# Distributed File Hosting System

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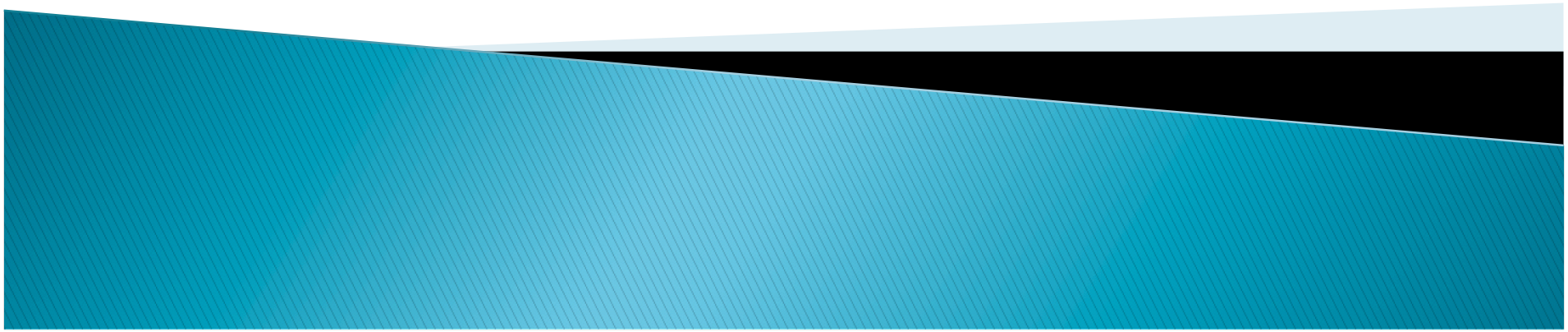
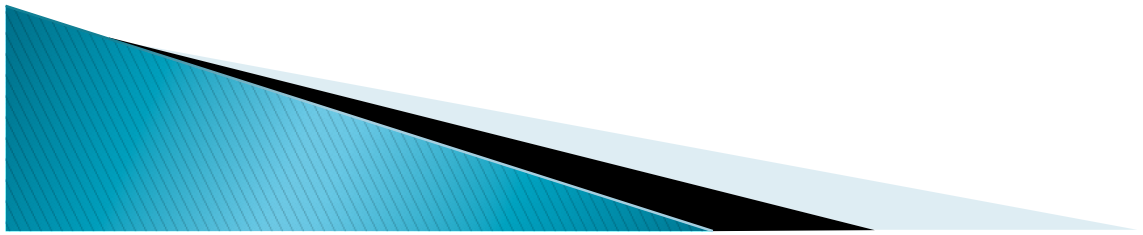
CIS 630 Distributed Systems



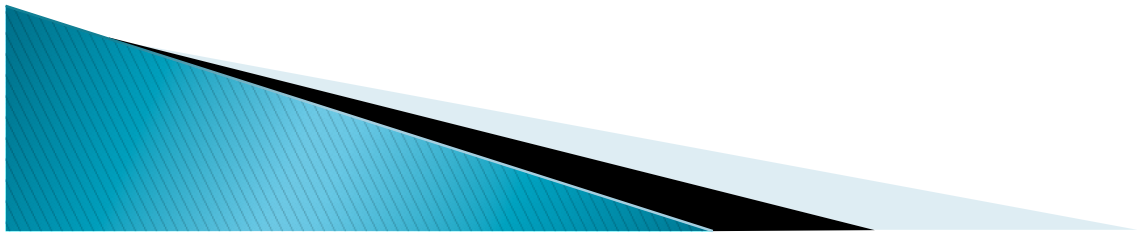
# Introduction

- File Hosting Systems
  - Dropbox and Google Drive
- Inherent Issues
  - Centralized ***data***
  - Privacy concerns



