

**DECLARATION OF JOHN DONOVAN
CHIEF TECHNOLOGY OFFICER**

I, John Donovan, hereby declare the following:

1. I am Chief Technology Officer, AT&T Services, Inc. I am responsible for the Company's research and development activities, its product development, its network engineering and operations, its security and intellectual property organizations, and its overall road map for innovation and global technology direction. I am Chairman of the Board of the Alliance for Telecommunications Industry Solutions ("ATIS"), an industry-wide group of infrastructure and device manufacturers, carriers, and others that is committed to rapid development and promotion of open and pragmatic worldwide technical and network operations standards for information, entertainment, and communications technologies. I am a Director of, and Chair the Strategy Group for, the Wholesale Applications Community ("WAC"), a global organization that is creating a unified and open platform to allow mobile software developers to write applications that are usable across a variety of devices, operating systems, and networks. Before joining AT&T, I was executive vice president of product, sales, marketing and operations at VeriSign Inc., CEO of inCode Telecom Group, Inc., and a partner with Deloitte Consulting, where I was the Americas Industry Practice director for telecom. I have authored two books, *The Value Enterprise* (1998) and *Value Creating Growth* (1999). I hold a B.S.E.E. from the University of Notre Dame and an M.B.A. from the University of Minnesota.

2. In this declaration, I explain some of the current trends in the wireless ecosystem that led AT&T to enter into the proposed transaction with T-Mobile USA and the positive impact that the transaction will have on innovation throughout that ecosystem. As transformative as the evolution from mobile phones to mobile broadband devices has been, we are on the cusp of much more profound advances that will weave wireless communications even more tightly into

the fabric of our economy and daily lives, producing far greater benefits for consumers and the national economy as a whole. As I explain below, the network and spectrum synergies that will result from this transaction will accelerate the pace of innovation and investment, and help to bring about a future in which everything is mobilized. This transaction will promote America's leadership role in the mobile broadband revolution, as the next era of American innovation takes root and flourishes wirelessly.

I. EXECUTIVE SUMMARY.

3. Innovation has long been a defining characteristic of the U.S. wireless industry. The wireless broadband ecosystem has seen extraordinary risk-taking, investment, and innovation, even as the economy has experienced an historic downturn. These extraordinary levels of investment and innovation have paid enormous consumer dividends as better, faster, more reliable wireless networks have enabled entirely new and valuable mobile applications, devices, and services.

4. The innovation that has transformed the wireless industry is the product of a complex, interdependent cycle in which network providers in general, and AT&T in particular, play a substantial and essential role. Network advances and investment have led to innovations in devices, services, and applications that take advantage of the improved network capabilities – smartphones and mobile operating systems (from Google Android to the Apple iPhone to RIM Blackberries to Microsoft Windows Mobile 7 to HP's webOS) become more advanced each year, application stores now offer hundreds of thousands of applications, and newer services that employ streaming and social networking capabilities are growing quickly in popularity. Those innovations have in turn triggered further network investment and innovation, both to improve capabilities for the next wave of innovation and to meet rising demand for innovations that are already successful. This innovation is a collaborative endeavor among companies and industries.

Further, innovation is an increasingly important component of competition, and successful risk-taking by network operators in creating or promoting a new device, application, service, or technology spurs others at every level of the wireless ecosystem to increase their own innovation and investment.

5. AT&T plays an important role in this cycle of innovation. A central aspect of our business strategy has always been to be at the cutting edge. AT&T Labs is a world-class research institution with six labs in five states supporting 1,300 of the world's best scientists and engineers. AT&T earned more than 1,000 patents in 2010 alone, and AT&T ranked third on the Patent Board's top 50 scorecard of technology leaders in the telecom and communications industry – the only service provider in the top 10. We operate sophisticated testing and product development and engineering centers, including facilities established to promote collaboration with developers and manufacturers. And our focus on innovation has allowed us to attract a subscriber base of sophisticated customers who have proven to be among the earliest adopters and heaviest users of the latest wireless innovations. In these ways and more, AT&T promotes innovation throughout the wireless ecosystem, and our diverse innovative activities are an important link in a virtuous cycle of innovations, responses, and further innovations.

6. The next few years hold the promise of far greater wireless innovations. By combining the robust new capabilities of the latest network technologies and the highly scalable storage and processing power of the “cloud,” we will have the technology to give customers access to everything they have on their desktops at home or in the office through their mobile devices – applications, data, e-mail, video, *everything* – and to do it seamlessly.

