



Demystifying Regulation in the Cloud

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12th Global Symposium for Regulators
"Why Regulate in a Networked Society?"
Colombo, Sri Lanka, 2-4 October 2012





Cloud computing

- **Cloud computing provides flexible, location-independent access to computing resources that are quickly and transparently allocated or released in response to demand.**
- **Services (especially infrastructure) are abstracted and typically virtualised, generally being allocated from a pool shared as a fungible resource with other customers.**
- **Charging is commonly on an access basis, often in proportion to the resources used.**



Cloud computing

- 'x as a service'
 - Software
 - Platform
 - Infrastructure
- Market actors
 - Service providers
 - Cloud infrastructure providers
 - Communication providers





Cloud opportunities

- Increased productivity
 - Responsiveness
 - Collaboration
 - Risk
- Reduce costs
 - Labour
 - Energy
 - Real estate
 - Licences



Cloud challenges

- Security & trust
 - Reliability
- Connectivity
 - Bandwidth
- Legacy
- Legal & regulatory uncertainty
 - Jurisdictional concerns



Cloud as a regulated activity

- Telecommunications law
 - Conveyance & call management
 - Public/private
 - VOIP
- Consumer protection
 - Advertising
 - Contract terms
 - Lock-in
 - Data portability



Cloud as a regulated activity

- Competition concerns
 - Standards
 - e.g. Amazon APIs
 - Tying
 - e.g. IBM
 - Public procurement
 - e.g. *Google v United States Interior Department* (2011)
 - 'Open access'



Cloud as a regulated activity

- Environmental concerns
 - Energy efficiency
- Jurisdictional concerns
 - Transfers
 - Oversight & enforcement
 - Mutual recognition



Cloud security

- Information ownership
 - Meta-data
 - Diplomatic sovereignty
- Data retention & deletion
- Standards
 - Certification & audit
 - Cloud Security Alliance
 - G-Cloud





Cloud security

- Law enforcement access
 - PATRIOT Act problem
 - Standards
 - e.g. ETSI Lawful Intercept
 - Contractual terms
 - Cybercrime Convention, art. 32(b)



Regulatory environment

- Regulation as facilitation
 - 'cloud readiness'
 - BSA study
 - ITU Study: 'Cloud Computing in Africa' (2012)
- Contract terms
 - Treatment of data
 - Specifications of service
 - Regulatory intervention?



Recommendations

- Broadband infrastructure
- Cloud standards
- Security
 - Breach notification
 - Standards, certification & audit
- Transparency
- Contract terms
 - Service level agreements
- Regulatory treatment
 - Co-operation