



# Ensuring business continuity with comprehensive and cost-effective disaster recovery service.

Singtel Managed Disaster Recovery-as-a-Service is a comprehensive and cost-effective DR solution which ensures business continuity during unexpected server failures or planned downtime. It provides failover and failback from an enterprise's on-premise systems to Singtel Managed Virtual Private Cloud, or between two Singtel Managed Virtual Private Cloud sites. This eliminates the capital and operational overheads associated with maintaining an enterprise DR infrastructure and physical secondary site.

# Managed Disaster Recovery-as-a-Service

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## Enterprise Challenges

System failure can be very costly for the enterprise. According to an independent survey conducted by Information Technology Intelligence Consulting Research, the average cost of a single hour of downtime – as reported by 98 per cent of organisations - is US\$100,000.

Despite this, the vast majority of organisations are still behind the curve in data protection readiness. According to a report published in CIO Asia in 2016, 62 percent of Singapore businesses experienced unplanned systems downtime in the past 12 months, while 28 percent suffered data loss or unplanned systems disruption because of an external or internal security breach.

It is very important, therefore, that enterprises deploy a disaster recovery (DR) infrastructure and have a business continuity plan in place to resume mission-critical functions quickly in the event of such disruption.

However, planning, deploying and maintaining a DR infrastructure is not easy. It is capital-intensive as enterprises need to invest in proper equipment and networks to support DR objectives. It also requires highly-specialised IT skills.

## What is Managed Disaster Recovery-as-a-Service

Singtel's Managed Disaster Recovery-as-a-Service (DRaaS) is a comprehensive, cost-effective DR solution that enables enterprises to carry on with business as usual in the face of unexpected downtime due to natural disaster, malware, human error or any other cause of system failure.

Singtel Managed DRaaS is ideal for enterprises that:

- Require a separate environment for live data such as production workloads that are critical for daily operations and need to be protected from unpredictable outages.
- Require business continuity for mission-critical applications.
- Have to fulfil regulatory or legal requirements for business continuity (for example, the financial or healthcare sectors).
- Stand to incur high costs such as service level agreement (SLA) penalties and lost revenue in the event of downtime.

## Features

### Fast data transfer and recovery

- Fast data transfer and recovery with dedicated networks and the use of deduplication technology.

### Local hosting

- Ensures businesses are compliant with data residency and data sovereignty requirements.

### Simplified billing

- Minimal setup cost with predictable monthly bill.

### Flexibility

- Protects new and existing virtual machines (VMs) - including virtual storage and compute resources - across multiple sites.

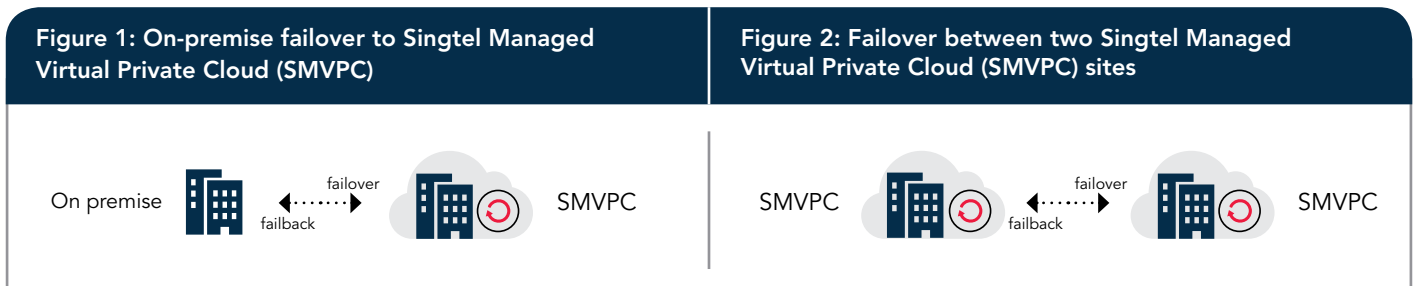
### Replicate, restore and recover

- Supports host-based and array-based data replication in asynchronous mode.
- Enable revert to an older snapshot or restore back an older version of the OS images.
- Supports recovery of virtual servers running on Windows and Linux.
- Easy user monitoring of replication and failover status.

