



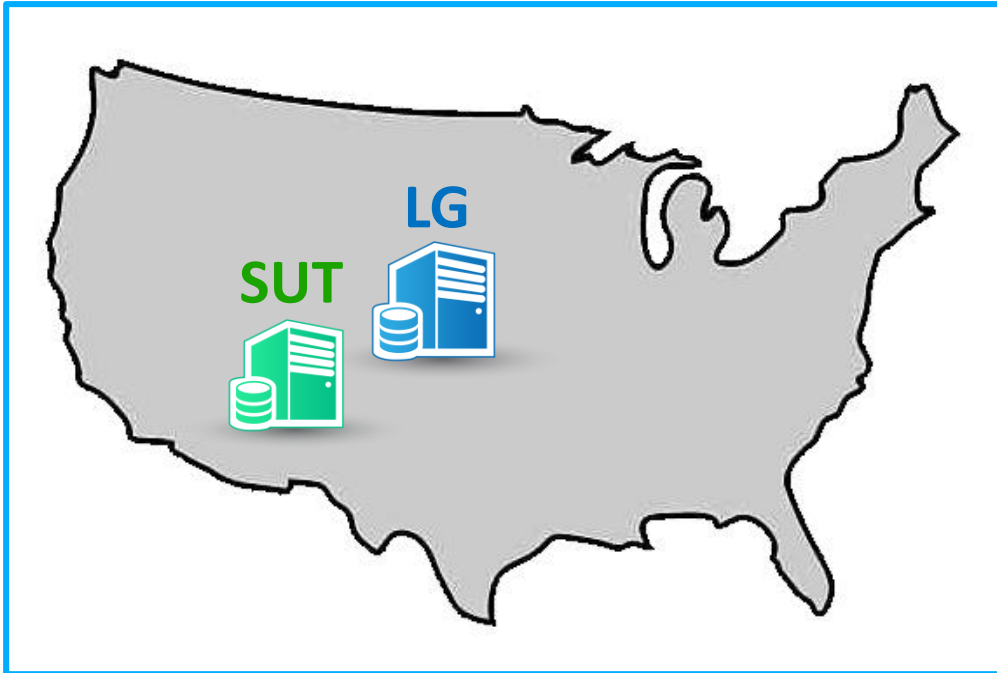
neocortix®

Global Last-Mile Load Testing with Neocortix

October 2021

Conventional Load Testing Has A Big Problem

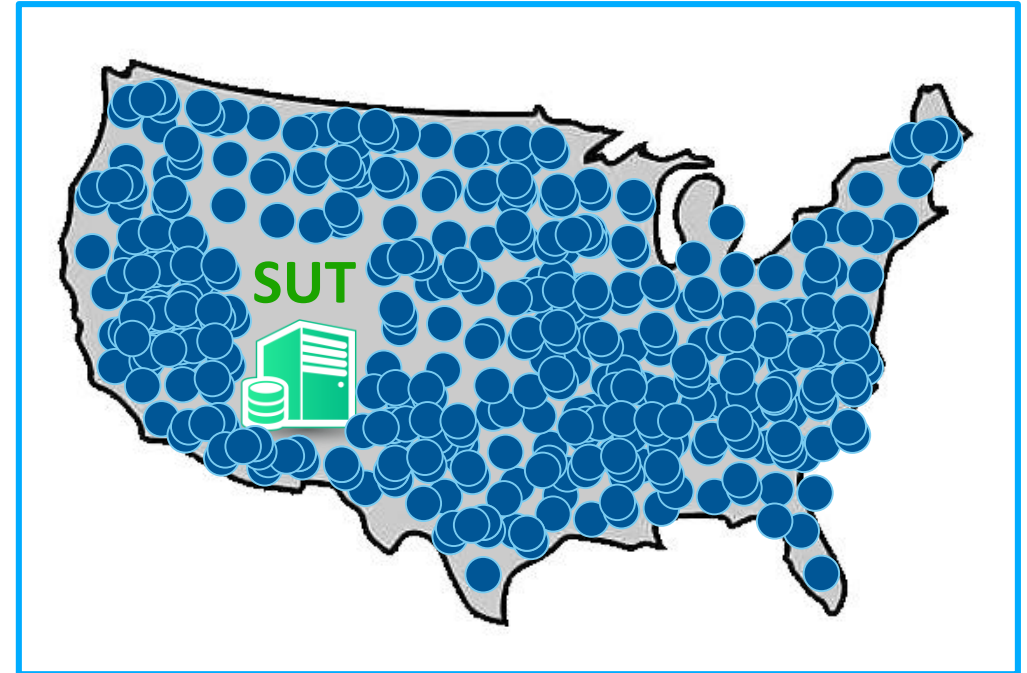
Conventional Load Testing



Powerful Load Generator (LG) in a High Performance Data Center Measures Uniformly Fast Response Times from Server Under Test (SUT).

