

Redis to the Rescue?

Berlin Buzzwords

2011-06-07



Who

- Tim Lossen / @tlossen
- backend developer at wooga
- Berlin, Germany





Home Games Jobs About Press Support



Diamond Dash
60 seconds gem rush

wooga is now no. 4 worldwide
over 25 m active users every month



Happy Hospital
Cure cute pets from funny diseases

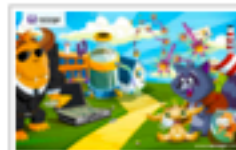
Check out Happy Hospital »

wooga, announces \$24 Million Series B Investment with Highland Capital Partners

May 31, 2011

[1 comments](#)

Download Press Release (English)
Download Press Release (Deutsch)
Download Press Release (French)



World's Fastest Growing Social Games Company Accelerates Expansion
Berlin, May 31, 2011 - wooga, Europe's largest developer of online soci... [Read more](#)

How to Make Monsters Play Nice with Each Other

May 27, 2011

[9 comments](#)

Wilhelm Österberg, Product Manager



Based in Berlin, wooga is the leading European social games developer.

Like Tim Lossen and 111,036 others like this.



Follow us on

Facebook

Twitter

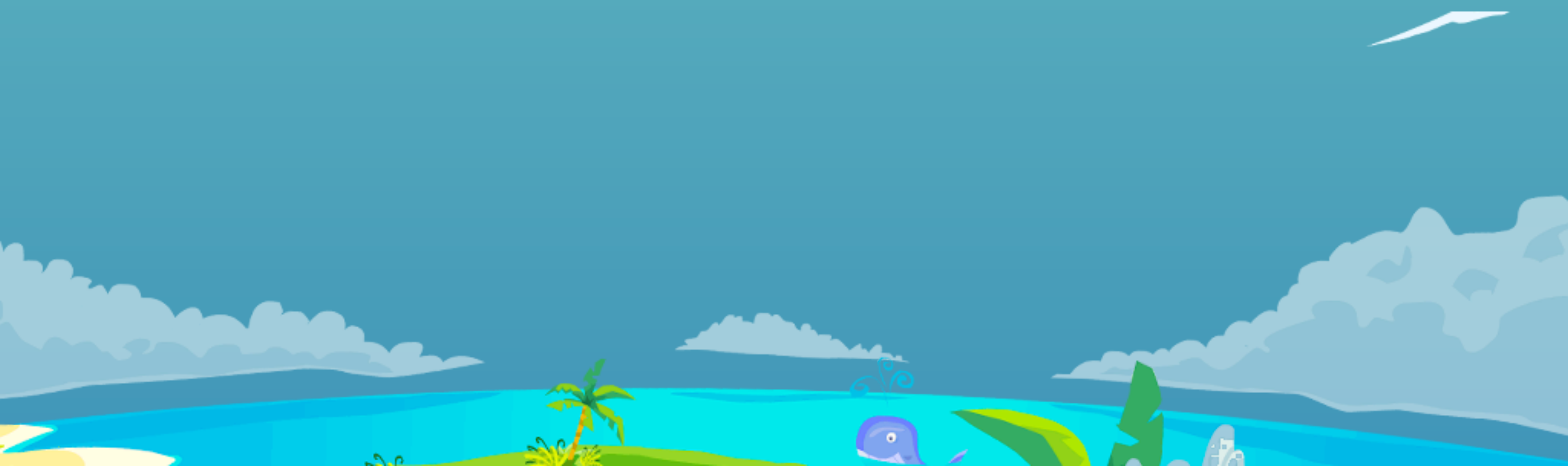


We are hiring!



Goals

- 1 million players per day
("DAU = daily active users")

