Cloud Computing Lab - 3

Simulate the cloud analyst environment as per the following specification :
Create 4 dc in continents north america,asia,africa,australia with 50 Ub in respective continents. Ub should have 100 user grouping factor and 100 request grouping factor in DCs with executable instruction length 150 per request(byte) with following load balancing policies.:-
    a. Round robin
    b. equally spread current execution load
    c. throttle
Prepare a graph based on the avg respomse time for this load balancing policy for the same pecification by selecting different service broker policy.
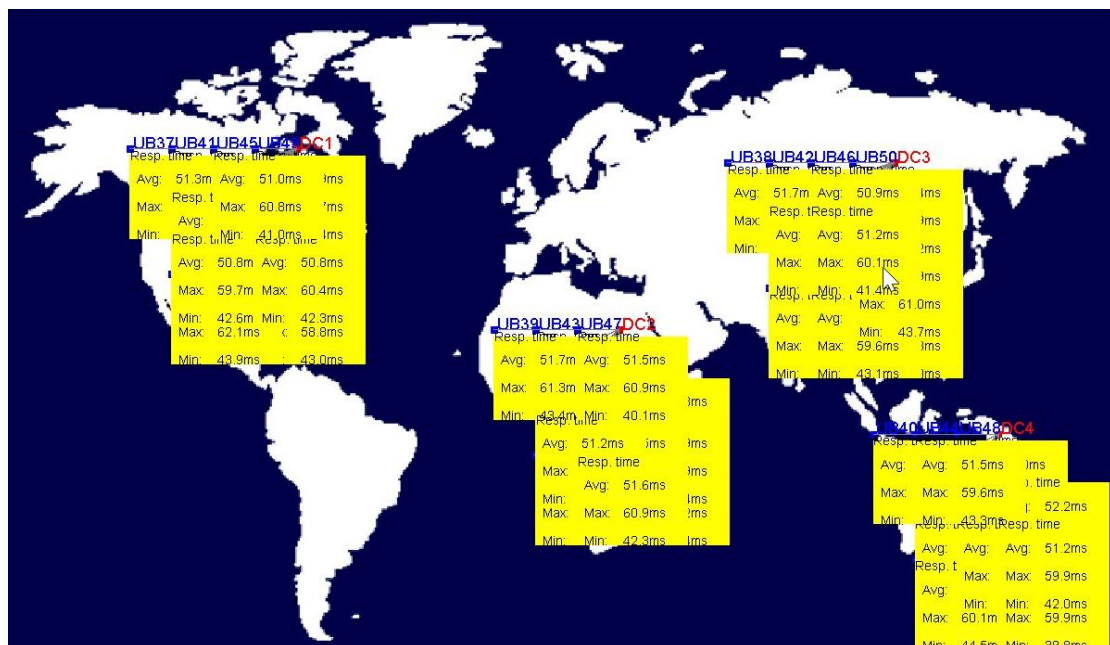
Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	51.23	38.58	67.01
Data Center processing time:	1.59	0.02	4.82

Closest Data Center - Round Robin

UB37 UB41 UB45 UB49 DC1
Resp. time   Resp. time

Avg: 51.1m Avg: 51.0ms   ms
Max: 60.3m Max: 60.8ms   'ms
Min: 41.0m Min: 42.5ms   ms
Resp. time   Resp. time
Avg: 51.0m Avg: 51.0
Resp. time   c 61.4ms
Avg: 50.9ms
Max: 57.3m   ms   42.3ms
Min: 43.9ms   ms   ms

UB38 UB42 UB46 UB50 DC3
Resp. time Resp. time Resp. time

Avg: Avg: Avg: 50.9ms   ms
Max: Resp. time   Resp. time
Min: Avg: 50.8m Avg: 51.5ms
Avg: 51.0ms   c 61.1ms
Max: 58.3ms   41.1ms
Min: 42.6ms Max: Max: 58.6ms   ms
Min: Min: 43.1ms   ms

UB39 UB43 UB47 DC2
Resp. time Resp. time

Avg: 51.5m Avg: 51.6ms
Max: Resp. time
Avg: Avg: 51.1ms   ms
Min: Max: Max: 62.9ms
Min: Min: 42.8ms
Max: 63.3m Max: 59.9ms
Min: 42.4m Min: 44.4ms
Max: Max: 61.2ms
Min: Min: 42.4ms