Performance Engineer says “Everything Looks Good!”

Real Users On Black Friday

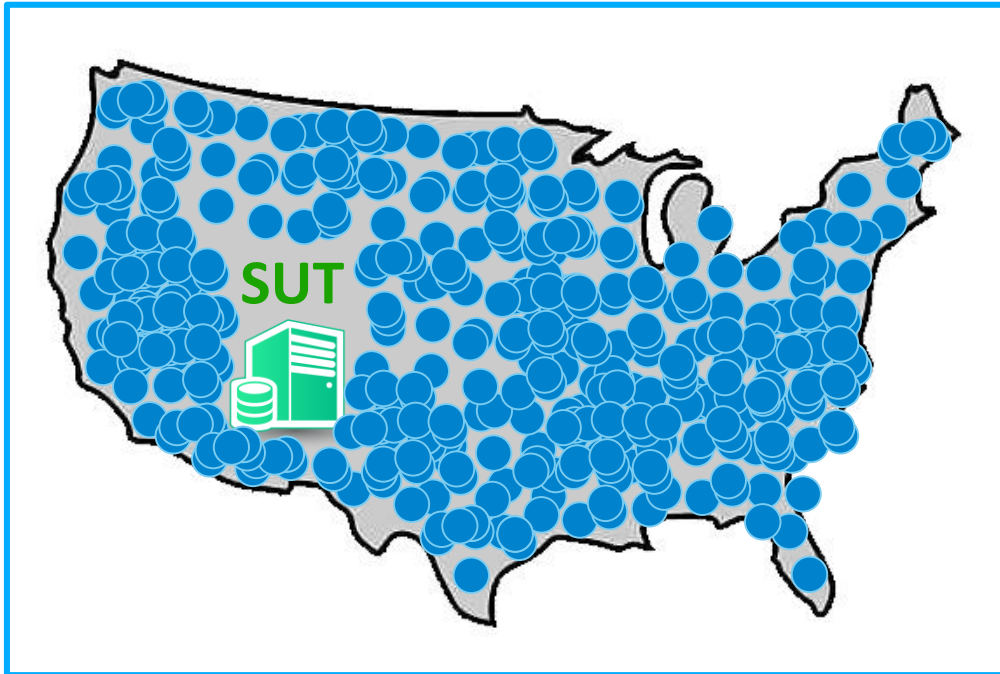


Many Mobile Devices in Last-Mile Locations Measure Experience a Wide Distribution of Slower Response Times.

Real Users say “Why Is This Website So SLOW?”

