Evaluating the SiteStory Transactional Web Archive With the ApacheBench Tool

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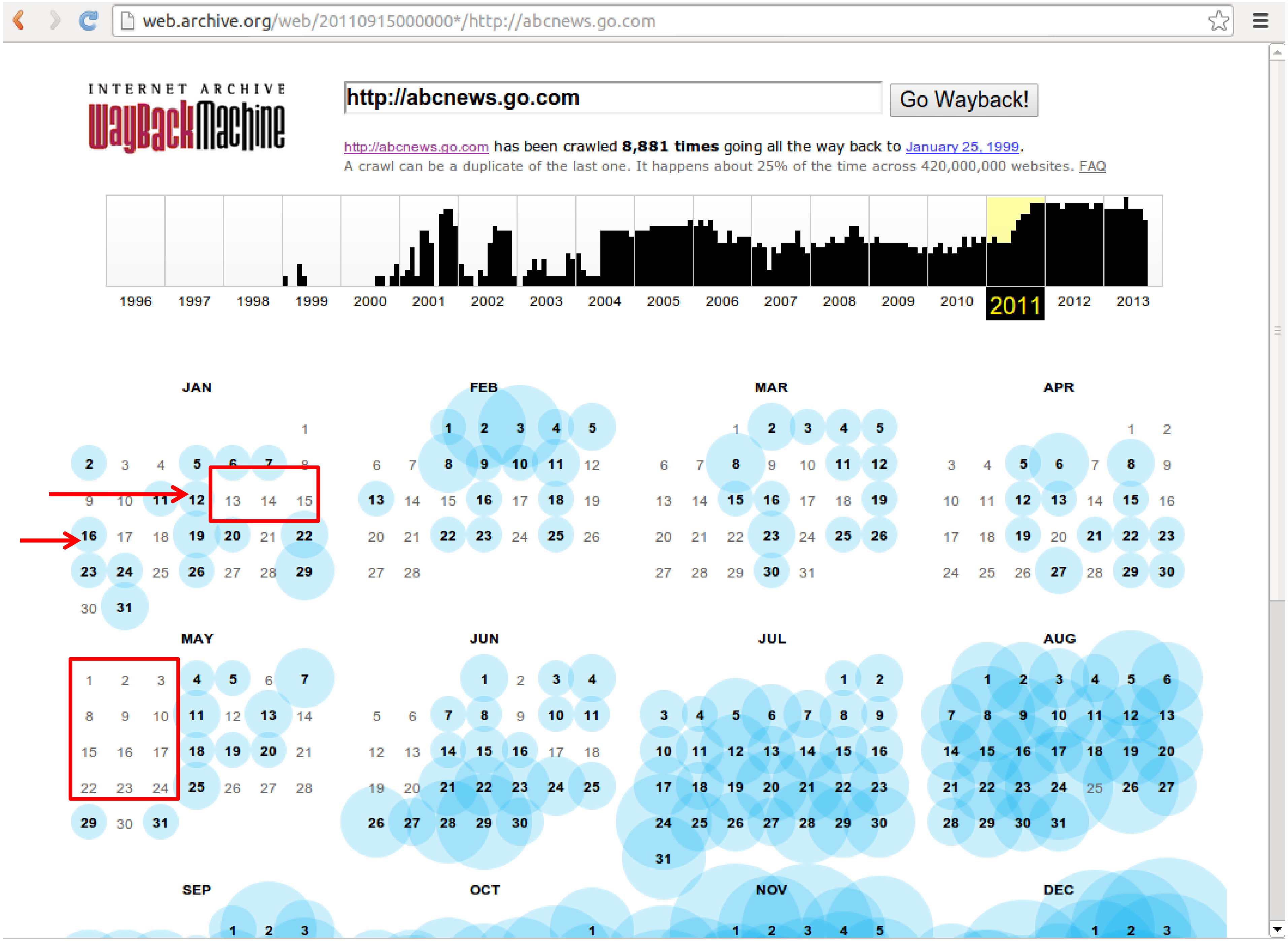

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JAN

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AUG

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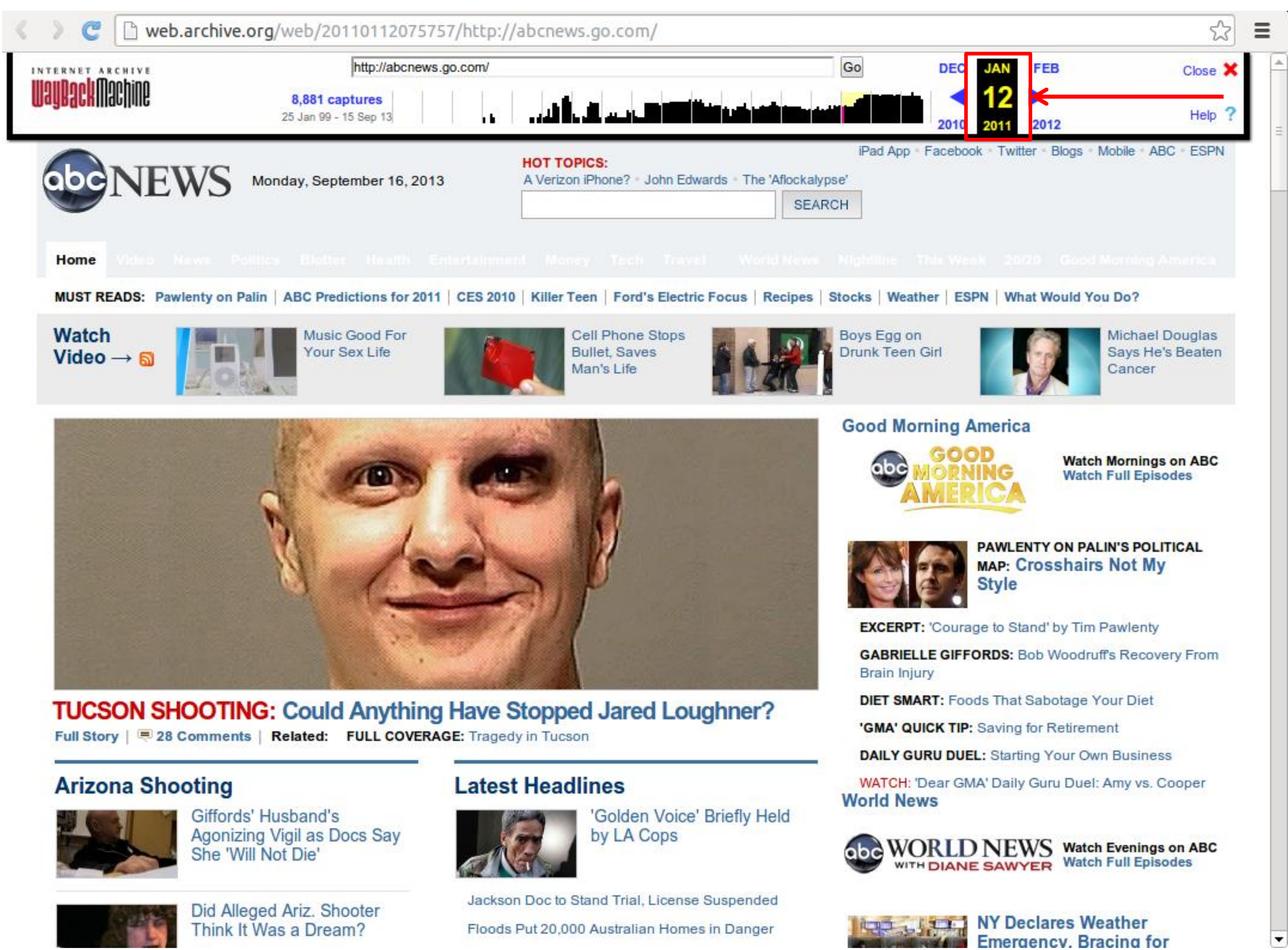