7. The foundation of this transformation is a new set of network capabilities: (i) much faster throughput rates, (ii) much greater capacity and spectral efficiency to handle the

increased usage that will accompany expanded and improved wireless services, (iii) reduced latency to enable true real-time interactivity, and (iv) greater reliability and security to support mission-critical uses. With those capabilities – which the evolution to the Long Term Evolution (“LTE”) air interface with sufficient spectrum and other inputs can provide – we can truly “mobilize everything.”

8. Although no one can predict what new devices or applications will prove most successful, I describe below some of the key ways in which the mobile broadband experience will be enhanced. Mobile video – real-time, streaming, interactive video, from video conferencing to virtual reality gaming to home and business monitoring – will become ubiquitous. As information and computing power are transferred from user devices to the “cloud,” mobile devices will become thinner, lighter, more energy efficient, and dramatically more powerful and useful. Wireless connectivity will be embedded in hundreds of millions of consumer, commercial, and medical devices that will be monitored, instructed and reconfigured in real time. Mobile services and applications will become much more personalized to the unique needs of individual consumers and businesses.

9. As my colleague Bill Hogg explains in his declaration, AT&T’s ability to harness the full power of new network technologies is threatened by the fact that we face network capacity constraints in certain markets today, and in a growing number of areas throughout the country over the next several years.¹ Where there is insufficient spectrum and network capacity to meet increasing usage demands, service would be degraded.² There would be more dropped

¹ Declaration of William Hogg, Senior Vice President of Network Planning and Engineering, AT&T Services Inc., ¶¶ 9-15, 28-64 (April 20, 2011) (“Hogg Decl.”) (attached hereto).

² *See id.* ¶¶ 36-39.

calls and connections, slower download speeds, and increased latency.³ AT&T would then be faced with a range of unattractive choices to encourage subscribers to *reduce* usage and slow demand growth, which would significantly impede AT&T's ability to deploy advanced new services and devices that would generate additional usage and further degrade network performance.

10. This is a problem that demands a fast solution. While we fully support the efforts of the FCC to make more spectrum available to the industry, we owe it to our customers to find a more immediate solution. And we have that solution: as Bill Hogg demonstrates, the combination of AT&T's and T-Mobile USA's complementary networks and spectrum will produce large capacity gains where we need them most.⁴ As I detail below, these synergies will not merely maintain, but will enhance the customer experience and pace of innovation.

11. The merger will also foster innovation and investment in other important respects. The combination of AT&T's and T-Mobile USA's networks and spectrum will enable AT&T to expand substantially the geographic area in which LTE service will be offered. With this transaction, AT&T is committed to extending LTE coverage to over 97% of the nation's population, far more than was planned or possible without the transaction. Expanding AT&T's LTE coverage will help to bring the full benefits of LTE competition and innovation to more rural areas that, in many respects, stand to benefit most from real-time access to a wide range of resources (such as world class medical and educational resources) that would not otherwise be as readily available. And by significantly expanding the addressable base of customers with LTE access, the transaction can be expected to spur and accelerate additional innovation by others to

³ *See id.*

⁴ *See id.* ¶¶ 42-64.

develop and launch devices, applications, and services that will leverage the enhanced capabilities of LTE.

II. AT&T PLAYS AN IMPORTANT ROLE IN THE VIRTUOUS CYCLE THAT DRIVES INNOVATION THROUGHOUT THE WIRELESS ECOSYSTEM, AND AT&T CAN FULLY PROMOTE FUTURE INNOVATIONS THAT PROVIDE ENORMOUS BENEFITS IF IT HAS ENOUGH NETWORK CAPACITY TO SUPPORT THOSE INNOVATIONS.

12. The wireless industry is one of the most important and innovative industries in America. Wireless consumers from even five years ago would barely recognize many of the wireless services and capabilities that we take for granted today. U.S. carriers have dramatically improved the performance and capacity of their wireless networks over the last decade, and device makers and software innovators have responded by designing an array of new mobile devices and applications that are literally changing the way Americans live and work. Today's advanced wireless networks support scores of smartphones, tablet computers, and special-purpose devices that give Americans a broad range of mobile capabilities, including, for example, Internet access, social networking, e-commerce, e-books, and hundreds of thousands of other applications of every description. Wireless connectivity is becoming central to almost every aspect of American life, and, as a result, demand for wireless services has exploded.

