Day 06: Cluster LB
Today

1. Cloudflare's Unimoj
2. Consistent hashing
   a) Virtual Nodes
   b) Salting
   c) Fault Tolerance
LB requirements

1. Connections stay intact
2. Stateless
3. Cheap (not hardware; converge web service & load balancer)
4. Utilization (even)

Consistent hashing + load all s/w
<table>
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<th>LB techniques</th>
<th>eBay’s Neutrino</th>
<th>Google’s Maglev</th>
<th>Facebook’s Katran</th>
<th>AWS ELB</th>
<th>GitHub LB</th>
<th>Mostly Cloud Flare</th>
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<td>Least connection</td>
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<td>Consistent hashing (Chash)</td>
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<td>Random hashing (Rhash)</td>
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<td>Modulo LB</td>
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Office Hours 😊
Module - hashing

\[ \text{hash}(\text{ID}) \mod S \]

4 tuple
\[ \text{client IP: server IP: client port: server port} \]

when \( S \) changes the # of client mappings that changes is large