Network Research Lab
Communication Innovation

Content Centric Access Control

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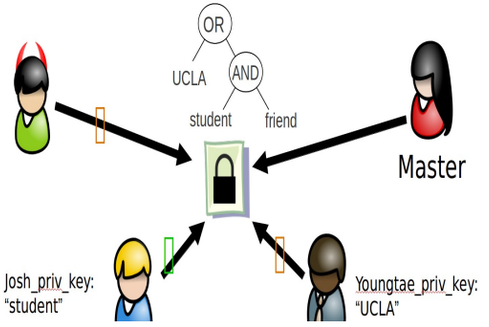
Goal: Secure Personal Content Networking

- **Explosion of shared content amongst many untrusted mobile devices => difficult to manage and securely share**

Solution

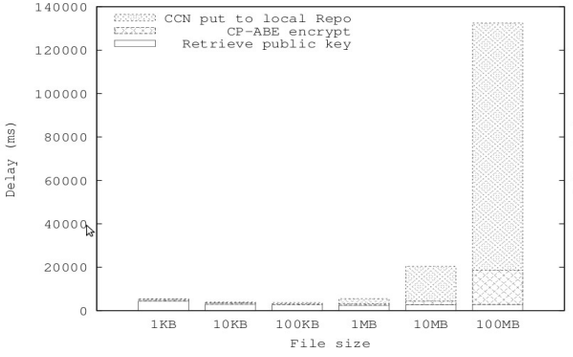
ccnx:/ucla/nrl/poster/pcn.pdf



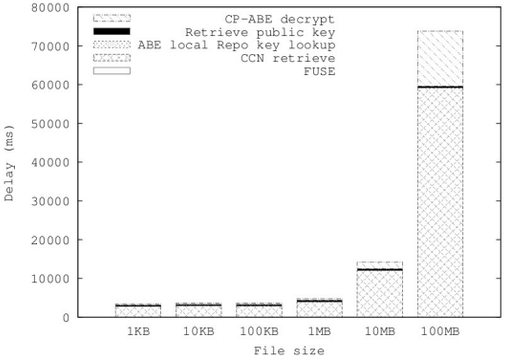
- **Single persistent, hierarchical naming space**
- **Selective content sharing using Attribute Based Encryption (ABE)**
- **Full control over device replication**

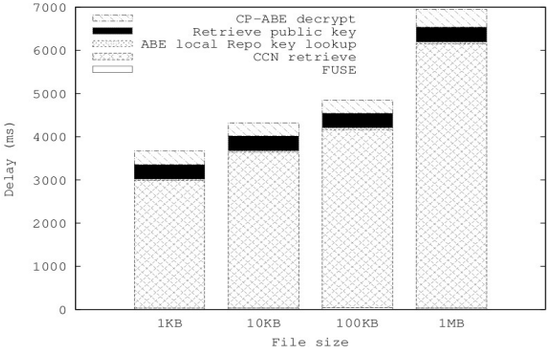
Results

ABE encrypting and publishing to local repository delay linearly increases



Laptop and Nexus One remote file retrieval with ABE decryption delay increases sub-linearly with file size





References

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V. Jacobson, D. K. Smetters, J. D. Thornton, M. F. Plass, N. H. Briggs, and R. L. Braynard. Networking Named Content. In CoNEXT'09, Rome, Italy, Dec. 2009.
CCNx Codebase http://ccnx.org
CP-ABE Implementation http://acsc.cs.utexas.edu/cpabe/.