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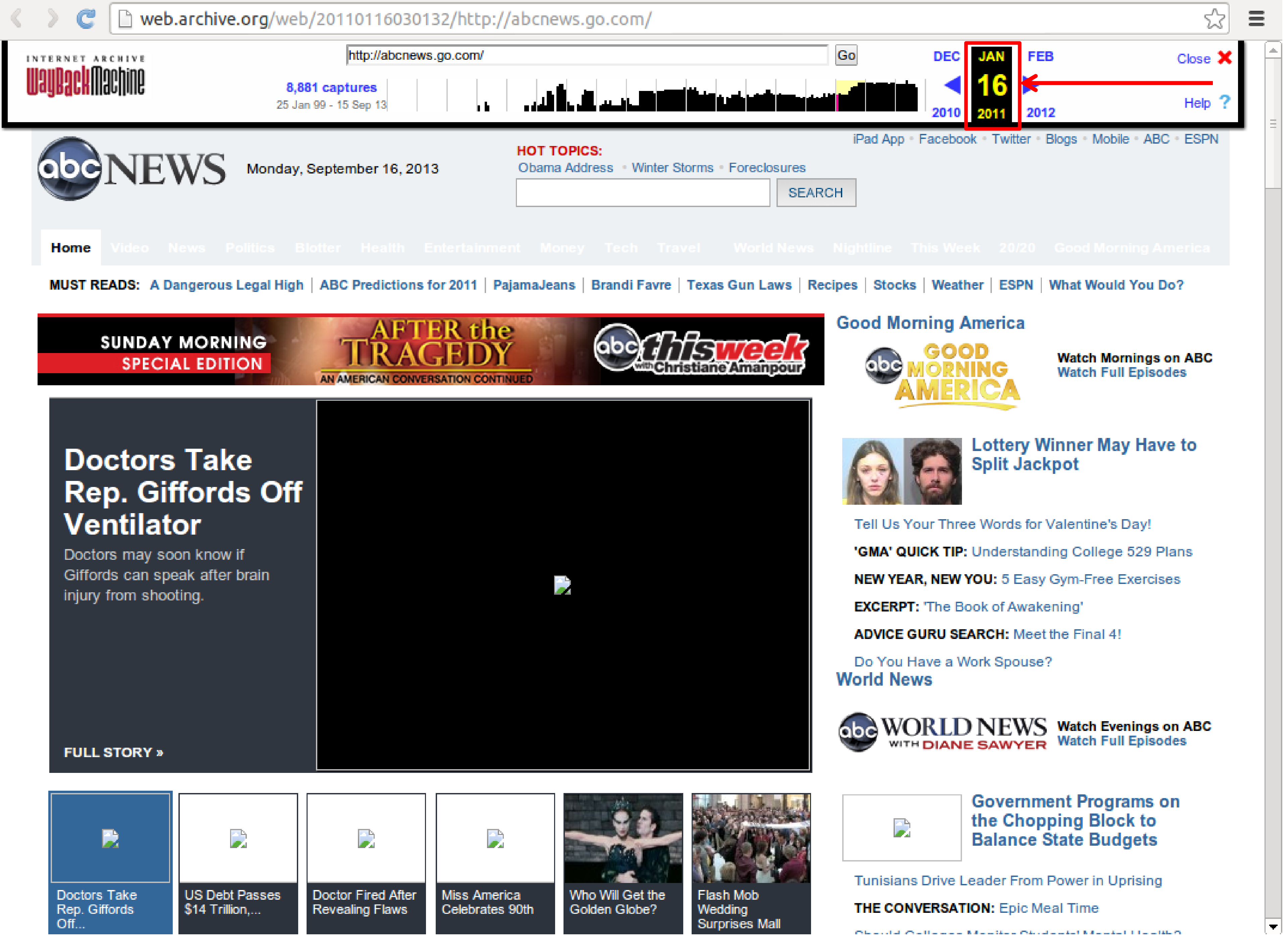

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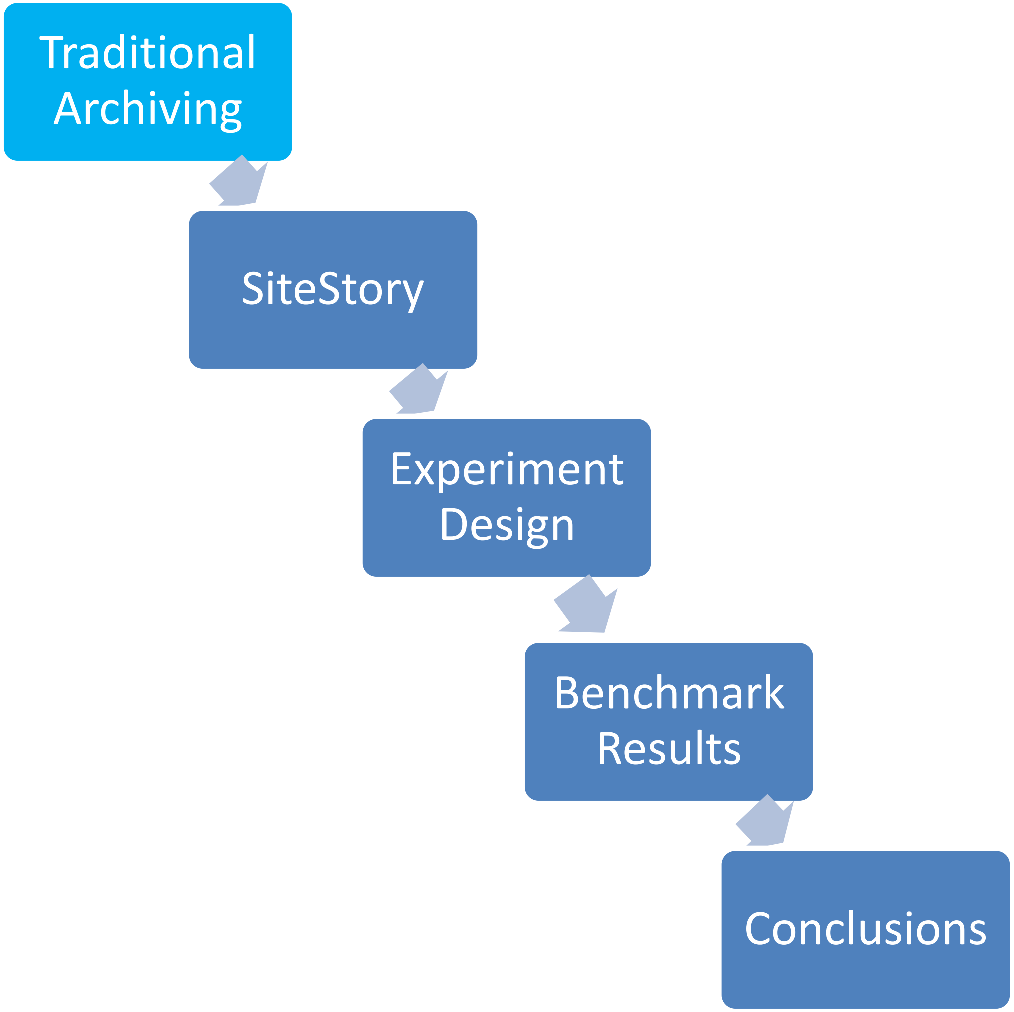
Problem

- People view ABC News all the time
- No mementos for “all the time”
  - Missed stories
- Solution: Transactional Archiving!

