**Functional Requirements**

* Messaging (basic texts) - instant messaging, old messages, 1-1 messages
* Organization
  + Multiple Channels
  + Users in Channel
* Unread messages, Unread mentions
* Cross Platform Synchroniztion

**Non-functional Requirements**

* 20M users
* 50k organizations, 50K channels
* Low Latency

Design

1. Persistent Storage (When slack is started)
2. Real Time Messaging

**Tables**

Organizations

Channels

Users

Channels\_\_users\_mapping

Messages

Id, channel\_id, sender\_user\_id, sent\_at, body

Read\_Receipts

Id, organizarion\_id, channel\_id, last\_mesage\_timestamp

Channel\_last\_activity

Id, organization\_id, channel\_id, last\_message\_timestamp

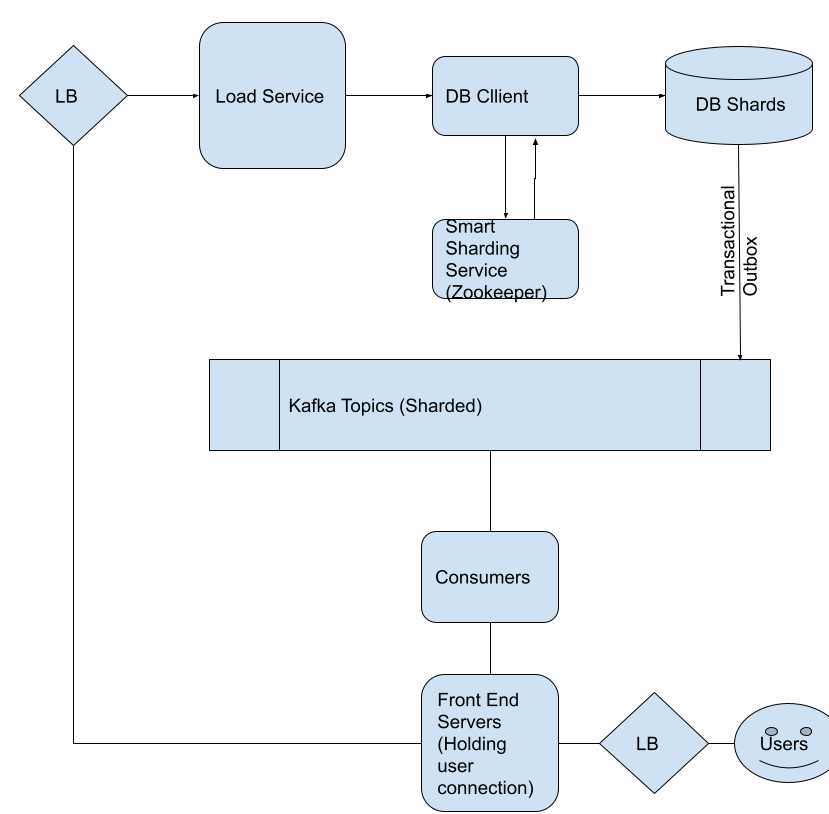
Last\_unread\_messages\_count

Id, organization\_id, channel\_id, user\_id, count

Last\_unread\_user\_mentions\_count

Id, organization\_id, channel\_id, user\_id, count

**Design**

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