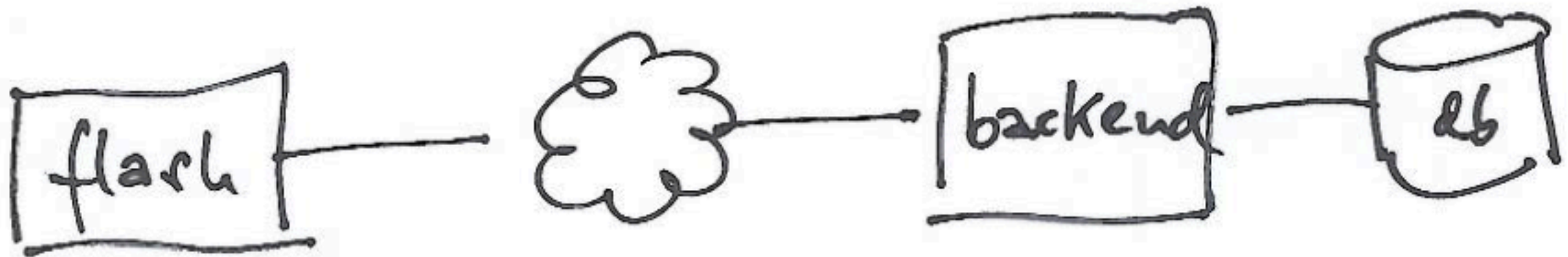


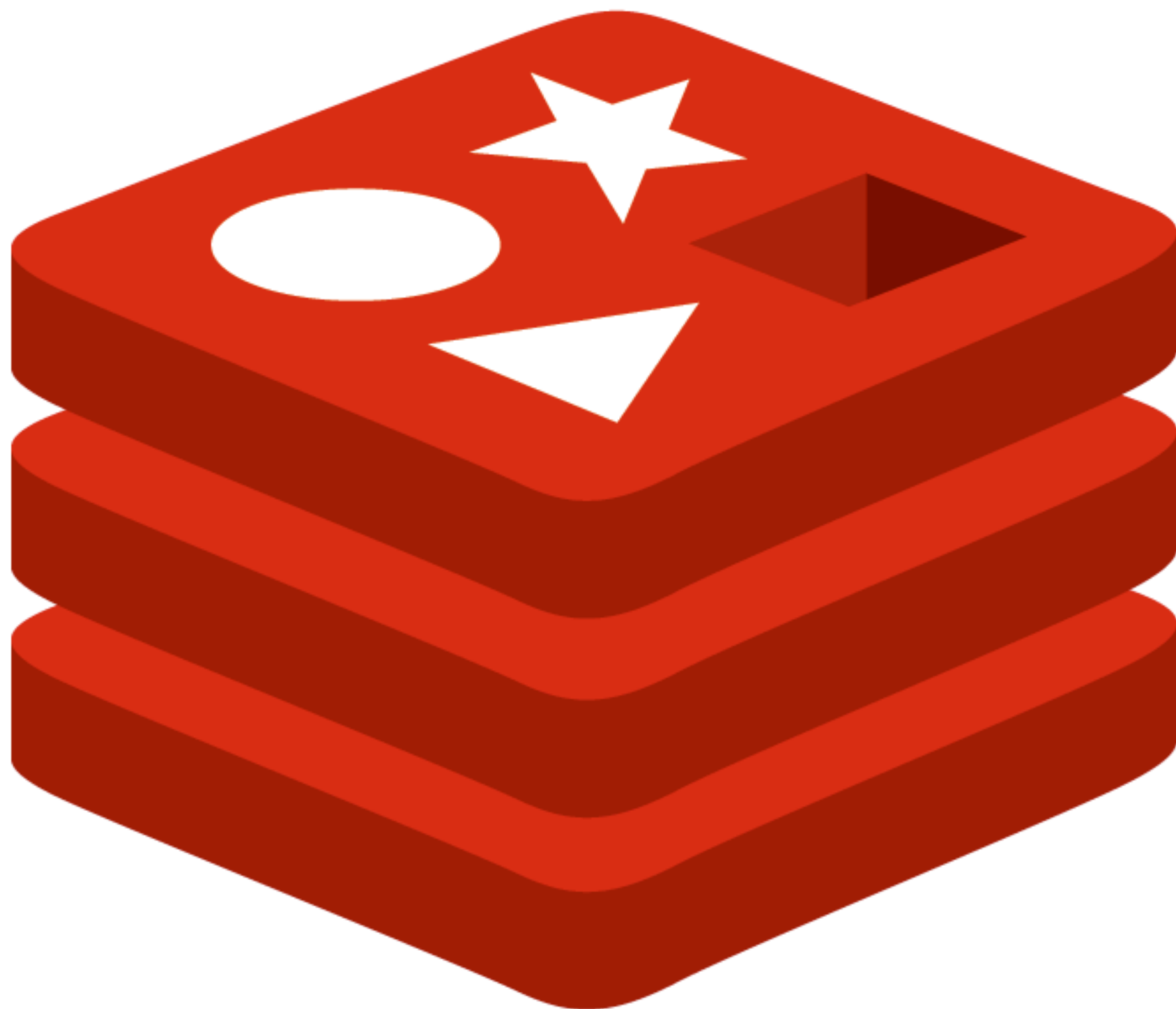
Goals

- 1 million players per day
("DAU = daily active users")
- small production cluster
 - less operational overhead
 - cheaper