Agenda


Traditional Archiving

SiteStory

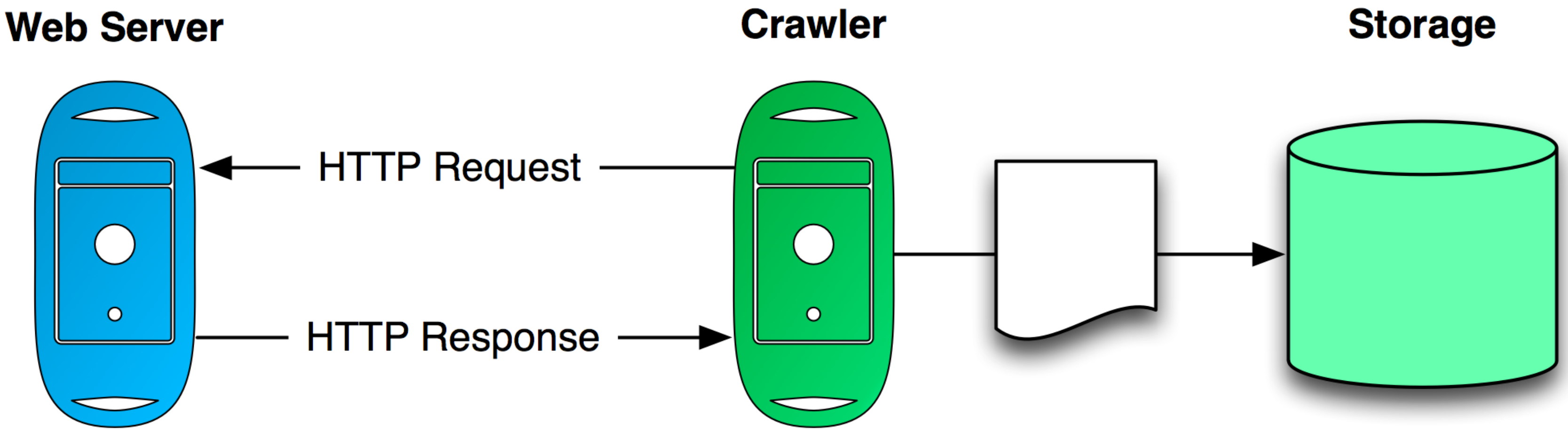
Experiment Design

Benchmark Results

Conclusions

Traditional Web Archiving

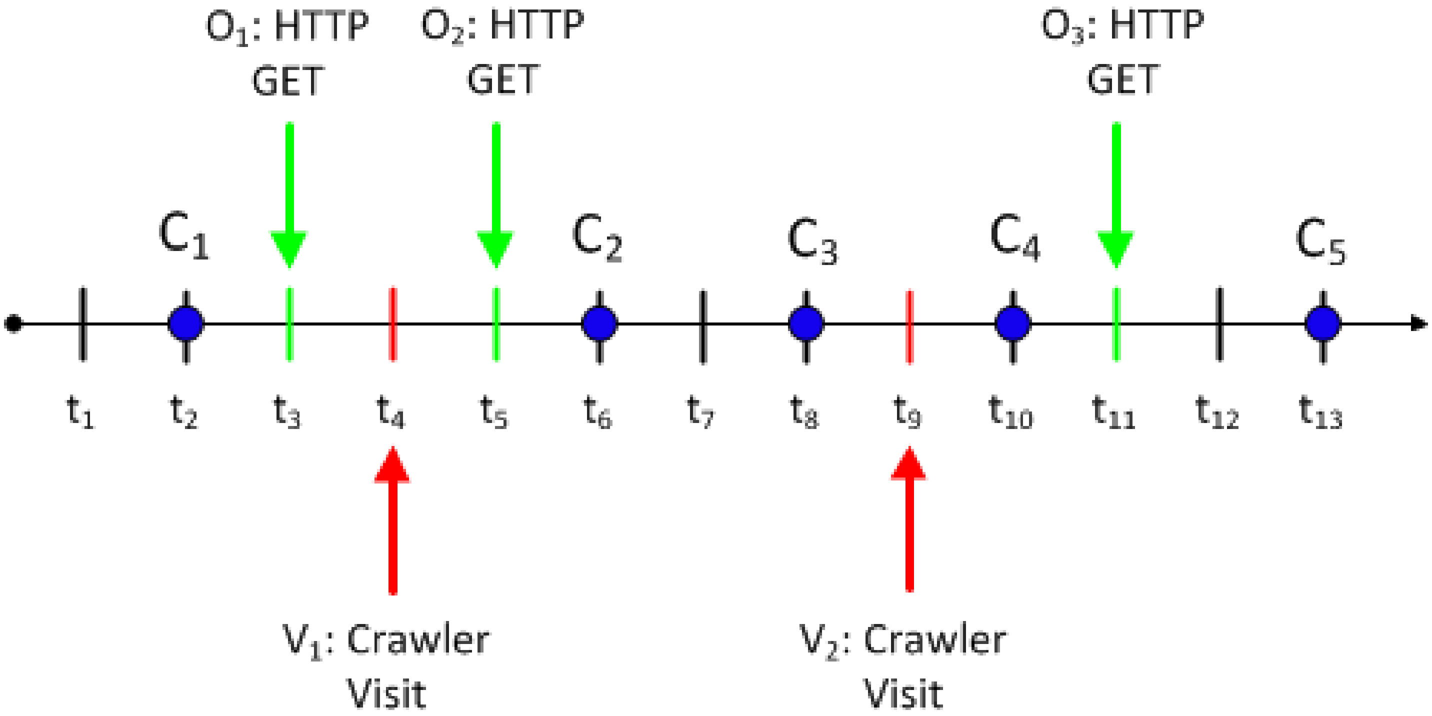
- Active crawling
- Heritrix



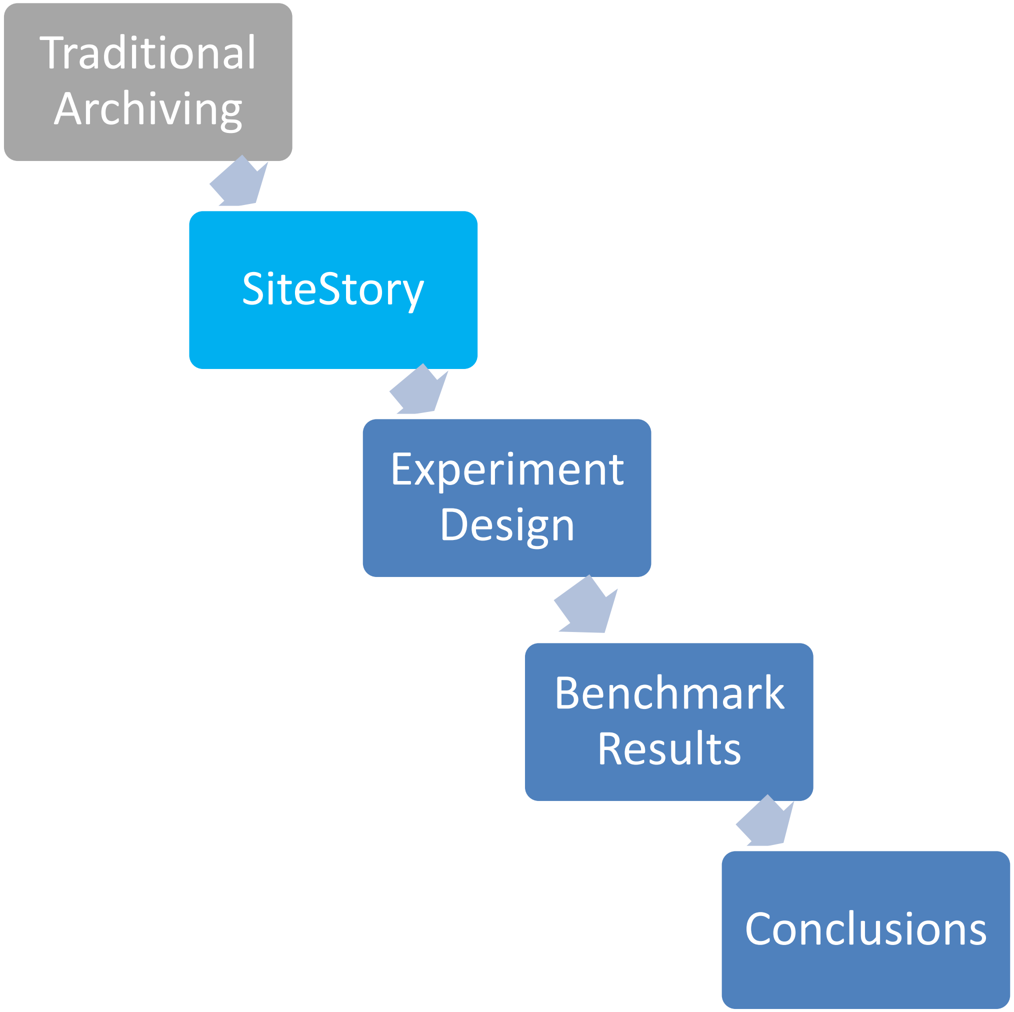
Issues with Traditional Web Archiving

