**0410\_jason\_latencies.txt**

### latencies:

# 3g nexus diploma remote download:

lines 61

mean 263

median 205

std-dev 276

# 3g nexus cloud:

lines 169

mean 22546

median 15557

std-dev 20284

# 4g note diploma remote download:

lines 47

mean 1347

median 218

std-dev 3547

# 4g note cloud:

lines 248

mean 837

median 479

std-dev 769

**0410b\_jason\_successes.txt**

Just the last experiment with the 3G Nexus S phones:

diplo-take 73/74 successful

diplo-get 38/134 successful (low due to multi-hop failing probably?)

cloud-take 62/70 successful

cloud-get 95/106 successful

Manually sorted out the logs for the last experiment, and various

scripts, attached.

**0411\_anirudh.txt**

We modified scripts a bit to make it more robust. Currently 3G logs  
have been somewhat cleaned up, 4G logs are still a little noisy. In  
any case, here are the results after more robust scripts :  
  
4G  
Type           Total  Success  
diplo-take         80      54  
diplo-get          74      15  
cloud-take        225     202  
cloud-get         345     314  
  
3G  
  
diplo-take         74      73  
diplo-get         128      39  
cloud-take         70      62  
cloud-get         106      95  
  
Note that 3G results have been cleaned up a bit by throwing away  
spurious phone logs that weren't part of the experiment.  
  
Latency  in ms :  
  
Notes on Wifi :  
  
mean      558  
median    205  
std-dev   991  
  
This is after discarding > 6000 ms samples (due to time out).  
Conclusion : there are some requests that finish very very late ie in  
4 seconds or so. Maybe the phone is overloaded ?  
  
Nexus on Wifi :

mean      263  
median    205  
std-dev   276

Nexus on 3G :

mean    22546  
median  15557  
std-dev 20284

Notes on 4G :

mean      837  
median    479  
std-dev   769

Bandwidth reduction :  
  
For the 3G experiment (Would be good if someone double checked, these  
are from the manually-filtered last experiment 3G logs, so they should  
be accurate) :  
  
Total count of all bytes corresponding to string "json" in the files  
is 158983 bytes. These "json" requests spanned only 5 lines in total,  
meaning leader elections were rare. This was the case with the second  
experiment There are a total of 74+128, take and get results for  
DIPLOMA. The average 3G byte cost per transaction is :  
(158983/(74+128)) which is 788 bytes.  
  
On 3G, for each transaction, get or take, there is a request and a  
response. The number of bytes in cloud-requests is 976346 in total.  
For cloud responses this is a huge 7142626. There are  70 cloud takes  
and 106 gets in all. The average 3-G usage per transaction (take or  
get ) is  46130 bytes.  
  
Now that the method is clear,here are the 4G results on bandwidth  
reduction .I am lapsing in and out of sleep, so will do 4G in the  
morning.

**0411b\_4g\_anirudh.txt**

4G bandwidth reduction (uncleaned log) :  
  
DIPLOMA :  
  
Total json bytes : 1502405  
  
Cloud : 3819148 + 13375630 (requests + responses) = 17194778  
  
Number of get+take DIPLOMA requests :  Copying from above (80+74) = 154  
  
Number of get+ take Cloud requests :       225+345=570

> diplo-take         80      54  
> diplo-get          74      15  
> cloud-take        225     202  
> cloud-get         345     314

Therefore, 4G bytes per transaction of DIPLOMA is 1502405/154=9755  
(considerably larger than 700 for the 3G stuff reported above, because  
there people weren't moving)  
Similarly, 4G bytes per transaction of CameraCloud is 30166 bytes  
(somewhat lower than the 3g value).