges discussed, though he pointed out that the connectivity situation in Singapore is better than most Asian countries, especially from a domestic perspective.

### *Option for rapid rollouts*

The ability to offer rapid provisioning is another important factor that can help drive the take-up rate of colocation. Both

Lee and Lim noted that they already adopt a strategy where they pre-purchase equipment and prepare them for rapid deployment for most customer requirements. This typically allows them to on-board new customers the same day, or within 24 hours. “We buy in bulk, and offer our customers same-day provisioning,” said Lee.

### *Accreditation*

Finally, the TSAC members agreed that accreditations play an important role. Terence Lim noted that accreditation allows organizations to put one more tick against the checkbox, as he shared how the lack of relevant ISO accreditations in the past had prevented his company from bidding for certain tenders.

It should not be a scattershot approach though, as Terence Lim highlighted the need to focus on the right accreditations based on the business segments and target customers. On this front, he highlighted how the Monetary Authority of Singapore’s (MAS) Technology Risk Management Guidelines are geared towards the FSI firms.

## Conclusion

The TSAC offered insights on what is important to customers, and validated various initiatives that Telin has already taken to date, or is in the process of rolling out.

For instance, the ongoing Uptime Institute Tier Certification of Constructed Facility for Telin-3 will help to differentiate Telin against other providers. In addition, the establishment of a marketplace and cloud-centric ecosystem is one way to deliver the true value of the cloud, while better connectivity will put customers in a better position to protect themselves against modern DDoS attacks, and deliver superior network connectivity.

Participants believe that the role of colocation will continue to be relevant, which provides competitive edge such as the option for rapid rollouts – now more important than ever before. Telin Singapore will evaluate the recommendations and incorporate them as appropriate. A second meeting will be held in the first half of 2017.

## About Telin Singapore

Telin Singapore, a subsidiary of PT Telkom Group, is the data centre provider of choice through best-in-class, integrated solutions. Telin Singapore currently manages flexible, modular and scalable data centre facilities in Singapore that are enhanced by proprietary-owned, seamless submarine cables connectivity from Indonesia and Singapore to the rest of the world. Telin Singapore's Tier III & Tier IV certified data centre facilities embrace the company's commitment to deliver world-class ICT solutions that are scalable and flexible to fit any customer's needs.

For more information, please visit [www.telin.sg](http://www.telin.sg).