- Request can be rejected (robots.txt, user-agent, IP)
- Can be deceived (geo-location, user-agent)
- Can be trapped (crawl my calendar!)
- Resource-intense (bandwidth)
- Recrawl vs. change-rate

Missed Updates



Agenda



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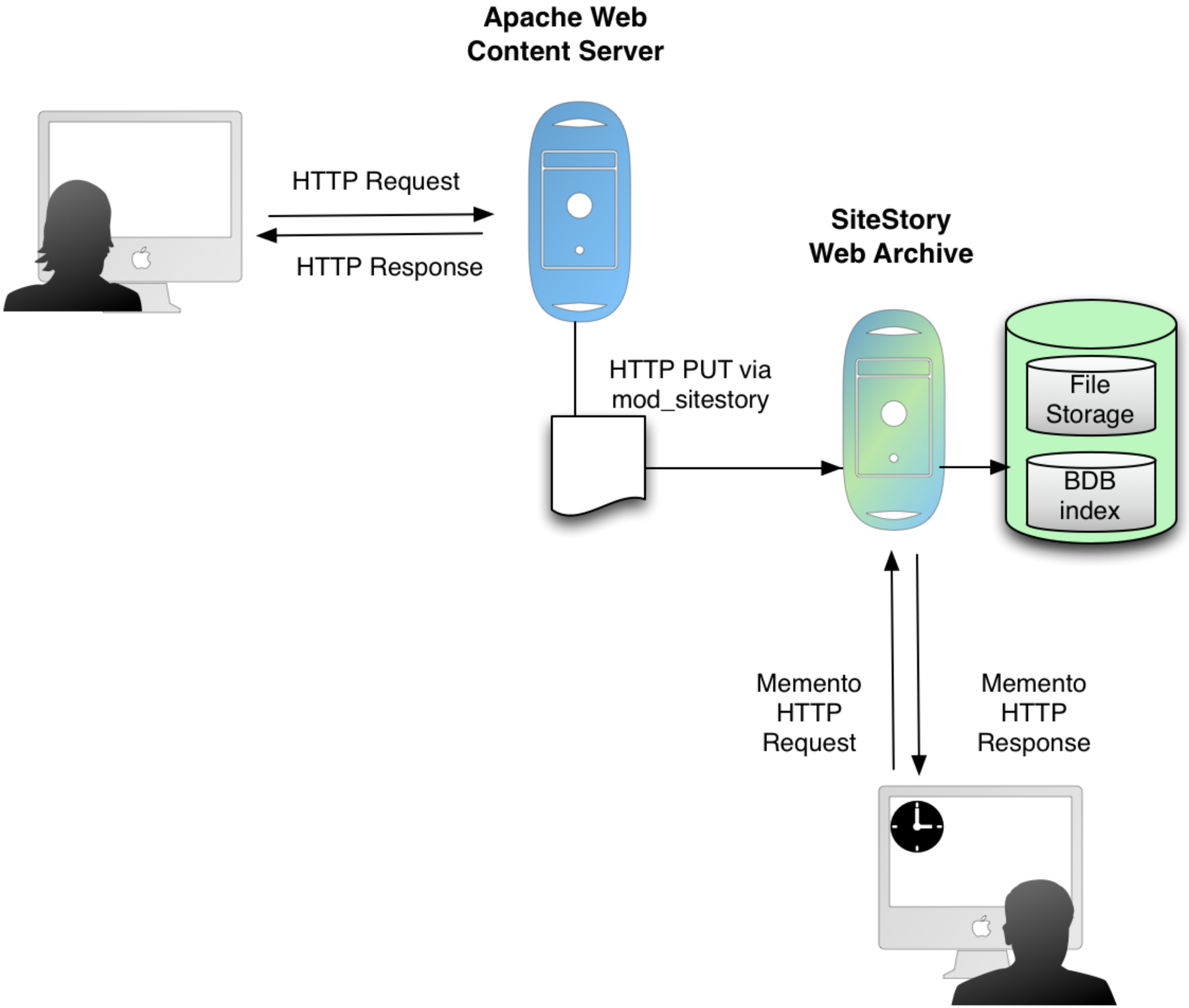
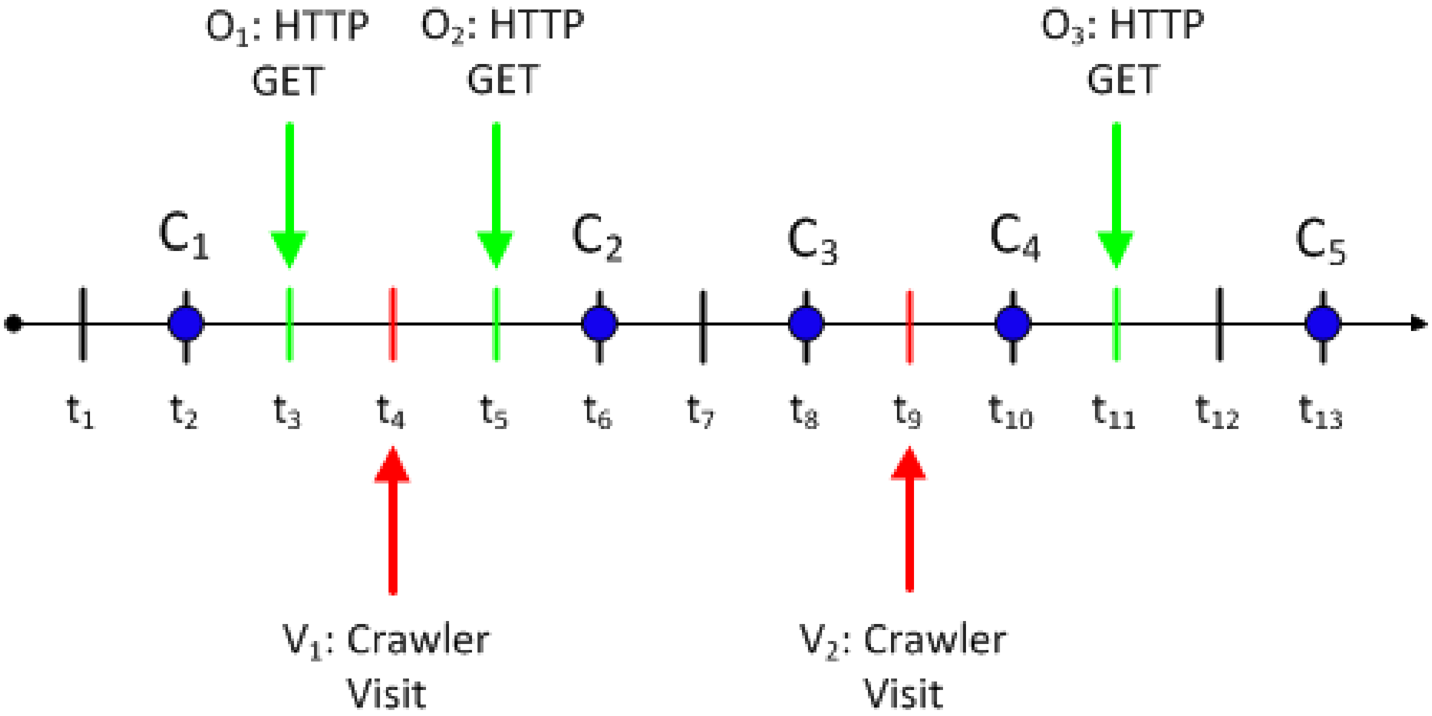

