
MIMIMI: MIMI Metadata Minimization

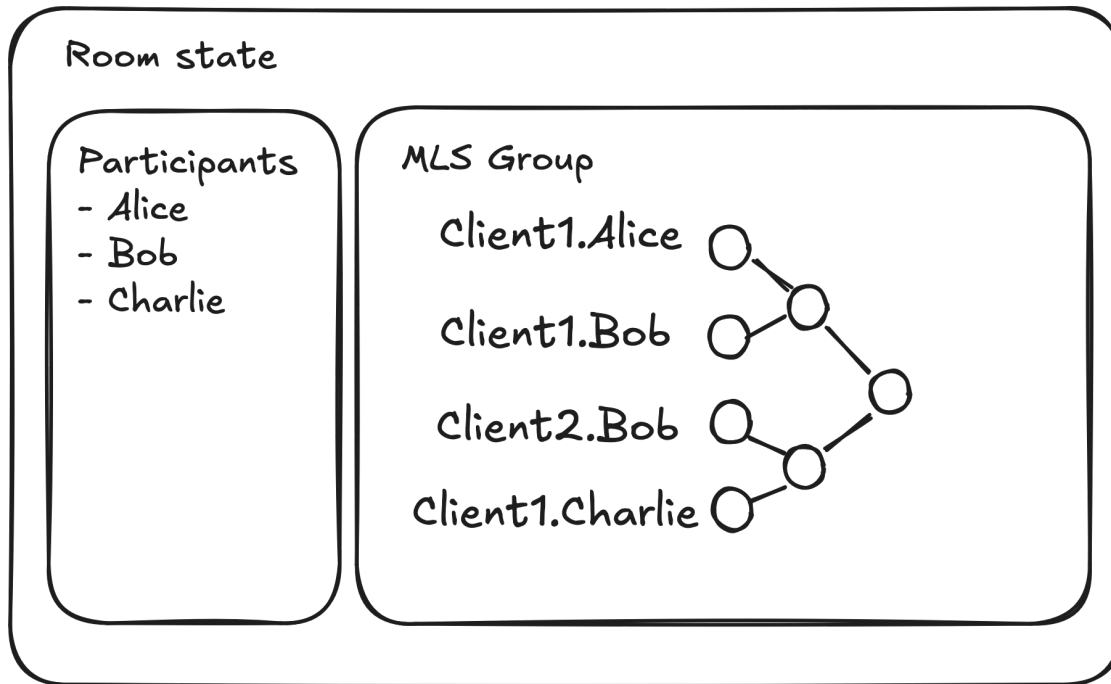
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Metadata visible to MIMI Hubs

- List of room participants
- Room's MLS group contains a list of clients
- Hub can associate operations with individual users and clients
- Can we hide some of this metadata?

Metadata visible to MIMI Hubs



Optional minimal metadata mode

- Replace user and client identifiers on the Hub with per-room pseudonyms
- Credentials hold encrypted user and client identifiers
- Room participants need key material to learn identifiers of other users and clients

Minimal metadata mode

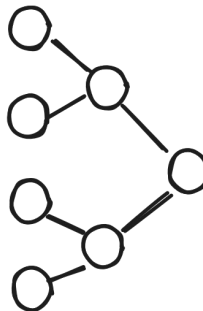
Room state

Participants

- 23299ae1
 {Alice}_k
- c973ec09
 {Bob}_k
- 16fb98eb
 {Charlie}_k

MLS Group

- 5a233f.23299ae1
 {Client1.Alice}_k
- 6d167ca3.c973ec09
 {Client1.Bob}_k
- 69947fa6.c973ec09
 {Client2.Bob}_k
- 41e301c9.16fb98eb
 {Client1.Charlie}_k



Less metadata, more key management

- Users need to share key material to add one-another to groups (“connections”)
- Adders need to provide keys to allow new participants to learn identities
- New members joining via “join flow” need to learn key, e.g., from a join link
- Negligible impact on performance

WIP

- Original MIMIMI protocol design has just gone through an audit
- Pseudonymization of the participant list depends on what MIMI credentials look like
- Currently working on PR against main MIMI protocol doc