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Data Center Development Trend in Hong Kong

3-12-2014



Overall trend of HK Data Center Development



HK as a prime location for data center development



Technological trend and the demand for data center



HK as a cross-border connector and e-commerce platform



Top industrial segments for data center usage in HK



Key takeaways

- **High growth in HK Data Center Market**

HK data center market is forecasted to grow at a compounded annual growth rate of 15.3%, reaching US\$802.6 million in 2019

(Source: Hong Kong To Remain as a Key Data Center Market in Asia Pacific, Frost & Sullivan, 2013)

- **High growth in APAC Third-party data center services**

Third-party data center services in APAC are expected to expand with 22% compound annual growth rate for the next five years, in which HK is one of the four most popular locations

(Source: Data Center Services On Fire In Emerging Asia Pacific, Forrester, 2011)

- **High growth in enterprise data volume**

The volume of enterprise data is predicted to increase by 650% over the next five years

(Source: Gartner, 2012)

- **High boost of HK Data Center Development**

Cluster of data centers in Tseung Kwan O with more than 10 openings in the forthcoming years

(Source: HKSAR Govt, 2014)

So what make HK an attractive location for data center development?

Competitive edges of Hong Kong

Ranked 6th overall in global

Leading position in APAC

Safest location in Asia for setting up data centers

Increasing demand for data center usage

Comparative advantages in 'International bandwidth' and 'Ease of doing business'

2013 Rank	Index score 1 st = 100	Country	Energy Cost	INT'L Bandwidth	Ease of doing business
1	100.00	US	3	1	3
2	89.53	UK	21	2	5
3	82.29	SWEDEN	15	10	10
4	81.29	GERMANY	19	4	15
5	81.16	CANADA	4	11	13
6	79.63	HK	27	3	2
7	79.47	ICELAND	8	29	11

Source: Data Center Risk Index 2013, C&W, May'13

Advantages for HK to be as a Data Center Hub

Governmental & Legal

- Favorable land policies for ICT development
- Example: Conversion of industrial buildings for data centers
- Common law legal system

Commercial & Solutions

- Free trade & free market
- Abundant supply of IT talents
- Open to foreign investment
- Stable electricity supply
- Mature data center solutions

H.K.

Geographical

- Low risk to natural disasters
- Proximity to Mainland China facilitates cross-boarder data flows
- Regional hub in APAC

Infrastructural

- Robust telecommunications with global connectivity
- Power supply reliability at 99.999%

Effective data protection system

- The Personal Data (Privacy) Ordinance (PDPO) ensures data protection and safeguards the free flow of personal data to Hong Kong from countries that have already implemented data protection laws without restrictions
- Free flow of information means less government interference and content censorship, which helps to maintain the completeness of business data
- The Electronic Transactions Ordinance provides a clear legal framework for the conduct of secure e-business, in which e-business is one of the major applications of data center operations

(Source: Office of the Government Chief Information Officer)



Features:

INTERCONNECTION
between service providers and end users

AS AN ENABLER
Data center as a tool for business expansion to China and overseas with one-stop-solutions:

- Cross-border solutions
- Data Center services
- Cloud services
- Application services

