

Data Driven Optimization of the GOOG411 Directory Assistance Application

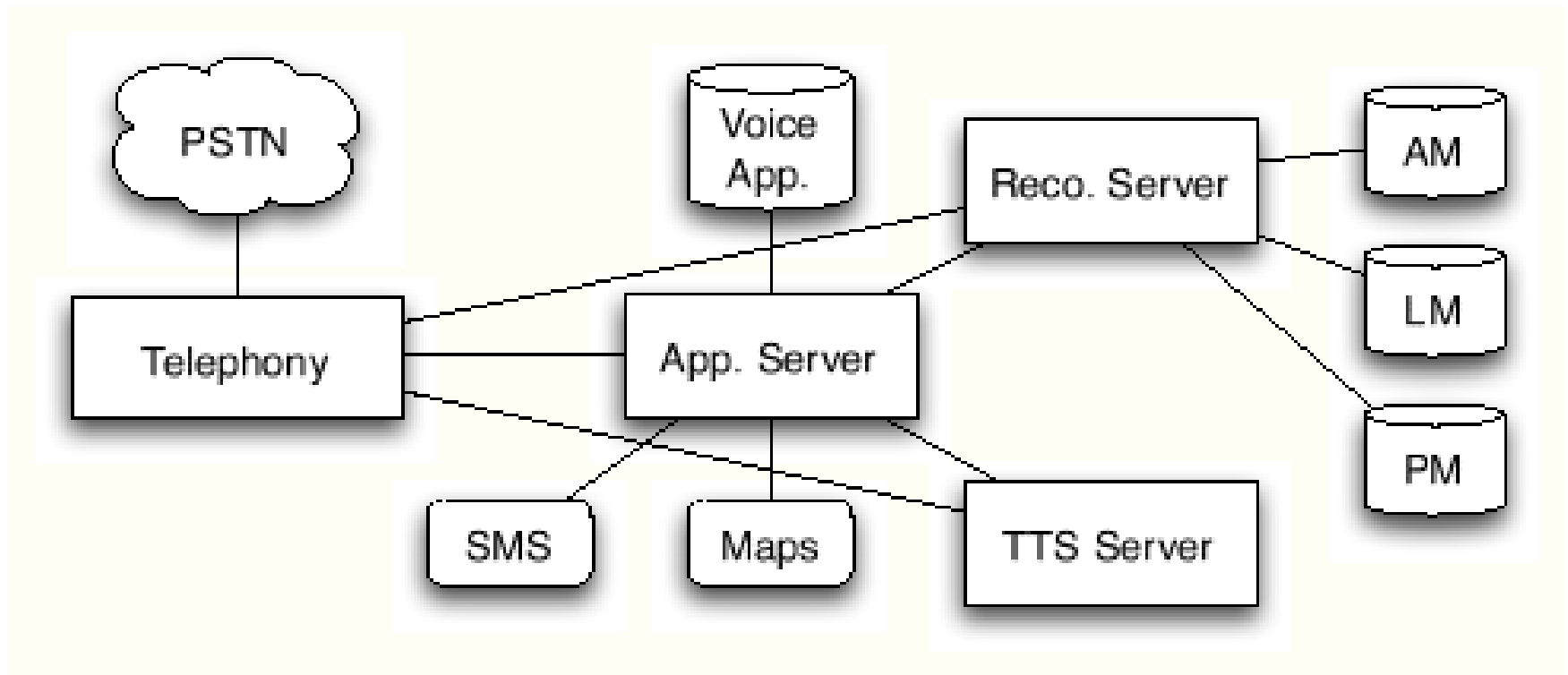
Michiel Bacchiani

Google Inc.

