



Digital
transformation

7 inspiring customer case studies

▶ Fintech / Health care / Insurance / Logistics / Waste management

Introduction

As Asia's leading communications technology group, Singtel has been helping businesses to build a foundation for successful digital transformation. The following case studies illustrate how we have been working with enterprises across the region and supporting their digitalisation efforts through our comprehensive portfolio of services ranging from next-generation communications infrastructure to data hosting cloud, analytics, cybersecurity and workforce mobility solutions.

Taking a “big picture” approach to securing a crypto exchange

The challenge

As the startup’s web traffic grew, attracting more than 12 million users each month, malicious traffic also increased, sapping network resources and disrupting legitimate traffic. One malicious actor managed to briefly cut off site access, affecting the startup’s customers.

Any disruption will cause the startup to lose significant revenue. And because its website is the face of the organisation, a breach also deeply threatens consumer trust. At the same time, the regulators overseeing the company were demanding better risk management.

Like most fledgling firms, the startup had limited resources and no dedicated information security officer.

However, with these constant threats and regulatory pressure looming, it had to respond. It reached out to third-party managed security service providers who could help the company to respond nimbly to threats.

Amongst these, Trustwave, a Singtel company, stood out with its comprehensive end-to-end protection capabilities and its ability to tailor solutions to the growing startup.

Solution

Recognising the fact that attacks will grow as the company rapidly scales, Trustwave suggested installing a web application firewall to block malicious activity before it could reach the server.

Trustwave’s Incident Response team, meanwhile, can be deployed instantly to help the company manage any security breaches, determine the extent and restore business operations.

Results

Over a period of four months, the startup received more than 16 million counts of malicious traffic – half of its overall network traffic. Trustwave’s managed security services blocked every single attack, said the firm’s CEO.

1. Fintech Cryptocurrency startup

Company

Cryptocurrency startup

Industry

Financial technology

Business Challenges

- Growth in malicious traffic
- Downtime due to cyber attacks
- Potential loss in customer trust due to cyber breaches

Singtel Solution

- Trustwave managed security services

Business Value

- Big picture approach to security
- Access to leading security capabilities without having to build a dedicated security team
- Blocked all malicious traffic (more than 16 million counts over four months)



To build an inhouse team with that level of protection would require at least \$200,000 in additional salaries. And it takes time to set up a team. With the Trustwave solution, we can release both our CTO and CIO to focus on developing our business in other areas without worrying about security.

CEO, cryptocurrency startup

Health and beauty retailer lays the foundation for improved customer satisfaction

The challenge

The retailer's previous IT infrastructure had been bogged down by unnecessary and inefficient routing and lack of visibility which resulted in connectivity issues. To address these problems, the company decided to deploy Singtel's Meg@POP IP VPN platform and Network Functions Virtualisation (NFV).

Solution

Based on multi-protocol label switching technology, Meg@POP IP VPN provided the retailer with a private, secure platform that enabled it to manage its network environment more efficiently and easily.

The company also made use of Singtel's NFV to replace its physical router and firewall with a cloud-based platform which could be deployed in days, rather than the usual four to six weeks. This gave the company a network which could be scaled easily and quickly when required.

Equipped with these capabilities, the company was able to migrate to the new infrastructure in less than two hours.

Results

All of the retailer's stores in Singapore are now on Meg@POP and NFV, and it has real-time visibility and centralised management of the entire network through the platform's online portal.

With the new infrastructure in place, the company also experiences less downtime and overall productivity has increased. This enables the retailer to push forward with Project RACE and set the stage for future digital transformation. The reliable, available, high-performing, and efficient network enables the company to implement new initiatives easily to drive business growth.

"The Singtel solutions helped us future-proof our business, and have enabled us to create a scalable network through which we can support market growth of new outlets and customers," said the company's IT Director Abigail Tan. "They have set the IT fundamentals for us and are a critical enabler in our digital transformation journey."

2. Healthcare

A multinational health and beauty retailer with over 100 stores across Singapore

Company

A multinational health and beauty retailer with over 100 stores across Singapore

Industry

Pharmacy, health care, beauty care

Business Challenges

- Replace legacy IT system which caused connectivity issues
- Implement reliable and secure connectivity
- Create the IT fundamentals to accelerate digital transformation

Singtel Solution

- Meg@POP IP VPN
- Network Functions Virtualisation (NFV)

Business Value

- Reliable, scalable and high-performing connectivity that is always available for critical operations
- An IT system that allows the retailer to develop projects to increase customer satisfaction
- The right IT fundamentals to drive digital transformation



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Abigail Tan, IT Director

Inculcating best practices for cyber crisis management in healthcare

The challenge

For a hospital that conducts R&D, a cyberattack could mean stolen research data of significant commercial value. It could also mean stolen patient data. Attackers could even disable hospital systems and cut off access to databases, halting operations and jeopardising patient welfare.