13. It is not surprising, therefore, that the Obama Administration has recognized that continuing the momentum of investment and innovation throughout the wireless ecosystem and ensuring that networks can continue to support these innovations is critically important to the health of the economy, job growth, and the United States' global competitiveness.⁵ As FCC

⁵ See, e.g., The White House, *President Obama Details Plan to Win the Future through Expanded Wireless Access*, (Feb. 10, 2011), <http://www.whitehouse.gov/the-press-office/2011/02/10/president-obama-details-plan-win-future-through-expanded-wireless-access>; The White House, FCC Chairman Julius Genachowski, *Remarks on Spectrum As Prepared for Delivery*

Chairman Genachowski recently said, “mobile broadband can also power innovations in areas like public safety, education, health care, and energy,” and we must “seize” the “huge” opportunities mobile communications can offer.⁶ AT&T shares these goals. Throughout its history, AT&T has been at the forefront of innovation in the telecommunications industry, and the transaction will allow AT&T to continue to maximize the contribution it makes to the pace of that innovation.

14. The process of innovation in the wireless broadband ecosystem is an intricately interdependent process among the different types of companies within the ecosystem. As network operators compete to attract customers by offering the best combinations of speed, reliability, coverage, devices, applications, prices, and packages, they are constantly innovating to improve their network platforms, which, in turn, enables the development and deployment of ever more innovative devices and applications. As customers adopt new devices and applications, demand for wireless service increases, thus spurring network operators to improve their networks even further. Improved networks spur more improved devices and applications, which in turn spur more improved networks, and so on in a “virtuous cycle” of innovation.

15. As the industry transitions to the latest generation network technologies, the wireless broadband ecosystem is poised to provide far-reaching new innovations that are likely to have even more profound effects on American life. AT&T is positioned to remain a major contributing force in driving wireless innovation forward, assuming it has the network and spectrum assets necessary to meet consumers’ soaring demand for mobile broadband.

(April 6, 2011”) (“Genachowski White House Remarks”), <http://beta.fcc.gov/document/chairman-discusses-spectrum-needs-white-house-remarks>.

⁶ Genachowski White House Remarks, at 1.

16. But virtually all of the most exciting and innovative possibilities over the near and medium term will require increased network capacity. For that reason, spectrum constraints pose a major threat to continued innovation: spectrum-driven network capacity is what gives device makers and application developers the “running room” to bring innovative new services and capabilities to wireless consumers. As Chairman Genachowski recently put it, “all this mobile innovation relies on spectrum – the airwaves.”⁷ Our merger with T-Mobile USA is about ensuring that we will have enough spectrum and other network resources to continue to play a leading role in pushing this process of innovation forward.

A. AT&T Plays An Important Role in Driving the Overall Process of Innovation Throughout the Wireless Broadband Ecosystem.

17. In addition to building and operating advanced wireless networks that enable innovation in mobile devices, applications, and services, AT&T’s contributions to the overall process of wireless innovation rest on four essential pillars: (1) AT&T Labs; (2) AT&T’s Developer Program and AT&T Foundry innovation centers that assist start-up companies and applications developers; (3) AT&T’s direct outreach to other players in the wireless ecosystem; and (4) AT&T’s crowd-sourcing program for generating ideas within the company, known as “TIP” (“The Innovation Pipeline”).

18. *AT&T Labs.* For decades, AT&T has conducted basic research that has led to profound advances. AT&T invented the first mobile phone and the first mobile network, and AT&T developed modern “cellular” technology that is the foundation of today’s mobile wireless systems.⁸ In recent years, AT&T has spent close to a *billion* dollars annually on research and

⁷ *Id.*

⁸ See AT&T, About AT&T Labs, Technology Timeline, <http://www.corp.att.com/attlabs/reputation/timeline/46mobile.html>.

development (“R&D”) and other initiatives designed to develop new wireless and wireline technologies, products, services, and applications. These initiatives include not just advances in the network technologies being rolled out today, but in the next generation of “5G” network technologies that will meet our nation’s wireless communications needs in the future. AT&T Labs also has a long history of collaboration with public and private universities and is currently sharing research and providing support under more than 80 collaboration agreements.