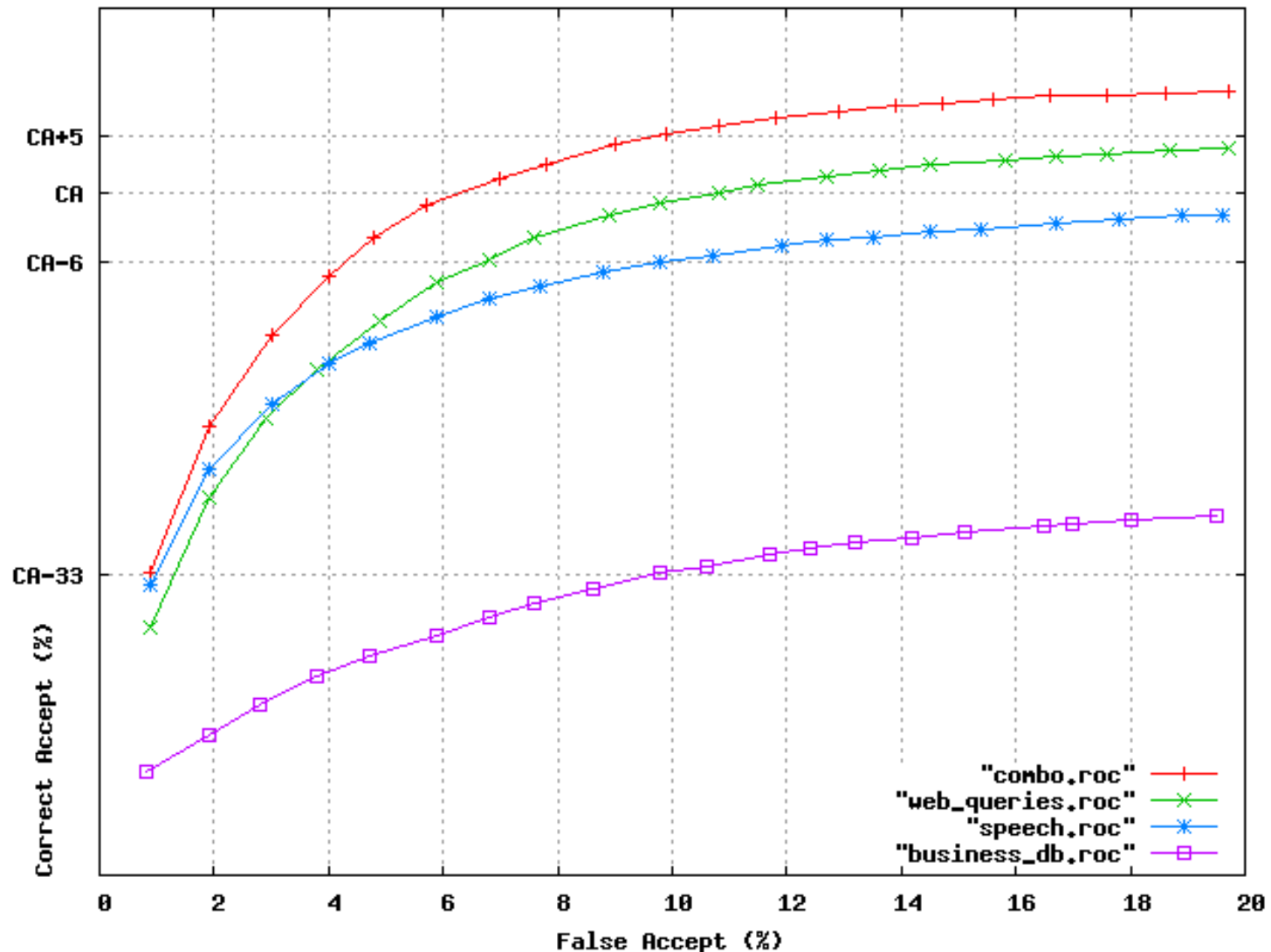
System Diagram

AskCityState: “What city and state?”