Neocortix Solves The Problem with a Worldwide Network of Mobile Devices

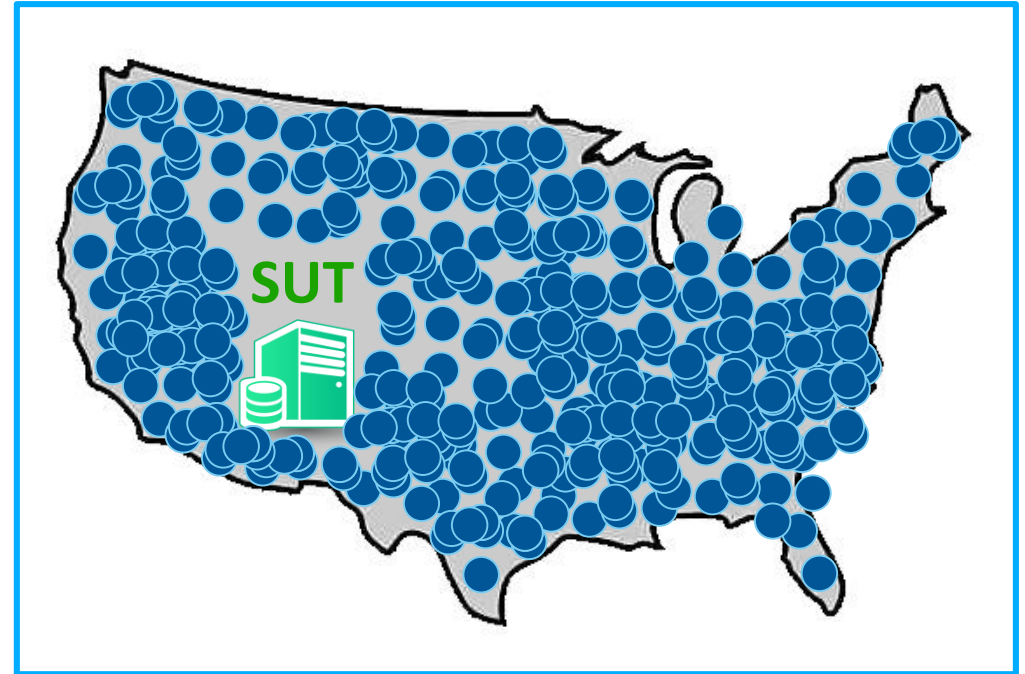
Neocortix Mobile Devices



Neocortix Cloud Services puts Load Generators (LG) on Many Mobile Devices in Last-Mile Locations. Response Times match Real User Experiences.

