



The Public Policy Agenda for Cloud Computing in Asia

New environment New opportunities New responsibilities

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New Environment

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Where we are today

- Cloud computing has come a long way
- Use is high but awareness is low
- US Survey:
 - 76% never heard of cloud computing
 - 84% use some sort of web mail
 - 57% use social media sites
 - 33% store photos online
- But, 58% of consumers and 86% of business are excited by cloud technology
- Data is the new currency of the digital economy
- How to protect and secure as well as drive adoption



What's different?

- New environment for data:
 - Social
 - Regulatory
 - Economic
 - Geo-political
- We have digital issues v analogue policy
- Information flows non-linear...more 'atomic'
- Policy makers think local despite global realities
- What does 'local' mean today?
 - Where is the consumer/customer?
 - Where is the data?
 - Who owns it?
 - Who can get access?



Governments need to balance opportunity and responsibility

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Policy Issues

- Some of the core technology issues include:
 - Infrastructure and access
 - Security and cybercrime
 - Privacy and data governance
 - Intellectual property protection
 - Accessibility
 - Free expression
- But social and economic issues include:
 - Healthcare
 - Education
 - Public Safety
 - Banking & Finance



**We need coordinated action about
how data will move to the cloud,
in the cloud and between the clouds**

Policy Interoperability

- Internet has enjoyed 'light touch' regulation
- Data is becoming 'stateless':
 - Cross platforms
 - Cross providers
 - Cross borders
- Increasing 'control' over data means more clarity is needed:
 - Developers need certainty to build globally relevant applications
 - Customers needs confidence that their data is protected
 - Service providers need clarity to build the platform and infrastructure for the cloud
- Public policy needs to be cloud ready and future proof
- How legal and regulators frameworks 'interoperate' will be critical

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The opportunity for Asia

- The 'Asia Century' compels a new approach
- History of economic integration is strong:
 - APEC
 - ASEAN
 - East Asia Summit
 - Trans Pacific Partnership
- The role of trade in enabling the cloud is increasingly important
- Human capital will fuel future of Asia
- Technology will underpin that knowledge economy
- The cloud is the next great 'leveler' and driver of opportunity



New Opportunities

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Getting Access to the Cloud

- Broadband is driving the cloud revolution
- Variety of delivery models (wired, wireless, hybrid)
- Driven by demands from users with different modes of access
 - Smartphones
 - Netbooks
 - e-readers
 - PCs
- Creating two-sided market:
 - Demand side for customers/consumers
 - Supply side for developers and service providers

The benefits of 'access'

- More than US\$45b in NBN investment across the region
- Booz & Company study:
 - 10% increase in broadband = 1.5% increase in labour productivity
 - Top tier broadband access = 2% higher GDP
- More than just stimulus, but true social & economic dividends
- Access goes beyond pipes and towers - need to consider access to the skills, education and potential transformation of government services
- Case study: Indonesia:
 - 240 million people, 17,000 islands
 - 13% of population with broadband access
 - 30% mobile phone penetration (3rd highest in the world)
 - Opportunity for services via the handset – banking, health, public safety

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Confidence in the Cloud

- With access comes responsibility
- Test for industry and government to work together
- Cloud is magnifying the risks for security
- Need to build 'Trustworthy computing experience'
- Technology not just a vector, but a solution
- Requires cooperation around 3 key elements:
 1. Strong deterrence and enforcement
 2. Legal frameworks that encourage information sharing
 3. Collaboration between law enforcement across jurisdictions
- Security will be a major challenge but shared responsibility with government, cloud service providers, customers and end-users

Privacy in the cloud

- Security is not just about deterring attacks, but creating trust
- Security and privacy are common companions
- Data can be collected for legitimate reasons but used for illegitimate purposes
- This drives risk-mitigating privacy laws that protect users on one hand and tie service providers on another
- Patchwork of privacy laws across the region driving inefficiencies for data flow and cloud services
- EU directive requires 'adequacy' to allow for data export and few countries in region meet this 'test' affecting the opportunity for Asia to be a data importer
- Need to foster greater harmonisation between privacy regimes – national, regional, global

Fostering a cloud ecosystem

- Cloud is a General Purpose Technology
 - Lowers the barriers to entry
 - Reduces costs (cap-ex to op-ex)
 - Allows flexibility for scale and deployment
- Cloud can incubate and inspire innovation rights across the economy, especially SME sector
- Recent Microsoft survey showed that 30% of all SMEs in Asia are using the cloud v global average of 21%
- Moreover, 52% saw benefits in cloud v global average of 46%
- Case study: Malaysia
 - SMEs represent 99% of private sector, 47% of GDP and 65% of workforce
 - But low ICT penetration
 - Opportunity to reduce costs, enhance efficiencies and access global supply chains
 - Malaysian Government's Strategic ICT roadmap investing in broadband and e-government programs such as education and healthcare

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New Responsibilities

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The new 'common market'

- 20th Century saw trade and economic integration around goods and services
- The 21st century should be about the new online community with legal and regulatory frameworks to drive inclusion
- Data is the new currency, but we lack an effective 'exchange mechanism'
- What is the FX for Data?
- Policy framework that enables this 'exchange' - respecting national sovereignty but enabling greater integration
- A '*common market for online information*' is needed to facilitate effective trade in digital information and services

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Working together

- Technology already benefitted by international harmonisation
- Mechanisms for integration already there:
 - Bi-lateral trade agreements
 - Regional economic and trade fora
 - Global trade treaties
- This can be done by sector: *healthcare, banking, transport & customs*
- By policy: *privacy, intellectual property*
- Whole-of-economy: *Singapore is a good example*

New Conversation

- Government need to think about new information ecosystem
- No better time for Asia to take leading role
- Public policy can provide the right 'sky' for the cloud
- All stakeholders need to play a part
- No better time for Asia to take leading role
- Public policy can provide the right 'sky' for the cloud
- All stakeholders need to play a part



Questions

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