Architecture





Data Model

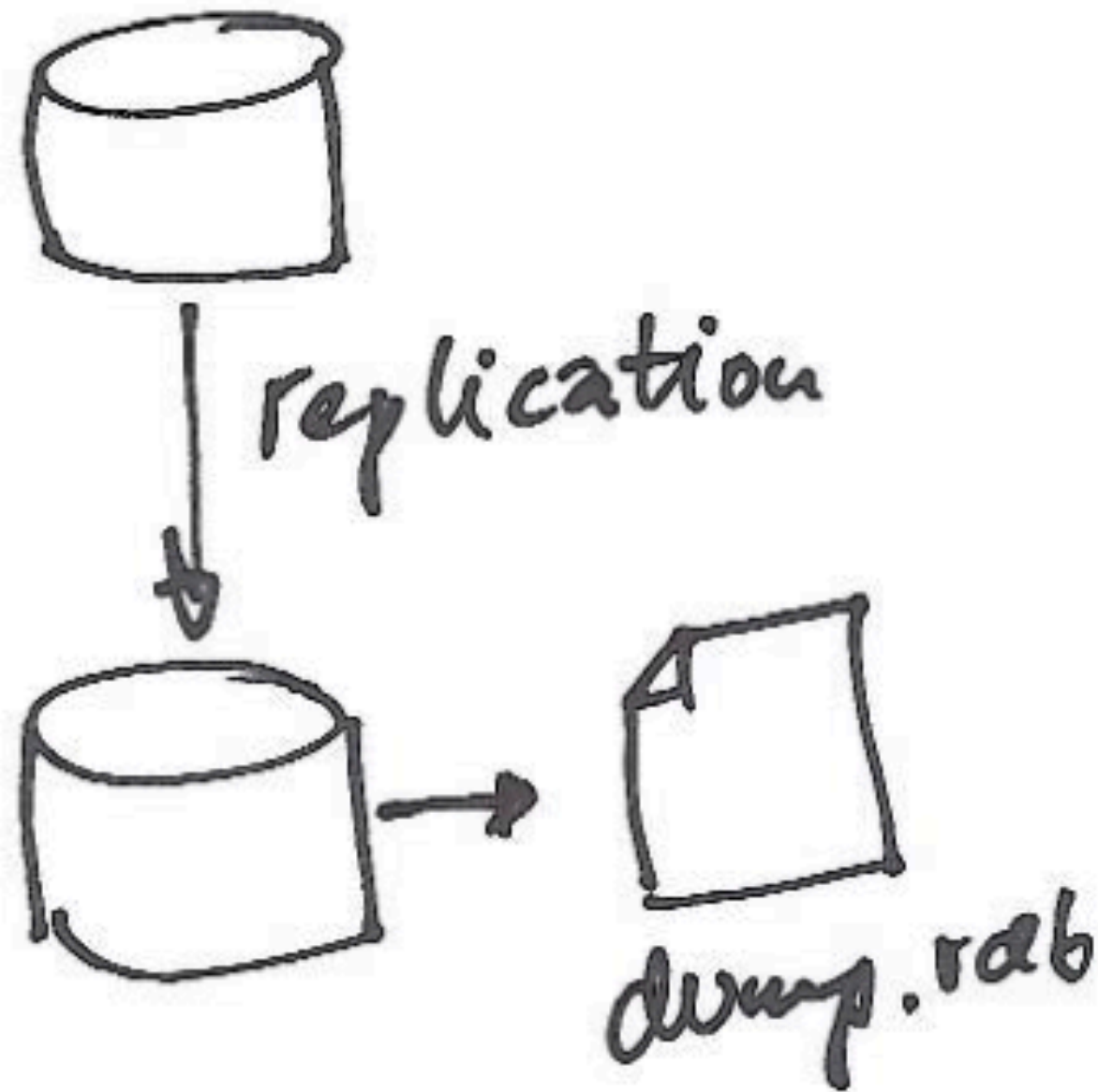
- user = single Redis hash
 - each entity stored in hash field (serialized to JSON)
- custom Ruby mapping layer ("Remodel")