Apache Web Content Server
HTTP Request
HTTP Response
SiteStory Web Archive
HTTP PUT via mod_sitestory
File Storage
BDB index
Memento HTTP Request
Memento HTTP Response

Now we have them all



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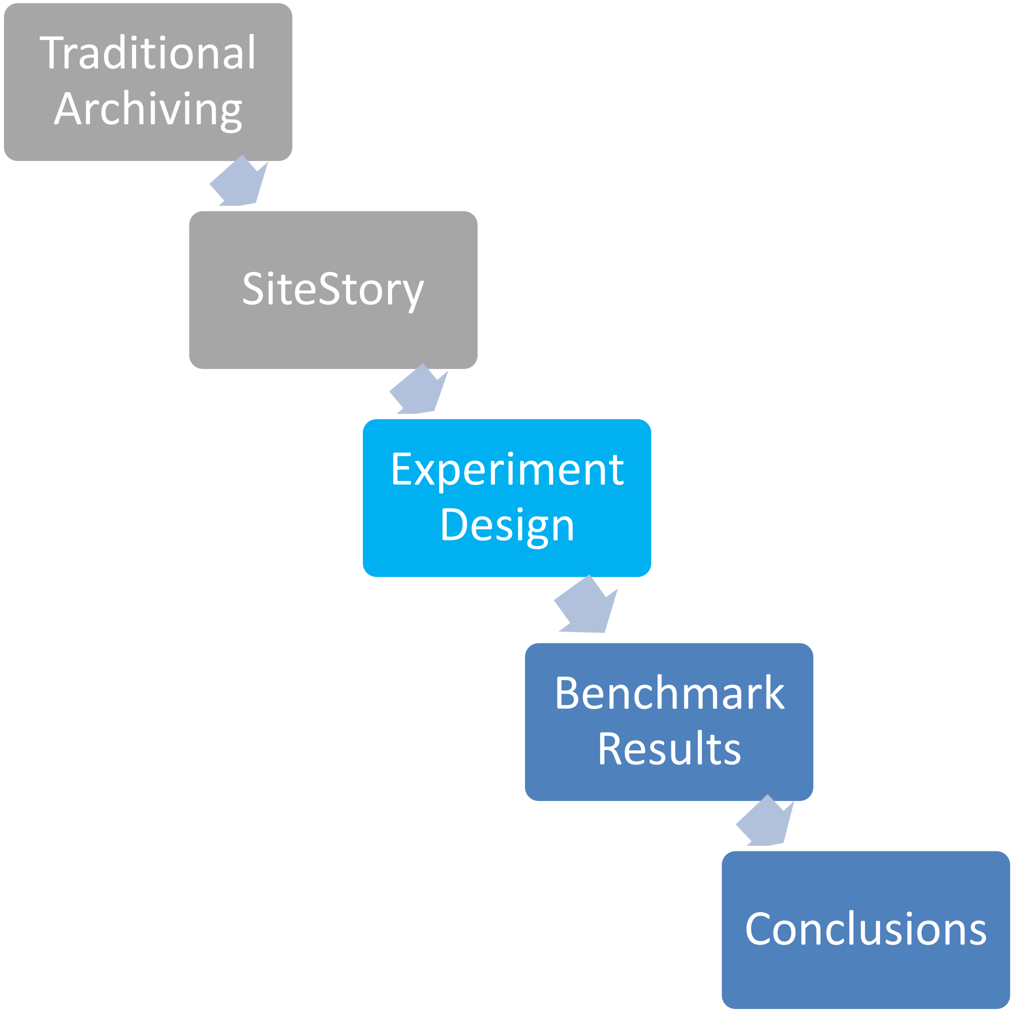

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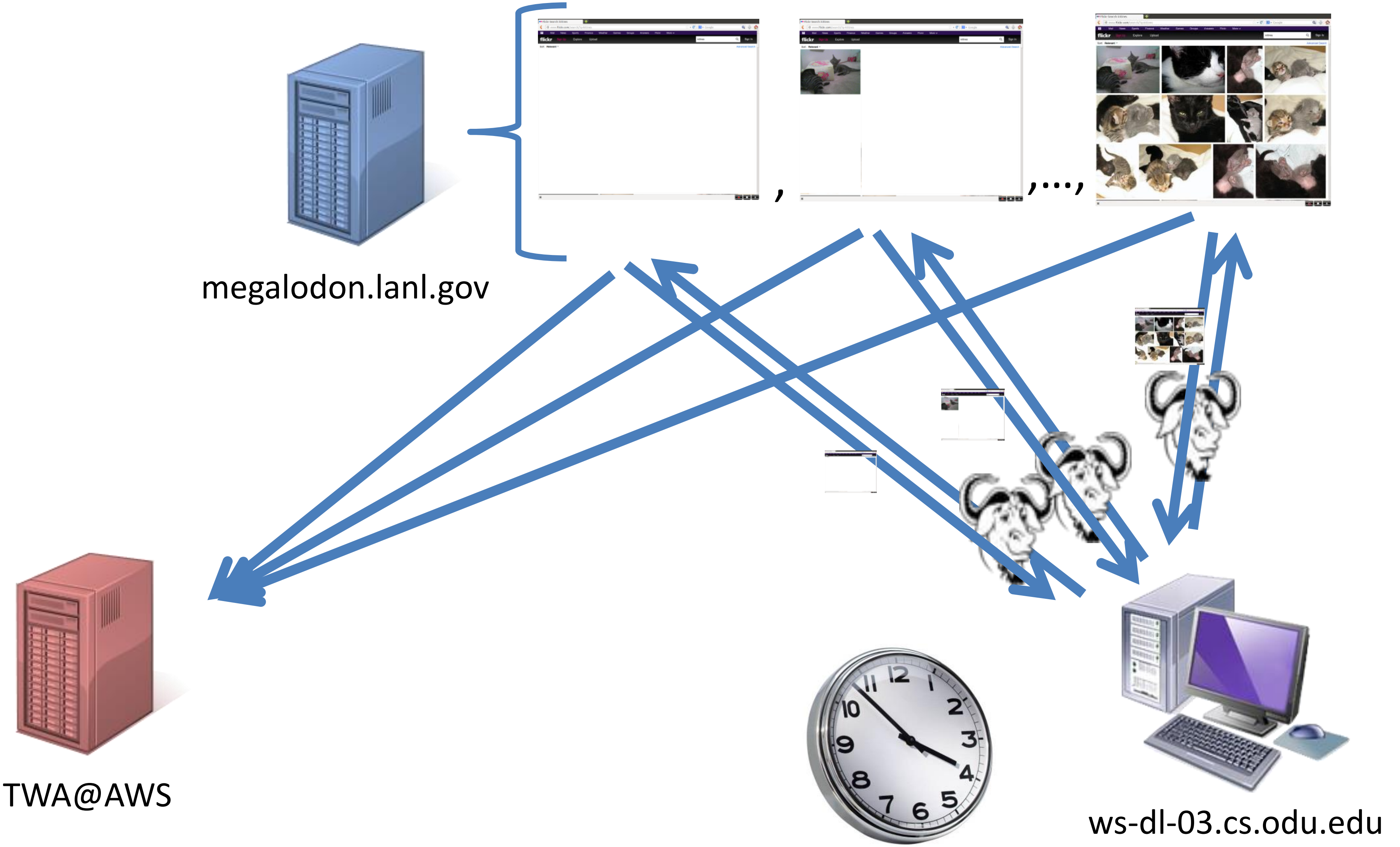
Benchmark with ab

