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VZ - Verizon Communications Inc at Oppenheimer Technology, Internet & Communications Conference

EVENT DATE/TIME: AUGUST 07, 2019 / 12:15PM GMT



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Timothy Horan *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

PRESENTATION

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

So yes. What has happened over the last year, Ronan? What's happened to Verizon's restructuring and your responsibilities?

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

Yes. Sure. So just if I can remind and draw everybody's attention to the safe harbor statement just in case I inadvertently make a forward-looking statement, it's covered there.

QUESTIONS AND ANSWERS

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

So look, what we've done is it's almost exactly 12 months ago that Hans took over as our Chairman and CEO, and what we've done is we've reorganized into 3 operating businesses. Previously I was the CEO, President of the Wireless unit. What we did was we took the view that, particularly as we move into a 5G world, that we should orient our business model around our customer groups rather than around a specific technology. And increasingly, in a consumer world, there will be no difference between wireline and wireless. So the big play was to reorganize what we call Verizon 2.0 into a consumer group, a B2B group and a media group. And I have responsibility now for the consumer group, which is 100 million consumers, broadly \$90 billion of revenues and broadly \$40 billion of EBITDA, which includes our Fios footprint in the Northeast and the traditional wireless business that you're familiar with.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

And is -- well maybe just stepping back a second. Has the strategy changed at a high level from when you started 3 years ago versus [the current] organization?

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

Yes. It's a good question, and some of you may have heard me speak on this before. We've been in a transition with a clear view around the strategy and in many respects, the organizational change reflected the strategy rather than our strategy has now been updated to reflect the organizational change.

So the first thing right at the core is that everybody who understands Verizon, whatever business they're in or whatever particular customer segment is being served is our foundational rock on which we've built our Verizon brand is exceptional service from the network and in every generation of technology, we've been an industry leader. One of the first kind of emblematic moves that I made when I joined was to make sure that the best 4G network in the world was open to the customers to use as they want it, and so we moved -- early after my arrival, we moved to Unlimited.



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But when I spoke here last year, I talked a lot about this idea of orienting the business around the service of the customer and allowing us to use our scale, not just to be big and one-size-fits-all and just have the economies of scale, but actually use the scale to be highly, highly efficient and effective in personalizing and customizing the experience. So whether that's a corporate customer who can have their own slice of the 4G LTE network so they can have a private LTE network, whether it be a consumer who can take the benefit of tailored plans within our Unlimited portfolio that specifically meet their needs about how they use their device, something that we refreshed again just in the last few days and was in our stores on Monday, but that was the second wave of that personalization.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

And the strategies around -- correct me if -- your Intelligent Edge Network, you're ultimately kind of getting there and 5G is going to greatly expand that capability, though?

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

Yes. And I think right at the core, so again, we're a customer-oriented business, but we're a technology-enabled business. So one of the things that we've done, we've essentially integrated the core elements of our network with this idea of the Intelligent Edge Network. And that allows us to serve very effectively across either our wireline assets or our wireless assets, a seamlessly capable network. That also supports much more efficient deployment of capacity and capability going forward.

Married to that is a Network as a Platform or Network as a Service and strategy, which means that we're not just simply deploying the network solely for the benefit of Verizon-branded services but we're able to, whether it be wholesale in the consumer space, whether it's my partners in the MSOs or wholesale partners like a TracFone or whether it be in the B2B space that also has a wholesale unit, So we see very much the opportunity of using the size and scale of the network and the intelligence within the network to serve all of the segments of all of the addressable parts of the market. And then we have a go-to-market strategy, which defines those which we go directly as Verizon-branded, and those which we will go to indirectly through a wholesaler or other intermediaries.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

So do you think the wholesale part of your business will continue to expand?