19. Advances in the Labs have led directly to advances in the field. Among many other things, AT&T has been a leader in the deployment of 3G networks using UMTS standards. For example, AT&T was the first carrier in the U.S. (and among the first in the world) to deploy UMTS and to upgrade its network and offer High Speed Downlink Packet Access (“HSDPA”) and High Speed Uplink Packet Access (“HSUPA”) technologies, *i.e.*, the foundation of HSPA, which made far more efficient use of spectrum than prior technologies.⁹

⁹ See, e.g., *AT&T Wireless Delivers 3G UMTS In The U.S.*, 3GNewsroom.com, July 20, 2004, http://www.3gnewsroom.com/3g_news/jul_04/news_4739.shtml (“AT&T Wireless began offering customers in Detroit, Phoenix, San Francisco and Seattle broadband mobile wireless services with its launch of the first commercially available true 3G UMTS network in the United States”); *U.S. Wireless Operator First in the World with UMTS/HSDPA Mobile Wireless Broadband in Wide-Scale Commercial Service*, 4G Americas, Dec. 6, 2005, <http://www.4gamericas.org/index.cfm?fuseaction=pressreleasedisplay&pressreleaseid=110>; *HSDPA Provides the Grand Slam in Wireless Mobility - 3G Americas White Paper Showcases UMTS/HSDPA Versus Alternative Mobile Technologies*, 4G Americas, Sep. 13, 2005, <http://www.4gamericas.org/index.cfm?fuseaction=pressreleasedisplay&pressreleaseid=106> (“Led by Cingular Wireless in the U.S., operators worldwide are about to start deploying High Speed Downlink Packet Access (HSDPA), one of the most powerful cellular-data technologies ever developed”); *Cingular Launches HSDPA 3G Network*, MobileMedia, Dec. 6, 2005, <http://www.mobiledia.com/news/40934.html> (“Cingular’s 3G network is the first widely available service in the world to use HSDPA”); *AT&T’s HSUPA Launches With Sierra Data Card*, Fierce Wireless, Oct. 19, 2007, <http://www.fiercewireless.com/press-releases/t-launches-hsupa-network-sierra-aircard-881> (“AT&T commences the industry’s first U.S. deployment of High Speed Uplink Packet Access”).

20. AT&T also works directly with device makers to optimize the performance of their devices on our network. To take just one example, in preparation for the release of Apple's iPhone, AT&T invested thousands of hours working with Apple on myriad critical issues such as fine-tuning the RF signals used by the handset to maximize performance and battery life, and AT&T made substantial investments to enable innovative features of the iPhone, such as its "visual voicemail" feature.

21. *Developer Program.* AT&T provides extensive resources and support for wireless applications developers. The AT&T "Developer" tool makes AT&T's Universal Design guidelines available to developers to help them design applications that can be sold either through the AT&T AppCenter or elsewhere. More than 30,000 developers are registered in the AT&T Developer Program (which was introduced in 2002 and was the first program of its kind by a major carrier). The AT&T Developer Program has ranked highest among U.S. wireless carriers for five straight years according to a survey of developers by Evans Data Corporation.¹⁰

22. The AT&T Apps Beta Program allows developers to test applications with customers and receive customer feedback during the development process. The Apps Beta program thus provides a double consumer benefit: consumers are able to gain access to new applications more quickly than would otherwise be the case, and they have the opportunity to become involved in the development process itself, ensuring that the ultimate product is better.

23. *Innovation Centers.* Last year, AT&T opened AT&T Innovation Centers (now called "Foundry" centers) in Texas, California, and Israel. The Innovation Centers provide start-up companies and developers with access to AT&T's network capabilities and test beds, in

¹⁰ See, e.g., *AT&T Developer Program Ranked Best Among All U.S. Carriers for Fifth Consecutive Year*, Wall Street Journal, Feb. 2, 2011, available at <http://online.wsj.com/article/PR-CO-20110202-907211.html>.

addition to technology experts and project coaches. The Foundry centers in Texas and California have fully operational LTE wireless network test beds that developers can use to test, modify and further develop their services and applications. The Foundry centers represent a \$70 million investment that is designed to foster collaboration in ways that take products from idea to market up to three times faster.

24. *Direct Outreach.* AT&T executives plan to evaluate as many as 400 projects this year through “speed-dating” sessions with start-up companies and developers, to make new products and capabilities throughout the wireless ecosystem commercially viable. Compelling ideas of immediate interest are launched as projects in the AT&T Foundry innovation centers, where dozens of projects are now under way. A project that has been accepted is put on the “fast track” and runs in “sprints” (30 and 90 day periods in which specified goals are met). Using this approach, projects can move from speed-date to beta in months, and when promising projects are identified, AT&T may supply funding and many other resources.