At the same time, compromised systems must be restored. But simply re-engaging the systems would not resolve the threat until the source of attack is pinpointed and eradicated.

To address these risks, the hospital engaged Trustwave, a Singtel company, to help the management team understand the cybersecurity landscape, identify the tools at their disposal, and pinpoint ways to move forward.

Solution

Trustwave designed a custom tabletop drill involving a fictional breach of the hospital's digital systems. As events escalated, the hospital's management team put their heads together to consider ramifications at each stage of the attack, supplemented by learnings from recent case studies on similar breaches.

Results

Working through the drill, the management team concluded that proactive defence against cyberattacks involves, first and foremost, inculcating a company-wide security-conscious culture.

The exercise also highlighted the importance of incident response and escalation procedures in the event of a cyberattack, including formal processes for verifying threats, identifying the quantum of damage, and limiting the risk of lateral cyberattacks.

The management team also explored the implications for the hospital's key stakeholders. Individual departments such as IT, Operations, Finance, HR and Corporate Communications had important considerations to contribute.

By bringing the hospital's management team together, Trustwave demonstrated how proactive cyber crisis management requires the involvement of all hospital departments – not just IT.

The exercise gave the senior executives a clearer understanding of the elements of a robust cyber crisis response and management plan, enabling the hospital to further improve its standard of care.

3. Healthcare A newly-established Hong Kong hospital

Company

A newly-established Hong Kong hospital

Industry

Healthcare

Business Challenges

- Cybersecurity gaps
- Potential loss of research and patient data
- Potential disruption in operations in the event of a cyberattack

Singtel Solution

- Trustwave managed security services

Business Value

- Formulated strategies for proactive risk management
- Heightened awareness of incident response and escalation procedures
- Underscored the importance of stakeholder participation and involvement

Driving innovation in life insurance with robust and reliable connectivity

The challenge

Singapore Life was looking to expand its product for selling term life insurance into a more complex model involving direct sales journeys, indirect sales journeys through advisors, a customer portal, and an advisor portal.

In order to do this, it needed a robust, stable and reliable network to provide its developers with uninterrupted access to the online operating environment, connect the company's multiple cloud environments and support a portal for customers to view policy documents and for advisors to get instant access to their clients' application status.

"If we get cut off from our connection, we're cut off from our production system, so connectivity has to be agile. It has got to have high bandwidth, low latency, and be absolutely reliable," said James Shanahan, Chief Operating Officer, Singapore Life.

Solution

Singapore Life's IT partner Acuutech conducted trials with different private network providers and eventually found the solution it was looking for in Singtel's Meg@POP IP VPN and Cloud Connect.

By leveraging Meg@POP IP VPN, a secure private network, Cloud Connect bypasses the Internet to offer a secure connection to public clouds.

Results

With the reliable, sturdy, and fast network platform provided by Singtel, Singapore Life's developers are able to create a new and high-quality experience for customers purchasing life insurance.

The network is also very stable, eliminating constant dropouts which would have a negative impact on operational efficiency.

Beyond this, Singapore Life is looking to leverage the Singtel platform to expand into the rest of Southeast Asia.

"We can keep the central, single, and efficient platform but still have the flexibility to configure to the local market as much as we want," said Mr Shanahan. "I want Singtel to take us over to other regional countries. And I want Acuutech building and operating the same way there, as an extension of the ecosystem we have here," he added.

Company

Singapore Life

Industry

Life insurance

Business Challenges

- Need a reliable network for accessing multiple cloud environment to fulfill e-commerce needs that runs 24/7
- Require a reliable connection for developers to access online operating environment as all insurance services are fully cloud operated

Singtel Solution

- Singtel Meg@POP IP VPN
- Singtel Cloud Connect (IP VPN)

Business Value

- Fast, reliable and secure cloud connectivity to multiple clouds that is always available for critical operations.
- A platform for developers to create new services and high-quality experience for life insurance
- An efficient infrastructure to easily and cost-effectively scale the into region



If we get cut off from our connection, we're cut off from our production system, so connectivity has to be agile. It has got to have high bandwidth, low latency, and be absolutely reliable.

James Shanahan, Chief Operating Officer, Singapore Life

Transforming retail logistics with secure and agile connectivity

5. Logistics blu

The challenge

In rolling out its services, one of the critical factors for blu was to have a stable, robust and secure network which would give it better control over its multi-site operational environment.

Scalability and connectivity to the cloud were other important considerations. For example, blu needed the agility to roll out new parcel terminals quickly, and also the ability to connect securely to the public cloud to run its automated systems.

It managed to find all these capabilities in a single service provider – Singtel.

