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## Environmental Protection and Data Protection Law: Clouding the Debate?



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# ICT, environment and privacy

- Established narrative:

ICT the good guy potentially helps the environment, but may require us to disclose for this purpose personal data (smart metering)



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# ICT, environment and privacy

- Emerging narrative:

ICT's can be an environmental problem themselves , and privacy law may stand in the way of mitigating the negative effects ( recycling of computer hardware; energy consumption of data centres)



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- Data center facilities account for between 1.1% and 1.5% of the world's total energy use in 2010
- data center facilities consume up to 100 to 200 times more energy than standard office buildings.



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# Benefits of cloud computing – Accenture study

- More than 90 percent for small deployments of about 100 users
- 60 to 90 percent for medium-sized deployments of about 1,000 users
- 30 to 60 percent for large deployments of about 10,000 users



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# Some how's and whys

- Transfer work away from day/hot locations to night/colder ones
- Transfer work to locations with most efficient natural cooling

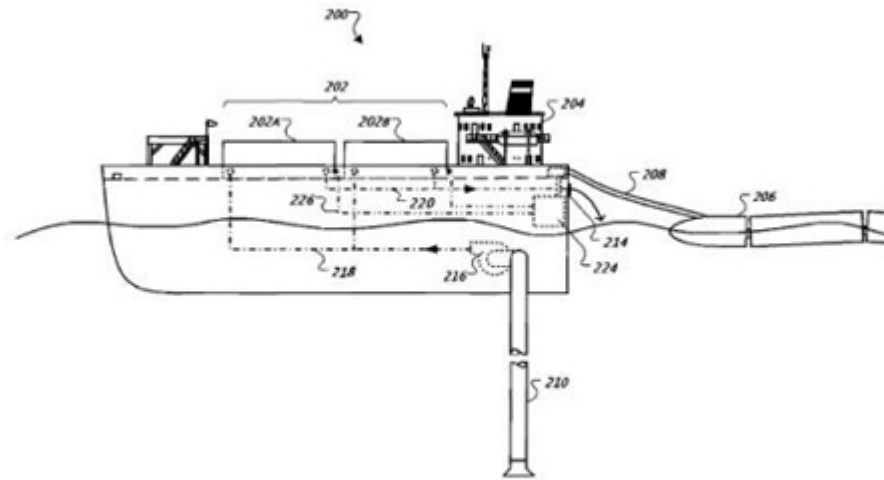


FIG. 2



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# What is cloud computing?

- Delivery of IT services over the internet
- “Remote computing”: Cloud customers use software and other applications that is not installed on their own computers, laptops or phones, but on servers owned and maintained by online providers
- We’re all cloud users: Gmail, Hotmail, Flickr, Dropbox, GoogleDocs,...

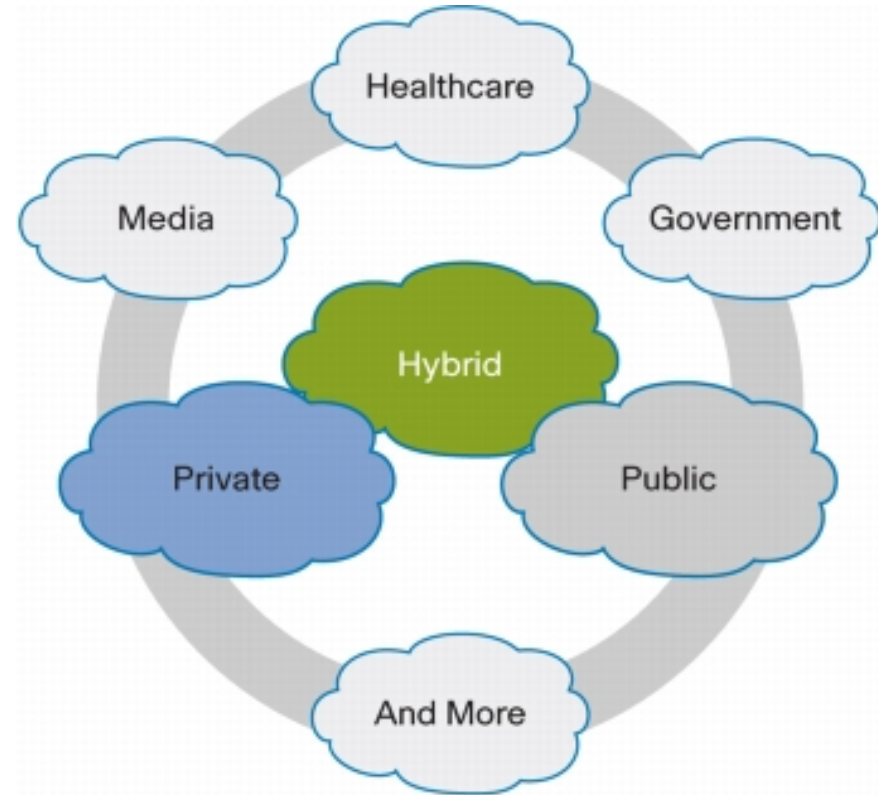


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# Types of cloud

- Public
- Private
- Hybrid
- Community
- Government



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# Public and private clouds

## Public Cloud

### Public Cloud

- Hosted at a Service Provider Site
- Supports multiple customers
- Often utilizes shared infrastructure
- Supports connectivity over the internet
- Suited for information that is not sensitive
- Can be cheaper than private cloud

## Private Cloud

### Private Cloud

- Hosted at an Enterprise or a Service Provider site
- Supports one customer
- Does not utilize shared infrastructure
- Connectivity over private network/ fiber or the internet
- Suited for information that needs a high level of security



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# Data protection and the cloud (1)

- Who is responsible for compliance with data protection laws?
  - Data controller?
  - Data processor?
- Who is who?



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# Cloud providers and data protection

- In practice, cloud providers have little or no control over the nature of the data processed on their servers (therefore likely to be deemed data processors)
  - They will want to ensure that they are not liable for data quality, complying with individuals' rights or, potentially, obtaining individual consent to the processing of personal data
- => Risk and burden of data protection compliance is left with the cloud customer



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# Data security in the cloud

- Data controllers must take "appropriate technical and organisational measures" to protect personal data against:
  - Accidental or unlawful destruction
  - Accidental loss, alteration, unauthorised disclosure or access
  - All other unlawful forms of processing

*(Article 17(1) DPD)*



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# “State of the art” security

- Security measures must have "regard to the state of the art" in information security
- Must be kept up to date with technological development
- Data controllers may balance effectiveness of the measures against their cost
- No duty to use the most up-to-date security measures available
- Level of security must be equal to the risks represented by the processing and the nature of the data to be protected
- Some countries (for example, Spain, Italy and Poland) have prescriptive requirements for security set out in their legislation



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# Future research: Environment as public good in DP law?

- Should environmental benefits figure at all in a trade off with privacy?
- Can/should there be an environmental interest exemption just like there is only for law enforcement?
- How can we quantify the benefits of the cloud and the risk or privacy, to balance them more rationally



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