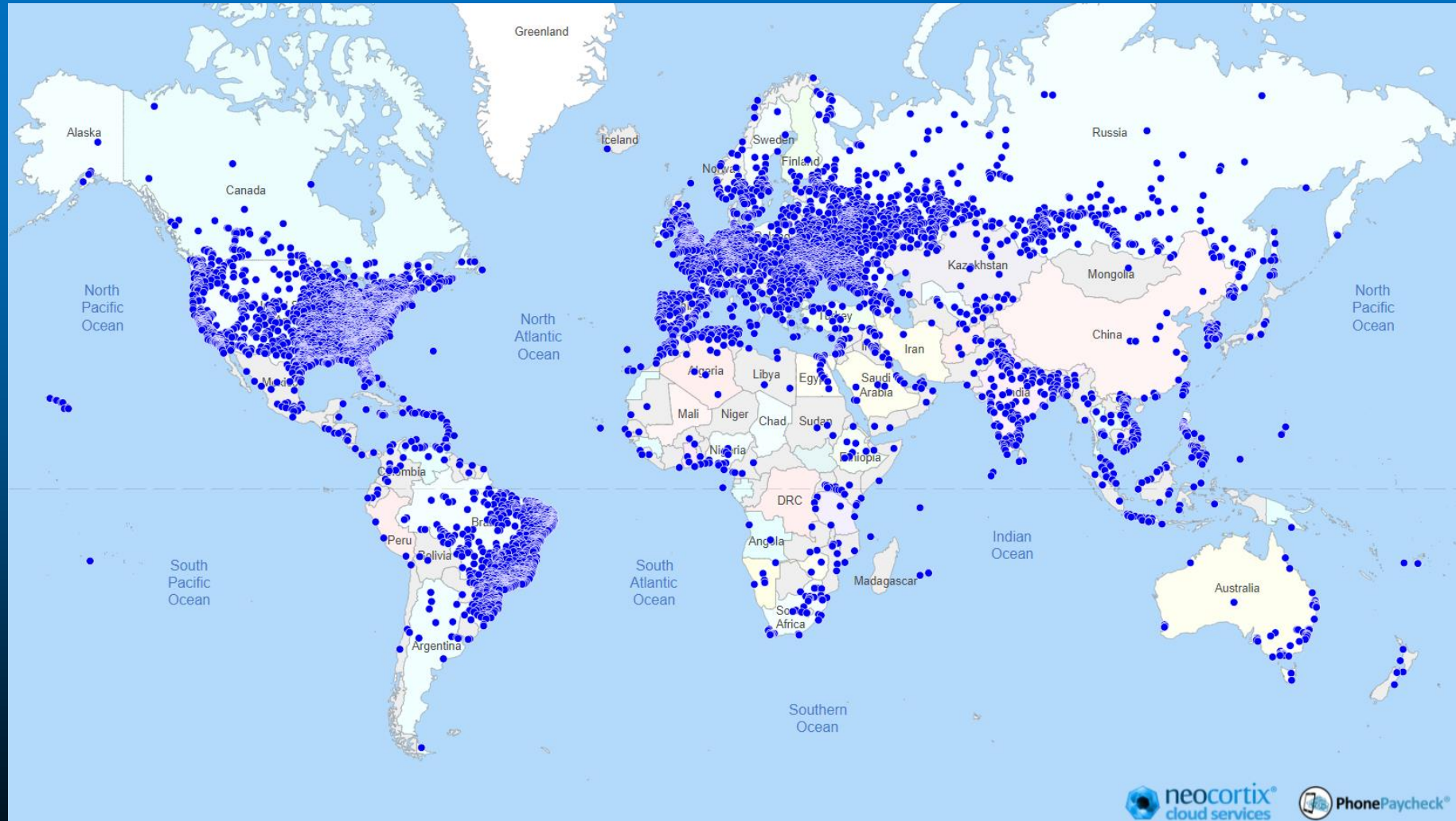
Performance Engineer measures Real User Experience.

Real Users On Black Friday



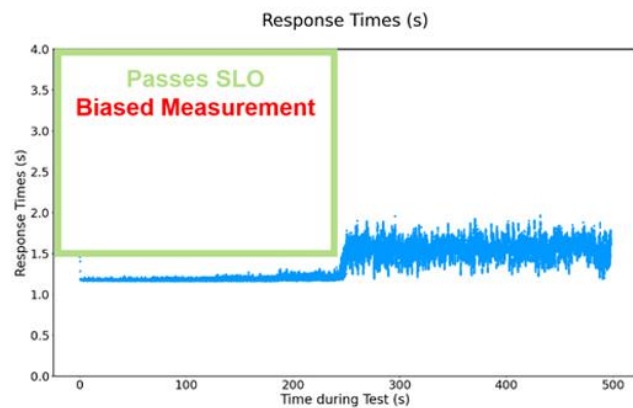
Many Mobile Devices in Last-Mile Locations Measure Experience a Wide Distribution of Response Times.

Neocortix Network of 90,000 Mobile Devices (including Waiting List)

