


## Performance Tuning Tips 2,405 members

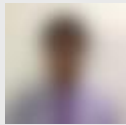



**Hi Every One,If any body kindly let me know the difference between Through put and Response Time. with an Example.**

 QA Engineer at Reasoning Global eApplications Ltd. Top Contributor

### Comments

11 comments [Jump to most recent comment](#)



  
Performance Test Analyst at Infosys Ltd

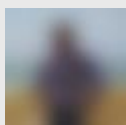
A simple example would be .. You go to a gas station and there are 3 pumps.. Every pump takes 1 min to fill fuel tank full (suppose all car come to gas station with empty tank)..

If 1-3 car comes to pump

Then for one pump one car: res time is 1 sec and throughput is 1car filled/sec

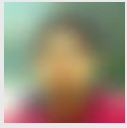
For all 3 pumps & 3 car: res time still 1 sec and throughput is 3 car filled/sec... Now 4th car comes before 1 min then queuing starts happening and throughput stagnates at 3 car filled/sec and res time increases..

[amandeep C.](#), [Anubhav B.](#) like this



  
Project Management - Lead at CSC

Before that, what is it that really confused you between Response Time and Throughout?



Senior Test Engineer(Performance Engg) at HCL Technologies

What confused you is different thing. Let me explain you in best possible way to me:

Assuming you know client and server.

Response time:

Eg: You clicked on search button in google after keying in some info like 'India History', Then you get results page.

The time taken from the point you clicked on 'search' to the point you see results is response time.

Time taken from the point request is sent from client to the point you receive response from the server.

Throughput:

Eg: You are downloading a song of size 10MB. That 10MB is the data you receive from server to the client.

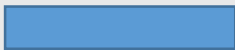
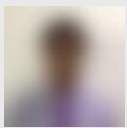
Suppose you can download 10MB in 10 sec. That means you can download 1MB/Sec. 1 MB/Sec is your throughput.

In particular time how much amount of data you get from server is your throughput. That particular time can be seconds, minutes, hours etc.

Hope it helps. Click on 'Like' if you understand what I said.

[amandeep C.](#), [Anubhav B.](#) and [2 others](#) like this

---

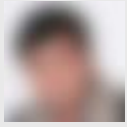


Performance Test Analyst at Infosys Ltd

Nice explanation Aravind.. Just to add one more point ....throughput is capacity/capability of an application/server to serve a client request.. so it can increase upto a certain limit and then you start seeing a dip in your graph(reason could be, not powerful enough servers or application bottleneck etc) which means server is no longer able to cater to incoming request and is saying that "I can't handle.. no more request" :)

If you see my ex, 3 cars/sec is max throughput and to increase this you need to increase the no of pumps.. in technical term scale up server horse power :)

[Anubhav B.](#), [Aravind Sai K.](#) like this



Team Lead, Quality Assurance at CA Technologies

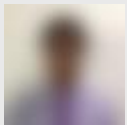
Thanks a lot a Arvind and Bhushan.

Can you also add a note about How lost packets are treated in the scheme of things here;

As per my assumption; In a scenario with one client and server, If throughput is calculated at server then it would be higher as it would add lost packets and on the client it would be less as it has not received data.

Please share your view.

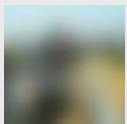
---



Performance Test Analyst at Infosys Ltd

The term server throughput may create a little confusion here...Throughput is ability of server to serve CLIENT request and if there is a client then there will be network (and packet loss, latency etc).. So we shouldn't see thing in isolation means server separately and client separately.. Now if you are worried about packet loss then that calls for a separate test i.e. Network performance test.. Where your objective will be to tune network and not application.. Please correct me if my understanding is wrong..

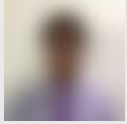
---



PASE CoE Consultant at Wipro Limited

Hi Birat,

When you mention "Network performance test", what is it that you will be looking to tune in the network. I mean if you have slow network, then you have to live with it right?

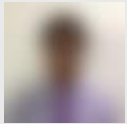


Performance Test Analyst at Infosys Ltd

I have not worked much in network tuning area... but let me try to explain it with best of my knowledge.. in network tuning basically you try to adjust the n/w congestion avoidance [wiki]..few ex are queuing delay, packet loss, bandwidth issue etc... so basically your tests should be aimed at finding the throughput of the network (or Bandwidth-Delay product)...what is this n/w throughput? its nothing but the amount of data received on the receiving end on n/w (without acknowledge) divided by the the round trip delay or latency of n/w.... so to improve your n/w or increase its throughput..so you may have to either increase the bandwidth of the n/w or reduce the latency... this is just high level explanation..

few thing you can do in your leisure time... use ping command (with varying packet size) and see how the delay increases with packet size... another good command is tracert.. this command can tell you the hops and max delay at any particular hop..

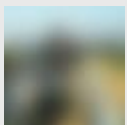
---



Performance Test Analyst at Infosys Ltd

yes for slow n/w...you may have to bare with it :) not because you can't tune it but because it doesn't come under your jurisdiction :) most cases there is a separate team (n/w team) who needs to worry about it.. you just need make sure your application is not behind high res time but the n/w.. and of course inform them if there exists any n/w issue..

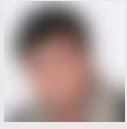
---



PASE CoE Consultant at Wipro Limited

Thats the point Birat. There is not much to do in a 'Network Performance' test. If the application makes too many connections or the pool size is not configured correctly, then it can be corrected, but if the network is slow and if most of the users are going to access the application from lets say APAC region and the servers are located in Central USA, then the network is going to play havoc. Nothing much to do other than move to CDN or move the servers to someplace closer. The 'ping' and 'tracert' command are just tools to show if there are any issues in the network.

---



Team Lead, Quality Assurance at CA Technologies

Thanks to all for this engrossing discussion.

So once again coming back to my original point; adding the point of jurisdiction limited to only AUT [ :) borrowed the line from Bhushan]; to confirm my understanding

Automatically, throughput is recorded at the client / VUsers end by the tool being used; then this does not include lost packets and hence is not the exact measure of amount of data sent by the server. Although the difference might be negligible.