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## **Clouds: Open Concepts and Policy Issues**

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# What's Old is New

- Cloud computing is an amalgam of mostly existing technologies and services
- Some "use models", coupled with scope of availability and ease of use are part of what's new
- Complexity of data flows increased and more global
- The access and availability of computing, storage and applications enables individual users to be content creators, publishers and application developers.
- Further developments and roles are expanding in new and innovative ways.
- Are existing regulatory paradigms relevant or applicable?

# Envisioning the Open Cloud



# Open Internet Conceptual Underpinning

*The Internet is powered by a set of technologies that work together to enable highly-distributed global communication. It is developed in a uniquely open and transparent manner by multi-stakeholder participants in a way that is generative and encourages ongoing innovation. Further, it's ongoing operation is supported by a non-centralized set of network operators, both public and private.*

# VP Kroes Reminded Us:

- Standards are essential for openness and choice
  - Create level and competitive playing field
  - Internet's Common language ("digital esperanto" )
- Don't reinvent the wheel - find useful standards where they are
- Promoting business opportunity, sharing knowledge, externalizing/socializing publicly funded research,
- Benefits for citizens and society in making use of public data - local community crowd sourcing,
- Better informed data driven decision making
- Benefits for democracy - transparency, accessibility, accountability

"CLOUD" SHOULD BE CONSIDERED AS  
PART OF A TECHNOLOGICAL  
**CONTINUUM** IN WHICH DATA,  
PEOPLE, OBJECTS AND SERVICES ARE  
PLACED IN THE APPROPRIATE **CONTEXT**  
TO ENABLE **CREATIVITY**, DEVELOPED  
AND IMPLEMENTED THROUGH  
**COLLABORATIVE** METHODOLOGIES  
PROMOTING **CREDIBLE** WAYS TO  
PROTECT PRIVACY AND SECURITY IN  
ORDER TO ENHANCE **CONFIDENCE**.

# Open <sup>and</sup> Policy Concepts For Cloud

## Open

- Transparency
- Access
- Accountability
- Participation
- Portability
- Distributed

## Policy

- Privacy
- Security
- Accountability
- Trust
- Contract
- Jurisdiction/App. Law

# Policymaker Myths

- There is *one* cloud and it needs to be regulated with one regulation
- Please identify *the* cloud standard and best practice
- The "European" cloud
- We have no regulatory experience in cloud
- Cloud portability and cell portability - same thing
- Cloud means never knowing where your information is...
- Because cloud is on demand, everyone can personalize their own contract
- Granular Individual Control - the Holy Grail



# Tensions...

- **Data Use/Rights**
  - Rakesh Chopra - open government data/innovation
  - Morris Chang - digital IP/Innovation
  - **Big Data - Privacy**
  - **Patient-centric care/Privacy**
  - **Accountability/Cost**
  - **Regulation/Innovation**
  - **Choice/Control - Mass Application**
  - **Local law/global network**
  - **Security/Indigenous innovation - business flexibility/privacy**

# Familiar Questions...

- **Cloud?**
  - **Abstraction Layer**
- **Where is my information?**
- **Who controls it?**
- **Who has access?**
- **How is being used?**
- **Who is it being shared with?**
- **Who is looking out for my interests?**

# Cloud computing - operational concerns: the back end

- ❖ Performance/availability/Service Level
- ❖ Support
- ❖ Interoperability
- ❖ Audits/Oversight
- ❖ Termination/Lock-in
  - ❖ Less by design and more by inertia...
  - ❖ Role of open standards
  - ❖ Portability

# Cloud computing - legal concerns

- ❖ Privacy
  - ✓ International data transfers
  - ✓ Consistent treatment
  - ✓ Lawful access issues
- ❖ Export control
- ❖ Data breach notification laws
- ❖ Data retention laws
- ❖ E-discovery
- ❖ Government regulation
- ❖ Jurisdiction/Conflict of Laws
  - ❖ Where can I bring an action
  - ❖ Under which law will it be adjudicated

# Cloud computing - contractual concerns

- ❖ All of the operational/legal issues plus •
- ❖ Data ownership
- ❖ IP
- ❖ Limitation of liability issues
- ❖ SLAs
- ❖ Indemnities
- ❖ Subcontracting
- ❖ Dispute resolution
- ❖ Audits
- ❖ Notice/ consent for transfer, where applicable

# Desirable characteristics

- Extended corporate controls
- Good security/privacy policies, practices and controls★
- Up-to-date; patched
- 24x7x365 service
- Mapping to legal requirements
- ★Tools -
  - PIA, Audit reports, Gap Analysis to 27001
  - Privacy/Security by Design
- Ecosystem Accountability

# Contracting Model Considerations

- B2B - history and experience of negotiated contracts.
  - Works as is
- B2C on the "mass" scale one organization to many
  - Contract levels (tailoring via fixed categories)
  - Technical controls (Dashboards, Preferences, Configuration)
  - Longer-term issues of fairness/abuse may need to be considered as they arise
- SME to SME/C or C2C
  - Limited experience curve with both cloud and possibly contracts
  - Need guidance on concepts and understanding of appropriate terms and functions (privacy, security, etc)
  - Menu-based, sector specific, models may help
  - Dangers of top down or proscriptive specification
    - UNCITRAL implied terms example

# Cloud: Global Perspectives



- **EU:** Is your cloud adequate?
- **US:** What is the state, nature, purpose and sector of your cloud?
- **Asia:** How soon can your cloud be deployed? Oh and in some places there are some rules you need to follow...
- **APEC:** We wish you to have an accountable cloud, stronger suggestions to follow shortly....
- **And...**



# Current to future positions...

- Cloud is not unitary; there is no single cloud practice
- Cloud portability is based on the ability to move data in a useful form and manner
  - This is an open standards/APIs issue
- Cloud interoperability goes to feature/function and is based on business models as well as standards
  - Attempts to enhance interoperability should not diminish product differentiation or limit innovation
  - Coopetition/Competition dichotomy
- Cloud as technology is established and standards are useful, but how it's used is emerging, thus "model" and "best" contracts and practices may be premature
- The need for new intermediaries, where evaluation is not evident
  - reputation engines

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