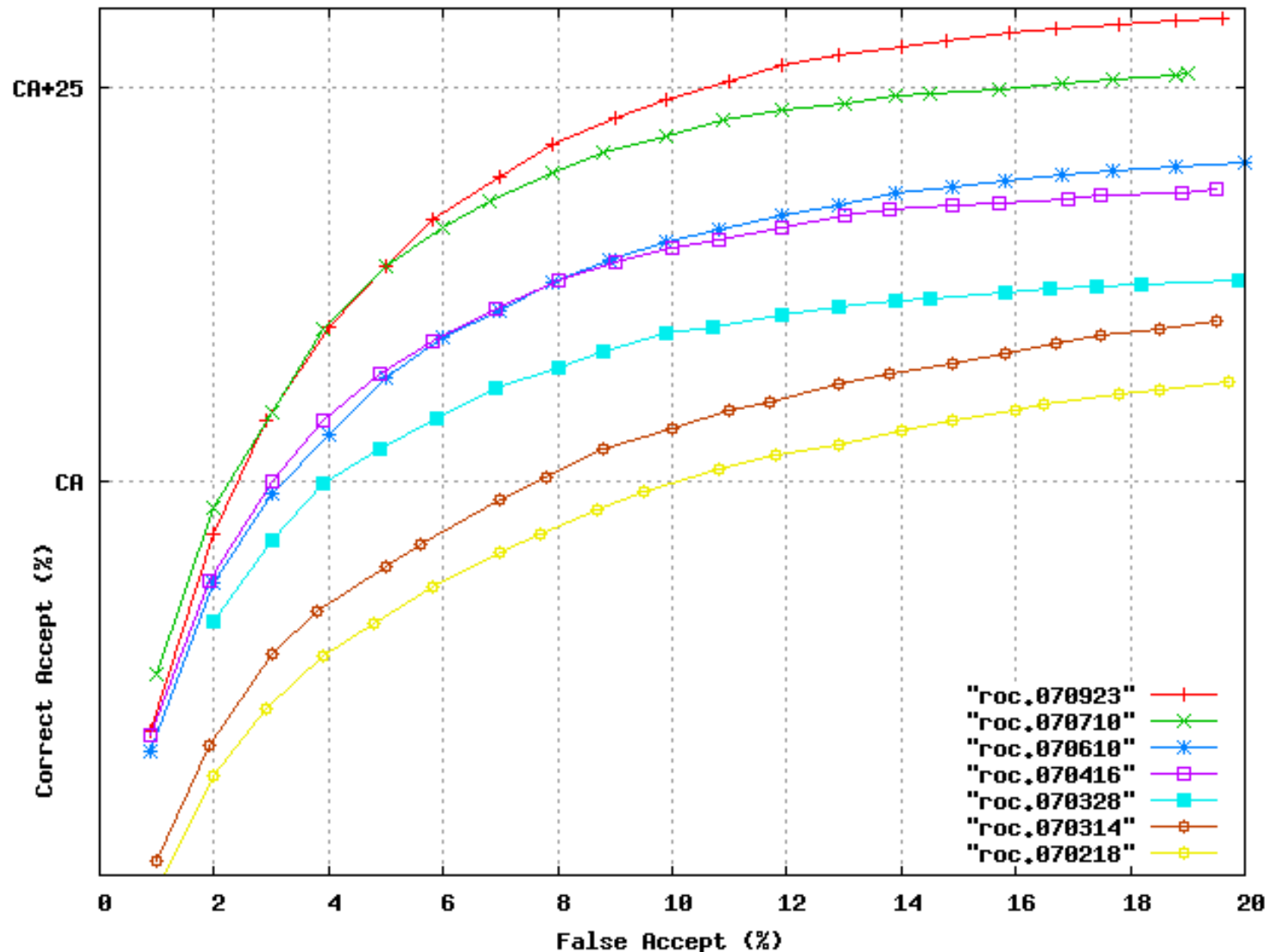
AskListing: “What listing?”



