Assignment-2

Report

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Basic(client-server):

Given below table is the time taken for each "GET" requests in client-server topology.

	key1	key2	key3	key4	key5	key6	Average time
req1(in micro secs)	197.8636	66.3058	70.9136	167.3461	92.2752	151.9997	124.4506667
req2(in micro secs)	233.466	78.8662	71.6472	104.6398	341.2305	75.6484	150.91635
req3(in micro secs)	224.7388	56.5871	82.2536	147.5991	82.1247	80.2191	112.2537333
Average Time (in micro secs)	218.6894667	67.25303333	74.9381333	139.861667	171.8768	102.6224	129.2069167

Observations:

- It can be noticed that the average time taken to find each key is near about the same value. Since, all "GET" should be fetched from the server itself.

pcap traces:

- pcap trace H1 are in basic/pcaps folder, named as "H1.pcap"

Star(Client-Cache-Server):

Given below table is the time taken for each "GET" requests in client-cache-server topology.

	key1	key2	key3	key4	key5	key6	Average Time
Req1	504.7199	583.577	513.2058	369.8522	217.4976	322.8006	418.60885
Req2	183.351	161.1427	58.3851	174.4798	77.185	253.9546	151.4163667
Req3	213.6191	165.6583	73.3862	68.2666	68.3448	212.3178	133.5988
average time	300.5633333	303.4593333	214.992367	204.199533	121.009133	263.0243333	234.5413389

(* all times are in microseconds)

Observations:

- It can be noticed that difference between "GET" request-1 and request-2 is noticeably very high(about 2-3 times).Since, at first key is not present in cache so, request should reach till server and cache should get the value from server and store that key value pair in cache and send the value to the client. While, at second request key is already present in cache. So, It takes much lesser time.
- Time difference b/w request-2 and request-3 is about same since, both get the value directly from the cache.

pcap traces:

- pcap traces H1,H2,H3 are in star/pcaps folder , named as "H1.pcap", "H2.pcap", "H3.pcap"(respectively).

Honor Pledge

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Date: 28/9/2023

Signature: K.