- ApacheBench: ab
  - – -n [Number of Connections]
  - – -c [Concurrency]
- Benchmarked with SiteStory on & off

x99

Benchmark with wget



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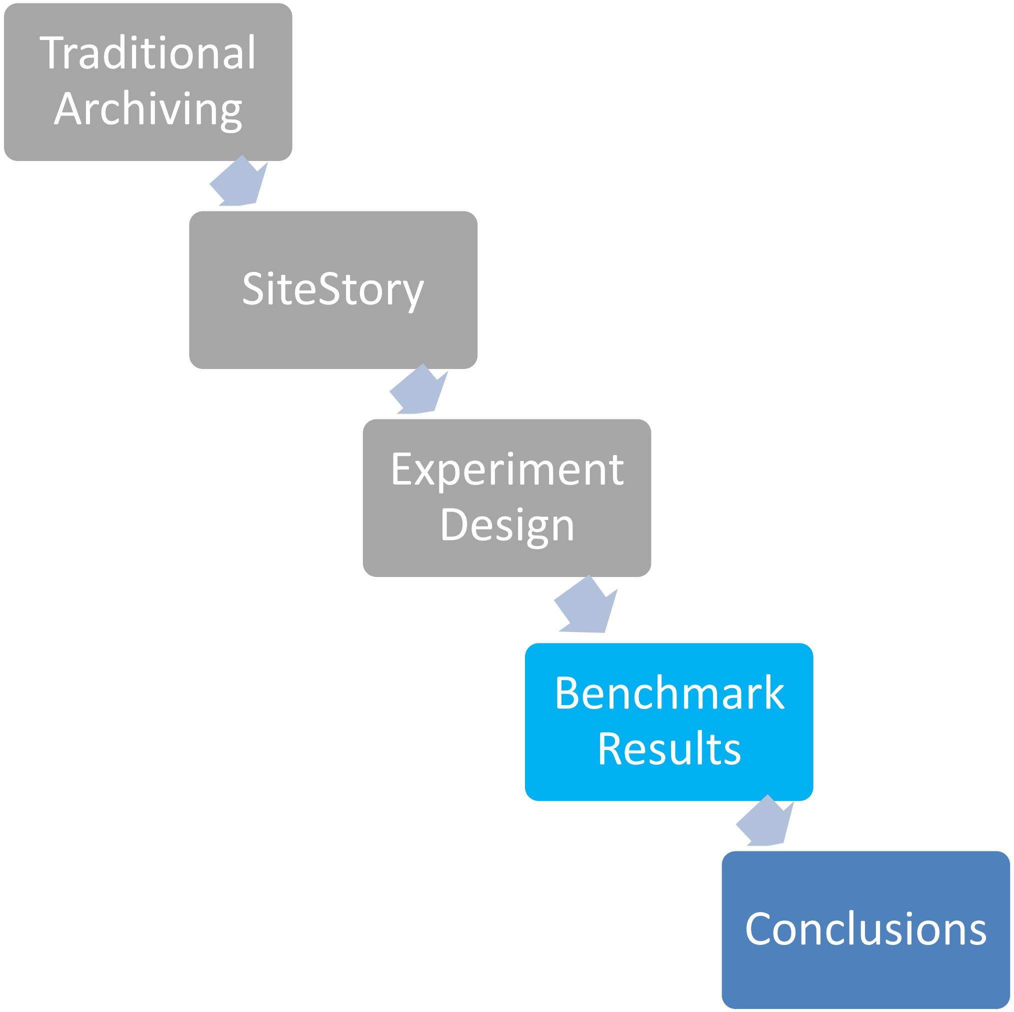

