

Hey Mark,

A few things that stood out from your recent string of Tweets:

Yes, broadband speed and quality have gotten better. But it's still behind the most of the developed world. We pay a lot more on average for slower speeds on average.

The overarching problem is that there is no competition among ISPs. They each have monopolies where they operate. That in turn gives them little incentive to provide better service, invest in infrastructure, and so on. In fact investment in those things have declined over the last four years.

Allowing ISPs to compete would be wonderful, but they're not competing now. And the way the system is set up now, they won't need to.

The unfortunate truth is that while Title II isn't ideal, it's the best and only option we have right now to ensure those monopolies continue to run away.

Anyway, let me know what you think.

Mark Cuban

Nov 13 (3 days ago)

<mcuban@gmail.com>

to Steve

If you don't like it now let the government get involved.

Walk into any best buy and choose from 3 wireless broadband options and cable and Telco wired option

You have choices

How much faster are all those connections today then last year and the year before

That article you tweeted was beyond stupid



Steve Kovach

Nov 13 (3 days ago)

to **Mark**

Wireless is not an option. It will be one day, but right now it is far too expensive and spotty coverage-wise to be a replacement for wired broadband. Try connecting to aLTE network outside a major city and you'll see what I mean. Maybe someone will swoop in and invest bazillions to build out a better wireless network. I hope that happens.

But for now, it's all about wired, which is monopolized. And it's going to be like that for the near to medium term. What's your solution?

Mark Cuban

Nov 13 (3 days ago)

<mcuban@gmail.com>

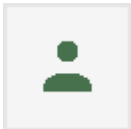
to Steve

where do you live ?

and i just realized you are with BI.

these arent for publication

m



Steve Kovach

Nov 13 (3 days ago)

to Mark

New York City. Manhattan, specifically.

I'd like to publish something in addition to your tweets though. A lot of people are talking about it. What's your answer to solving the wired broadband monopoly if not Title II or something similar?

Mark Cuban

Nov 13 (3 days ago)

<mcuban@gmail.com>

to Steve

First of all, I think that ISPs, however you define them are doing an amazing job increasing bandwidth available to homes. The idea that netflix , hulu and the aggregate of all OTT services can grow to where they are, as quickly as they have and service has gotten better, not worse in most places and cases, is a testament to the actual investment being made on increasing bandwidth. PProviders are jacking up not just b/w to the home, but the through put as well. something is driving them , if not competition, what ?

and Isnt theretmobile,verizon, att, sprint inmanhattan for wireless ?

Dont all have coverage for most of the continental US ?

if you can make your phone a hot spot on all carriers (some charge more), then you have broadband options,

when you want unlimited or close to unlimited bandwidth, then you have fewer choices or you may not like your choices, or coverage , but you have options, even if imperfect

then of course you have the option of walking out the door to any number of public hotspots to use wifi and the number and coverage of wifi hotspots is expanding every day

You may not like all your options, but thats a different issue. but lets put all that aside

the big morass is with the nuance of defining what will be covered and how. No one can agree what net neutrality is and what title 2 should cover. What i am certain of however is that the government wont do a good job avoiding the law of unintended consequences

And let me be clear, if the promise of the internet was content like movies and tv shows or music videos, then none of this would be a big deal to me.

But its not.

We dont know whats next on the net and how it will be impacted by the need for the government to define what can and will happen on the net in some manner that they think protects consumers.

What if the need for machine vision is ubiquitous for some application, say self driving cars ,what happens ?

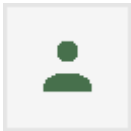
What if communities want to put up high res, high bit rate, real time video around schools , intersections, where ever the residents agree they are willing to accept any privacy issues. What happens ?

What if some amazing application appears that wants to suck up every free bit of bandwidth available in a shared manner between every and any CPU made available to it ?

What about medicine and health care. There is an emergency surgery that a doctor who is who knows where wants to be able to help in some manner that is unknown to us today, but all she cant get the bandwidth allocated to the application because it happens to be when tv and movie OTT services swamp bandwidth between the doctor and the remote hospital

what about the internet of things, what high bit rate applications will be created and how can they, or any other high bit rate applications get past the 50mbps peer to peer unicast streams that kids are streaming to each other on for 5 hours a night ?

we are trying to define the undefinable because it seems like some people are afraid they may be denied movies and tv shows.and the like that makes no sense to me



Steve Kovach

Nov 14 (2 days ago)

to Mark

First, thank you for responding. This is great and really clarifies your tweets from yesterday and I think everyone will get a lot out of it.

A few things:

Yes, there's great competition among the wireless carriers right now. The four major ones are available just about everywhere. And the competitive landscape is mostly working there and benefitting customers. Look at T-Mobile. The changes Legere has made there over the last 2 years have caused the big guys like Verizon and AT&T to react and change pricing plans and what they offer. That's good!