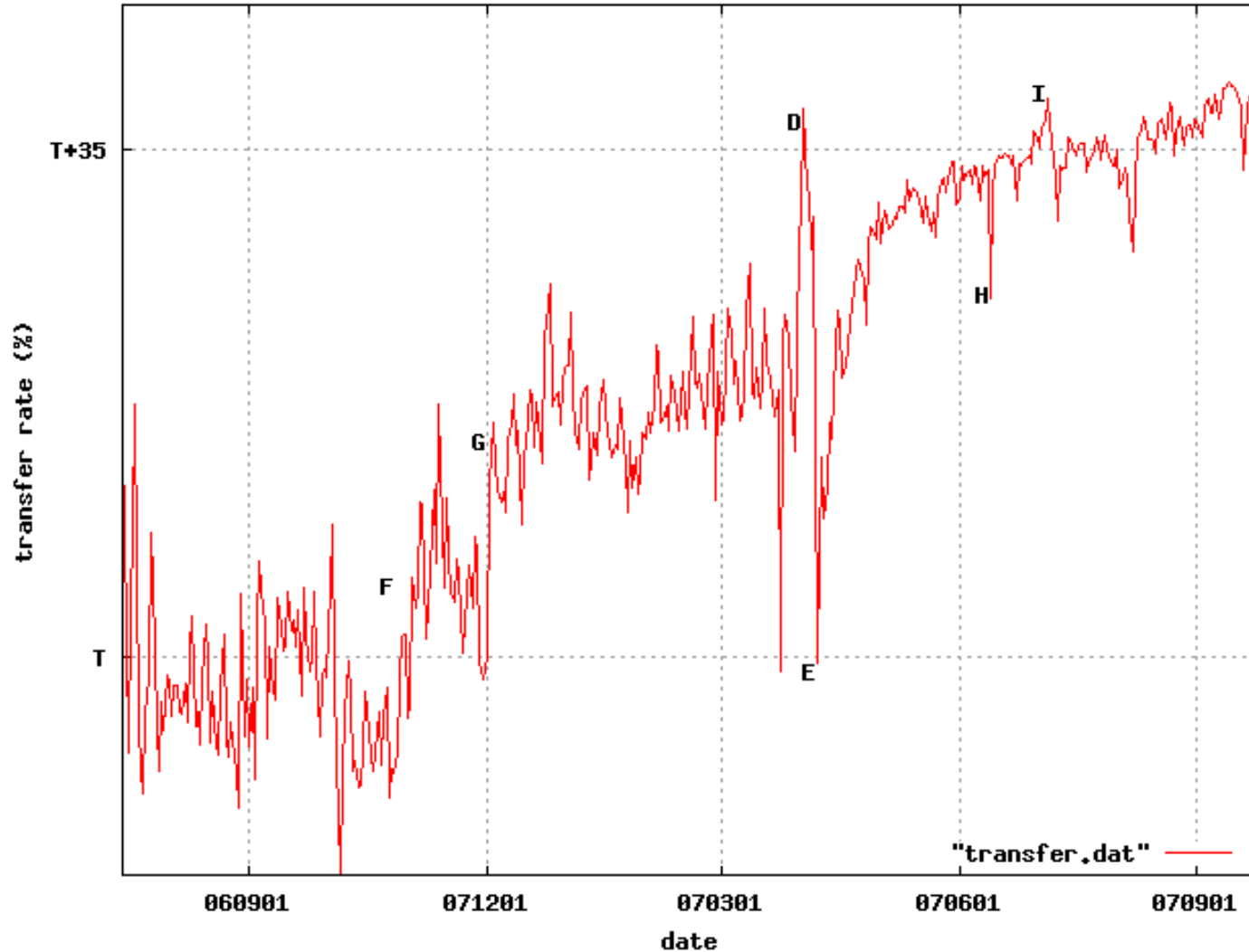
AskListing LM Data Type



AskListing Performance over Time



Transfer or SMS Rates

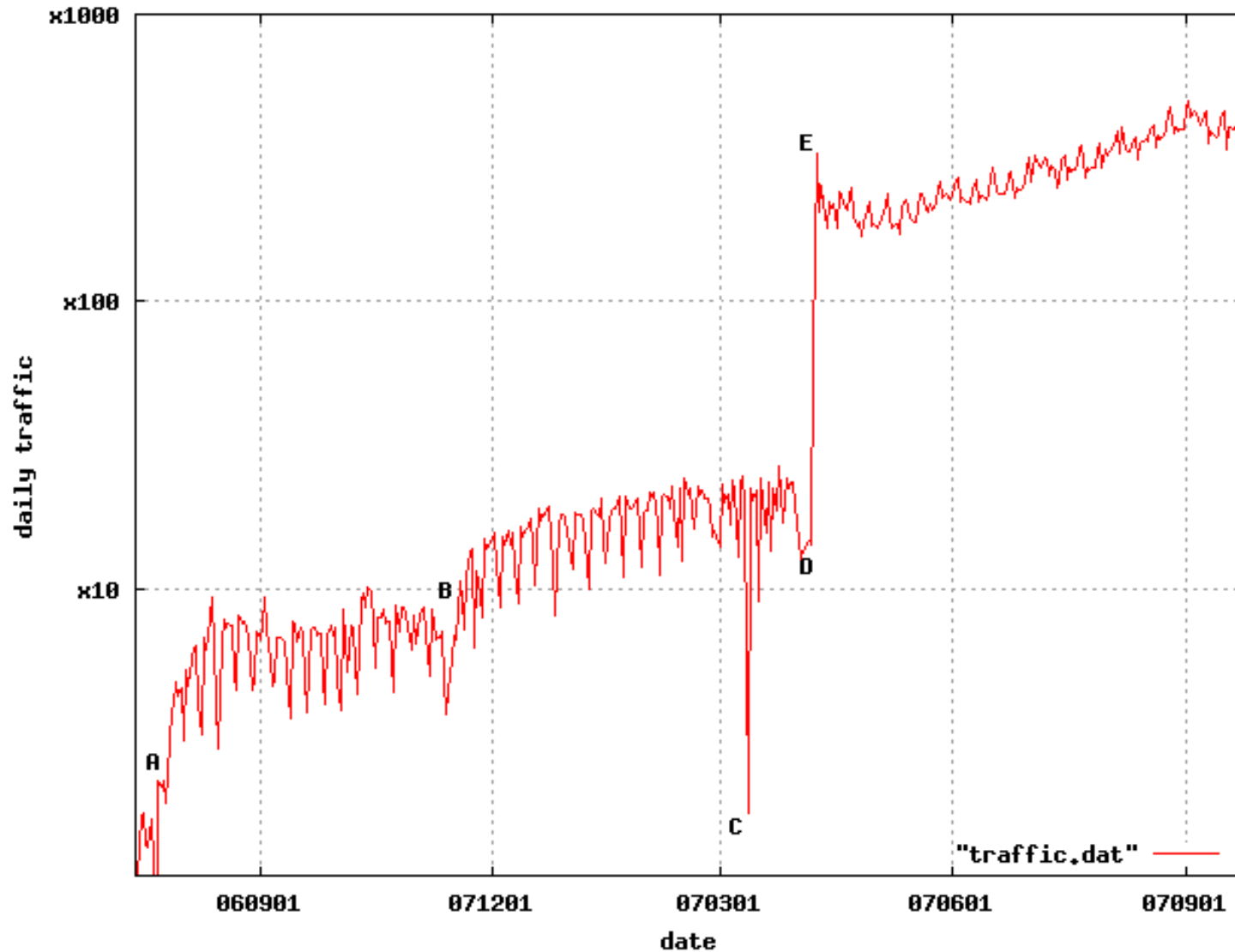


**D: quiet
before
launch**
E: launch

Challenges

- **Strategy:**
 - Simple UI
 - Use data to drive optimization
- **Evaluation:** measuring user happiness
- **Scale:**
 - Data (OOV queries, scoring, size)
 - Users (eg. UI, speaking style)
 - Applications
 - Languages