Traditional Archiving

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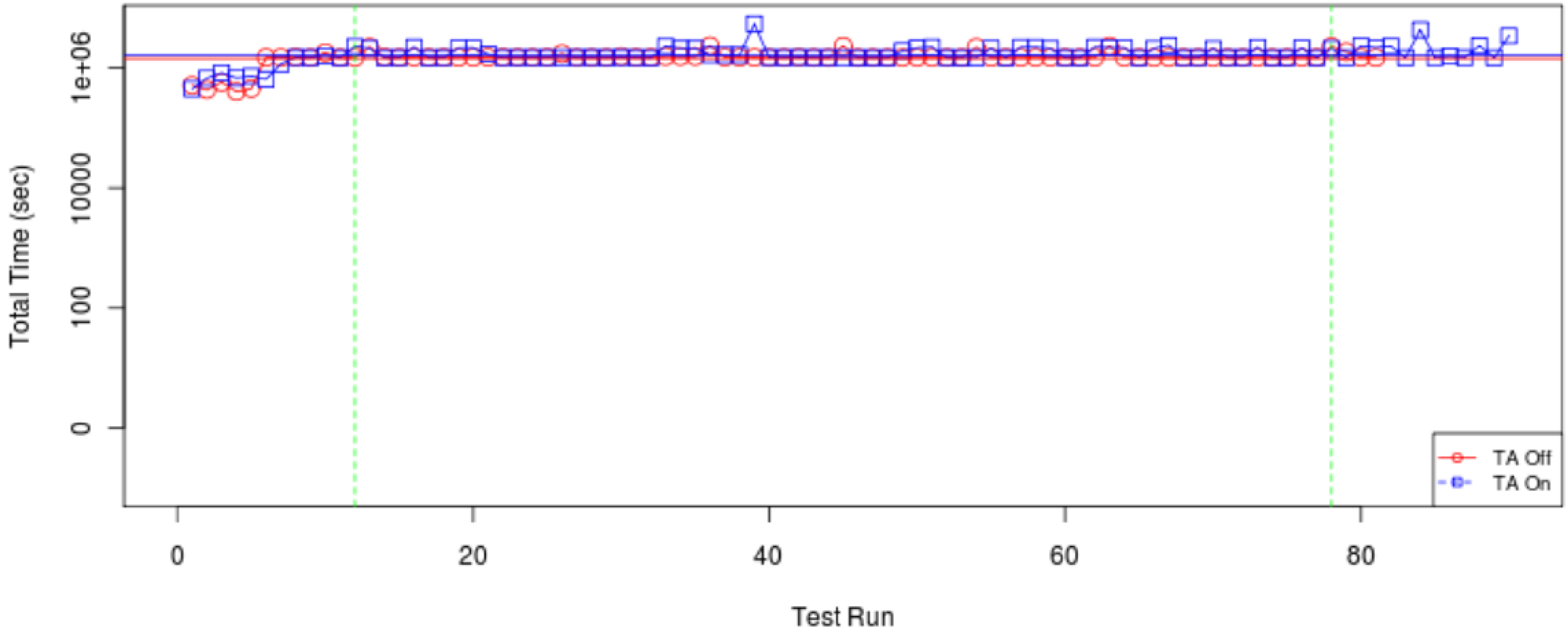
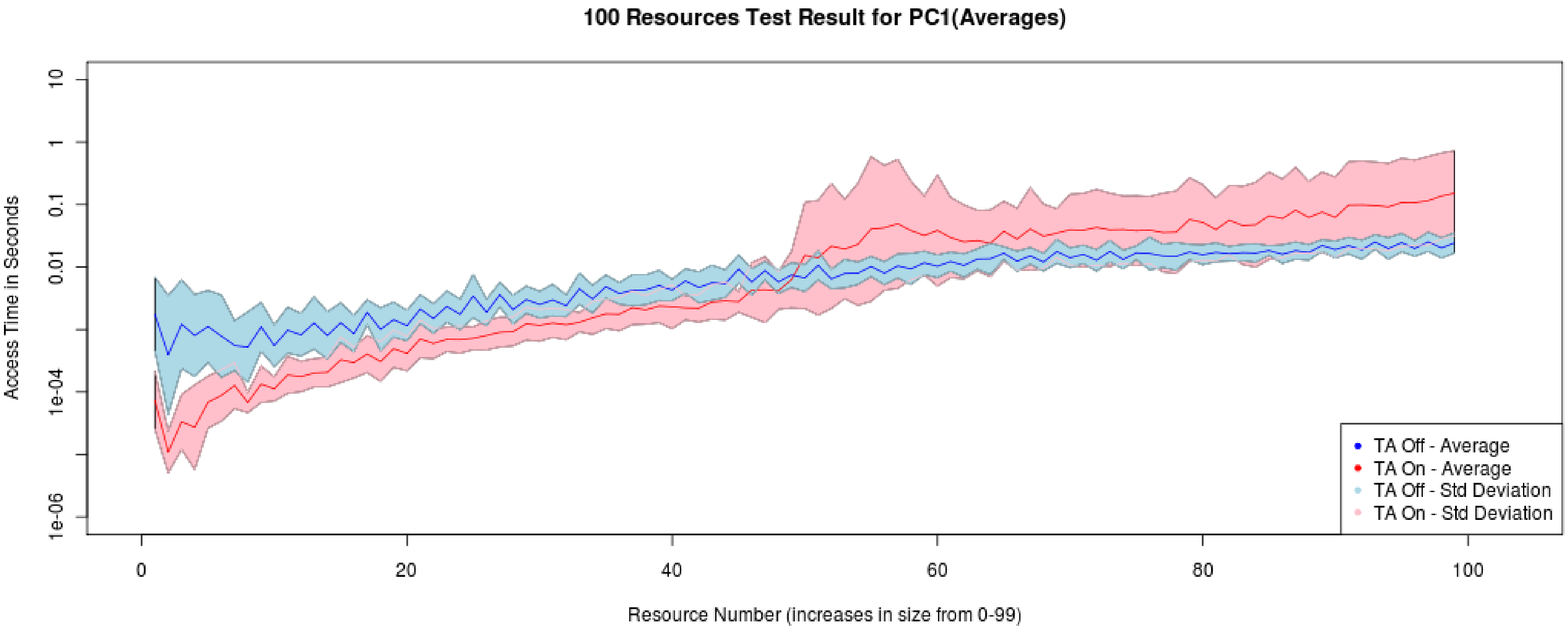
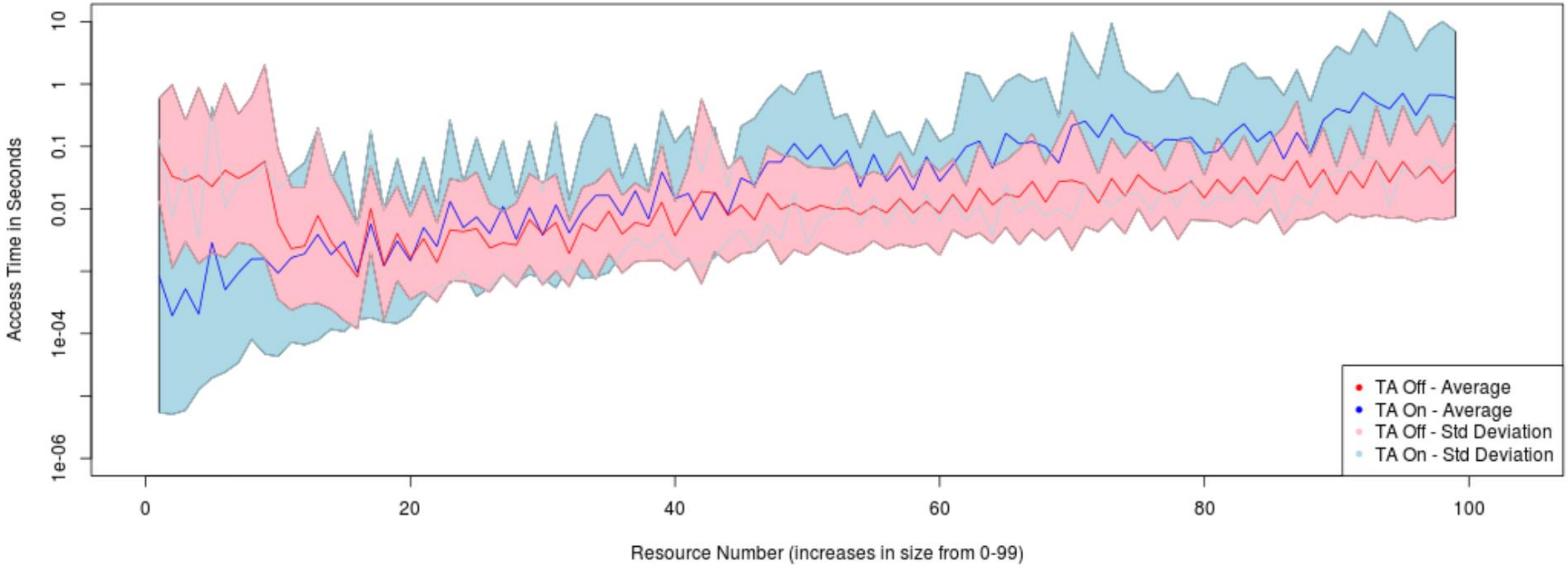
Testing LAN with ab



Benchmark with wget (unburdened)