Solution

Singtel's Meg@POP IP VPN provided blu with a private network solution that bypasses the Internet, ensuring the stable and secure connection to multiple sites.

To ensure scalability and flexibility, blu implemented Singtel's Network Functions Virtualisation (NFV) which enables its developers to rapidly add and configure network functions for multiple locations via a single portal.

For blu to fully reap the benefits of automation across its multiple sites, it also needed these capabilities to be delivered securely via the cloud. This is enabled by Singtel's Cloud Connect, which provides blu with a direct and secure connection to Amazon Web Services (AWS).

Results

With the Singtel combination of Meg@POP, NFV and Cloud Connect, the company went from zero to more than 100 bluPort locations in just two and a half years. The company is also able to continually develop new products to enhance the consumer experience.

Said blu's founder Prashant Dadlani, "We have a stable network infrastructure and the bandwidth to support real-time visibility. The possibilities are endless."

Company
blu

Industry
Logistics

Business Challenges

- Connectivity via the public Internet is less secure, unstable and affects customer experience
- Network deployment and optimisation across multiple sites is labour-intensive
- Low scalability and efficiency with on-premise infrastructure

Singtel Solution

- Meg@POP IP VPN
- Network Functions Virtualisation (NFV)
- Cloud Connect

Business Value

- A secure and stable private network to support the growing number of bluPort parcel terminals
- Simplified network deployment and optimised traffic routing for multiple locations
- Leverage the benefits of automation by enabling applications on cloud infrastructure

Future Plans

- Development of a mobile app that allows customers and retailers to interact with one another over a reliable, well-connected network
- Incorporating payment options at bluPort locations supported by secure private network



We have a stable network infrastructure and the bandwidth to support real-time visibility. The possibilities are endless.

Mr Prashant Dadlani, Founder, blu

Leveraging managed hybrid cloud for IT renewal and transformation in retail

Dairy Farm Singapore is a pioneering retail group in Singapore with more than 630 stores under brands such as Cold Storage, Giant, 7-Eleven and Guardian.

The group's operations are supported by a complex IT infrastructure that handles inventory, point-of-sale systems, various online portals, and enterprise applications for merchandising, finance and human resources.

However, some of its IT systems were more than 10 years old, and many servers and network equipment were near end-of-support.

The challenge

The aging IT systems were flagged out as a high risk to business continuity as they were prone to crashing, which could have an impact on the customer's shopping experience.

This was a major cause for concern. "We are in the consumer business; meeting customers' needs and providing them with best in class shopping experience is of utmost importance," said Mr Eu Kwang Chin, IT Director, Dairy Farm Singapore.

There was thus a pressing need to refresh the organisation's IT infrastructure, especially as the group was planning to embark on a multi-year IT transformation.

Solution

Singtel proposed a Managed Hybrid Cloud solution which allowed Dairy Farm's different applications to run effectively on the most suitable platform – public cloud, private cloud or co-location. It also worked out a low-risk migration plan after carrying out a detailed site survey at Dairy Farm's data centre and conducted a thorough dry run before the actual migration. As a result, there was no interruption to Dairy Farm's day-to-day business during the migration.

Results

Singtel's Managed Hybrid Cloud provides Dairy Farm with a robust IT infrastructure with greatly improved resilience and availability and a lower cost of infrastructure replacement. The five-year total cost of ownership for the hybrid cloud solution was about 20% lower than a full server replacement.

It also provides Dairy Farm with an agile platform for IT transformation and innovation. Instead of the typical six to eight weeks required to get hardware ready for a new application, the hybrid cloud allows the resources to be created within an hour. This gives the retail group a much more flexible infrastructure for testing new applications and ideas.

6. Retail Dairy Farm Singapore

Company

Dairy Farm Singapore

Industry

Retail

Business Challenges

- Legacy IT infrastructure running multiple applications posed risks to business continuity
- Any IT outage directly affected customer's shopping experience
- High cost of replacing servers and no guarantee all applications could run on new operating systems
- Migration to the new IT structure in the quickest time frame with minimal downtime

Singtel Solution

- Singtel Managed Hybrid Cloud

Business Value

- A robust IT infrastructure that can provide a continuous strong customer shopping experience
- A reduced lead time when it comes to offering new initiatives or services
- Cost effective solution for all IT maintenance

Future Plans

- Business innovation supported by an infrastructure allowing for testing of new systems



We are in the consumer business; meeting customers' needs and providing them with best in class shopping experience is of utmost importance.

**Mr Eu Kwang Chin, IT Director,
Dairy Farm Singapore**

Introducing innovation in waste management with a reliable and affordable IoT network

7. Waste management Flexi Systems

Flexi Systems was established in 2005 to provide wastewater treatment and waste management solutions. One of the things that the company was looking for was an innovative way to manage waste collection and the cleaning of litter bins.