UB40 UB44 UB48 DC4
Resp. time

Avg: 51.1ms   ms   ms
Max: 58.9ms   time   ms
Min: 41.6ms Resp. time
Avg: 50.6ms   ms
Avg: Avg: 50.5ms   ms
Resp. t Max: 57.1ms   ms
Avg:
Max: Min: 39.3ms   ms
Min: 45.0ms   ms   ms

Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	51.23	38.58	67.01
Data Center processing time:	1.59	0.02	3.82

Closest Data Center - Equally spread current execution load

UB37 UB41 UB45 UB49 DC1
Resp. time   Resp. time   Resp. time

Avg: 51.5m Avg: Avg: 51.0
Max: 60.3m Resp. t Max: 63.7ms
Min: 41.0m Avg: Min: 42.4ms
Resp.   Max: 59.8ms   ms
Avg: Min: 40.5ms
Resp. ti   ms   ms
Avg: 51.0m   ms   ms
Max: 57.3m   ms   ms
Min: 43.9ms   ms   ms

UB38 UB42 UB46 UB50 DC3
Resp. time Resp. time Resp. time

Avg: Avg: 51.5m : 51.1ms
Max: Max: Resp. time
Min: Min: Avg: 51.1ms
Avg: Avg: Max: Max: 60.1ms   ms
Min: 41.4ms   ms
Avg: Avg: 51.0ms   ms
Max: Max: 58.6ms   ms
Min: Min: 43.5ms   ms

UB39 UB43 UB47 DC2
Resp. time Resp. time

Avg: Avg: Avg: 51.7ms
Max: Max: Resp. time
Min: Min: Avg: 51.0ms   ms
Max: Max: 62.9ms
Min: Min: 42.8ms
Avg: Avg: Avg: 51.3ms
Max: Max: Max: 61.2ms
Min: Min: Min: 42.4ms

UB40 UB44 UB48 DC4
Resp. time

Avg: Avg: 51.7ms   ms
Max: Max: 59.6m   Resp. time
Min: Min: 43.3m   Avg: 52.3ms
Avg: 51.1m   Max: 60.9ms
Max: 60.9ms   Min: 41.9ms
Min: 40.1ms   ms
Max: 60.1ms c 59.9ms
Min: 44.5ms   39.8ms

Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	51.23	38.58	67.01
Data Center processing time:	1.59	0.02	2.77

Closest Data Center - Throttled

Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	51.29	38.61	63.75
Data Center processing time:	1.60	0.02	4.90

Optimal Data Center - Round Robin

Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	51.29	38.61	63.75
Data Center processing time:	1.60	0.02	2.71

Optimal Data Center - equally spread current execution load
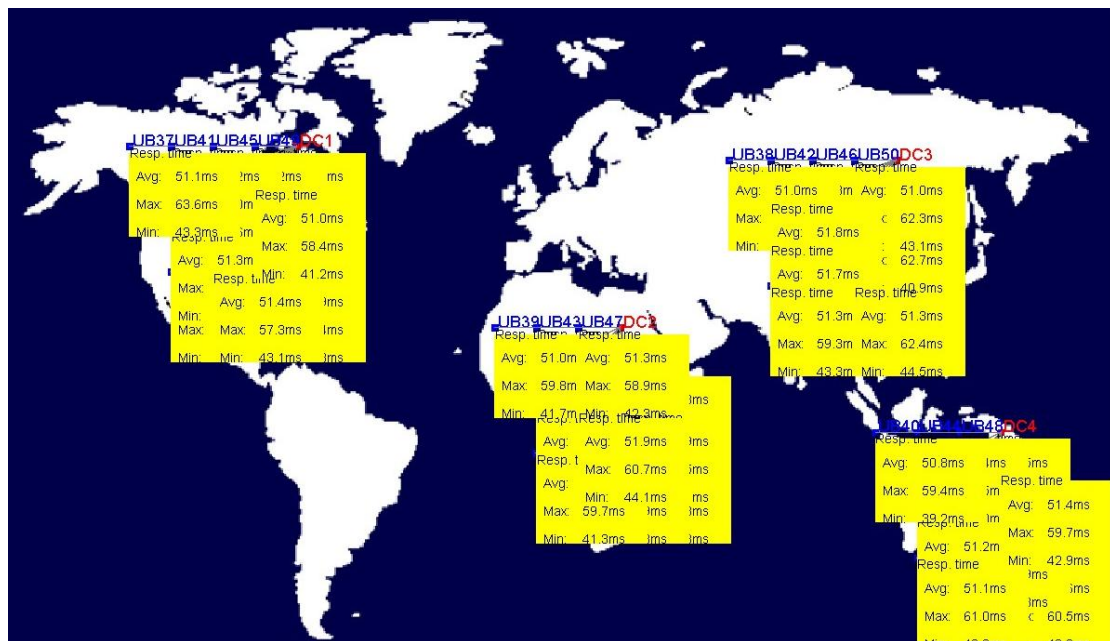
Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	51.29	38.61	63.75
Data Center processing time:	1.60	0.02	2.85