But wireless broadband is not designed to be a replacement for your wired broadband. It's designed to let you sip data on the go. Depending on the carrier, data plans can cost ~\$60 for 3 GB of data per month. If you go over that, the carrier either throttles your speed or charges you extra for more data. That's way more expensive than getting 250 GB or unlimited data on wired broadband for about the same price.

It's unfair to say wireless and wired broadband providers compete with each other. They don't. They will some day, maybe, but not now.

I also disagree that broadband has gotten as good as you think it has. Yes, it's incrementally better, but still far behind other developed countries. Investment in broadband networks is declining, not going up. And the ISPs have no reason to build out their networks because there aren't any viable competitors. (Google Fiber is an exception, but it's only available in a handful of cities.) I also don't consider free hotspots at coffee shops, etc. a competitor because they use the same ISPs folks use in their homes. Plus, I doubt ISPs are very worried about people sitting in Starbucks all day using free WiFi.

Your example of bandwidth for medicine and healthcare. Obama's proposal would prioritize traffic for essential services like that. So that's not an issue.

I do agree with you that we don't know what the Internet will become, and what kinds of services it will power down the road. But I think it's a narrow view saying net neutrality advocates just want faster Netflix. They don't. Netflix is often used an example, but those who support Title II see the internet the same way you do. Who knows where we'll be in a few years! And I think that gives us even more reason to make sure it's protected now.

Based on what you've written, I think our goals are the same, but we differ on how to get there. I find that comforting!

Let me know if there's anything else you'd like to add.

Mark Cuban

Nov 14 (2 days ago)

<mcuban@gmail.com>

to Steve,

On Nov 14, 2014 9:19 AM, "Steve Kovach" <skovach@businessinsider.com> wrote:

>

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>

> A few things:

>

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..

What on the Internet ends up being used in the way it was designed ? The Internet was designed for everything but video. There are networks designed to carry video signals and they deliver digital TV channels every second of the day

You may not like the depth of competition wireless currently provides , but then wireless networks are getting better by the day and standards are being set for 5g that will compete with wired broadband

There will come a time in the next decade when cutting the cord refers to cutting your broadband cord. It's inevitable. How will Title 2 deal with that ? Will Title 2 sunset in 5 or 7 or 10 years or will we find the future of broadband cut off at the knees because title 2 of 2015 didn't anticipate broadband of 2022?

Unwired WiFi networks are being created There are thousands of broadband Hotspots. How is that happening ? How far will it go and how will Title 2 impact their growth

>

> It's unfair to say wireless and wired broadband providers compete with each other. They don't. They will some day, maybe, but not now.

It's unfair because it doesn't fit your argument

>

> I also disagree that broadband has gotten as good as you think it has. Yes, it's incrementally better, but still far behind other developed countries. Investment in broadband networks is declining, not going up. And the ISPs have no reason to build out their networks because there aren't any viable competitors. (Google Fiber is an exception, but it's only available in a handful of cities.) I also don't consider free hotspots at coffee shops, etc. a competitor because they use the same ISPs folks use in their homes. Plus, I doubt ISPs are very worried about people sitting in Starbucks all day using free WiFi.

>

Nonsense. How much wired bandwidth do you have today to your home vs 3 years ago what's the comparative throughput?

And add some context

Netflix started streaming in earnest 5 years ago and the usage exploded. It went from DVD to consuming 30pct of prime time bandwidth. Networks built out to cover it and as a result Netflix is able to support 10s of millions of subscribers

If the networks aren't keeping up why are the number of over the top video provider start ups exploding right now ? Are they all stupid ?

The amount if video consumed on the net is growing how fast ? Right ? How has that happened if networks are so bad ?

How is it that 4k video is now being streamed. 4k. Seriously if there was a fear of unequal access how in the world would 4k over the even be possible ? That's 4x the bandwidth of HD

What about cloud computing ? How did it explode from nothing to huge ?

Millions of companies trusting the net to provide access to any digital type of content and amazon Microsoft Google IBM and others trusting the net to provide access to their clouds and hosting servers on the networks you want to regulate

What is the impact of net neutrality going to be on clouds ?

What about cyber security , the minute there is an attack that does damage, you can bet that title 2 will be used as a weapon by politicians and we will have discussion of title 3 start.

What about CDNs? With NN in place CDNs will explode. They will pay the networks a ton of money to host their servers and then charge the same people that you think will buy high end commercial fast lanes a ton of money to assure their streams are better to the last mile than Smaller competitors are. Should we regulate CDNs?

And of course what about the many other reasons beyond lack of choice in the last mile that impact consumer experience ?

When your next door neighbor streams his live gaming all day to his friends at 50mbps and everyone else on that last mile buffers all that the time who takes responsibility?

Should title 2 throttle upstream bandwidth to make sure the last mile isn't impacted by bandwidth hogs ?

What happens if after title 2, investment doesn't keep up for the last mile and people start complaining that their service suffers because their neighbors stream all the time and the question is why should they suffer so their neighbors can watch streaming video rather than tv ? Why should a non OTT subscriber pay more so streamers get their video ?