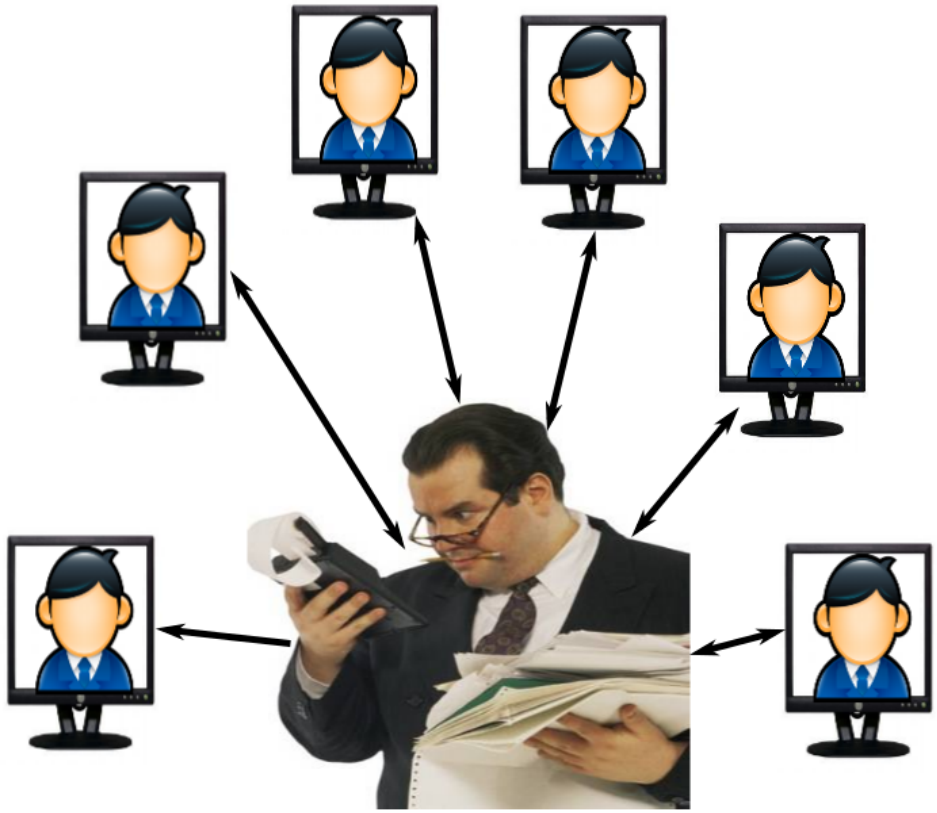
# Our Solution

- *Decentralize* the data
  - Each client has identical data
  - Files are kept in sync using logical time stamps
  - Broker network routes communication, but never stores any data