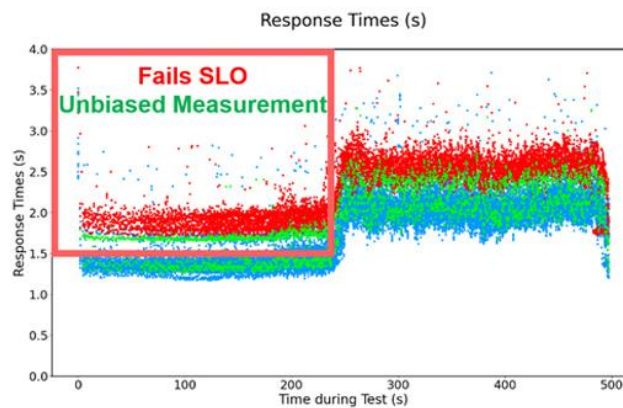
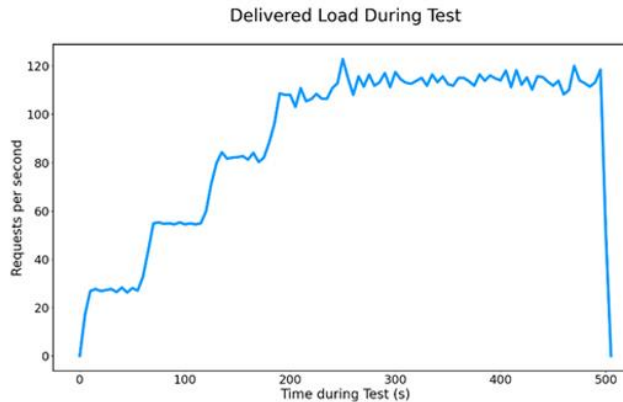


Case Study: Data Center Load Generator vs. Neocortex, with Optimization

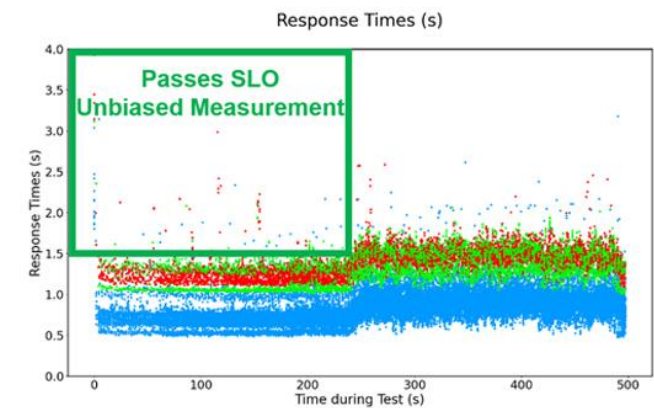
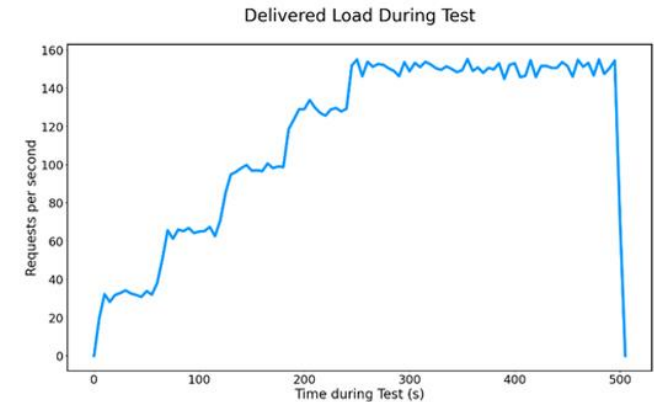
Conventional Data Center Load Test Falsely Passes SLO Says No Optimization Required