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

Absolutely. I mean again, on record, we absolutely have the intent within our strategy to be the wholesale partner of choice in the market. We have the very best product, so there's no reason in the world why we shouldn't continue to use that product to be a differentiated wholesale partner. And that's an important part of the strategy. But that same approach is also the one that allows us to do things like Visible, which is our Internet-only business, which allows leverage of the Verizon network but a go-to-market which is completely distinct from what we do in the Verizon-branded space.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

I think there is -- some, I think, investor confusion or uncertainty about your -- how you'll really migrate to 5G over the next 3 to 5 years. I think a lot of people understand the millimeter, but they might not understand the coverage real well and the timing of will you be first to market still, like you've been with 3G and 4G? Can you be first to market with 5G, and can you create the new products and services to capture share as you roll out 5G?



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Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Yes. So the first thing to understand is not all 5G is created equal, and that's important to understand. Essentially, the way the 5G standards were written, the broader the bandwidth you have, the available spectrum bandwidth you have, the more of the features and capabilities of 5G that you can enable. So we've taken a very clear view that we want to have both a coverage strategy and a capability strategy. And a very large majority of the volume of data that we carry on our networks goes to large, dense urban environments. So from a population point of view, it'll be significantly less than half of the customers. But from a data traffic point of view, it's significantly more than half. So when it comes to the ability to use 5G as a significant capacity enhancement, there's more of an opportunity to leverage that in the urban areas.

Secondly, from a use cases point of view, while we can deploy, and we will deploy a 5G nationwide offering, the lower down the spectrum tiers you go, the more that will approximate to a good 4G service. Now the truth is we have a very good 4G LTE service in parts of the U.S. where some of our competitors don't. So if somebody else is rushing to bring out 5G nationwide, it may be because they don't actually have credible 4G LTE coverage in those areas to start with. And the important thing for us and the reason why we focused on the LTE to start is not because we don't have a strategy and an execution plan for 5G nationwide, but I think it's really important for customers to discover what is 5G and that there are differences. So you now have 5G, has been launched by a number of players in the U.S., but millimeter wave has given you between 1- and 2-gig download speeds. The mid-bands and lowers are giving you in the low hundreds. So it's already very clear, the distinction between the 2. And somebody might say to me, that's an unloaded network. Well, it may be an unloaded network in both cases, but I have a 1,000 megahertz of millimeter wave. Most people are going to be on maybe 40 or up to 100 megs of a mid-band. So that's really important.

So just again, to summarize, we will have both nationwide coverage of 5G, but we will also have millimeter wave in the majority of places where data is used, and that will give us a differentiated proposition on an ongoing basis.

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

So it seems like most of the higher-end phones will have millimeter capabilities, call it, in the next 18 months broadly speaking. When can we really start putting that to use on your network?

Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Yes. So again, so we've already launched across 9 cities. And to give you an idea, since we launched Chicago 8 or 10 weeks ago, we doubled the number of sites on air and more than doubled the area that's covered. And so we have consumer, customers in that market, Minneapolis, Indianapolis, all those who are already enjoying the benefits of 5G. Some of the millimeter wave has been switched on, but it's not yet available to consumers. I think it's more in a trial phase. So our customers are already enjoying the experience of what millimeter wave can do for them.

And the truth is in the early phase, there's 3 critical conditions: the availability of the radio equipment to build out, the second is the availability of the handsets and the third really is price points. And so what we have is we have a number of great 5G phones at the moment, but they're all at the premium price point. Our expectation is that we will see at the mid-price point a significant availability of 5G millimeter wave-enabled devices in the early part of H1 2020. And I think that will be a catalyst for a bigger 5G adoption.

What we've seen, I think all the carriers have seen, is the upgrade cycle has slowed down. That's very traditional at the end of any G. If you take the last 2 years of 2G, 3G, 4G and 5G, what you tend to see is a slowdown in the upgrade cycle and then you see an acceleration when, not just handsets are available, but when we really good handsets are available at the key price points. For us, that's below \$800 is a kind of a key price point, which we expect to be able to achieve in the first half of next year.

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

So since you've taken over the Wireless organization and now the whole Consumer organization, you made a bunch of great pricing moves in the last few years and giving customers a lot more capacity and a lot more capabilities and -- but keeping the network quality very high. At the same



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time, you've been growing ARPU and growing profitability at a really, really nice rate. And I know you've made some -- well, not major, you made some pricing moves on Monday or Friday. Can you talk about what those moves were and why you did them?

Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Sure. So this will be the third kind of August in a row that I've made pricing moves. So it's a pattern there that we look at evolving our portfolio of offerings. And what you've seen is that there's a trend there, not just in the timing, but in the approach that we're taking. So we introduced this concept of mix and match this time last year, and really said to customers. Sometimes, I'm asked the question, "But Ronan, how can there be more than one Unlimited?" And the answer is how much data you use is only one of the variables. It's how much you use, what you use it for, when you use it and where you use it. And actually, what we want to do is we want to make sure that we address all of those.

So all of our plans in those Unlimited plans come with unlimited data, but they offer other elements of experience. It might be the video quality we offer, it might be the fact that some come with music, some come with a special deal that says, if you want a hotspot or a tablet, you can get it at half price. So what we did is we evolved the plans and just they were in our stores from Monday. And the idea there really was that we had seen very strong adoption in the plans last year and a number of the features that we offer were really network differentiation. What we wanted to do was more personalization of the use cases for customers. And the logic of it is some people have asked me, "Well, why would you make a price cut? Your business is doing fine." Essentially, what it is, is it's a targeted repricing within the structure of our plans rather than simply a price cut. And what I mean by that is we've seen a significant number of our customers move from metered plans to Unlimited, and that has been a driver of growth. However, we still have more than 50% of our customers who are on metered plans. And there's a point at which the gap between metered and unlimited may be too much to bridge. Our view is that the unlimited platform is the platform that we will use for 5G adoption next year when 5G goes scale. So it's an important part of both our growth strategy but also our customer engagement strategy, is to encourage them to get the most out of the network, to use more of it and to get more benefit out of how they use the network. And that's very much the way the plans have been applied. And if you think about it, start is really to say to somebody, if you haven't considered trying unlimited before, please come and try it. If you were already a significant data user, well then play, go more of those things, may be what you want to do. And what we'll see over the next while is that the blend of that is actually accretive and that's consistent with our overall strategy of growing our service revenues between sort of 2.5% to sort of 3%, and it's driven by people moving from metered to unlimited, people stepping up within the unlimited tiers and people using more of our services across more devices, whether it be connected devices like watches or tablets or other things. And that's what's driving. And of course, at the top of the funnel, if we have plans that meet my needs, that also means that our win share and our capture rate of what's available in the market can also grow as well. And we're already the market leader in both win share and capture rate.

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

So really, you're trying to get people on unlimited plans, obviously, away from metered usage to prepare for 5G. But it also seems like, to me, T-Mobile and Sprint are going to be merging here and I think it's going to be a very difficult integration in the next 2 years. With these price points and having expanded price points and a lot more flexibility, do you think you can capture a little bit more share with these price points than previously?

Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Well I think, any CEO of a carrier who said that his strategy wasn't to encourage more customers to enjoy the best network in the country, I think would probably lose their job. So absolutely. It's very much about making sure that the customers that we have get the very best of Verizon, enjoy and participate in the category. So they broaden out their usage, enjoyment and experience but also to open up the funnel to more and more customers to join us. And a good example of that is we introduced Go Kids as a plan. And that was in direct response to consumers, not just customers, but consumers broadly were saying, "You know what? Increasingly, children are taking a smartphone earlier. I'd love to have an environment in which I can introduce them to the positives of being online but actually be able to do it in a controlled environment." So that was the insight for Go Kids. And that has been very successful since we launched it. So right across the spectrum, it's making sure that whatever type of customer you are, we have a use case for you.



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We've actually seen that many parents are using Go Kids for their parents. Because actually, what they recognized is for some older parents who may be onset of dementia or other things, they're finding actually that idea of a controlled environment, know and understand how they're using it, have certain numbers already put in. So again, this idea of if we build out the use cases and understand the customer needs better, what you can do is use your scale to be able to differentiate really cost efficiently. And that's what essentially is our definition of value, it's quality, it's choice and it's experience. When you put those 3 together, you deliver value.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

And I didn't check the details on this on the cap rates, but it seems like 5G people are going to be using a lot more. And is your hope that they'll have to trade up to the higher-priced buckets because the caps are higher? Or did you change the caps on the usage?