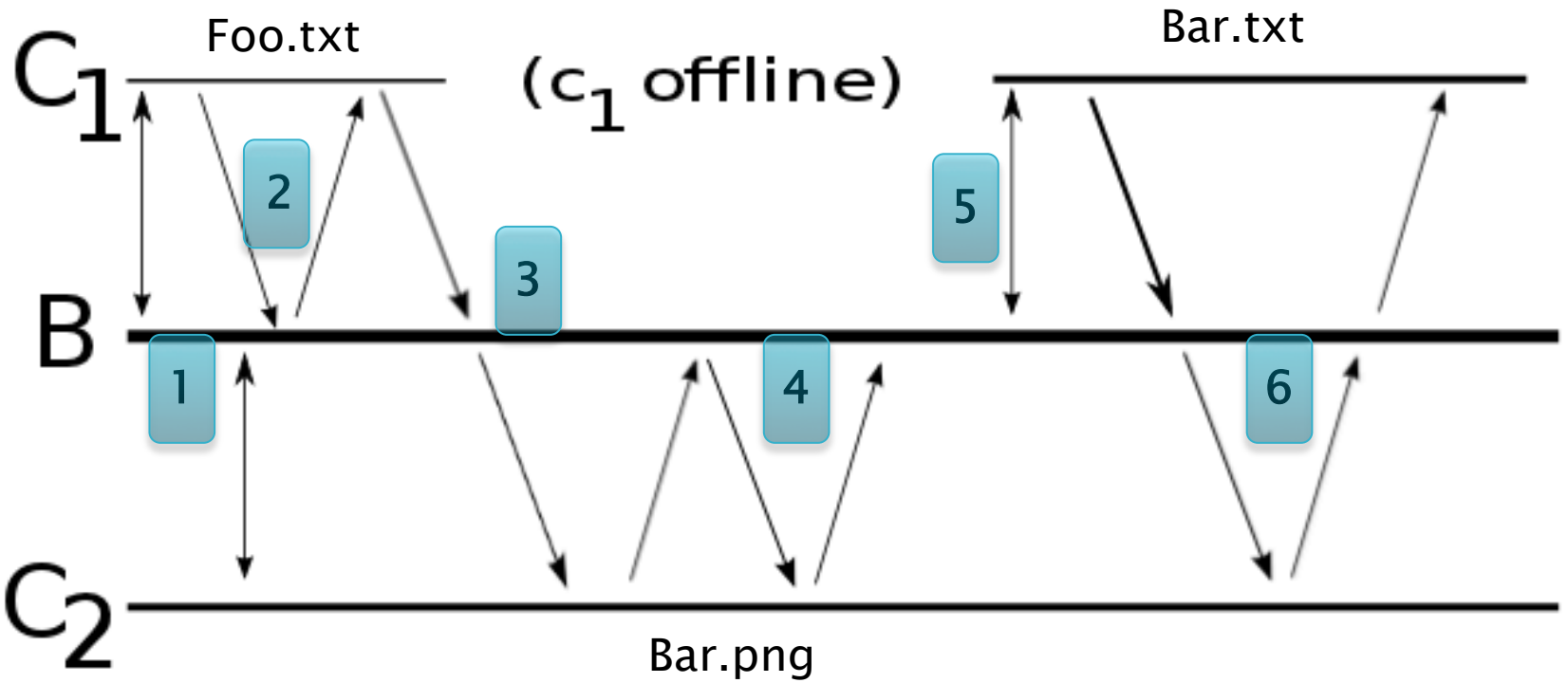


# Design: System Overview

- Thin clients and opulent brokers

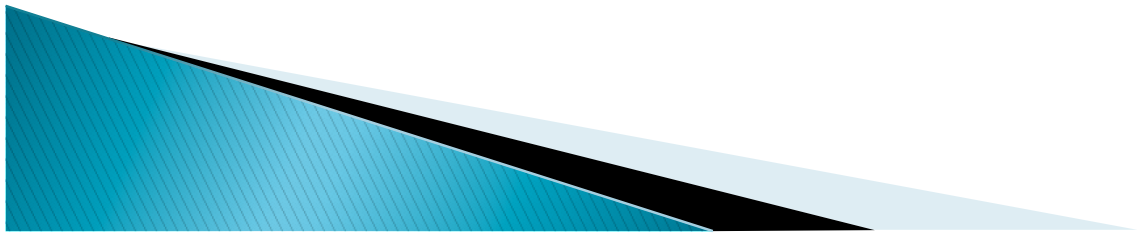


# Design: Lifetime

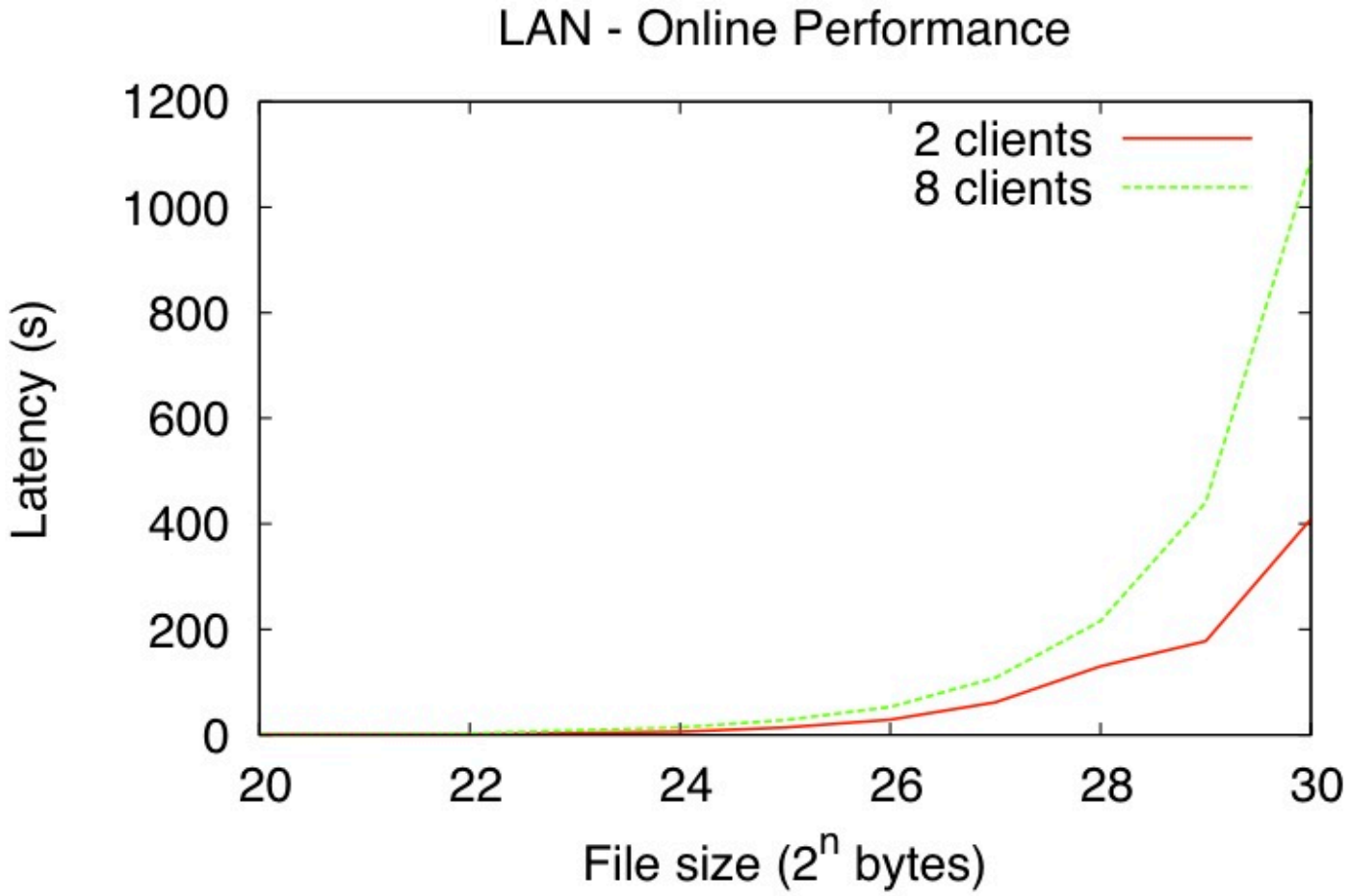


# Design: Issues Addressed

- Discovery
  - Invitation only
- Synchronization
  - Initial Batch Request
    - Read-Once-Write-All
  - Non-blocking REQUESTS to push changes
  - Revision Numbers to protect global state