Home for end users, cloud service providers and IT service hubs

Support multiple cloud

- Public cloud
- Private cloud
- Hybrid cloud

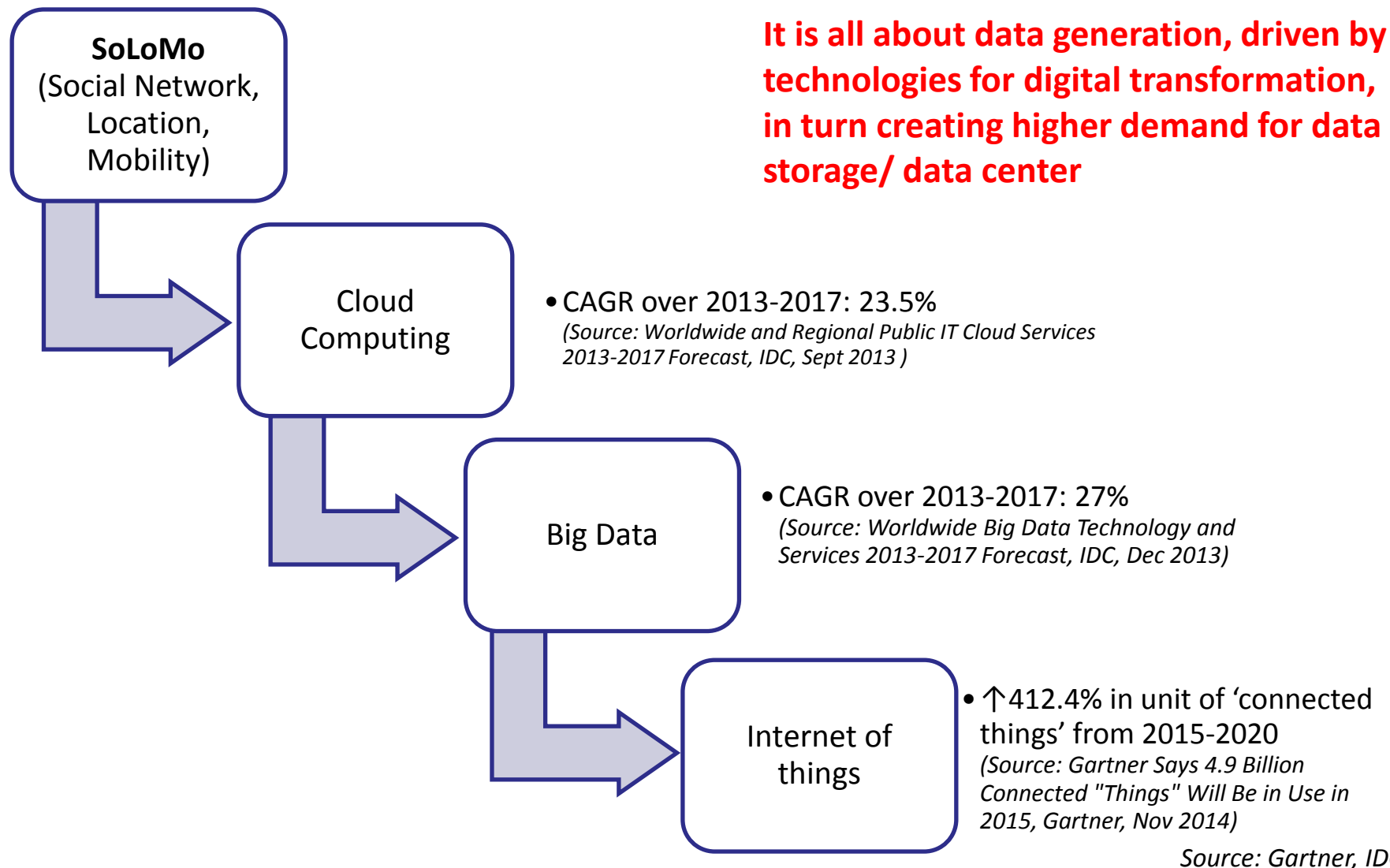
Data Center as an enabler

- Cross connection
- Connect customers with an ideal data center environment

Connected multiple carrier

- Telecom carriers
- Network service providers

Digital Transformation – as key driver for data center growth



It is all about data generation, driven by technologies for digital transformation, in turn creating higher demand for data storage/ data center