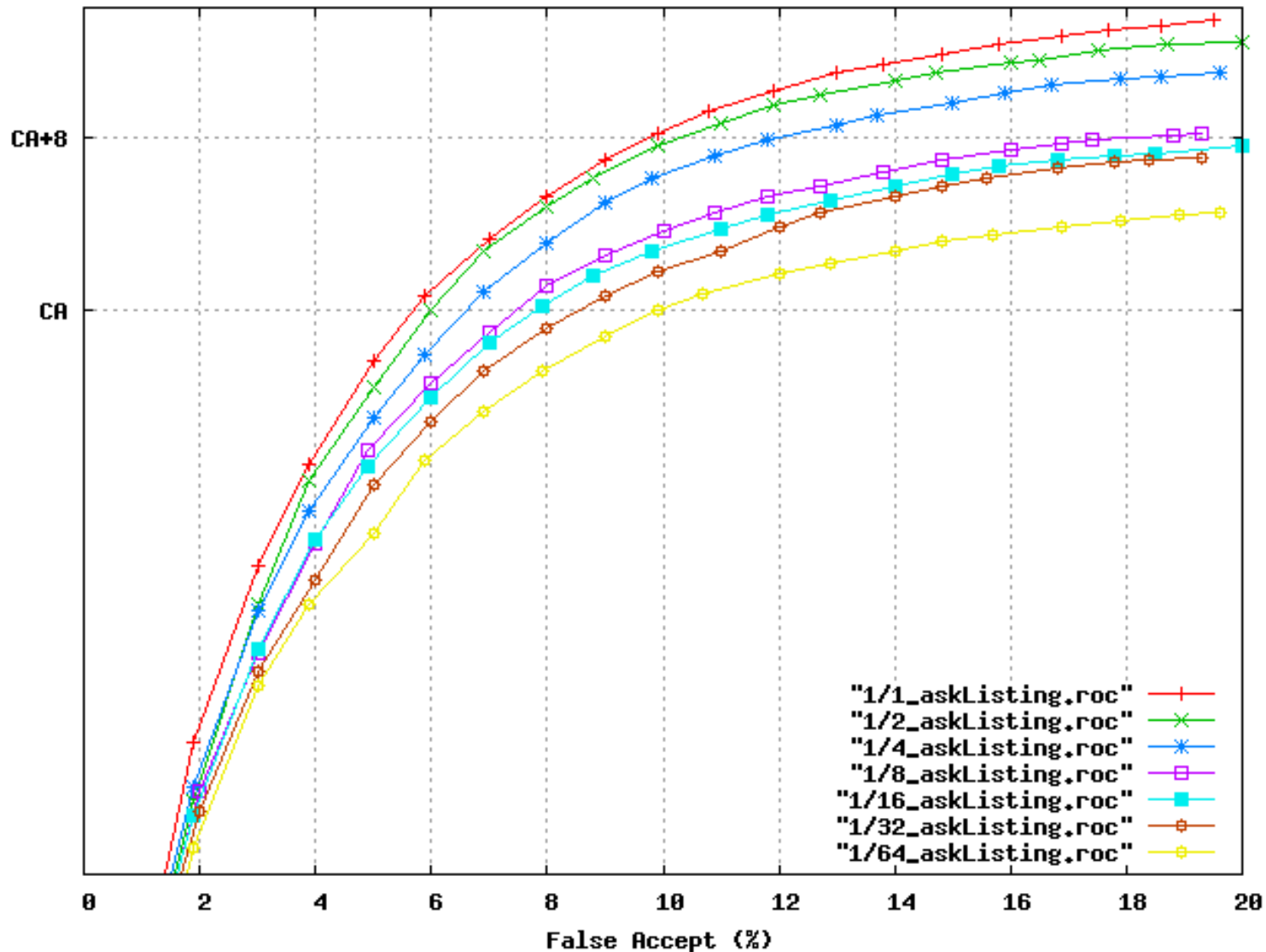
Traffic over Time



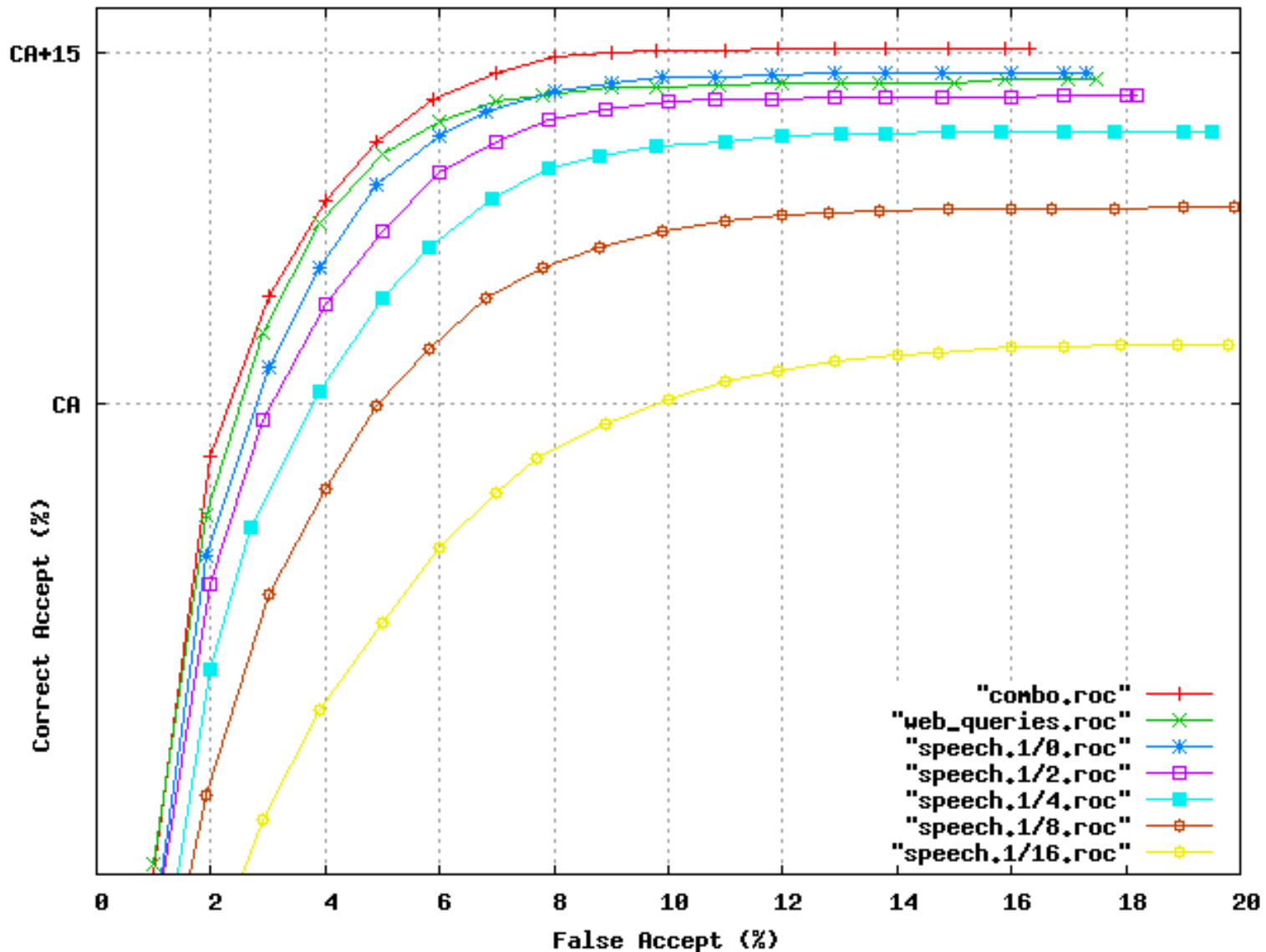
**D: quiet
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"traffic.dat" —

AskListing AM Data Size



AskCity LM Type and Size



AskCity AM Size