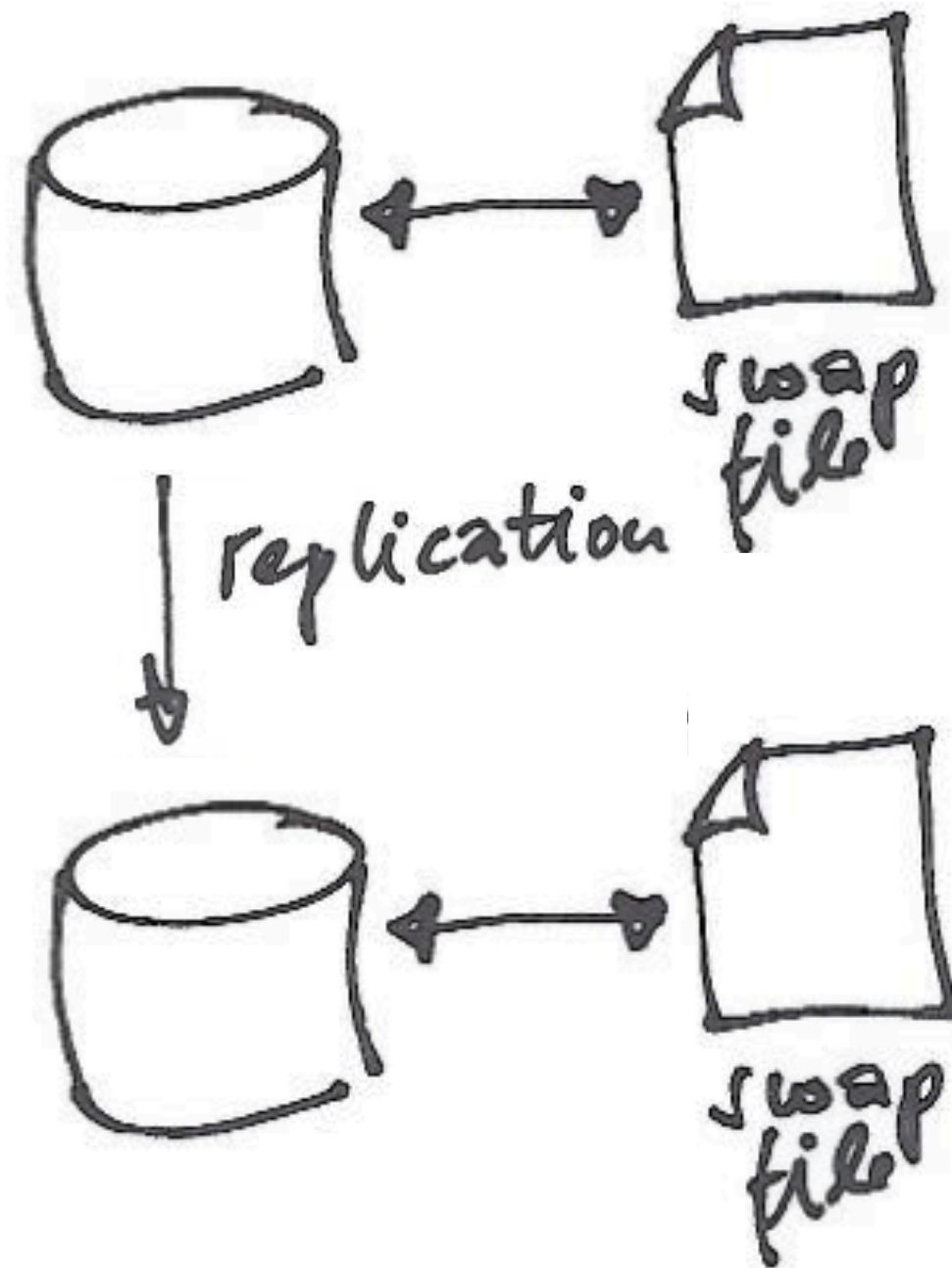
1220032045	ul	{“level”: 4, “xp”: 241}
	ul_pets	[“p7”, “p8”]
	p7	{“pet_type”: “Cat”}
	p8	{“pet_type”: “Dog”}
1234599660	ul	{“level”: 1, “xp”: 22}
	ul_pets	[“p3”]

1220032045	ul	{“level”: 4, “xp”: 241}
	ul_pets	[“p7”, “p8”]
	p7	{“pet_type”: “Cat”}
	p8	{“pet_type”: “Dog”}
1234599660	ul	{“level”: 1, “xp”: 22}
	ul_pets	[“p3”]

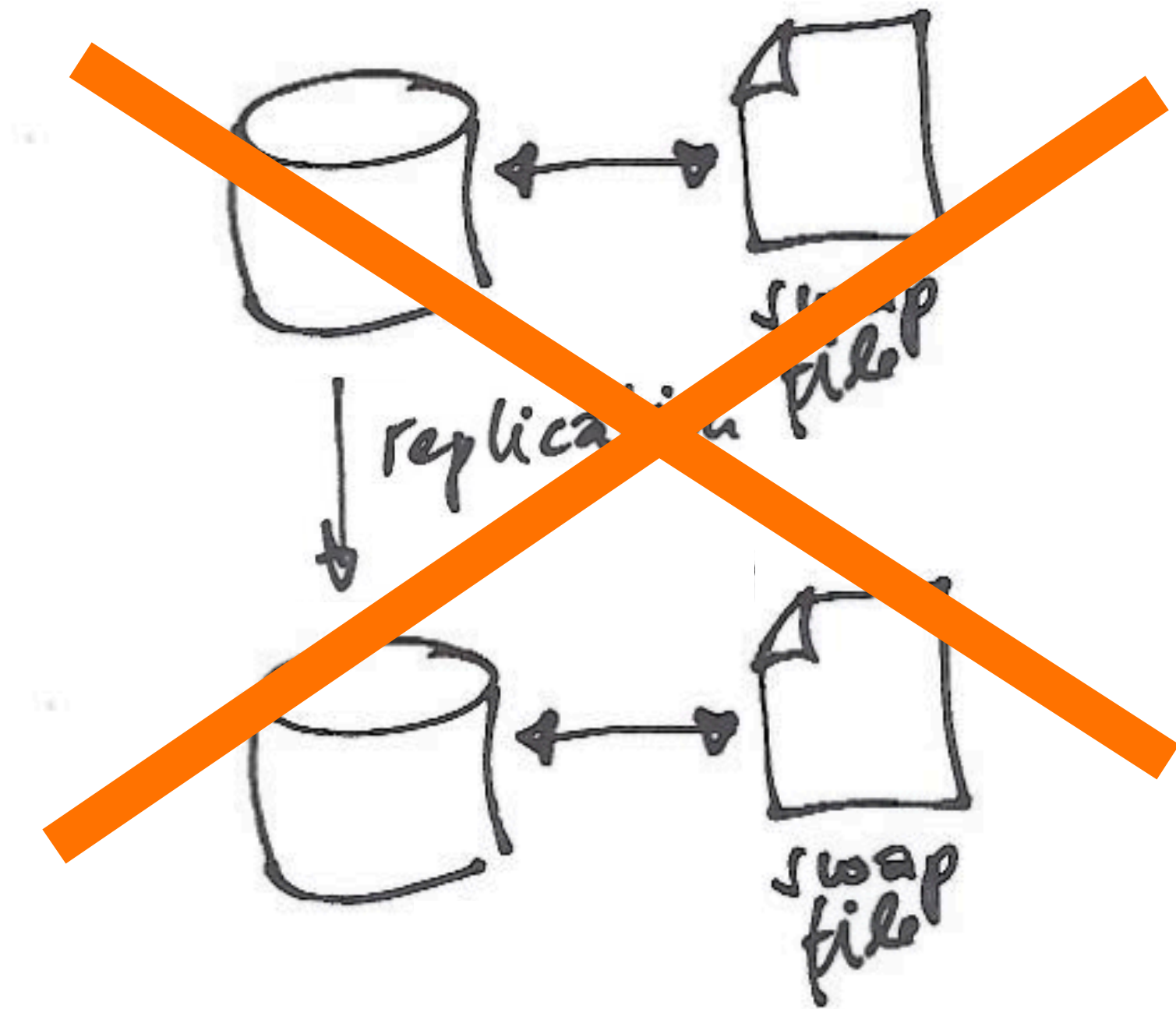
Setup A (July 2010)