Global Last-Mile Load Test Correctly Fails SLO Shows Optimization Required



After Optimization, Global Last-Mile Load Test Correctly Passes SLO

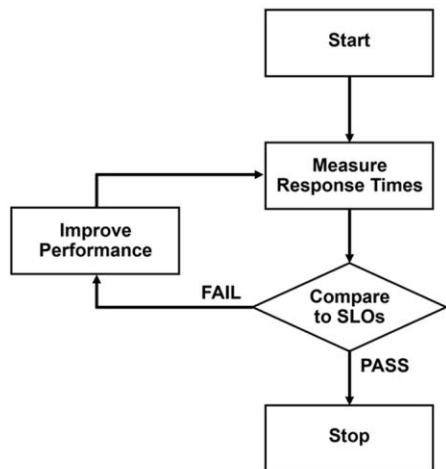


Data Center Load Generators Lead to Wrong Optimization

Neocortix Load Generators Lead to Correct Optimization

PERFORMANCE ENGINEERING

Premature Termination of Optimization Loop Due to Biased Measurement



- In an Optimization Loop, it is well-known that a Biased Estimator can lead to either instability or hard-limit catastrophic error
- In Load Testing case, Biased Estimate is caused by using only High-Performance Servers in Nearby High-Performance Data Centers to deliver load and measure response times
- Result is Premature Termination of Optimization Loop due to Biased Measurement
- See also Boeing 737 MAX, another tragic example



This Problem Could Cost You \$Millions In Lost Sales

Conventional Load Testing



Real Users On Black Friday



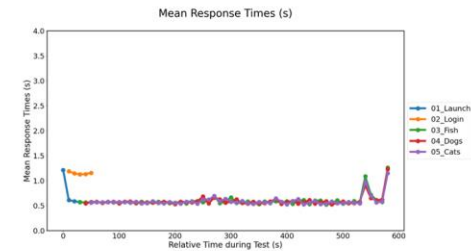
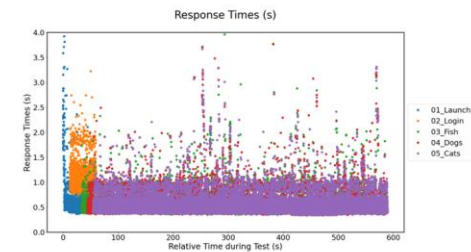
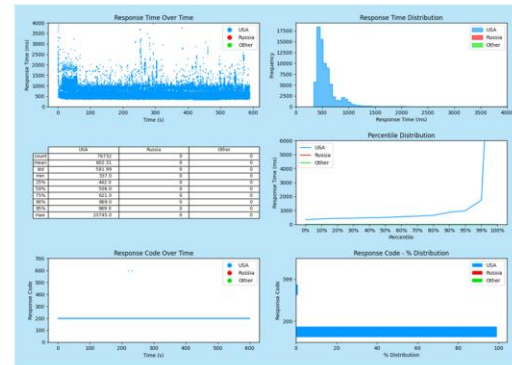
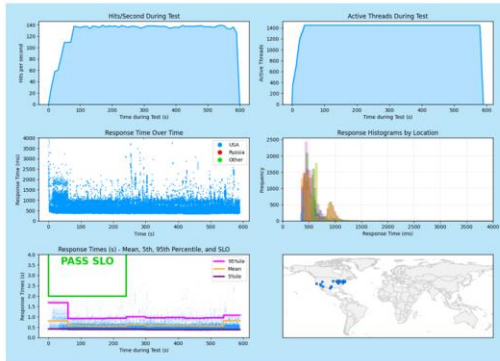
Accurately Measure End-User Experience With neocortix[®] LoadTest

Advanced Reporting



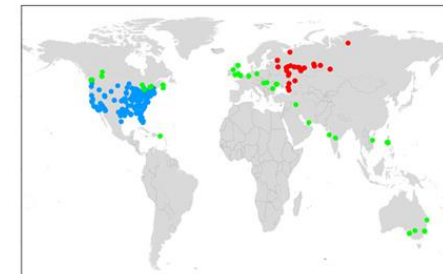
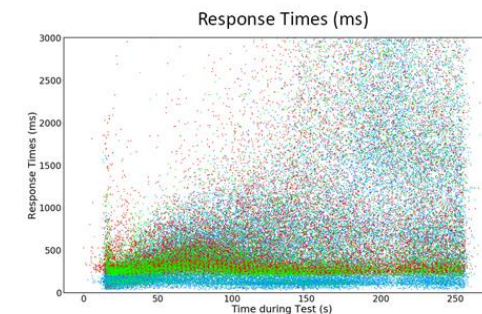
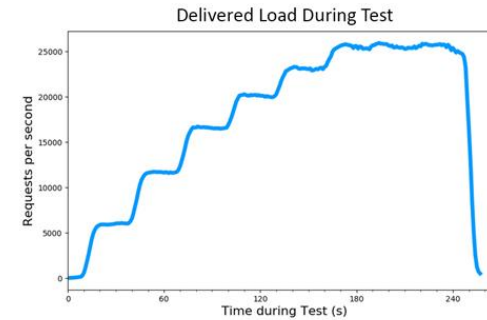
Global Last-Mile Load Test Results