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

So again, to be crystal clear, there are no caps on any of my plans. Crystal clear. So what it is, and again I'll take the opportunity to explain this, if you are in the vast, vast majority of our customers, you never touched a congested cell. Never. That's why we win RootMetrics every time. That's why we win J.D. Power every time. So you're highly more likely to never experience congestion if you're a Verizon customer than anybody else in the U.S.

In those circumstances, you can forget about whether there's 25 gigs or 50 gigs or 75 gigs of priority data. That only applies in a situation where you may be in a congested cell. So I will acknowledge that in dense urban areas, before the launch of 5G millimeter wave, there were some areas where I just can't get enough capacity into Times Square at a particular time, into certain parts of Manhattan. I acknowledge that. In those circumstances, that priority data becomes relevant. But in all other circumstances, what it is, is it's an unlimited plan and therefore you can use it as you want.

What we think in 5G is some elements like, for example, 4K streaming. We don't offer 4K streaming today on our unlimited plans, why? Well, a, there's very limited content but b, there isn't a single device out there where actually, you can observe with the naked eye, 4K and the difference between 720 and 4K on a device of this size. But in a 5G world, we will also be building 5G fixed wireless access in our millimeter wave. So we see an environment in which those 2 services will come together and people, whether it be uplink streaming when they're at an event or whether it be in their home downlink streaming, things like 4K or 8K in due course, will be important. And the bandwidth we have in millimeter wave will support that. I'm not sure anything else will.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

So these price plans, do you think they'll be ARPU accretive? Stay the same?

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

So look, we have a stated view that we have a long-term ambition to be a GDP-plus growth company. Within that, we have given guidance for this year, which talks about our service revenue growth. Within that, we see 2 distinct phases: We see the opportunity to grow in the 4G world, and we've demonstrated that. And now pretty much I'm 7, 8 quarters into my strategy, there's been a consistent trend there. And what we've said is that there will be further opportunity when 5G arrives.

Now the moves we made in the last few days are not a 5G pricing move. What we have done is we've given an additional benefit to customers who want to be early adopters to get in and have the 5G experience without paying the 5G pricing premium. But it's really, it's a 4G play today with early adopters for 5G. But from a scale point of view, it's very much 4G. What we will see over the next 18 to 24 months is we will see the delivery of distinct 5G experiences. And honestly, whether that is it's a premium on the standard plan or whether it's specific-tailored plans, I can envisage, for example, a gamer's plan. I can envisage actually a day trader's plan, somebody who wants to leverage ultra-low latency, certainty of access.



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So there might be that what will happen is some of the plan features will evolve, or it might be that some services will be B2B2C, so it will come with ultra-low latency when you buy an online gaming package from a third party from a gaming company. So I think we'll see more evolution of the models.

In the B2B space, with mobile edge computing, what you will see is you'll start to see some of the industrial use cases. Campus use cases, I think, coming a little sooner than the mass market consumer ones. And I think the area that I'm particularly excited about is live entertainment. I think you will see significant benefits, both B2B and B2B2C in that space.

When you think about it, if you go to live sport -- I'm a sports nut. If you go to live sport, in many ways it's the best place in the world to watch sport because you get the atmosphere. In every other respect, it's the worst place in the world because people on social media tell you whether or not actually that was a foul, whether or not the replay said that it was offside or it was a goal or not.

So you rely on social media to get communication. Just imagine being in that same immersive environment where you're in the stadium and you get all the atmosphere but also with a screen in the seat in front of you with extra aural stimulation, you're actually getting the whole 360 experience, all of the benefits of 20 different camera angles and the beauty of being in the scene. I think that will be huge. And one of the things that will make that even more valuable is in millimeter wave, the uplink capability in 5G has just never been exploited in any of the Gs before now. Imagine the ability to do 4K uplink streaming and the opportunity then to evolve some of the social media uses on platforms like Snap and Insta and others like that. So I think live entertainment will be a showcase for 5G.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

Have you rolled that out in any stadiums yet where you give people devices that they can use the 5G?