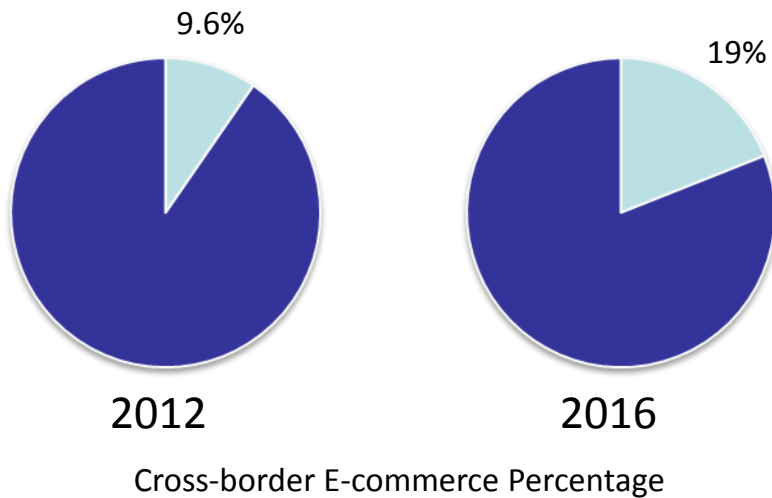
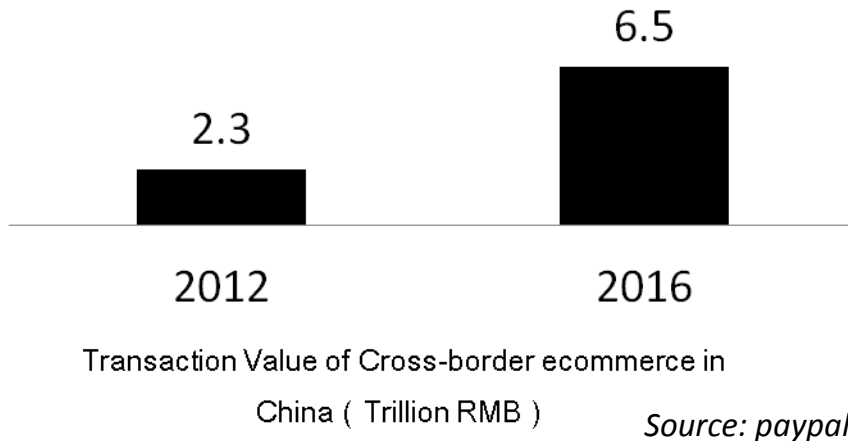
Cross-border Data Center Infrastructure & Inter-connectivity



Multiple Data Centers in Different Locations
Multiple Local & Remote Disaster Recovery Sites
Cross-border & Inner China Dedicated & VPN Connection with Resilience

World ↔ Hong Kong ↔ China

- Hong Kong as a gateway connecting overseas and China
 - ❖ In-flow (Overseas → China)
 - ❖ Out-flow (China → Overseas)
- Data center as an enabler for business in-and-out in China



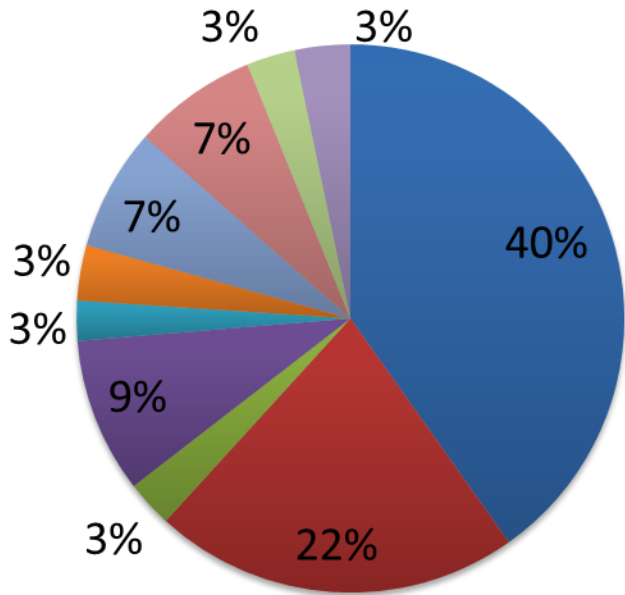
2014 Example of e-commerce in PRC

- Total GMV settled through Alipay was RMB 57.1B
- Total mobile GMV settled through Alipay was approximately RMB 24.3B, 42.6% of total GMV

