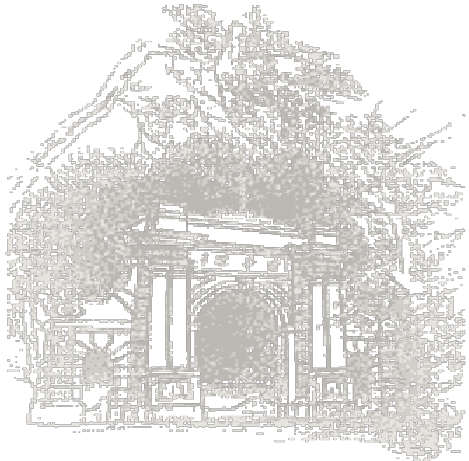
清華大學
Tsinghua University

Personal Cloud Storage Services:

Measurement, Analysis and Challenges



Zeqi Lai

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Personal cloud storage: identifying sync inefficiency

- **Personal cloud storage services are gaining popularity**
- **Sync inefficiency in current cloud storage services (Dropbox, Google Drive, One Drive and Seafile)**
  - **Methodology: network trace analysis & decryption**
  - **More effective dedup does not work well in high delay conditions**
  - **Incremental sync failure causes much more sync overhead**
  - **Low bandwidth utilization caused by slow start and app-level ack**
- **QuickSync prototype: improving sync efficiency**
  - **Combining storage techniques and networking techniques**
  - **Performance results: up to 63.4% sync time reducetion**

Personal cloud storage: challenges and future work

- **Challenges**
  - **Usability: difficult to sync across multiple services**
  - **Performance: faster sync in mobile/wireless environments**
  - **Energy efficiency: many mobile apps are cloud-based**
- **Possible solution: standard sync protocol**
- **ISS BOF on Tuesday (ROOM 502, 15:20-16:50)**
  - **Standardize Internet Storage Sync**
  - **Welcome to our BOF!**

Our mail list: storagesync@ietf.org

Wiki: https://github.com/iss-ietf/iss/wiki/Internet-Storage-Sync

Thank you!

Questions?