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<<Paul Silverstein, Analyst, Cowen and Company>>

Good morning. Second session of day two, 2016 TMT conference. Welcome, Paul Silverstein, senior analyst, networking and communications equipment. And it's my pleasure to have with us Roger Shannon, CFO of ADTRAN. Roger is going to do a prepared presentation. Hopefully we'll have some to grill him, and ask the real questions at the end that we all want to know about. Thanks. Roger?

<<Roger D. Shannon, Senior Vice President of Finance, CFO, Secretary and Treasurer>>

Thank you all, and good morning. Appreciate your time, appreciate your being here and your interest in ADTRAN; and also appreciate your forbearance as I go through the presentation. As some of you may know, I'm about six months into my tenure at ADTRAN. And this is the first time Tom Stanton has let me go out without the training wheels. So, it's a great opportunity, and I'm very pleasured to be able to speak with you. I'm really happy to talk about ADTRAN [indiscernible] (0:01:21) and some of the things that we are seeing in the broadband access market. First of all, obviously need to start with the obligatory Safe Harbor statement. During the course of the meeting, we expect to make some forward-looking statements which reflect management's best judgment based on factors currently known. I won't read all of that to you, but you can see that. And also I would refer you to the 10-K for the year ended December 31, 2015.

So I'm going to start out with a little bit of history and background on ADTRAN and who we are. Basically, in its simplest form, ADTRAN is a broadband company. The company was founded in 1985. It's been publicly traded since 1994. It's headquartered in Huntsville, Alabama. We provide products and services that enable high-speed data video and voice to thousands of customers in more than 65 countries. Our revenue in 2015 was $600 million. In the U.S. we sell to every major telecom carrier, many hundreds of smaller players. Our international focuses in Europe, Middle East, Latin America and Australia. We have a strong array of products providing services over fiber, copper, and wireless, as well as professional services to support the customers' networks.

We have over 2,000 employees with R&D centers in the U.S., in Germany, and in India; and major production sites in the U.S., Mexico, Vietnam, China, and the Ukraine. And I'm going to get into some things that may not be well appreciated or maybe as well communicated about ADTRAN. I had some conversations last night; and I think it's an opportunity for us to be able to talk more about the market innovation and leadership that we are bringing, especially into new technologies, over optical and fiber, G.fast, as well as SDN NFV.

So, to that end, we continue to develop and deploy new technologies to support the growing needs for bandwidth globally. I put this slide to kind of give some opening indication as to that innovation timeline. And we've broken it down into the different eras: the divestiture eras of the mid-80s; the Internet era of the 90s; the IP transition era, 2000s; and then where we are today in the gigabit era and the SDN era. And what you notice in this is that there are a lot of firsts from ADTRAN. Going back to 1995, first to break the $1,000 price barrier for T1 access, gaining 95% market share. First fiber backhaul solution, 1995. First converged voice and data business gateway. First VDSL deployment based on IP DSLAM. First all-Ethernet MCAP, first cloud-based wireless LAN, first cloud-based mobile offload architecture.

First demo VDSL2, 825 megabit with phantom bonding and vectoring. First edge optimized packet optical network platform. And then more recently in addition to our leadership in G.fast, a breakthrough in 10G, in NG-PON2 economics, which allows us to deliver NG-PON2 at near PON prices.

So I won't go through these individually. But just to kind of quickly give a little more clarity to each of these eras, it is something that is a strong focus of the Company, based on our outstanding engineering structure, R&D structure. And I'll talk a bit more about that as we go through. But you can see in each of these eras that it's been ADTRAN's position to take the lead in innovation and disruption. And that really has been the culture of our Company since its beginning in 1985.

Then more recently, I do plan to spend a little more time on SDN NFV. There's obviously a lot of talk about that. It is the buzzword; is the hot topic in all the conversations. And it is something that we, in the past, haven't talked as much about, but have been playing a very active and very strong leadership role in the industry setting, standard-setting as well as in the development. We've tended to not get out over our skis in talking about things that weren't real yet. But maybe we've been a little conservative in that aspect. And we do have a great story to tell, and I want to bring that to you today.