Setup B (Nov 2010)



Setup B (Dec 2010)

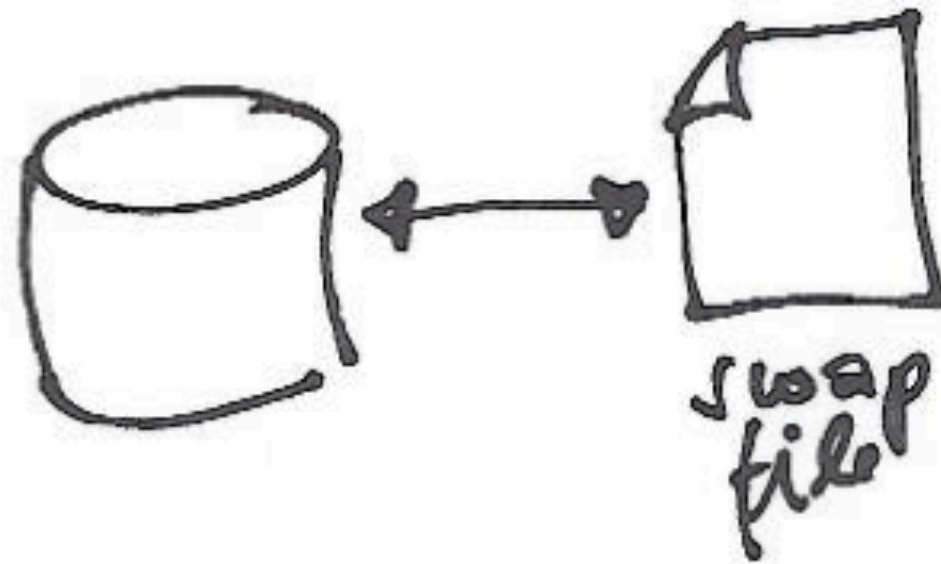


Analysis

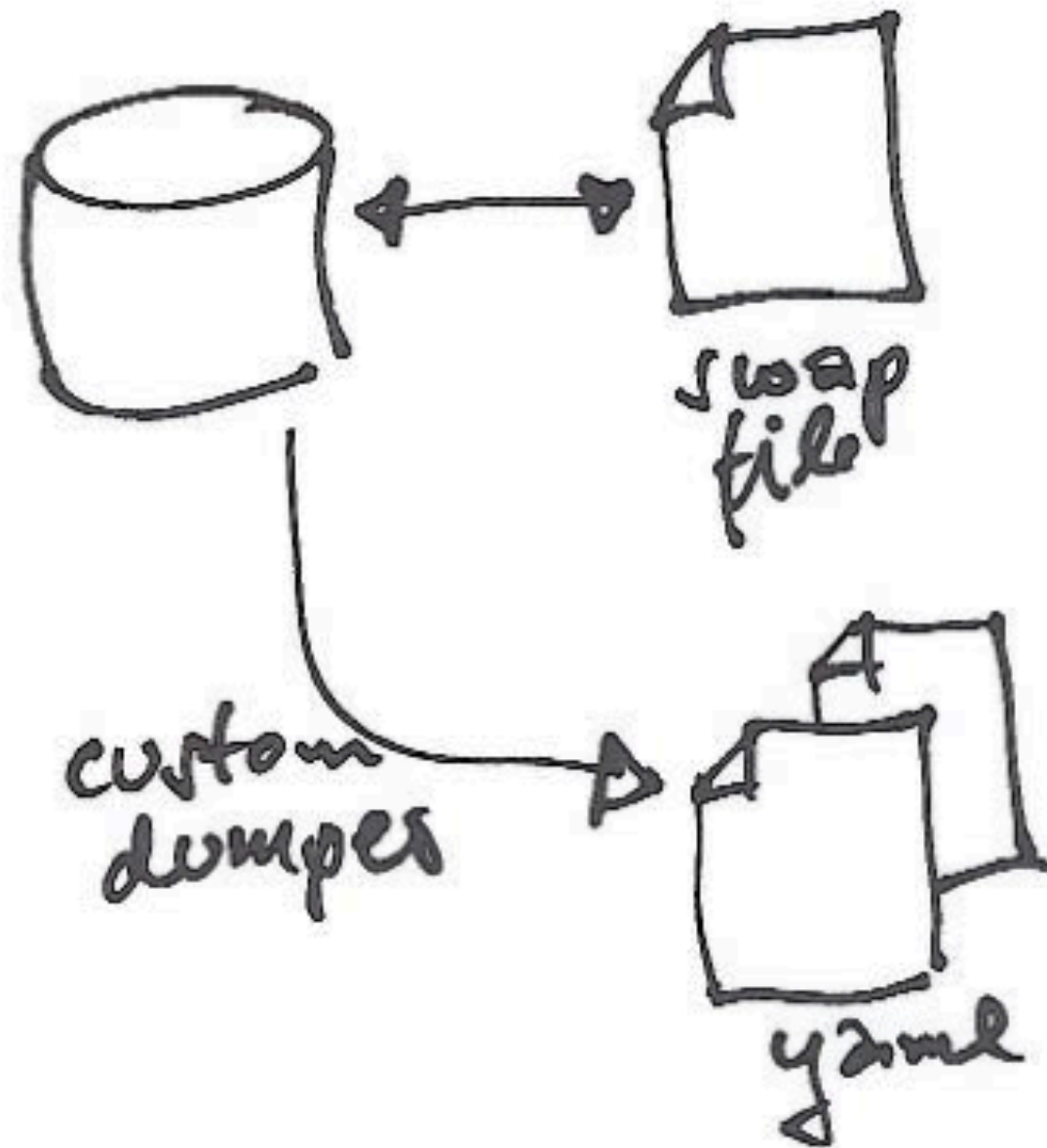
