



Arquitetura de Sistemas

Prof. Edgard Davidson C. Cardoso

Referências



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Arquitetura de Sistemas

CACHE



O Que é Cache?

“Cache é uma coleção de dados duplicados de dados originais armazenados ...”

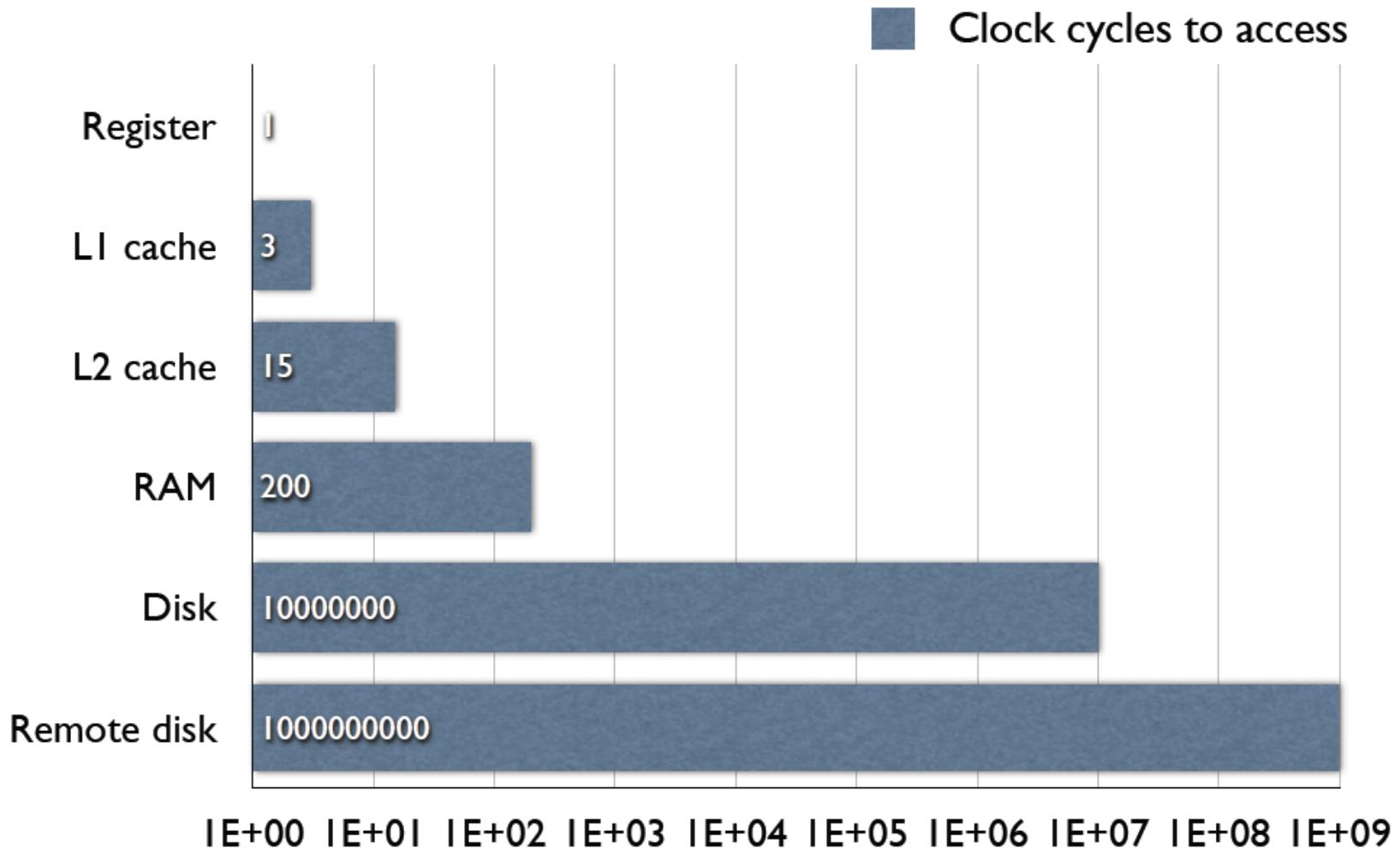


O Que é cache?

“Cache é área de armazenamento de dados temporária que é frequentemente acessado para rápido acesso”



Por que Caching?