Just quickly at a glance, I touched on some of this at the beginning. But ADTRAN is a top-three global supplier in broadband access, the largest in the U.S. We are in 68 countries. Last year, approximately 30% of our revenue was international. So I mentioned we have 2,000 employees headquartered in Huntsville, Alabama, but also in Munich, Berlin, Greifswald, Sydney, Melbourne, and in India. I mentioned that we had $600 million in revenue last year, one of the things that you may have seen in some of the press releases that we've done. But we are absolutely, without a doubt, the leader in gigabit community enablement. 250 gigabit communities enabled as of the end of 2015; that number is up to over 300 at this point.

Mentioned that I'll talk about SDN NFV. On the R&D front, we do spend 21% of our revenue on R&D. And we have 60% more patents per dollar than industry average. So this just goes to that topic of innovation, and leadership and engineering and R&D that we bring to bear. We have a very strong balance sheet. We basically have no debt. $272 million of unrestricted cash and marketable securities as of the end of the last quarter.

And some of the innovations, just touch on again, we did have industry's first cloud Wi-Fi solution. We are number-one in IP business gateways in North America, number-two in branch office routers in North America, number-one in SIP trunking and VoIP across North America.

So I'm going to give you a flavor of some of the customers that we serve. And this is a very large list, as you'll see. We have a diverse customer base which – including tier 1, tier 2, and tier 3 across the U.S. and across the globe. In the U.S., it includes all the major ILECs, large and small independent telephone companies, competitive service providers, Internet service providers, long-distance service providers, utilities, municipalities, cable MSOs and wireless service providers. Worldwide, we also serve incumbent carriers and competitive service providers and selected regions.

Additional solutions in the U.S. include all the major ILECs, large and small independent telephone companies, and competitive service providers. Small and medium business and enterprise organizations purchase our solutions through the two-tier distribution channel. The two-tier distribution channel. The two-tier distribution channel is comprised of several large distributor partners in an extensive network of value-added resellers.

Additionally, ADTRAN solutions are deployed globally in the EMEA, Asia-Pacific, CALA. And our vertical markets for our solutions bring great value include retail, food service, healthcare, finance, government, education, manufacturing, military, transportation, hospitality, and energy and utility. So hopefully you'd recognize most, if not all, the names that are on that list.

I want to transition now to the trends that we are seeing, and the drivers that we believe are on the horizon for growth in broadband access. And it's three things that we point to, that we discuss, that we look to as we are developing our business and our strategies. And that is the need for speed, the software-defined networks, and global competitiveness. I'll start off with the need for speed. There's absolutely no question to anybody paying attention that broadband use is accelerating; that the demands of the consumer really are driving, in a very large part, the growth and the investment we are seeing in infrastructure. There has been, over the past several years, kind of a lull in the cycle in broadband access investment, really ending in the 2010 timeframe. And then we see that picking up at this point in time, driven in very large part by the consumer and the insatiable demands for broadband.

You hear a lot about the cord-cutting. Obviously everyone has their mobile devices, multiple mobile devices. They want to be connected anywhere, anytime, in very high speeds. The way that entertainment and data consumption is changing, going from many years back over the air, to cable, to now in tremendous growth in over-the-top, kind of driven by Netflix. If you turn your – in a lot of neighborhoods, you turn your TV on, on Netflix on Sunday nights, you might notice slowing down a bit. And that is not acceptable to the consumer and that's what the carriers are responding to.

Added to that, social media reaching 30% of the world's population now and growing; and Facebook, Snapchat, Instagram accounting for 25% of Internet traffic. And you think about the things that are on the horizon, that's only going to grow as your homes, my home, begin to transition to 4K television. And then 8K television is –believe that 8K is going to require 885 megabits for quality 8K experience. And that's per TV, so that can just give you some idea of the increasing demand. The dynamic that we've seen, and that ADTRAN is playing a leading role in, is the transformative effects of gigabit on our communities and our neighborhoods. You can look at that in terms of economic development, education, and real estate values. In economic development, the availability of gigabit throughout the towns and cities has proven to attract new business to the areas, has stimulated local economies. You can look, for example, at Detroit where Quicken has implemented rocket fiber in an attempt to revitalize that community.

