



# Data protection in the Cloud

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# Cloud Computing

A brandnew approach



Bundesarchiv, B 146 Bild-F031434-0006  
Foto: Gathmann, Jens | 23. März 1970



Jens Gathmann, Deutsches Bundesarchiv  
(German Federal Archive), 23.03.1970

 NASA, 1962



Global Privacy Standards for a global World, 03.11.2009 Andreas Krisch, [www.edri.org](http://www.edri.org)

# What is new?

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- Cloud Computing 1960s
  - 1 Mainframe for 1 Company
  - one data processor
  - at the same location
  - only connected locally
- Cloud Computing 2010s
  - several Mainframes for millions of users/companies
  - a few data processors
  - distributed across the globe
  - connected via global public network

# Some (Potential) Problems

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- Location of data – transborder flow of data
- How to ensure proper processing?
  - Data controller supervising data processor!?
- Data protection vs. ad-financed services
  - compatible with purpose restriction for processing?
- Usage Data – every use is recorded
- Ownership of data? See Social Networks!
- Access: Connections and Companies fail!
- Pay per use vs. Pay once, use freely

# Security: Are you (still) in control?

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Security Guidance for Critical Areas of Focus in Cloud Computing, Cloud Security Alliance, 2009, <http://www.cloudsecurityalliance.org/csaguide.pdf>

- Architectural Framework
- Governance and Enterprise Risk Management
- Legal
- Electronic Discovery
- Compliance and Audit
- Information Lifecycle Management
- Traditional Security, Business Continuity and Disaster Recovery
- Portability and Interoperability
- Data Center Operations
- Incident Response, Notification and Remediation
- Application Security
- Encryption and Key Management
- Identity and Access Management
- Storage
- Virtualization

# How to improve?

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- Cloud Users

- Do not use insecure services (e.g. use encrypted Cloud-Storage but not unencrypted processing)
- Refuse secondary use of your data (ad-support)
- Stay in control – keep ownership

- Cloud Providers

- Establish trust by quality-, data protection-, security-standards
- Use open standards, provide bulk download
- Restrict yourself to providing services – do not use your customer's data