Source: Nasdaq

Data Center Growth –

User spending by industry (Hong Kong Market)



Source: Gartner (July 2014)

2015: Data Center End User Spending Figures (HK)

- Total market size: **US\$764M** (↑2.69% ; ↑US\$20M)

- Banking & FSI (40%)
- Communications (22%)
- Government (9%)
- Transportation (7%)
- Healthcare provider (3%)
- Manufacturing (3%)
- Utilities(3%)
- Education (3%)
- Wholesale (3%)

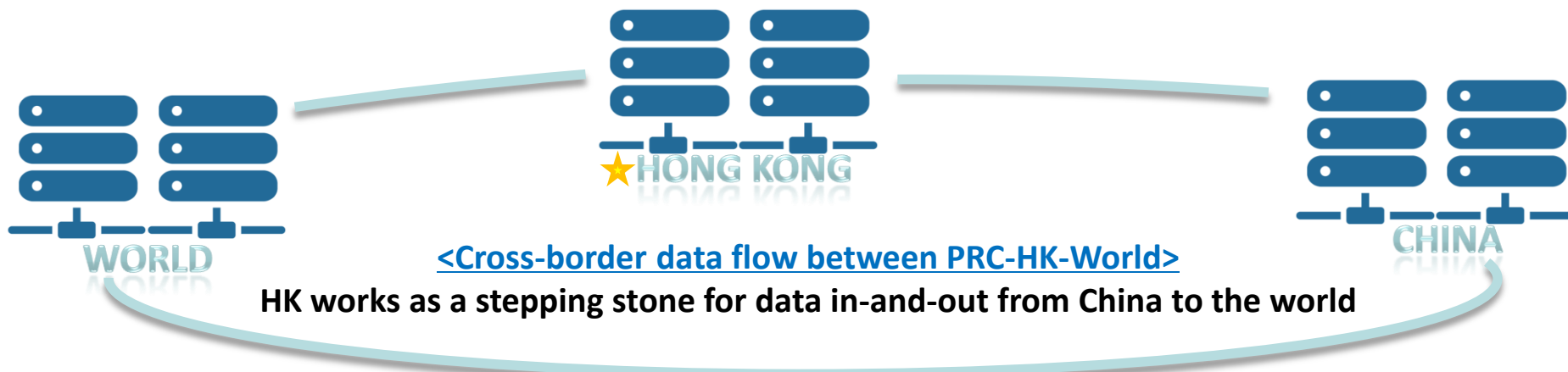
Rank	Segments	Data Center spending	Growth rate
1 st	BFSI	US\$307M	↑3.76%
2 nd	CMT	US\$165M	↑2.48%
3 rd	Government	US\$70M	↑2.94%
4 th	Travel & transportation	US\$56M	↑3.70%
5 th	Retail	US\$55M	↑0.00%

Trend for BFSI industry

- Increasing use of online platform by retail banks
- High number of transactions is shifting from branches to online banking
- Online Banking investment will get high level of attention
 - 6.4% growth in 2014, reaching US\$10 billion
- Online banking investment in mobile
 - 6.8% growth rate in 2014, reaching US\$3.9 billion

(Source: Retail banking IT spending to hit US\$152.5bn by 2018 in reaction to consumer strength, Ovum, March 2014)

Online banking and mobile banking creates a strong demand for Data center



<Cross-border data flow between PRC-HK-World>

HK works as a stepping stone for data in-and-out from China to the world

Top 5 Export Destination of Greater China



Cross-border ecommerce participants (2013)



76,000,000

Top 5 countries' demand to China (2013)



