



# Protecting Security & Privacy on the Cloud

## Keeping on top of the Cloud

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# Agenda



- 1. Consumer clouds vs business clouds**
- 2. PDPO and the cloud**
- 3. Concerns for consumers**
- 4. Concerns for data users**



# Clouds

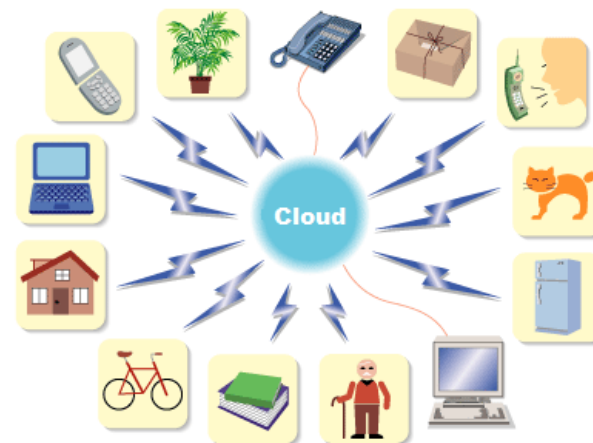




# From the end-user's perspective

## Cloud computing

- allows people to access services any time, on any device around the world, at *no or low costs*.







# From the cloud-supplier perspective

## Cloud computing

- **Uses highly optimised resources (manpower, space, cost, servers) to offer services**





# Consumer Clouds



**Directly engaged by end-users to store their own data**

- **Email services such as Outlook.com, Yahoo.com, Google.com**
- **Social networks such as Facebook**
- **Storage facilities such as iCloud**



# Personal Data (Privacy) Ordinance and consumer clouds

**PDPO regulates the collection and use of  
personal data by data users from data  
subjects**





# Characteristics of consumer clouds that are of concerns

1. **Terms for the majority of free services favour service providers**
2. **There is no free lunch**
3. **Ultimate victim of any data breach is consumers**







## Bottom lines



**For individuals:**

- 1. Assess risks before using cloud services**
- 2. Consider encrypting data before uploading**



## More detailed reference

For individuals:

- **Protecting Privacy – Using Computers and the Internet Wisely -**

[http://www.pcpd.org.hk/english/publications/files/computer\\_wisely\\_e.pdf](http://www.pcpd.org.hk/english/publications/files/computer_wisely_e.pdf)





# Business Clouds

**Used by data users (organisations) to conduct their own business (including the storage/processing of their customer data)**

- **Salesforce**
- **Amazon web services**
- **Google apps for business**
- **Office 365**





# Personal Data (Privacy) Ordinance and business clouds

**Data users take full responsibilities over the use and security of personal data collected, including the responsibility for the conducts of its service providers**





# Characteristics of business clouds that are of concerns

1. Rapid transborder data flow
2. Loose outsourcing arrangements
3. Standard services and contracts
4. Just a different form of outsourcing





# Rapid transborder data flow



- 1. Do cloud providers, cloud customers and therefore data subjects know where data is stored? Can cloud customers specify locations with comparable protection to store data (white list)?**
- 2. Do cloud customers and therefore data subjects know the implication of their data storing in different jurisdictions?**





# Loose outsourcing arrangement

**1. If cloud providers have sub-contracting arrangements, what standards would sub-contractors follow to protect cloud customers' personal data?**

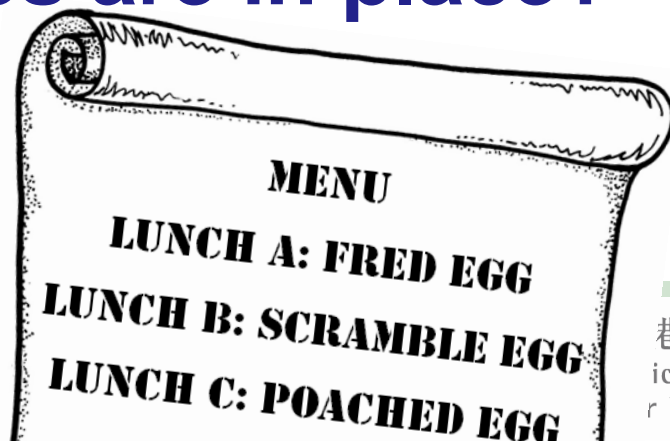
**2. Are these sub-contractors accountable to cloud customers? By contract or by law? With whom would their loyalties lie?**





# Standard services and contracts

1. If standard services do not meet the data protection requirements, can cloud provider customise?
2. If customisation is offered, how can cloud customers be sure that the extra measures are in place?





# Points to consider for outsourcing



1. Should not allow for unilateral change of service contract
2. How to accommodate data access requests and data correction requests
3. Limitation on use by contractor that does not match with original purposes
4. Proper exit plan, data erasure and data portability
5. Formal data breach notification arrangement
6. Formal notice by data users to data subjects on possible transferees
7. End-to-end encryption should be used where possible



## Bottom lines



**For data users:**

- 1. Data users are responsible for the protection of personal data entrusted to them;**
- 2. Outsourcing of data processing does not mean outsourcing of legal liability.**



## More detailed reference

For data users:

- **Information Leaflet for data users: Cloud Computing -**

[http://www.pcpd.org.hk/english/publications/files/cloud\\_computing\\_e.pdf](http://www.pcpd.org.hk/english/publications/files/cloud_computing_e.pdf)



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### *Information Leaflet*

#### Cloud Computing

##### Introduction

This information leaflet aims to advise organisations which are considering engaging cloud computing on the factors they should consider. It explains the relationship between the cloud computing business and the privacy of personal data.

SaaS – Cloud providers provide basic computing infrastructure, platform and applications (such as email systems, human resource and customer relationship management systems) to customers who will simply use the applications.



## More detailed reference

For data users:

- **Information Leaflet: Outsourcing the Processing of Personal Data to Data Processors**

■ [http://www.pcpd.org.hk/english/publications/files/dataprocessors\\_e.pdf](http://www.pcpd.org.hk/english/publications/files/dataprocessors_e.pdf)



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### *Information Leaflet*

#### **Outsourcing the Processing of Personal Data to Data Processors**



The image features a high-angle, aerial perspective of a vast, undulating blue surface that resembles a sea of clouds or a textured ocean. The surface is composed of numerous small, rounded, and interconnected mounds, creating a complex, organic pattern. In the upper center, a bright, circular light source, likely the sun, is partially obscured by a thin layer of clouds, casting a soft, diffused glow across the scene. The overall color palette is dominated by various shades of blue, from deep cerulean in the foreground to lighter, hazy blues near the horizon and around the light source. The text "Thank You" is centered horizontally and vertically, rendered in a bold, dark blue, sans-serif font.

**Thank You**