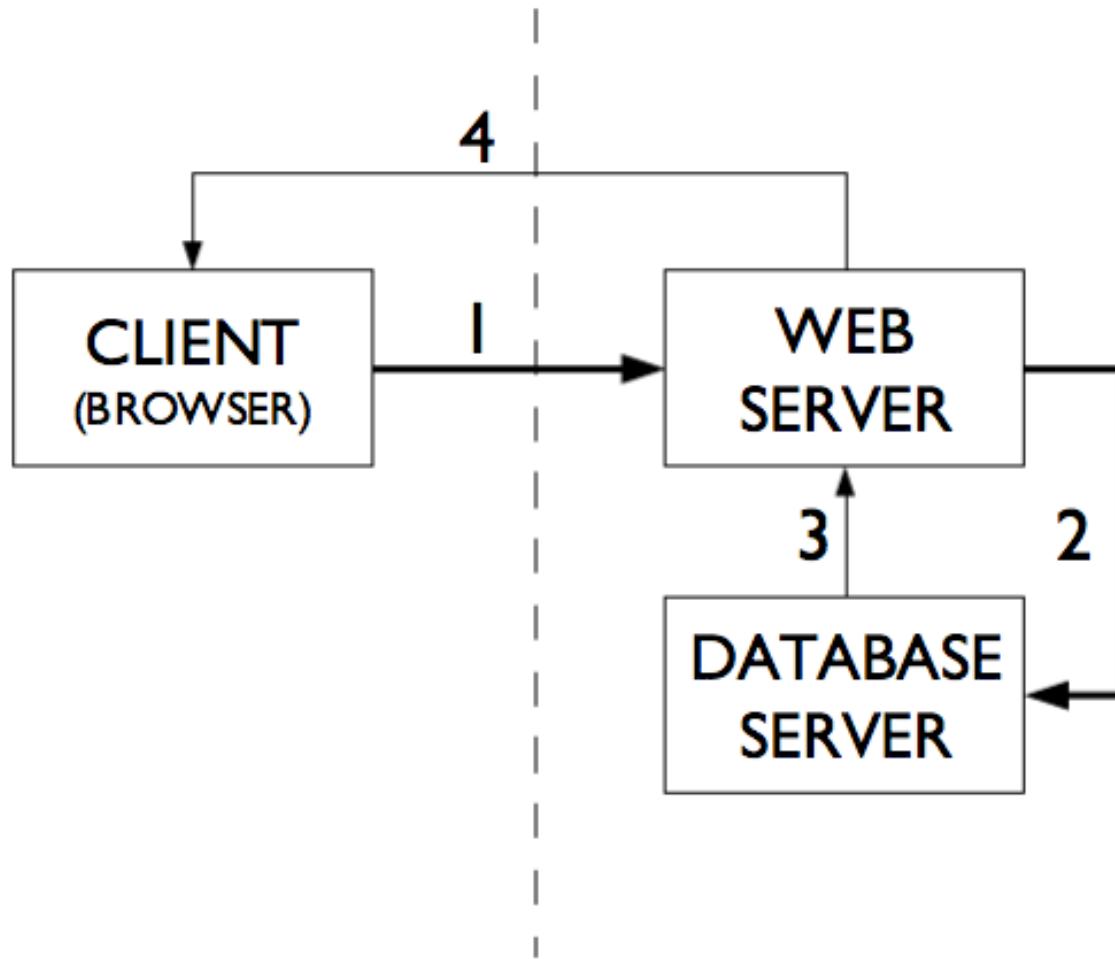
Por que usar Cache?