What about non essential but ground breaking bandwidth hogging applications

Things like machine vision , high bit rate IOT applications , self driving cars , peered sensors ? What if there is a groundbreaching collaborative computing app that eats a ton of bandwidth ?

If you want to see bandwidth and innovation throttled, have the government regulate network management and investment

> Your example of bandwidth for medicine and healthcare. Obama's proposal would prioritize traffic for essential services like that. So that's not an issue.

NOT True. First in line in a traffic jam is still slow and buffering.

And how are you going to regulate quality of service settings ?

Will Title 2 decide how last mile consumer usage will be prioritized vs downstream ?

Who is going to say what an essential service is ?

>
> I do agree with you that we don't know what the Internet will become, and what kinds of services it will power down the road. But I think it's a narrow view saying net neutrality advocates just want faster Netflix. They don't. Netflix is often used as an example, but those who support Title II see the internet the same way you do. Who knows where we'll be in a few years! And I think that gives us even more reason to make sure it's protected now.

You can't protect what you don't know. If that is the right approach why not further regulate everything ?

>

What happens when some new Internet service takes on a political tint or is perceived as impacting an election

What if they get the legislation wrong ?

No one trusts the politicians we have in place to do anything right, but we think they can take on a difficult issue like this?

, Based on what you've written, I think our goals are the same, but we differ on how to get there. I find that comforting!

No they aren't.

There is a place for more government If the net wasn't working. it's working

The issues above are just the ones I can think of off the top of my head
I'm sure there are thousands more

The net is working. There is no better platform for innovation in the world right now than the net and you think further regulating it is good ?

You keep on saying that more money is being spent elsewhere on networks than here in the USA. Show me those numbers I see more per capita being spent here

And you talk about our ranking in the developed world. You and many are being intentionally obtuse

All the surveys are based on average speed. We rank 11th I think , but the difference between 11 and 2nd is 3 mbs

3mbs and that's based on averages

When you look at peak speed it's a smaller delta

And all the countries above us are denser and less populous

As far as growth in speed , we are increasing 9pct or more quarter over quarter

How is that bad ?



Steve Kovach

Nov 14 (2 days ago)

to Mark

I'm still not convinced by your argument that wired and wireless broadband compete. If LTE from wireless carriers won't work everywhere (indoors, basements, dead zones, rural areas, etc.) and it costs much more than wired broadband, how are those direct competitors? How are wireless carriers offering a viable alternative to wired broadband? (That's not to say they'll never be able to do it. But in the near to medium term, it's not gonna happen.)

I also don't buy the population density argument when it comes to internet speeds.

I live in Manhattan, which is very dense (duh.)

Here's a speed test from my apartment on Time Warner cable in April:

Here's a speed test I took from a random coffee shop using free WiFi in Seoul, Korea in April:

That's a huge gap. And while I can pay Time Warner extra to get speeds like that, I wouldn't have to in Korea.

Mark Cuban

Nov 14 (2 days ago)

<mcuban@gmail.com>

to Steve

you got me. We arent as good as southkorea.

now explain to me how government intervention is going to change that ?

And explain to your internet cafe how they are only getting 50mbps when they are paying for more

Mark Cuban

Nov 14 (2 days ago)

<mcuban@gmail.com>

to Steve

oh and forgot to answer your wireless issue

Your wired broadband doesnt have drops that cover every inch of your apartment. And your wi fi wont either, and you risk interference from your neighbors appliances. It has limits. Like mobile.

Have you checked to see if you can get mobile service in your apartment ? Maybe with an amplifier ?

you arent a typical internet user.

What percentage of internet homes use under 40gbs per month ?



Steve Kovach

Nov 14 (2 days ago)

to Mark

That still doesn't account for the cost thing. Watch two movies on Netflix and you've eaten up your data cap from Verizon.

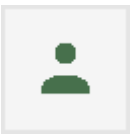
Mark Cuban

Nov 14 (2 days ago)

<mcuban@gmail.com>

to Steve

Most households arent netflix users. At least not yet. Most just use the internet like they did pre netflix



Steve Kovach

Nov 14 (2 days ago)

to Mark

That was just an example. What about YouTube? You don't think the average person can eat up 3 Gb of YouTube along with other basic stuff like emailing, web browsing, facebook, and so on? 3 Gb is nothing.

My point is, wireless plans are designed for on the go. Wired is designed for heavy usage. They're not the same. I hope that changes, but it's not the reality of things now.

Also!

Next time you're in New York you should come by BI's office and hang out. We've grown so much. You should see it. Crazy, exciting company to be at. I've been here four years and I love it.

Mark Cuban

Nov 14 (2 days ago)

<mcuban@gmail.com>

to Steve

Would love to come by

And remember we aren't typical users

Mark Cuban

2:10 PM (0 minutes ago)

<mcuban@gmail.com>

to Steve

You took a nice discussion and cherry picked it into bullshit so you could make your point.