## Deployment Models

Singtel Managed DRaaS provides a secure, real-time VM replication with failover and failback to ensure data is protected and highly available. It consists of two offerings that can operate independently or in conjunction with each other.

### DRaaS deployment model



## Benefits



### Scalability and flexibility

- On-demand virtual recovery based on pay-as-you-use model that runs on a reliable shared infrastructure.
- Flexibility of full DR activation or third-copy activation using a clone from the DR site.



### No-impact disaster recovery testing

- Enables DR testing during working hours with no shutdown in production or break in replication.
- Robust compliance audit reports to prove testing effectiveness.



### Reduces the burden of managing DR in-house

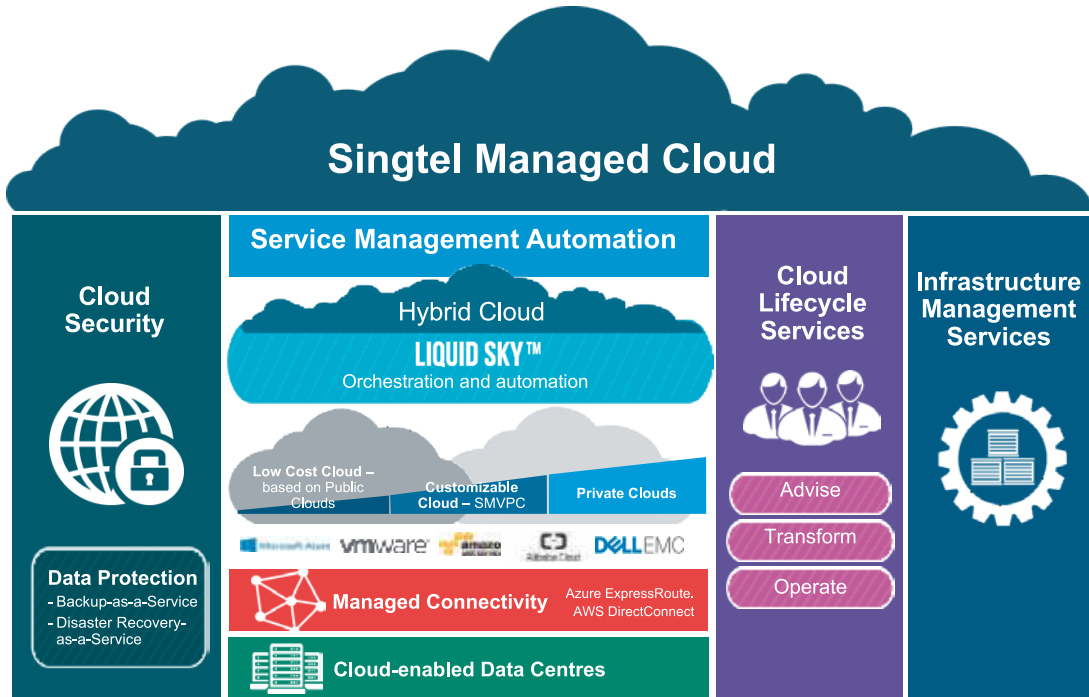
- Cloud-based model enables businesses to reduce capital expenditure on DR infrastructure.
- Businesses can minimise the operational costs and time involved in maintaining the DR infrastructure and conducting failover or failback and failover testing.



### Peace of mind

- The recovery time objective and recovery point objective are monitored to ensure predictable performance.
- Service level agreements (SLA) assure businesses of smooth business continuity in the event of a disaster or unplanned system downtime.