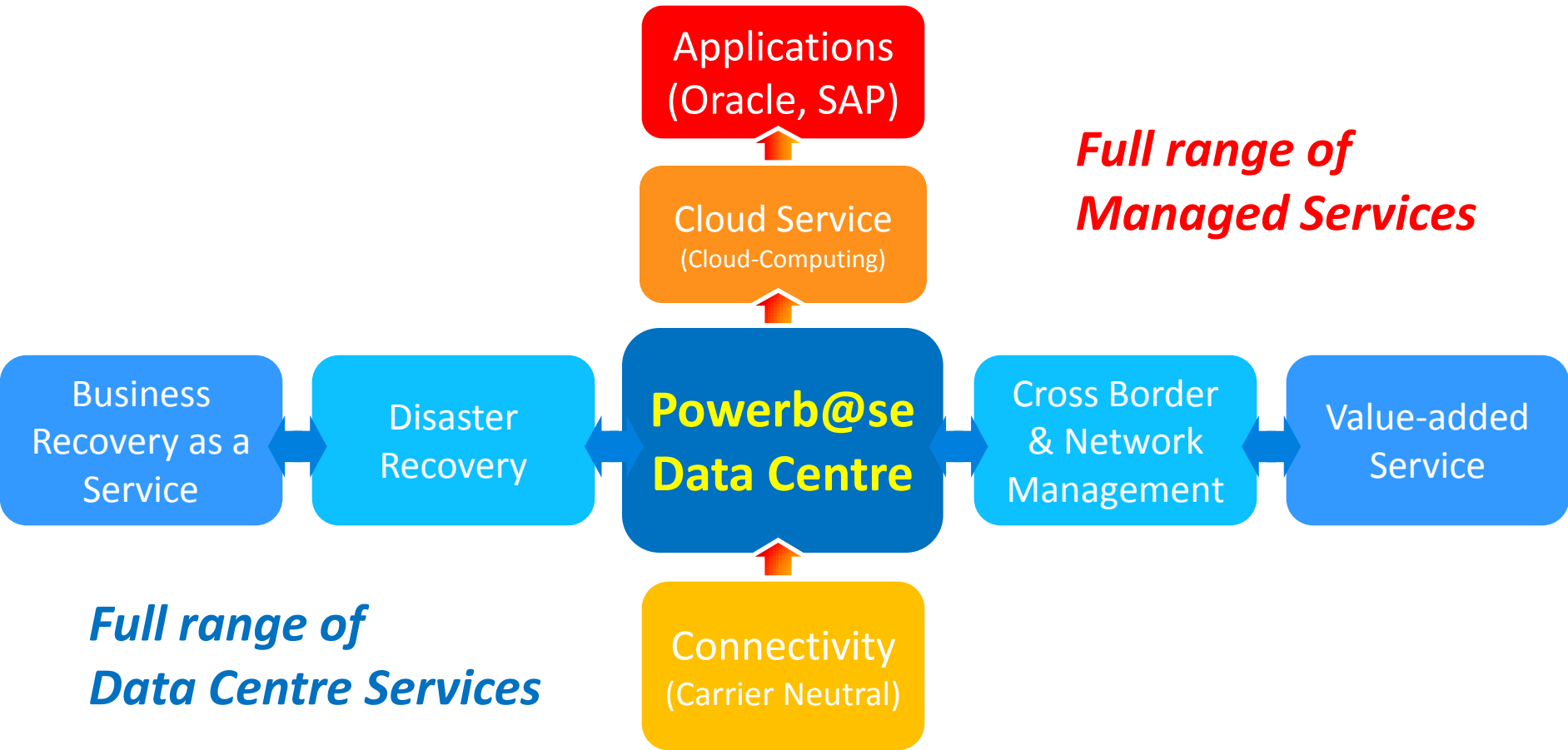
11billion USD



Double in 5 years

Source: PayPal

Comprehensive service offerings with full IT solution portfolio



#1

Continuous growth for data center development and competitive edges in Hong Kong

#2

Digital transformation driving for data center growth

#3

E-commerce as a major driver for data center growth

Thanks