- Redis virtual memory not compatible with:
 - persistence
 - replication



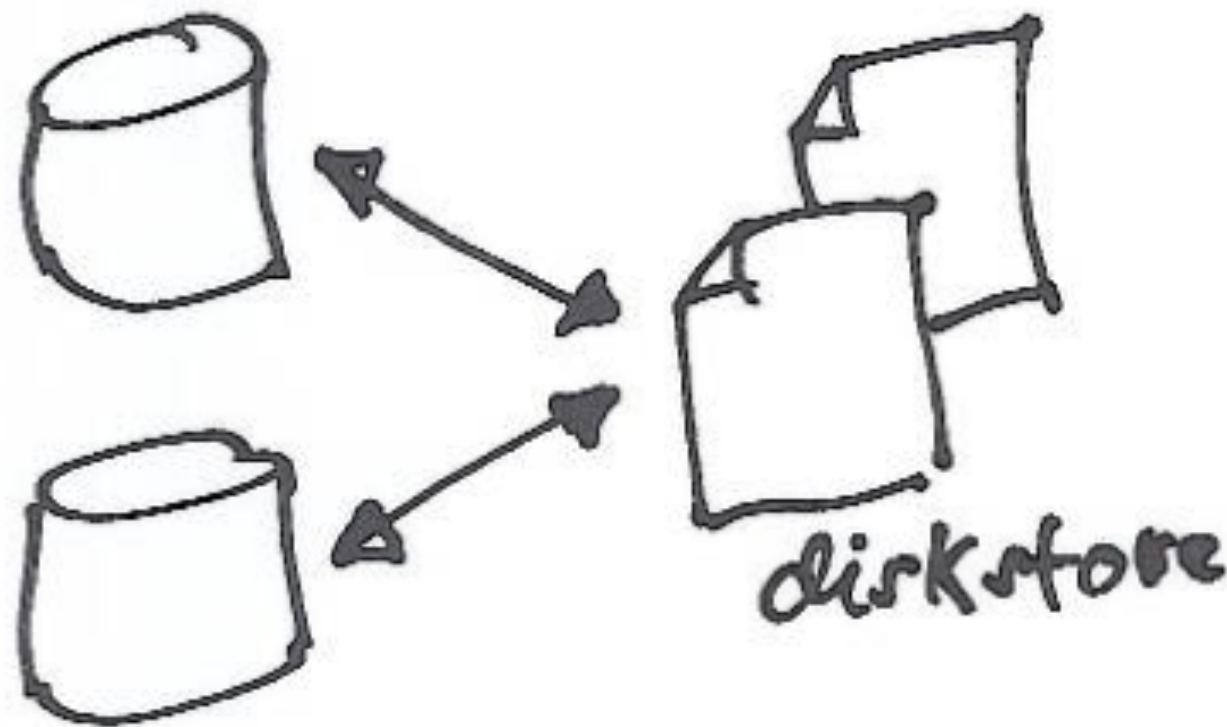
Setup B' (Dec 2010)