Optimal Data Center - Throttled
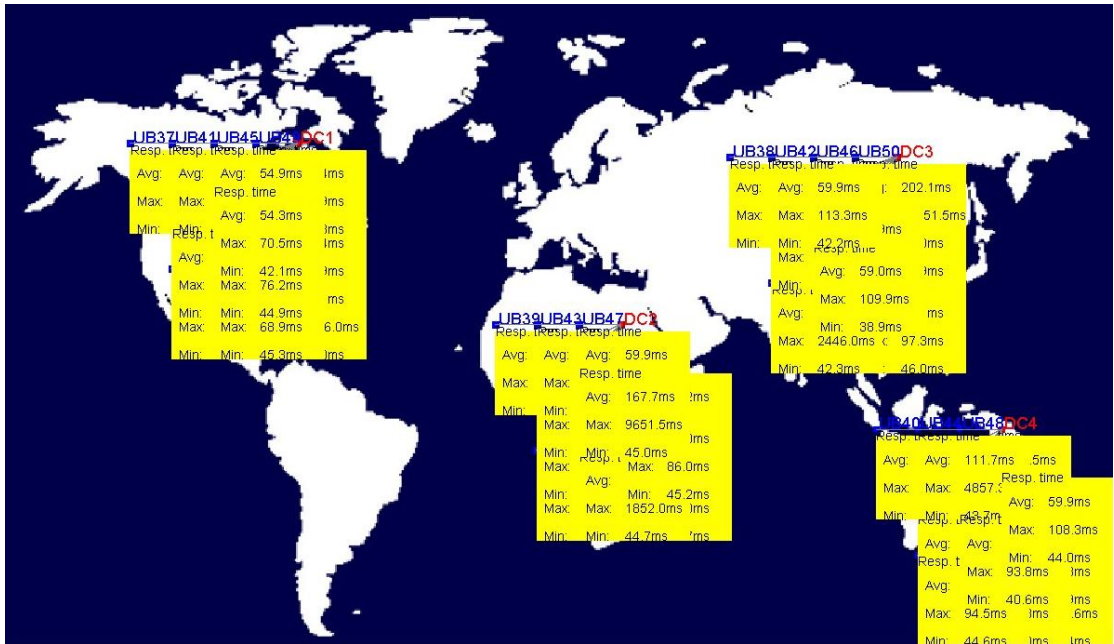
Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	70.03	38.90	12051.51
Data Center processing time:	20.35	0.02	12000.76

Dynamic Data Center - Round Robin

UB37 UB41 UB45 UB49 DC1
Resp. time Resp. time Resp. time

Avg: Avg: Avg: 54.2ms ms
Max: Max: Resp. time
Avg: 53.8ms ms
Min: Min: Resp. t
Max: 67.9ms ms
Avg:
Min: 42.1ms ms
Max: Max: 70.5ms ms
Min: Min: 44.9ms ms
Max: Max: 63.5ms ms
Min: Min: 45.3ms ms

UB38 UB42 UB46 UB50 DC3
Resp. time Resp. time Resp. time

Avg: Avg: 57.8ms Avg: 58.1ms
Max: Max: 80.5ms ms
Min: Min: 42.2ms ms
Max:
Avg: 57.9ms ms
Max: 79.9ms
Avg: 38.9ms
Max: 78.9ms 75.1ms
Min: 45.9ms 46.0ms

UB39 UB43 UB47 DC2
Resp. t Resp. time Resp. time

Avg: Avg: Avg: 58.9ms
Max: Max: Resp. time
Avg: 58.9ms ms
Min: Max: 87.1ms
Min: Min: 45.2ms
Max: Max: 75.5ms
Avg:
Min: Min: 45.2ms
Max: Max: 92.8ms ms
Min: Min: 45.0ms ms

UB40 UB44 UB48 DC4
Resp. t Resp. time Resp. time

Avg: Avg: 58.1ms ms
Max: Max: 78.6m Resp. time
Avg: 58.7ms
Min: Min: 43.7m
Max: 81.1ms
Avg: Avg: Min: 43.5ms
Resp. t Max: 89.0ms ms
Avg: Min: 40.3ms ms
Max: 78.6ms ms ms
Min: 45.1ms ms ms

Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	59.13	38.90	7848.51
Data Center processing time:	9.44	0.02	7800.75

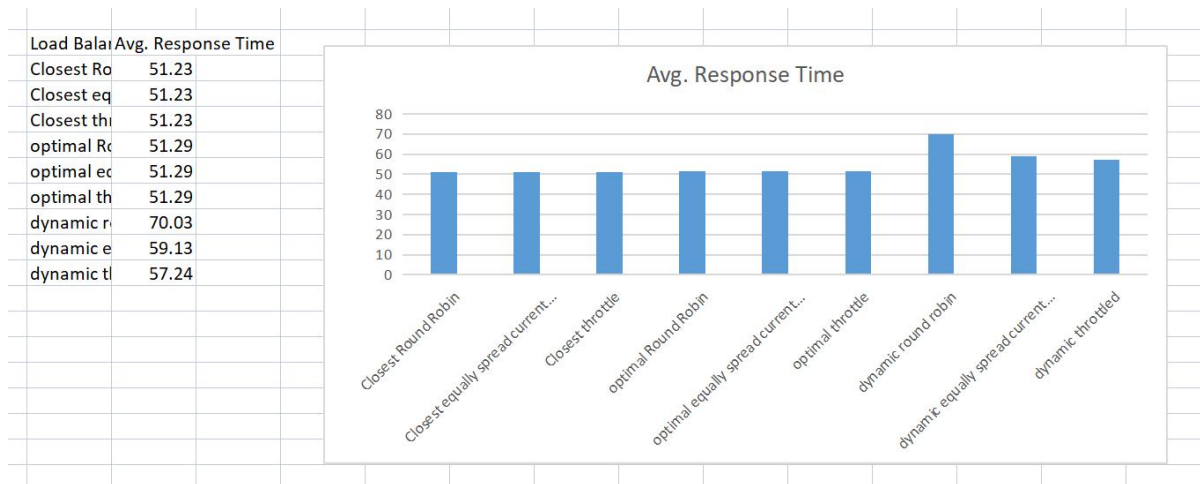## **Dynamic Data Center - equally spread current execution load**

UB37 UB41 UB45 UB4 DC1
Resp. time Resp. time time

Avg: Avg: 53.9ms Avg: 54.0ms
Max: Max: 66.8ms . time
Avg: 54.1ms
Min: Min: 41.0ms
Max: Resp. time Max: 65.4ms
Resp. t Min: 42.9ms
Max: 65.5ms ms
Avg:
Min: 44.9ms ms
Max: 64.8ms ms ms
Min: 44.3ms ms ms

UB38 UB42 UB46 UB50 DC3
Resp. time Resp. time

Avg: 58.4ms Avg: 58.1ms
Max: 78.4ms Max: 74.5ms
Min: 44 Resp. time Min: 43.4ms
Avg: 57.8ms Avg: 58.3ms
Max: Resp. time
Avg: 57.9ms
Min: ms
Max: Max: 79.6ms ms
Min: Min: 44.2ms

UB39 UB43 UB47 DC2
Resp. t Resp. time

Avg: Avg: 59.3ms ms
Max: Resp. time
Avg: 58.2ms 57.7ms
Min: . time
Max: 76.9ms
58.8ms
Min: 43.6ms
Max: 82.3ms 75.5ms
Min: 43.6ms 45.2ms
Max: 74.2ms Max: 78.0ms
Min: 42.0m Min: 41.1ms

UB40 UB44 UB48 DC4
Resp. time time

Avg: 57.6ms Avg: 58.6ms
Max: 73.8ms . time
Min: 42.5ms 57.5ms ms
Max: 81.1ms
Min: Min: 45.7ms
Max: 72.0ms ms
Avg:
Min: 46.8ms ms
Max: 76.9ms ms

Overall Response Time Summary

	Avg (ms)	Min (ms)	Max (ms)
Overall response time:	57.24	38.97	86.54
Data Center processing time:	7.59	0.02	24.39

Dynamic Data Center - Throttled

Final Graph

Load Balar	Avg. Response Time
Closest Ro	51.23
Closest eq	51.23
Closest thr	51.23
optimal Ro	51.29
optimal ec	51.29
optimal th	51.29
dynamic r	70.03
dynamic e	59.13
dynamic tl	57.24

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