According to the Fiber to the Home Council study, communities with widely available gigabit broadband access experience a 1% higher per capita GDP than areas without gigabit. Cities in Mississippi are seeing this up close as they transform from sleepy college towns to hubs for future business investment. They are attracting global companies and supporting thousands of local jobs. Even in Huntsville, Alabama, where we are headquartered, a town of about 185,000 people, we were just recently announced by Google to be in their next round of gigabit fiber cities.

On the education front, we believe gigabit is radically transforming the education experience, especially for those that are in a less privileged position, or in a geography that is less accessible to the educational opportunities that many others have. Gigabit broadband is providing school districts with bandwidth to ensure online education for more personalized learning experience. We all – anyone with kids today knows that the learning experience has changed in the way that information is digested and, quite frankly, expected to be delivered. I'm not sure that's always for the better. But it has changed, and this is enabling that delivery.

Just as an example, schools throughout 15 Ohio districts are using gigabit service to meet local educational mandates, while they transition from a structured to an individualized learning experience in the classroom. This technology is bringing networks together, allowing schools, administrators, teachers and students to communicate in the new, innovative ways while learning at their own pace. Then on the real estate front, a recent Fiber to the Home Council study proclaims that communities with access to fiber and delivered Internet can increase home values by up to 3.1%, or nearly $5,500 on average, on a medium-priced home of $175,000. An example of that, according to real estate agents in Oregon, this holds true as they are seeing a rise in gigabit popularity in neighborhood criteria.

Agents have responded an increase in home buyers looking for property specifically in areas deploying gigabit are expected to in the near future. Then lastly, in telecommuting, gigabit is opening the doors for increased work flexibility by allowing employees to work remotely. I know in my case, it's much easier to travel to work from home on certain days and not transition from my prior employment in Louisville, Kentucky, to Huntsville. I've

been commuting on weekends. And I know firsthand, as many of you do, that the ease that allowing to be connected through high-speed allows us.

So residents located just outside Silicon Valley are oftentimes experiencing faster speeds at home versus their workplace. And as a result, telecommuters are able to enjoy more affordable, higher quality of life without having to give up big-city jobs. So what that's leading to, as I mentioned, is a coming wave or a next round of broadband investment cycle. Much of that driven by, as I mentioned, the consumer demand but also from some disruptive demand from the competitive side. And then added to that the CAF II funding which I'll talk about some, the Google effect, and AT&T fiber commitments, and the mandates for increased speed across Europe.

And you are also seeing a rise in the technologies, not only in fiber access but in traditional copper access that allow the carriers to get more lifecycle, to get more of their investment in copper at much higher speeds, specifically G.fast, which I'll talk about. But added to that, super vectoring, and then on top of that SDN NFV and 10 GPON. And a phenomenon that we believe is not being discussed quite as much as even the Google Fiber dynamic is the DOCSIS 3.1.

So Google obviously has gotten a lot of attention by their fiber initiatives. The execution isn't quite as simple as the announcement, in many cases, but they are certainly making progress and starting to accelerate their rollouts. But if you pivot from that and you think about what the opportunities are with the MSOs – and particularly look at Comcast as they've already announced the number of cities that will be transitioning to DOCSIS 3.1 – suddenly you are going to have a geography, a footprint that covers about 80% of the country that's going to be able to now approach gig speed. So if you think Google Fiber rattled some cages with their gig announcements, wait until you see the reaction from Comcast flipping the switch on DOCSIS 3.1 and be able to deliver near gigabit speeds.

Other things that are adding to the need for an investment in the cycle is the change in the way that the business is done around the world, and particularly in Western countries. Asset-light, idea-intensive sectors generated 70% of profits in 1999. Today that's 31%. Whereas the capital and labor-intensive sectors such as construction, transportation, utilities, et cetera are under pressure, seeing their profits squeezed from disruptive business models and stagnant revenue. Emerging markets now account for 30% of the Global 500, further increasing profit pressures. You hear a lot about the gig economy: shared, on demand. And what this is doing is spurring cloud connectivity, and therefore increased broadband buildouts.