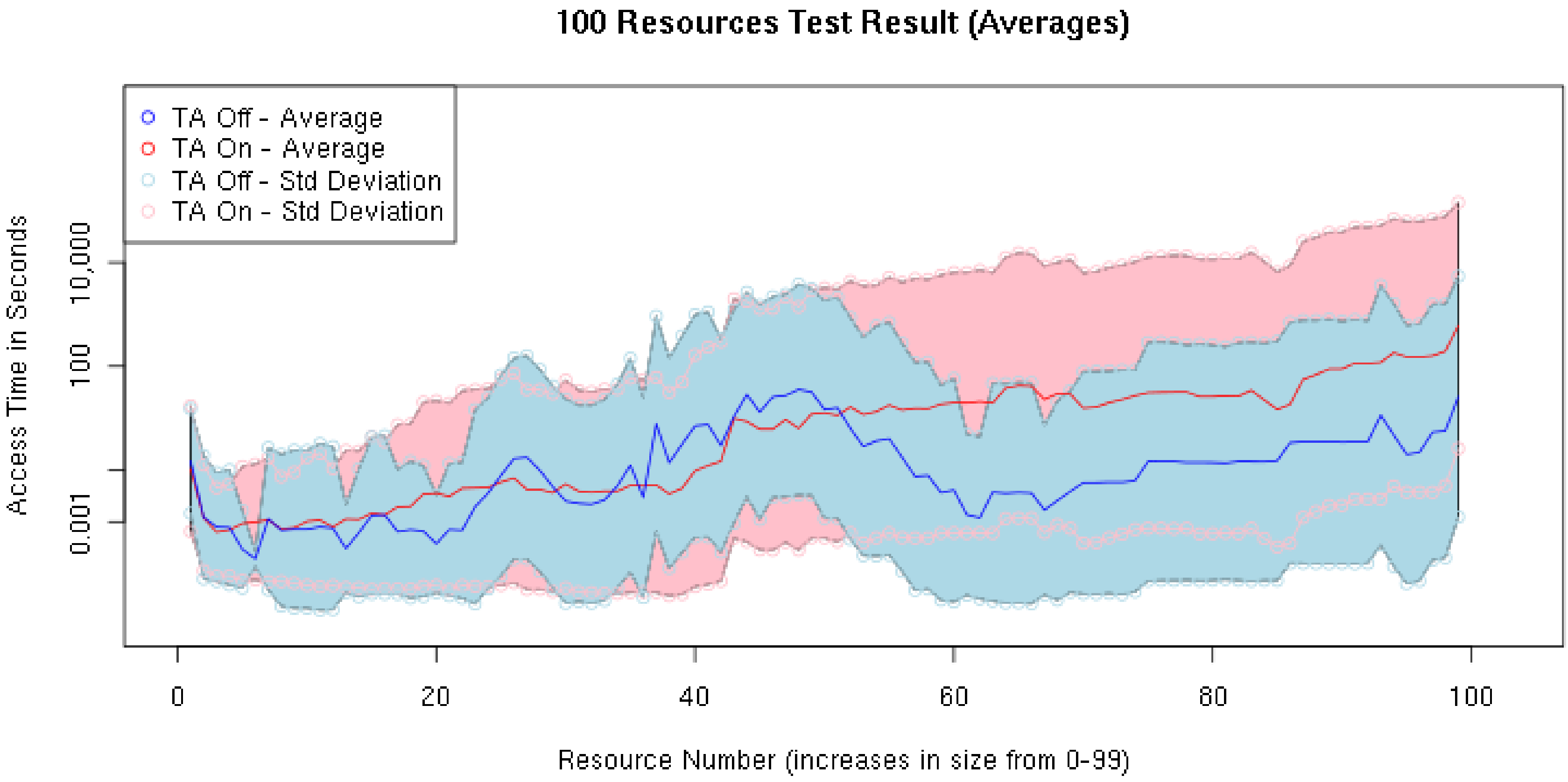
Benchmark with wget (burdened)



Results

- Negligible difference SiteStory On vs Off
- Limited to local LAN
- Performance over WAN?

Testbed Performance



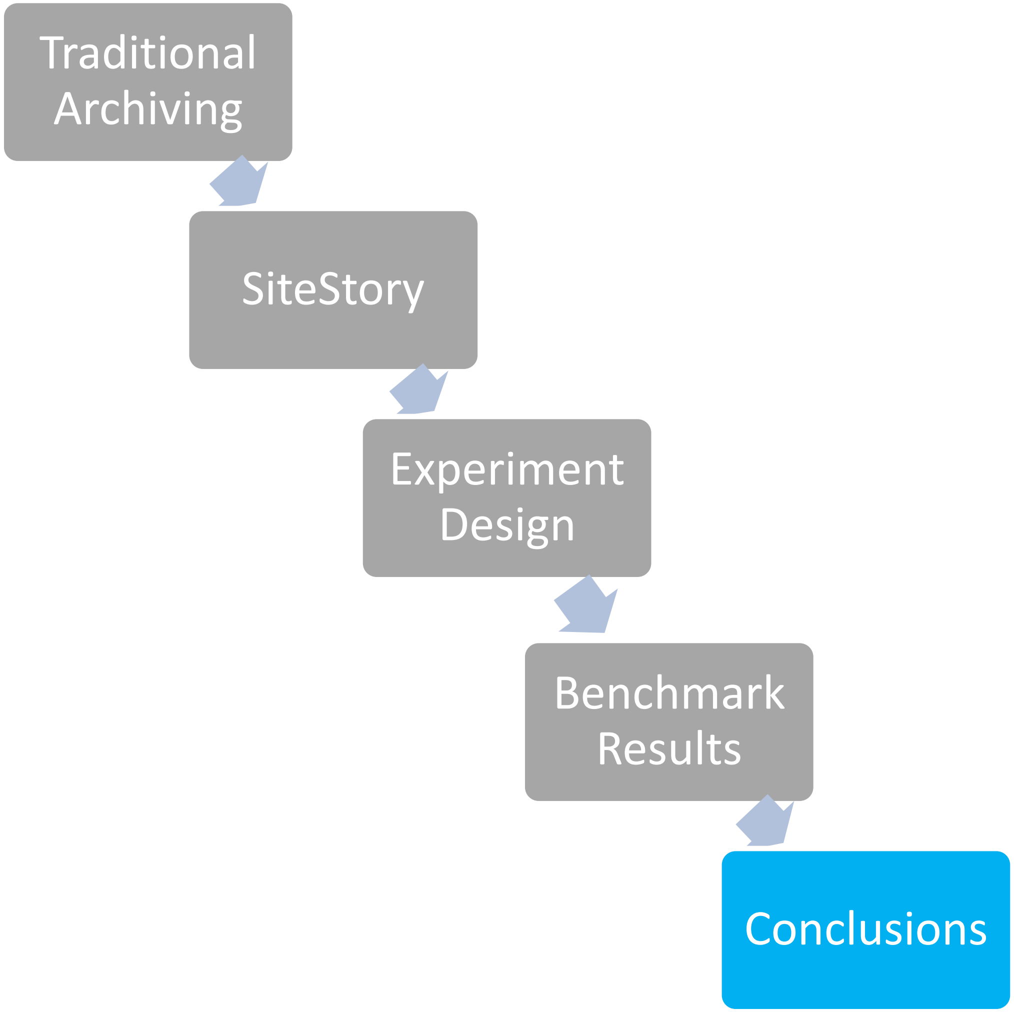
SiteStory Testbed

- We have a SiteStory Web Archive installed for you!

1. Install and configure *mod_sitestory*
2. Send an email containing:
    1. Your contact info
    2. Web server IP address
    3. Server domain name used
3. Happy Sitestory’ing!

- mailto: SiteStory-Testbed@googlegroups.com

Agenda



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Results

- Distributed: Higher variance
- Increased delay due to network
- On vs. Off Comparison still comparable

Conclusions

http://mementoweb.github.io/SiteStory/

- Small performance difference
- Viable solution without crippling service

Backups

Sample ab output

```
$ ab -n 10 -c 2 "http://www.cs.odu.edu/"
This is ApacheBench, Version 2.3 <$Revision: 655654 $>
…

Server Software:       Apache/2.2.17
Server Hostname:        www.cs.odu.edu
Server Port:          80

Document Path:         /
Document Length:       62289 bytes

Concurrency Level:     2
Time taken for tests:   0.213 seconds
Complete requests:     10
Failed requests:       0
Write errors:          0
Total transferred:     624810 bytes
HTML transferred:      622890 bytes
Requests per second:    47.01 [#/sec] (mean)
Time per request:       42.540 [ms] (mean)
Time per request:       21.270 [ms] (mean, across all
concurrent requests)
Transfer rate:          2868.66 [Kbytes/sec] received
```

```
…
Connection Times (ms)
              min  mean[+/-sd] median   max
Connect:        0    1   0.0      1       1
Processing:    27   41  10.8     45      62
Waiting:        3    3   0.4      4       4
Total:         27   41  10.8     45      63

Percentage of the requests served within a
certain time (ms)
  50%     45
  66%     46
  75%     46
  80%     46
  90%     63
  95%     63
  98%     63
  99%     63
 100%     63 (longest request)
```