The challenge

The manual checking of bins was highly inefficient. A typical garbage collection route would cover bins that were empty, half full or overflowing.

To address this, Flexi Systems developed BrainyBins, a smart bin management system that uses sensors to monitor waste levels.

Critical to the effectiveness of BrainyBins is a stable and reliable network with coverage across Singapore and islands such as Sentosa and Pulau Ubin, to ensure that data can flow smoothly from the bin sensors to the control centre.

Solution

Flexi Systems worked with Singtel to deploy a Narrowband IoT (NB-IoT) network for BrainyBins. The 3GPP low-power wide area (LPWA) network was the first commercial network dedicated to IoT solutions and was perfect for sensors sending small amounts of data. It was also highly affordable, and could be customised and scaled as required.

The network is managed in real-time via a SIM management platform that provides visibility and control over the entire network.

Singtel went to great lengths to ensure that its solution met the company's requirements. "We appreciate the fact that Singtel ran many tests and trials. It's this sort of partnership that results in a successful product," said Owen Yeo, Business Development Manager, Flexi Systems.

After running a test in Singtel's IoT sandbox to check if BrainyBins' sensors were compatible with NB-IoT, the company ran a trial with about 15 bins deployed on an island off Singapore.

Results

The trial proved that the BrainyBins solution, powered by Singtel's NB-IoT network, was able to slash manpower and vehicle costs by 30 percent. Manpower was deployed only when data from the bin indicated that the waste had reached critical levels.

Working with Singtel also allows Flexi Systems to continually innovate with IoT. It allows the company to carry out effective monitoring offsite, and insights that were never possible before are now readily available at its fingertips.

Company

Flexi Systems

Industry

Wastewater treatment and waste management

Business Challenges

- Litter bins are remotely located and manual waste management methods are highly inefficient, adding to manpower and resource costs.
- Smart litter bin management solutions must be reliable and efficient in determining the level of waste in bins
- A stable network with extensive coverage is needed

Singtel Solution

- Singtel IoTConnect

Business Value

- Smart bins allow waste companies to manage their waste collection more effectively, saving a third of the manpower and vehicle costs.
- Singtel IoTConnect is the ideal connectivity solution for smart bins sensors as it meets the requirement of sending small data packets cost effectively
- With islandwide connectivity 24/7 and real-time management capabilities, the IoT network is an enabler to their development of smart products and services.



We appreciate the fact that Singtel ran many tests and trials. It's this sort of partnership that results in a successful product.

Owen Yeo,
Business Development Manager,
Flexi Systems

Enabling digital enterprises & smart cities with deep capabilities

Singtel is Asia's leading communications technology group, providing a portfolio of solutions and services to help enterprises embark on their digital journey.

- Presence in Asia, Australia, Africa, Europe, & USA.
- Network of 428 connectivity PoPs across 362 cities globally
- Largest multi-domestic mobile operator in the world – 710m+ mobile customers in 21 countries
- US\$12.5b operating revenue and 23,000+ employees



Enabling digitalisation with deep capabilities



Cyber security



Analytics /AI



Software Defined Networks /Cloud



Robotics and IoT



Digital capabilities

Our award-winning services



¹Gartner, "Magic Quadrant for Managed Security Services, Worldwide" by Toby Bussa, Kelly Kavanagh, Sid Deshpande, Pete Shoard, May 2, 2019.



Connectivity

- Asia's leading provider of international IPVPN, EVPN, IPLC, & Eline services.
- 70+ strategic partnerships with global & APAC operators
- Deep domestic integration in Australia, China, India, Japan, & Singapore.
- Extensive submarine cable network (spanning 415,000km) around the region, 25+ Tbps submarine cable.
- An ecosystem of 30+ local ISPs for domestic reach
- **Singtel Software Defined Networks** - a suite of intelligent, data-driven software-defined & cloud-centric network services.



Cybersecurity

- A global leader in managed security services
- Portfolio of managed security services, security testing, consulting, technology solutions, & cybersecurity education.
- Global network of federated Advanced Security Operations Centres – protecting organisations with a unique combination of 2,000+ cyber professionals, processes & technology.



Data hosting

- 10 cloud-enabled data centres in Asia Pacific and 50+ partner data centres in APAC, Europe & USA
- Portfolio of colocation (open racks, customised caged & private vaults), managed hosting & other ICT services.
- Remote hands service, business continuity & disaster recovery.



Hybrid cloud

- Portfolio of cloud advisory, migration & managed services.
- Largest pool of AWS-certified & accredited professionals in Singapore
- **Singtel Liquid Platform** - a next-generation automation & orchestration platform for multi-cloud operations

Contact us

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