REPORT

1. **For basic client-server system:**

   The Dictionary(Dict) in the server contains 6 keys and corresponding values.\
   Dict = {‘k1’:’v1’,‘k2’:’v2’,‘k3’:’v3’,‘k4’:’v4’,‘k5’:’v5’,‘k6:’v6’}
   From pcap traces obtained after running GET commands for all 6 keys, 3 times each, these are the observed request times.

Key	Req1(first time)	Req2(second time)	Req3(third time)	Average Time
k1	0.00236904	0.001723929	0.002085035	**0.002059335**
k2	0.001840608	0.001659954	0.001843169	**0.001781243**
k3	0.001997406	0.002174943	0.001828631	**0.002000327**
k4	0.00134991	0.001853132	0.002149253	**0.001784098**
k5	0.001720464	0.002054295	0.002151655	**0.001975471**
k6	0.002298246	0.001800718	0.001933606	**0.002010857**
Avg	**0.001929279**	**0.0018778285**	**0.001998558**	

- Clearly, the averages of all requests at different times is almost the same i.e. the values are very close to each other.
- For each key, the request time is also almost close to each other over time.
- The differences in request response time for different keys depends on the size of the request packet hence we can notice some irregularities in response time for different keys.

2. **With client-cache-server system:**

   The Dictionary(Dict) in the server contains 6 keys and corresponding values.\
   Dict = {'k1':'v1','k2':'v2','k3':'v3','k4':'v4','k5':'v5','k6:'v6'}
   From pcap traces obtained after running GET commands for all 6 keys, 3 times each, these are the observed request times.

Key	Req1(first time)	Req2(second time)	Req3(third time)
k1	0.005101	0.000177	0.000046
k2	0.002433	0.000050	0.000104
k3	0.003303	0.000049	0.000043
k4	0.001799	0.000101	0.000048
k5	0.003265	0.0000351	0.0000551
k6	0.001988	0.0000393	0.0000388
Avg	**0.0029815**	**0.00007523**	**0.00005581**

- Here, we can clearly observe that the request response time is noticeably different for the first time and next two times. This is because, for the first GET, value will be fetched from the server in which the request passes through two connections. But, for the second and the third time, the value is fetched from cache, so passes through only one connection between client and cache.
- The difference can even be observed in the average of requests over time which are significantly different.
- As mentioned above, the difference of response for different requests can be justified by the difference in the size of keys(request packets).

PLAGIARISM STATEMENT <Include it in your report>

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