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

We have indeed. We have done some trial work there. We did it last Super Bowl. But all I would say is watch this space. How about that? I'm looking at Brady. I can't say any more. But I could be very excited by telling you a story but then I'd have to keep everyone in the room for a little while.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

Very good. Any questions, while -- I have many, many more.

Unidentified Analyst

(inaudible)

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

Yes. Sure. So...

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

You might want to repeat it.

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Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Absolutely. So kind of 2 parts to the question. So it's about wireline substitution with our fixed wireless access offering.

So we did 4 markets initial commercial launch. I think I've shared most of the data, but we're seeing consistently high, both service levels and speeds. We talked about it as a 300 meg product, average customer seeing more than double that speed, seeing 99-point-something percent of their traffic on the 5G bearer and only a very occasional fallback on the 4G. What we've seen is we see mixed propagations. So in some instances we see distances twice as long as we will anticipate. In others, shorter. And that's because of the fact that it's not just line of sight. It's because you have the trick shot in millimeter wave where things are coming off different surfaces. We've seen a significant proportion of the installs we've done so far, all have been professional installs, but a higher proportion of them with an indoor antenna than we had anticipated in our original plan.

So the next wave will be the full commercial launch, and that really is dependent on the new CPE, which is on the NR.

What we see though is everything we've seen so far encourages us on a number of things. The technology works, that's the first thing. The second thing that's really interesting insight is that customers who have taken the service, in some instances, what they have done is they've chosen not to unplug their existing cable or wired provider for the first month. And the beauty of it is you can run through services side-by-side and actually see what the experience is. And so what we've seen is that there's a try-before-you-buy essentially opportunity there, which will definitely help us from an adoption point of view. The other thing that we see is it's also encouraging people to think about cord shaving and cord cutting, and that very much serves my business because in some respects, I'm a subscale content acquirer where I'm a mass scale connectivity provider. So I'm reorienting my content business into being one that serves 100 million customers rather than one who's a purchaser serving only 6 million. So all of the things we've seen so far are positive and encouraging to our use case and our hypothesis. The critical things that we've seen that really will ultimately make a difference is we've seen the churn in the markets, the small footprints though they are, go up in a way that's consistent with what you would expect for a comparable third service provider. And therefore, our capture rate in those markets has benefited not just from the natural churn of the market but actually seen a significant spike in churn. So we're very pleased and we're very close to starting to roll out the full commercial launch in -- I think we said it would be the second half of the year and we're very close to putting that out into the market. So full steam ahead.

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

So just on the latency question. Can you actually get lower latency then -- or can people get lower latency on your network versus the wireline network?

Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Absolutely. And critically, there are a couple of components to latency. The first one is the over-the-air link and that's lower in 5G than it is in 4G. But then the second is the link then back to a data center or whatever, where data is being processed; if it's gaming, it's something else. And the use of mobile edge compute and therefore, a distributed data center architecture, allows you to significantly reduce that path. So what you do is you get 2 benefits: reduction in the over-the-air and then a further reduction because actually, the return path for the compute is lower. The combination of the 2 means that you can, with stand-alone core and all the full features of 5G with Release 16 and 17, you can get 2 environments where you can actually have below 10 milliseconds of latency return path. But generally, below 20. And once you're below kind of 35 to 40, you're in an environment where things like AR, VR or things like that work in a way that don't disrupt...

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

And that's, of course, you reengineered the whole network from end-to-end, from the backbone out to the edge to beat low latency. And the backbone, it sounds like that's all basically ready to go at this point.

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Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consum

Correct. And that's where things, programs like One Fiber and other things are really, really important because I'm talking about millimeter wave, and I'm saying I've got this 1,000 megahertz of bandwidth. But the question is, so what happens when that comes down into the network? Well, that's why we're building out One Fiber across 60-something cities as an enhancement to our own core from a transport point of view. But we're building it with 1,700 strands in there, so that the capacity there supports the fact that we can build out 1,000 megs in the network. There isn't much in the way of third party assets out there that have that sort of bandwidth.