Test Date:	June 17, 2021 15:57:23
Number of Virtual Users:	1450
Number of Instances:	29
Maximum Hits/Second:	139.40
Test Result:	PASS



Requests	Executions			Response Times (ms)							Throughput		Network (KB/sec)	
	Label	# Samples	Fail	Error %	Average	Min	Max	Median	90th pct	95th pct	99th pct	Transactions/s	Received	Sent
Total	78099	1387	1.75%	892.31	337.00	23745.00	506.00	888.00	888.00	888.00	1738.00	132.42	209.10	111.08
01_Launch	1450	0	0.00%	721.64	362.00	6305.00	553.00	995.30	1814.75	4415.00	29.67	57.84	20.01	
02_Login	1450	0	0.00%	1146.74	741.00	3227.00	1087.50	1646.00	1851.20	2148.02	30.39	110.11	60.85	
03_Fish	25004	390	1.55%	592.75	342.00	23745.00	502.00	818.70	854.00	1525.48	45.81	75.10	36.76	
04_Dogs	25066	443	1.77%	585.35	337.00	11671.00	501.00	822.80	858.00	1490.48	45.62	72.22	38.12	
05_Cats	24609	534	2.17%	585.54	340.00	20395.00	501.00	812.00	843.00	1452.04	45.95	68.66	37.98	

Support for Nearly All Major Load Testing Tools



Security



Our global network of Phones is now a network of Debian Linux Machines, in Secure Containers.

- **File system isolation**
- **Process isolation**
- **Encryption at Rest**
- **Encryption in Flight**
- **Network Virtualization**
- **Rooted Device Detection and Blocking**

This isolates and protects the Customer and the Phone Owner from each other.

Low Cost: 1/2 the Cost of AWS Instances

Price / Performance Example

Neocortex Scalable Compute instances have been priced at about 1/2 the cost of Data Center instances for a given computational capacity, as shown below:

AWS Reference	Neocortex
p2.8xlarge (\$7.20/hour)	SVGPU-1 (\$3.60/hour)
c5.18xlarge (\$3.06/hour)	SV-1 (\$1.53/hour)
p2.xlarge (\$.90/hour)	PCGPU-1 (\$.45/hour)
c5.4xlarge (\$.68/hour)	PC-1 (\$.34/hour)
c4.large (\$.10/hour)	Gold (\$.05/hour)
a1.large (\$.05/hour)	Silver (\$.02/hour)
a1.medium (\$.02/hour)	Bronze (\$.01/hour)

Affordable, Convenient Pricing Plans

Try Neocortix LoadTest for free now.
Choose your plan later.

Annual -Save up to 35%

Month-to-Month



Starter
FREE

10 Concurrent instances
400 Concurrent Users
15 Tests
150 Instance-Hours

Sign up for free



Basic
\$99/mo
(Paid Annually)

50 Concurrent instances
2000 Concurrent Users
Unlimited Tests/Year
19000 Instance-Hours/Year

Buy Now

Most
Popular



Pro
\$499/mo
(Paid Annually)

280 Concurrent instances
11200 Concurrent Users
Unlimited Tests/Year
107520 Instance-Hours/Year

Buy Now



Enterprise
Contact Sales

Volume Discounts
Fixed Cost (Unlimited) Plans
Priority Support

Talk to us