Setup C (Dec 2010)



Setup D (May 2011)



Status

- peak traffic:
 - 3000 requests/s
 - 35000 Redis operations/s
- average backend response time:
 - **10 ms**

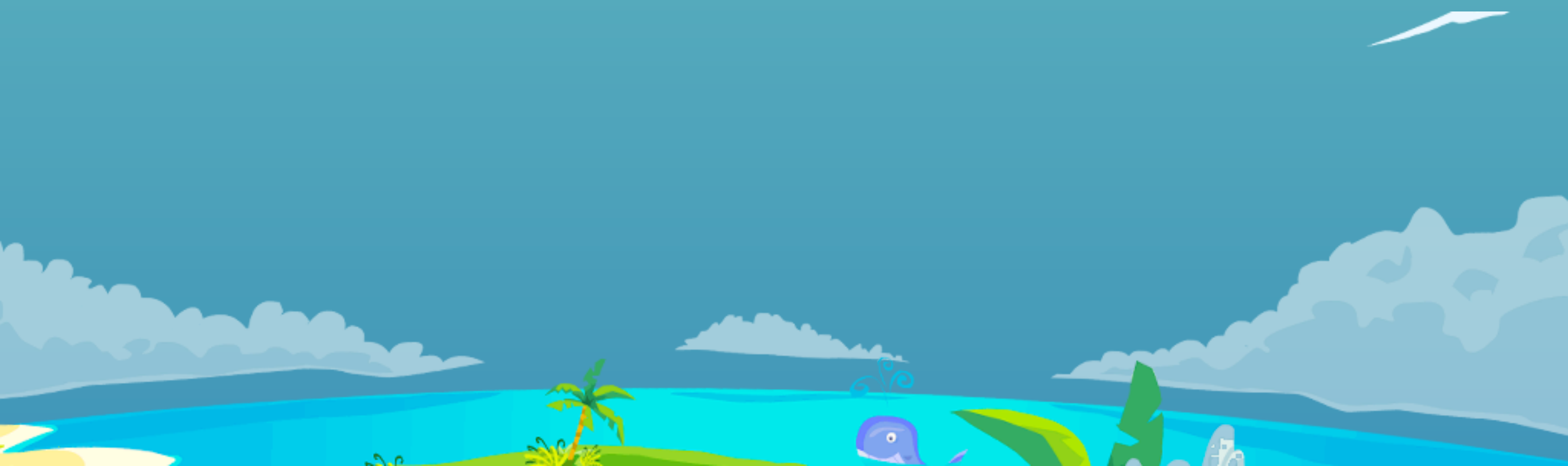


App Leaderboard - Games

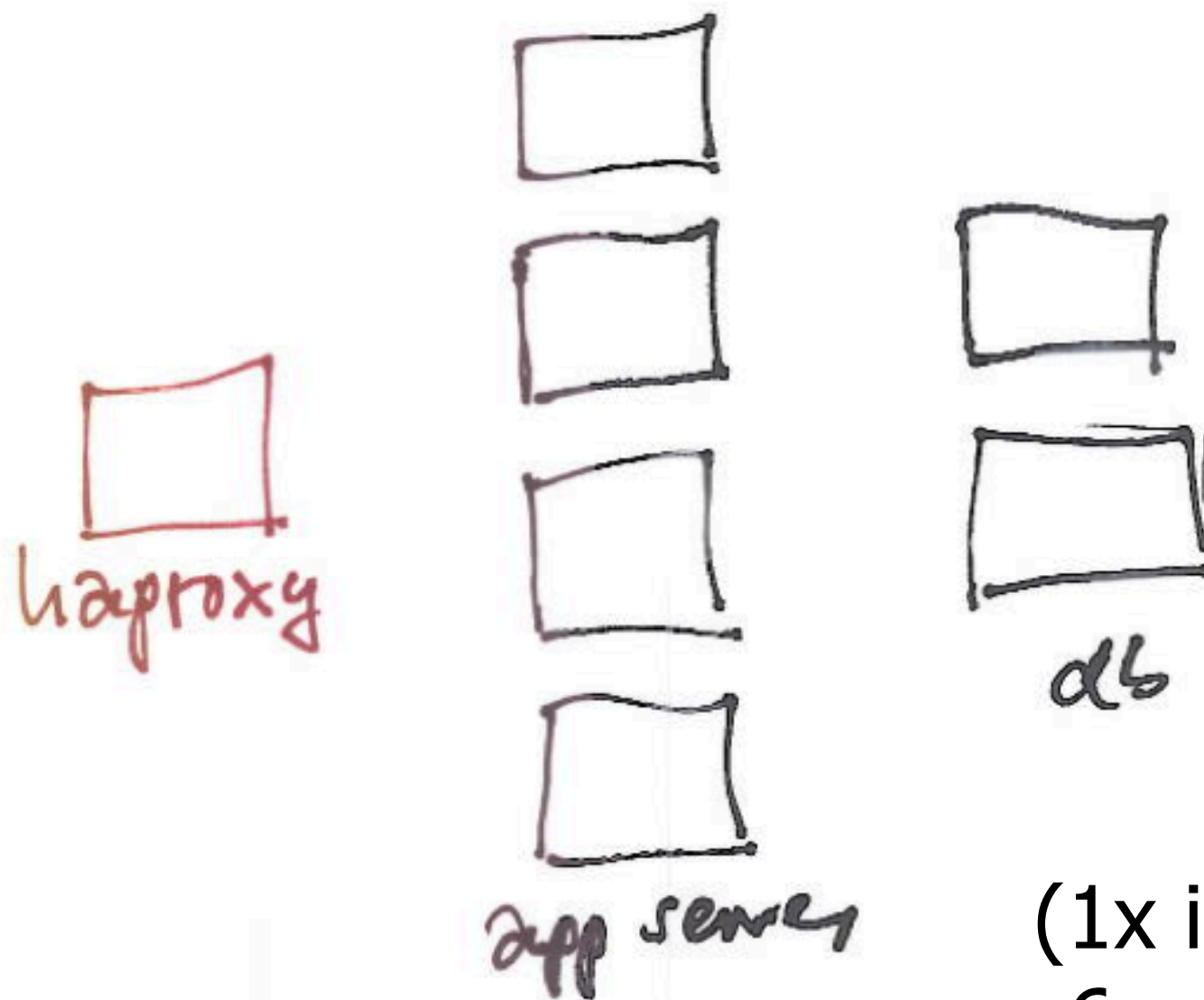
	Name	DAU
1.	 CityVille	18,699,103
2.	 FarmVille	10,351,196
3.	 Texas HoldEm Poker	6,716,347
4.	 FrontierVille	4,064,859
5.	 Bejeweled Blitz	2,883,090
	•	
	•	
	•	
	•	
43.	 Monopoly Millionaires	538,175
44.	 PetVille	525,593
45.	 Happy Hospital	480,853