- Para reduzir o número de requisições a um banco de dados
- Para reduzir o número de requisição a um serviço externo
- Para reduzir o tempo levado para o cálculo de algum dado
- Para reduzir o acesso ao file system



Tipos de Cache

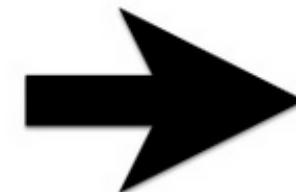
- File System
- Database
- Compartilhamento de Memória
- RAM disk
- Object cache (memcached)





Cache

```
GET /foo HTTP/1.1
Host: www.foo.com
User-Agent: FooBrowser/1.0
Cache-Control: max-age=0
If-Modified-Since: Mon, 01 Jan 1979 ...
If-None-Match: abcdef0123456789
Accept: *
```



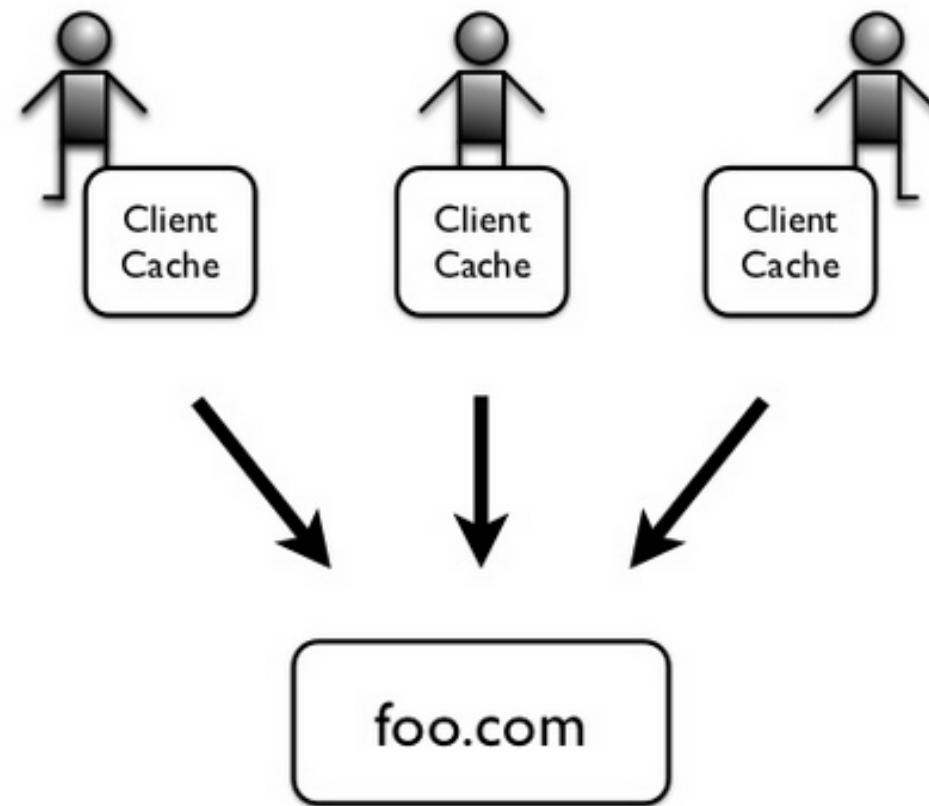
```
HTTP/1.1 200 OK
Content-Type: text/html
Content-Length: 24
Cache-Control: max-age=300
Last-Modified: Mon, 02 Jan 1979 ...
ETag: abcdef0123456789
Vary: Accept
```