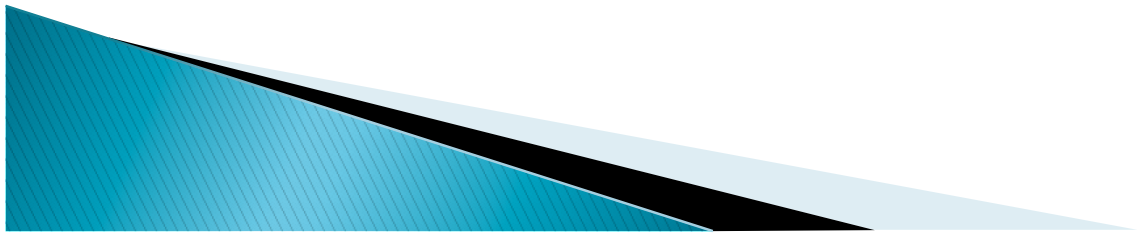


# Preliminary Evaluation



# Discussion and Future Work

- Current focus: evaluation
  - 1. Further evaluate performance across different LAN and WAN scenarios
  - 2. Compare with Dropbox
  - 3. Evaluate correctness
- Distributed broker?
- Security?



# Demonstration Preview

- Start up a broker and several clients
- Demonstrate online changes and synchronization
- Also demonstrate offline changes and initial batch update