46.	 Family Feud	477,158
47.	 Dragons of Atlantis	468,524

Goals

- ~~1 million DAU~~
- small production cluster



Production Cluster



(1x intel core i7 X980,
6 cores, 24 gig ram)

Goals

- ~~1 million DAU~~

- small production cluster



Redis Highlights

- high sustained throughput / performance
- very stable
- active & helpful community

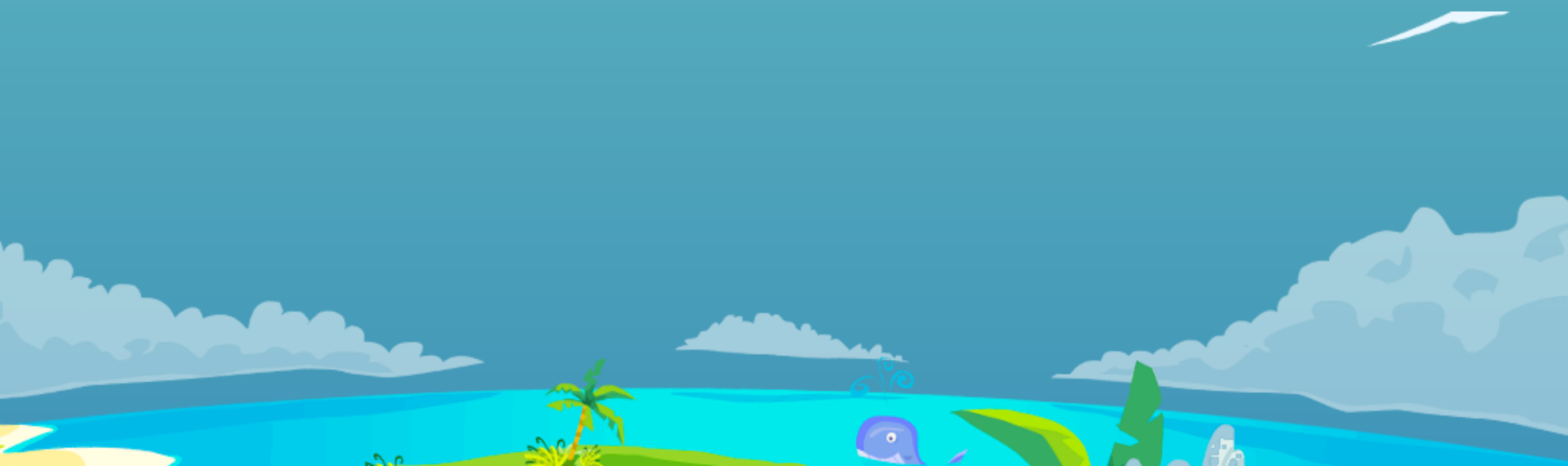


Redis Gotchas

- memory consumption
 - fragmentation!
- durability



Q & A



redis.io

github.com/tlossen/remodel

wooga.com/jobs