This is a slide that you've probably seen before. You may have just seen it in an earlier presentation. But this is one that we like to show that just gives a very clear, graphic example of the acceleration of fiber to the home, and 1 gig announcements. And you can see, going back to 2011, when Google Fiber first made their announcements. And then there wasn't a whole lot that happened in the next year: Time Warner making an announcement, Google Fiber another one. And then really in 2003, it began to creep up. But it is really just incredible, kind of a stark picture of how this is expanding. And again

this is only going to fan out more as we move forward. And as I mentioned, ADTRAN has enabled, to date, over 300 gigabit communities.

So the next area that's driving growth is in software-defined networks. And my experience, and again being fairly new to ADTRAN, what I've experienced is there's been a lot of discussion around this topic, but not always a lot of clarity or certainty as to exactly what that means. So, when you talk about SDN or NFV, what exactly are you talking about? And what it means for us is kind of shifting to a data center architecture for the broadband access. And what's driving that is the high-bandwidth, cloud-centric apps such as the Netflix, coupled with the need for agile, user-driven networks that's driving this transition to a data center architecture.

So we think a lot, at ADTRAN, about the future network state and what that means. And as I've briefly mentioned already, we see that as fiber connectivity everywhere, multi-service points, open and cloud controlled network, virtualized network functions, and the network being highly automated and programmable. And that is our vision of what SDN means. The reason that's important is you contrast that with the way that the carriers and operators are functioning today, today operators manage four disparate overlay networks. And they have residential; they have business; they have mobile; and they have data center or cloud. And all of that drives incremental investments and constrain their assets.

So what they are needing to do is a migration of TDM and non-targeted assets. And for them, the service creation is painful and uncompetitive. This means rolling trucks to your house, means investing in different types of structures for these four different types of networks. So the future network state, our vision is for a single network that's fiber-based, cloud-controlled, highly automated with multi-service points. The key function is to be virtualized in the cloud, and the network is highly automated via SDN to enable maximum efficiency and end-user flexibility.

In the on-demand network, activating a customer service will be as simple as downloading and installing an app on a smartphone. The user just simply selects their desired service, and the intelligent network takes care of everything else: reserving the appropriate network resources or provisioning, building the data path, activating the required network functions.

And that simplicity is enabled by virtualizing functions that previously required dedicated hardware devices, and by implementing an SDN-based centralized control system to automate network connectivity. In the access network, we go beyond providing high-bandwidth Ethernet connectivity, easy network automation, by providing open service-level APIs that enable network programmability while hiding the complexities of allocating and applying resources on the underlying network.

So when I talk about applying data center architecture to access, we are not talking about creating data centers or putting them into COs, or ADTRAN building data centers. That's not what we're talking about. What we mean is by applying the principles that data centers employ – and there’s been many great lessons that are available to leverage from

that – SDN and NFV were born in the data center industry. Disaggregation of network elements and management systems to remove vertically integrated vendor silos and transition to open network architectures are the driver. Modern software architecture makes communication between disaggregated, geo diverse components much easier than a decade ago. And it allows service providers to get away from the all-too-familiar, too big to fail scenarios; removing the reliance on a few vendor roadmaps in their overall operational and financial health. Open architecture, which we are a strong proponent of, provides the opportunity for best-of-breed network buildouts. Virtualization of applications through NFV principles reduce the reliance on purpose-built hardware solutions and increases the network agility through software-centric solutions.

Network automation through SDN programming via open APIs reduced service provisioning times, errors, and IT complexity while enabling self-service capabilities. So what you have as a result of that is open, programmable, scalable networks. It assures customer quality of experience, enables rapid creation of differentiated services, and eliminates the high cost of network overhead. And the goal of all of that is enabling the self-directed consumer, which is – I'll circle back to the drivers of this need for speed is what today's consumer is all about.

So, what that means for us – and again, it may address some of the misnomers or perceptions of ADTRAN as a company, as ADTRAN is a software company. We invest 82% of our R&D on software-based designs. We implemented an agile development process that piloted in 2011 but was incorporated Company-wide in January of 2012. And you hear a lot about the agility or the speed of the operating system. And this is something that we've been doing, going back to 2012, through our engineering and our R&D centers in Huntsville, in Germany, and in India, with this agile development. We were literally working around the clock, handing off modules of code and development and testing, literally around the globe.

So as each group comes in, something is handed off; it's tested; it's debugged; it goes back; it's tweaked. And really this never stops. So the time that we are able to develop new features, functionality through our ADTRAN operating system, again is something that we haven't talked about a whole lot. But it's something that we are a leader in, and certainly focusing more attention on.