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

So I've been in the industry a long time, probably longer than you actually, in a lot of ways. And every time a new technology rolls out, the productivity is actually pretty subpar in a lot of ways. I kind of remember even when 4G rolled out, you can only handle so many subscribers per cell site. And 2, 3 years, you can handle 10x the number of subscribers per cell site. So there's been a lot of kind of concerns by investors that the technology just won't scale and that we won't get the coverage, you won't be able to support the type of capacity, number of subscribers that you're talking about. Maybe is there a way to talk about the analogy with 3G and 4G, what you've seen or what you kind of expect here with 5G in the next few years?

Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Yes. And I think it's a great question and I think people who have been in the technology side of the industry for a long time are very comfortable with this exactly as you described. When 4G first arrived, it was supporting I think it was 4 or 5 phones per node, and it's now 248 or whatever the number is.

Well exactly the same. When we launched in Chicago with 5G, the number of devices burned out. We've already doubled it with software updates since -- in the weeks. And that will double again, and double again, and double again. So it's a normal transition. All of the 3GPP standard for 5G is unequivocally designed around massive scale. The ability to support 10x as many connected devices per square mile of network than was done before. The ability to transfer data at rates that are faster than things like the speed of a bullet train or other things, which means that there are no limitations. Currently, 4G won't actually transfer much above kind of the 300 kilometers per hour; at peak, maybe closer to 400. You get to 500 kilometers per hour on 5G. So it's built, it's foundational within the standards these capabilities. And we're releasing software on a weekly basis now, which is exactly what you do at the start of a generation. And seeing progress and uplifts all the time.

We're seeing already the fact that we now have 3 different network vendors deployed in the U.S. so we're getting insights from each of the network vendors because we have cities from each one of them now up and running. So I would say actually, the curve and the acceleration is probably faster in 5G than it was in 4G. And that is paralleled with the device adoption curve. We were exactly the same point in 4G, you had 2 or 3 bespoke 4G handsets that were put out there, most of which were not part of the hero handset range of the key device vendors. Now you have marking handsets from Samsung, from an LG. You have hotspots from an Inseego and others. They're all -- Motorola, they're all at that premium end and they're all within their hero device ranges because they're top class devices which also support 5G. And we've seen that in the mix of the Samsung S10 5G, is that customers even in areas where we've not made announcements about 5G have chosen to buy that device because it has a slightly bigger battery and has an extra camera. It's the best device they've ever met.

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

And correct me if I'm wrong, but I know a bunch of your engineers for a long time and they're obviously the best in the business, and they seem like they've been working on 5G for 5 years or more. And can you maybe just talk about how much further ahead you guys think you are from an engineering and IP perspective versus your peers?



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Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Yes. And I think it's in 2 components. I'll come specifically to the engineering and IP in a minute. But to that point of building for 5G for 5 years, the team has had a strategy and that strategy has informed what 4G spectrum we bought, what approach we took to network densification. So actually arrive in the 5G era with a network grid in urban areas, which is closer to what you would need for 5G millimeter wave than any other carrier because we made those decisions 3, 4 years ago. And that's why the engineers and Hans and others have been able to say, "We're not just simply building a 5G network. The 4G investment that we were making for the last 2 or 3 years has been 5G -- not just consistent, but it's been 5G enabling." So that smooth path means that we can deploy faster than would otherwise be the case. From an insights point of view, I mean, somebody was here yesterday and talked about the fact that there were 29 cities I think that were radiating for 5G millimeter wave. But there are no consumers on that network because they haven't yet worked out the experience. We've been having real-life consumer experiences first in the home since last October, so almost 12 months, and now on the streets for months. So in that regard, not just our engineering and IP in areas like mobile edge compute but actually, the inside and consumer experience that actually will drive the optimization of the networks, I think we're 12 to 15 months ahead of pretty much anybody else. And when it comes to millimeter wave, perhaps even further ahead.

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

So we only got 5 more minutes, but we didn't touch on the fiber really but that's obviously the foundation for everything you're doing on 5G. But can you just talk about a little bit how that experience has been going and just the ramp-up on the fiber builds?

Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Yes. So we've made some steps in the recent past to say that we're now the fastest deployer and the largest deployer of fiber in the United States, and we've continued to increase the number of route miles that we're deploying per month. We're asked, "Can we go even faster?" The answer is we're close to our peak at the moment. But that program is both going very well, but it's also a critical component of what you need to be a winner in 5G. You need spectrum. You need fiber. You need money and you need devices. And the balance sheet that we have, and you know we're the world's most prudent when it comes to using the balance sheet, but we have managed ourselves in a way that we have the flexibility to invest in our core business in a way that allows us continue not just to compete but to win. And the thing I like about the strategy is in some respects, its simplicity is its beauty. It's an engineering-enabled, experience-led strategy that allows us to serve the broadest number of customers either directly or indirectly with the best platform, i.e. the network, use our distribution assets to support that as well. So when it comes to it, fiber's just like the first step in a really closely matched jigsaw where you can see all of the pieces coming together. And what you're seeing is -- over the last few quarters, is the transparency of the execution against that because, look, I'm only in the business 3 years. But Verizon's reputation for execution is second to nobody's. So the ability to take that execution focus and to imbue within it this focus around experience and outcomes for customers and bring the 2 pieces together is what's allowed us to essentially redefine value for other business customer or a consumer in a way that I think is genuinely differentiated and leads to the opportunity for us to be able to commit to superior growth in the market.

Timothy Horan - Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst

So I think I've seen time and time again, whoever has the best network out there kind of wins. And your GDP growth -- plus growth, I don't think anyone believes frankly right now. But we've seen that for many, many -- the cable guys have been it now for 7 or 8 years since they had very, very strong wireline capabilities. I mean if this wireless can truly start to take share and cannibalize the wireline market, it seems like the GDP plus growth is extremely, extremely doable. But -- and maybe this is getting too fine a point, but do you think about that GDP plus growth in terms of half of it coming from increased spending per account or per customer and the other half from buying growth? Or is there a way to kind of think about or maybe what percentage might be coming from wireline replacement versus wireless?

Ronan Dunne - Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer

Yes. So it's a great question, and I don't intend to fudge the answer, but I don't think in 3 years' time I will have a wireline and wireless business in that way. What I will have is I'll have a service offering that says essentially you got 2 pieces of CPE you can buy from me. You can buy essentially a



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handset or you can buy a home piece of CPE, and therefore it'll be another line on your account. So increasingly, it'll be that high-speed, high-quality ubiquitous connectivity, most of the services that you have in your home are completely transportable wherever you go. And maybe for those people were lucky enough to have that summer house on the shore or in the Hamptons, what they'll do is just pick up that piece of CPE and bring it up with them rather than having to tell their cable provider that they want to switch off for 6 months. So as a result of that, I see the growth as being broad. I see it being in our base, but I also see the opportunities for us to grow share in the marketplace and then I see us have the opportunity to expand the addressable market by taking over more homes and essentially uncabling the cable guys.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

And I know we didn't go into it a real lot, but I think the strategy of bundling in YouTube TV is brilliant strategy. It's a great product and the bundled offering is a great, great move.

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

And the key there is to think about it -- I kind of referenced it to the question earlier, is this idea of our content strategy. Previously, we had a content strategy which was associated with 6.5 million homes in the Northeast, which were Fios homes and linear bundles. What we're essentially doing now is saying I have an addressable market of 100 million consumers, and that's highly attractive to content providers. And if anybody out there is thinking of a direct-to-consumer strategy, we're Switzerland. We have more consumers and we don't have any obligations on the other side of the fence. We're not going to sell you content you don't want in a barter for the content I do want.

Timothy Horan - *Oppenheimer & Co. Inc., Research Division - MD and Senior Analyst*

We have time for one last question, if any? We're out of time. Thank you. All right... Thanks a lot.

Ronan Dunne - *Verizon Communications Inc. - EVP & Group CEO, Verizon Consumer*

Good. Pleasure, Tim, as always. Thank you very much, indeed.

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