# What does amazon aws mean by “network performance”?

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When choosing an amazon aws instance type to launch, there is a property of each type which is "Network Performance" which is either "Low", "Moderate", or "High". I'm wondering what this exactly means. Will my ping be lower if I choose low? Or will it be ok as long as many users aren't logged in at once?

I'm launching a real time multiplayer game and I am so I am curious as to exactly what is meant under "network performance". I actually need fairly low memory and processing power, but instances with those criteria usually have "low" network performance.

Has anyone experience with the different network performances or have more information?

Thanks!

performance networking amazon-web-services amazon

A colleague and I wondered this the other day. We upgraded from a micro instance to an Large instance to test out differences. As far as network goes, we saw absolutely no difference, cpu usage dropped to a fraction of the micro CPU usage, but that's obvious. – user602525 Dec 18 '13 at 18:04

1 stackoverflow.com/q/18507405/1271037 – dovid Nov 19 '14 at 8:53

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It's not oficial, but *Serhiy Topchiy* did a benchmark with different instance types:

http://epamcloud.blogspot.com.br/2013/03/testing-amazon-ec2-network-speed.html

For US-EAST-1, it seems that LOW corresponds to 50Mb/s, Moderate corresponds to 300Mb/s and High corresponds to 1Gb/s.

very interesting :) – Hesky Jul 16 '15 at 2:17

12 It's a bit more complex than that, I'm afraid. - network links are more or less tiered by instance size, but with quite a bit of variation by generation and family. "Low" is anywhere from 50 MBit to 300 MBit, "moderate" is 300-900 MBit (with fairly predictable numbers by instance type), "High" is 0.9-2.2 GBit. I did a metanalysis using public benchmarks. – BobMcGee Mar 7 '16 at 13:48

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I believe it was mentioned at the reInvent 2013 conference that the different properties are related to the underlying network connection: Some servers have 10GB connections (High) some have 1GB (Moderate) and some have 100MB (Low).

I cannot find any on-line documentation to confirm this, however.

Edit: There is an interesting article on Packet per second limit available here

Since this question was first posed, AWS has released more information on the networking stack, and many of the newer instance families can support up to 25Gbps with the appropriate ENA drivers. It looks like much of the increased performance is due to the new Nitro system.

6 I don't think "High" is 10Gb, "High" would be something lower than that since the instance classes with 10Gb

connectvity are listed as "10 gigabit" in the same column where other instances show High/Med/Low. In any event, this seems to be as much or more about instance connectivity to EBS and each other, than to the Internet specifically. – Michael - sqlbot Dec 18 '13 at 18:40

@Michael-sqlbot: As far as I know, some instances have underlying 10GB network. The 10GB that you mention is restricted to specific instance types (C3 as of Dec 2013), and involves different AMIs and network drivers: take a look at aws.amazon.com/ec2/faqs/… – chris Dec 18 '13 at 20:11

I was actually looking at these: aws.amazon.com/ec2/instance-types/#instance-details – Michael - sqlbot Dec 18 '13 at 20:29

The small print under that states "Instances launched into the same cluster placement group are placed into a non-blocking 10 Gigabit ethernet network". So that does not apply to non-clustered instances. – chris Dec 19 '13 at 17:39

Yeah, I read that a different way, the network is 10Gb, but it's shared vs "non-blocking" if not in a cluster placement group. Of course, that doesn't make me right in my assumption about 10Gb vs "High" meaning two different things. The theoretical bandwidth of a network is largely meaningless without knowing about the saturation of the network. – Michael - sqlbot Dec 19 '13 at 17:44