And it's one thing to say that you are a leader in the industry or that you are an innovator. I think what we've done is we've proven that, and we've proven that consistently. And when you think about SDN, we were the first to do a core demo in a tier 1 customer lab. We were the first to have a system-level virtual OLT demo in a tier 1 customer lab. We've got over 60 trials, G.fast trials, announced that are going on across six continents. And we are the industry's only – we are the industry's only working SDN access solution in NIA operability tests. That was something we announced at the end of May.

On broadband access leadership, we're the market leader in 10 gigabit optical access innovation, including XGS-PON, the commercial deployments that are beginning, and NG-PON2 where we've pioneered an industry breakthrough in tunable optics. We are

Europe and – in part of Europe in the world's largest deployment of vectoring and super vectoring. I mentioned the over 300 gigabit communities, and the leader in CAF II solutions. If you think about our competitive set, I mentioned that we are the number-three global player. What that really translates into when you look at DSL aggregation, fixed broadband, number two in DSL, number four in fixed broadband behind Nokia, formerly ALU and Huawei, ZTE, and then you see Calyx's position also.

I'll point out that this does – when we showed this representation – so this is the markets of EMEA, North America, CALA regions excluding APAC but including Australia. So there are some countries, some territories that we just don't compete in. We're not going to be competing in China. We are not competing in India. The market dynamics with the players there are – without going into a lot of detail – just different and uncompetitive and uneconomic. Talk a little bit about ADTRAN's portfolio strategy.

You may recall that in the past, we had a carrier networks division and an enterprise networks division. And in 2015 we – recognizing a shift in the direction the network was going, and seeing the opportunity to capitalize on synergies across those groups. We combined our R&D groups into a single R&D function, led by a Senior Vice President that works across all of these areas. But it is no longer siloed, if you will, by carrier and by enterprise. And we see that as a strategic advantage for us. Because we are able to deliver the end-to-end network from the CO all the way into the enterprise and to the customer premise.

And that's really important now, in our opinion, because of where we see the needs of the carriers going. We are doing more with the carriers on the CPE side. And the nature of much of that, what was formerly enterprise business, the way that sold is changing. And there is an evolution toward working with managed service providers in a monthly recurring income model. But our portfolio strategy is based on fiber access and aggregation. I mentioned that we are the first with virtual OLT, with open and data center architecture. We are innovators in 10G optics and have integrated optical transport.

On fiber to the node and DPUs, we're a leader in super vectoring. We have the largest in the industry, leading G.fast portfolio breadth. SDN controls multi-fi architectures included in that segment portfolio. Residential and business CPE includes Universal ONTs and virtual RG options. Leading VNS and SG WAN and modern APIs for SDN control. And then finally, Wi-Fi access points and infrastructure, we lead with Wave 2 access points, wireless LAN continuous improvement, and 10G aggregation switches.

The last topic that I'll touch on that we are seeing is driving the growth really is this global competitiveness. And I would be remiss without starting that off in the U.S., with the Connect America Fund. There's been a lot of conversation about that over the past couple of years. We came out of CAF I. There's CAF I Phase II. And toward the end of 2015 and into 2016, we rolled into CAF II. And the driver behind that, as you see in these points, 34 million Americans don't have access to fixed broadband; 19.9 million don't have 10.1; 16.1 million don't have 4.1. And to that end, ADTRAN is the top turnkey access supplier for CAF projects.

We're the sole or primary supplier for the majority of the price cap carriers with CAF projects. And we are able to provide turnkey services and solutions for rate of return carrier CAF projects. And the rate of return regulations were just fairly recently announced, and are in the process of being finalized and adopted. So, when you look at the two different aspects of the Connect America Fund, first you have the price cap, $9 billion. It's intended to reach 3.6 million homes over six years. You can see the funds that have been signed up for by these major players: CenturyLink, $3 billion; AT&T, $2.6 billion; Windstream, $1 billion; FairPoint, $224 million; and Frontier, $2 billion. There is a difference in CAF II from CAF I. I think it's a significant difference. We've commented many times that we believe this is incremental. I think by definition in the FCC's terms, it is incremental.

