CSE 535  2/10/05

- Examples of utility, banking companies which have tried to adopt mobile technologies.
- What the employees are looking for in mobile applications.
- Description of what will make mobile apps successful.
- How to judge whether the needs of a company are met by mobile application being developed.
- Technical limitations of MCE.
Caching:

Broadcasting Timestamp Scheme

- Maintain client cache consistency
- Push model (synchronous)
- Permits some degree of disconnection
- Provides a mechanism to avoid the cost of validating client’s cache upon reconnection

\[ w \uparrow \text{delay} \uparrow \]

\[ I_K \text{ will be larger} \]

![Diagram of the broadcasting timestamp scheme showing server, invalidation report, mobile client, and network connection states.

- Server
- B/S
- Mobile Client
- Invalidation Report
- Connected
- Disconnected
- \( x \) update
- \( y \) update
- \( (x: t_x) \)
- \( (y: t_y) \)
- Larger value of $\omega$ allows for the mobile to be able to be disconnected for longer duration.

- What is the optimal value of $\omega$?
  - depends on
    - access pattern
    - how often the data items change
    - disconnection pattern (rate)

- Latency of answering a query depends on $L$. 
Asynchronous & Stateful.

Server

HLC. (Home Location Cache)

HA (Home Agent)

probe (Ts)

Mobile Client

buffers invalidation reports on behalf of a mobile client.

TS

Missed Invalidations

Cache

Time Stamp

TS

response to probe.