# Cloud Operating Model and Singtel Managed Cloud Portfolio



According to research firm IDC, there are five stages to cloud maturity - ad hoc, opportunistic, repeatable, managed and optimised. The Singtel Hybrid Cloud Operating Model (COM) helps enterprises to determine their current level of maturity and what their end stage should look like. It also identifies current gaps and opportunities for capability development, and provides a checklist of activities that enterprises need to accomplish in order to build those capabilities and achieve their target stage. These activities are focused around Governance, Information Assurance, Service Integration, Service Operations, Service Management and People Development.

Underpinning the COM is the Singtel Managed Cloud Portfolio which provides businesses with the tools, infrastructure platforms and expertise they need to succeed at each stage of cloud maturity. The portfolio comprises Managed Public Cloud, Managed Private Cloud, Managed Virtual Private Cloud, as well as a suite of Cloud Lifecycle Services and an innovative hybrid cloud management tool (Liquid Sky™) for service automation and orchestration.

We also have a full range of services encompassing security, data centres, network connectivity and managed services to help businesses in their cloud journey.

## Why Singtel



The only cloud service provider to offer a COM designed to drive enterprises towards cloud maturity. COM provides a framework to help enterprises build capabilities and achieve successful outcomes required for each stage of cloud maturity.



Highly skilled, certified cloud experts with multi-disciplinary experience in cloud solution architecture, consultation, project management and SysOps administration to support businesses in their cloud strategy planning, migration, operations and management.



The most complete selection of cloud platforms from public clouds to virtual private cloud and private cloud platforms, allowing you to choose the best fit for the different workloads that you have.



Backed by a full suite of market leading network connectivity, security and data centre offerings and managed services from Singtel.



Extensive experience in delivering secure managed services and deploying large-scale cloud projects including the Singapore government cloud.



Highly-resilient world-class data centres built to TIA# Tier 4 specifications, providing secure and trusted hosting to meet businesses' data sovereignty requirements.



A single point of contact for customers looking to grow their presence in Singapore and the region.

# About Singtel

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Singtel is Asia's leading communications and ICT solutions group, providing a portfolio of services from next-generation communication, technology services to infotainment to both consumers and businesses. For consumers, Singtel delivers a complete and integrated suite of services, including mobile, broadband and TV. For businesses, Singtel offers a complementary array of workforce mobility solutions, data hosting, cloud, network infrastructure, analytics and cyber-security capabilities. The Group has presence in Asia, Australia and Africa and reaches about 640 million mobile customers in 22 countries. Its infrastructure and technology services for businesses span 21 countries, with more than 428 direct points of presence in 360 cities.

## Awards

### Asia Communication Awards

Best Enterprise Service - Connectivity as a Service (2013)  
Best Cloud Service (2011 & 2012)  
Project of the Year - G-Cloud (2014)

### Cloud & DevOps Awards 2016

Best Cloud Computing Adoption Project (G-Cloud)

### Computerworld SG Readers' Choice Awards

Best Data Centre and Hosting Services Provider  
(2007 & 2009 - 2013)  
Best Managed Connectivity Services Provider  
(2006 - 2013)

### Computerworld Singapore Customer Care Award

Cloud Services (2012 - 2013)

### Frost & Sullivan Asia Pacific ICT Awards

Telecom Cloud Service Provider of the Year (2012, 2016)

### Frost & Sullivan Best Practices Award 2017

Singapore Managed Cloud Service Provider of the Year

### IDC MarketScape in Asia Pacific 2013

A Leader for Datacenter and Hosted Cloud Services



### NetworkWorld Asia Readers' Choice Product Excellence Awards (2013)

Managed Infrastructure Services  
Cloud Infrastructure Provider

### Telco Cloud Forum Awards 2016

Telco Cloud of the Year

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For more information  <http://cloud.singtel.com>  [cloud@singtel.com](mailto:cloud@singtel.com)

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