These are areas that would not have been built out, had this funding not occurred. They are areas that did not, or would not, otherwise have met the carriers' economic models. Where you can see from an economic perspective the gig city buildout, the vectoring 100 meg city buildout, the fiber to the home – that all is pretty obvious, where you have consumer take. But these areas where it is more rural, but again no less of a need for these families and these homes to have broadband access. And what is different about this CAF II is the buildout requirements that have been mandated this time. And I could point that out in the left bottom. There is a requirement to be 40% complete by 2017; 60% complete by 2018; goes up to 80% in 2019; and be 100% complete by 2020.

And so, in this price cap model approach, they sign up for the number of homes they are going to reach over this period, and they are held to these milestones on the buildout. The second component of the Connect America Fund, the rate of return was just recently announced. I think the FCC put that out in April this year. That is $20 billion over 10 years. And this is more focused on the tier 3, tier 4, but it amounts to $2 billion for 10 years. In the FCC has announced kind of a two-path approach, if you will, for carriers that accept funding under this CAF II program.

The rate of return cap replaces the existing USF funding with CAF funding. And this funding is based on a specific rate of return; hence the name. In the past, the funding under USF was based on 11.25% return. On new investments, the return will be a 9.5% area. And unlike price cap carriers, the rate of return carriers only have to provide broadband to those homes that request the service. That said, the FCC is encouraging rate of return carriers to move to a more model-based approach like the price cap carriers.

And the FCC is working on this two-path approach. The first one is described as the 9.5% return. But, alternatively, they have the option of taking a model-based support. And that model is called A-CAM, or the Alternative Connect America Model, where the rate of return carrier can accept funding based on the number of locations they commit to building out broadband to. And the difference is that we anticipate the FCC will provide 10 years of support versus the price caps' 6 years of support. We are also hearing that to help to de-risk this decision, we anticipate the FCC will give the rate of return carriers a

couple options to opt in, so they can see how the program is going before they make a final decision.

And we believe, from ADTRAN's perspective, that this model-based support will encourage CapEx spending because they will have a specified obligation and timeline to the broadband buildout. So, when you ask, is it incremental or not? In the market where we dominate in the tier 2s and in the tier 1s that have accepted CAF, as I mentioned, we are either the sole source or the leading source for all but one of the price cap that have taken that. It absolutely, we believe, is incremental from that perspective. Whereas in the tier 3, tier 4 transition from USF to CAF II rate of return, there is certainly more of a focus toward broadband from USF, from data. But we can see how that could proceed to be more substitutive.

I'm going to quickly go through some of the rest of these. I want to give a couple minutes for questions, but I had a lot of topics that I wanted to cover. There is a similar phenomenon going on in Europe where the government is – the governments of Europe are mandating broadband access. The first one was is by 23 basic broadband, or 2 meg to all. And they have claimed that by 2020, the mandate is that 100% of Europeans will have access to 30 meg or next-generation access, and 50% or more will have access to 100 meg or ultrafast. You can see on the graph there how far they had to go. So, from the 100%, to get to at least 30 or at least 100, there's only 40% and roughly 60% coverage there now; so, again, 60 or 40, respectively, that has to be made up. And there certainly are initiatives going on across the continent, and investment in that buildout.

I'm going to end just quickly with some words on ADTRAN's financial position and stability. We have over 25 years of continuous profitability. I mentioned our ongoing strong balance sheet and cash flow, publicly traded for 21 years. Q1 results that we announced in early April, as Tom Stanton mentioned on the call, we did have a solid performance in the quarter resulting in earnings coming in ahead of initial expectations, driven primarily by domestic revenue which is up 39% year-over-year, and operating income which is up 181% year-over-year. And Tom talks about what we are seeing in broadband investment and buildout; expecting further improvement in the carrier environment as customers accelerate investment and upgrading their network.

This information is publicly available, so I won't touch on that. But you can see the financial results. We put out an 8-K fairly recently that talks about our change in financial reporting. We went from, as I mentioned, carrier network and enterprise network to segmenting by network solutions, which is hardware and software, and by services and support. And then your categories being access and aggregation and customer devices, and traditional and other.

<<Paul Silverstein, Analyst, Cowen and Company>>

Roger, we are out of time. One quick question…