Tipos de Cache

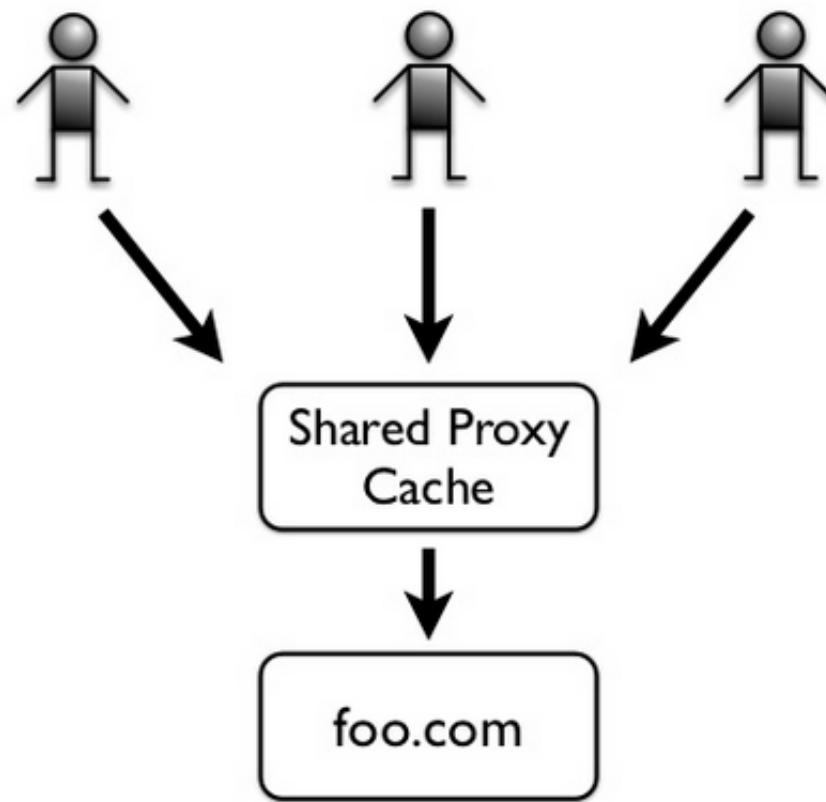
- Cache cliente





Tipos de Cache

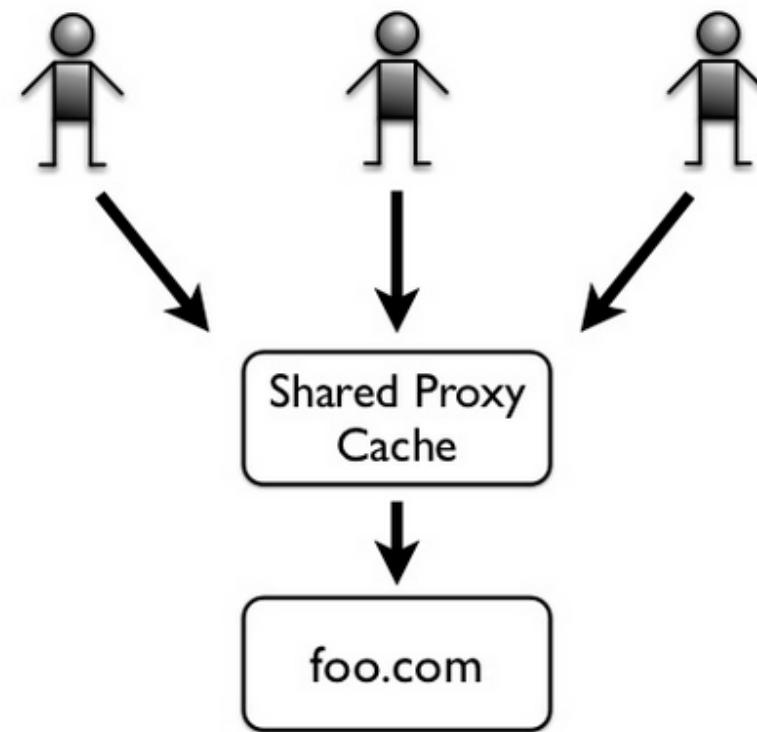
- Cache de proxy compartilhado





Tipos de Cache

- Gateway Cache





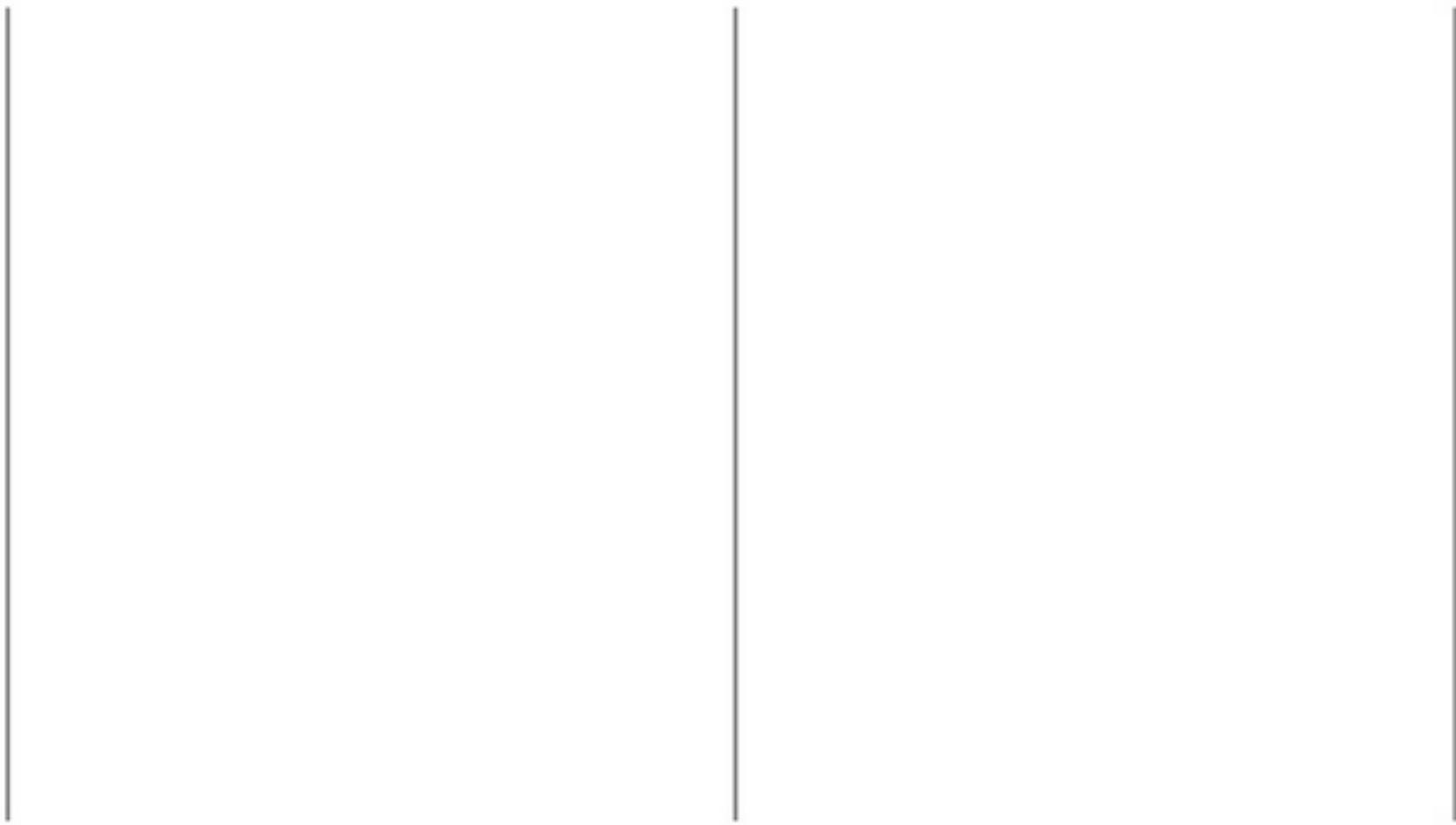
Alice



Gateway Cache



Backend





Alice



Gateway Cache



Backend



GET /foo
Host: foo.com





Alice



Gateway Cache



Backend



GET /foo
Host: foo.com



GET /foo
Host: foo.com





Alice



Gateway Cache



Backend



GET /foo
Host: foo.com



GET /foo
Host: foo.com



200OK
Cache-Control: public, max-age=60





Alice



Gateway Cache



Backend



GET /foo
Host: foo.com



GET /foo
Host: foo.com



200 OK
Cache-Control: public, max-age=60



200 OK
Cache-Control: public, max-age=60





Bob

(30 seconds later)



Gateway Cache



Backend





Bob (30 seconds later)



Gateway Cache



Backend



GET /foo
Host: foo.com





Bob

(30 seconds later)



Gateway Cache



Backend



GET /foo
Host: foo.com



200 OK
Cache-Control: public, max-age=60
Age: 30





Carol (60 seconds later)



Gateway Cache



Backend





Carol (60 seconds later)



Gateway Cache



Backend



GET /foo
Host: foo.com





Carol (60 seconds later)



Gateway Cache



Backend



GET /foo
Host: foo.com



GET /foo
Host: foo.com





Carol (60 seconds later)



Gateway Cache



Backend



GET /foo
Host: foo.com



GET /foo
Host: foo.com



200OK
Cache-Control: public, max-age=60





Carol (60 seconds later)



Gateway Cache



Backend



GET /foo
Host: foo.com



GET /foo
Host: foo.com



200OK
Cache-Control: public, max-age=60



200OK
Cache-Control: public, max-age=60