25. AT&T has established an entire “Emerging Devices Organization” to help companies design machine-to-machine and other innovative devices and bring them to market. This organization provides device innovators with a single point of contact to obtain the information and support that is needed for every stage of execution, from product development to deployment to billing to ongoing customer support. AT&T has also made substantial investments to reduce or eliminate some of the most difficult technical issues that arise when designing a new device; for example, AT&T has worked with several vendors to establish pre-approved “radio modules” that will manage communication with AT&T’s network. AT&T operates a dedicated emerging device certification lab in Austin, Texas, where we conduct thorough lab, field, reliability, and network protection tests.

26. AT&T's emerging devices organization has been immensely successful – AT&T has certified more than 995 devices for use on its network. These devices are used in a wide range of industries, including consumer products (*e.g.*, e-readers, GPS devices, music/video players, home automation), automotive products (*e.g.*, in-car diagnostics, repair assistance, pay-as-you-go insurance), industrial automation (*e.g.*, remote monitoring of manufacturing equipment, environmental monitoring), payments and point of sale (*e.g.*, remote monitoring of cash registers and vending machines), utilities (*e.g.*, remote metering, measuring of pollution and weather), transportation logistics (*e.g.*, tracking automotive fleets and containers, locating stolen assets), security (*e.g.*, active alarm monitoring, backup to wireline connections), healthcare (*e.g.*, advanced diagnostics and tracking of hospital personnel and equipment), and emergency services (*e.g.*, in-car emergency notification systems when an accident occurs and devices designed to predict potential falls in elderly patients).¹¹

27. *TIP Program.* AT&T has also implemented “The Innovation Pipeline,” known as the “TIP” program, aimed at liberating good ideas and increasing the velocity of innovation by tapping all of the expertise and creative thinking within AT&T. With more than 80,000 AT&T employees signed up as members and more than 12,000 ideas generated resulting in a number of patent applications, we believe TIP to be one of the most dynamic corporate crowd-sourcing sites. TIP promotes cross-functional collaboration among people from many different parts of AT&T. For example, the AT&T R&D team developed a platform called “Geocast,” which has the potential to improve first responders’ ability to deal with natural disasters and other

¹¹ According to a Cisco study, there will be over 7.1 billion mobile-connected devices, including machine-to-machine (M2M) modules in use worldwide in 2015. *See* Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010-2015 at 8-9, Feb. 2011, (“Cisco Report”), http://newsroom.cisco.com/dlls/ekits/Cisco_VNI_Global_Mobile_Data_Traffic_Forecast_2010_2015.pdf.

catastrophes, which the team submitted to the TIP community, connecting with other employees who had new insights into the market for the Geocast technology. As a result, AT&T is now examining a variety of additional go-to-market possibilities for Geocast. We look forward to expanding the TIP community to include T-Mobile USA's employees.

B. This Virtuous Cycle, If Allowed to Continue Unimpeded, Will Provide Unprecedented New Benefits for Americans; AT&T Can Play A Major Role.

28. Although this virtuous cycle of wireless innovation has already brought extensive new benefits to Americans, the changes that have occurred are really just the beginning. If the cycle of innovation is allowed to proceed unimpeded, the wireless industry is on the verge of innovations that are likely to prove far more profound. Although it is always difficult to predict the exact form that future innovations will take, we can identify some clear trends based on the innovation initiatives that AT&T and others are pursuing – innovations that can mobilize everything. One thing is clear: these innovative services and capabilities will place heavy demands on the network that must be met if the innovation cycle is to continue at full steam. Below, I discuss some of the most important innovation trends in more detail.

29. *LTE*. Over the next few years, most of AT&T's wireless consumers will continue to use data services on AT&T's existing networks, but AT&T is in the process of deploying a next-generation LTE network. LTE networks can support a broad range of new devices, applications, and services, and thus will spur significant new innovation. Most people know that LTE will be able to support much faster data transfer speeds, which will drive innovation by enabling services that need higher throughput rates. But LTE's less recognized improvements will also drive significant advances. Reduced latency means that LTE networks will experience far less delay from data transmission to receipt. These improvements can make an enormous difference for – and will lead to the proliferation of – real-time interactive mobile services. Such

capabilities will support dramatic advances in many areas, including remote education and telemedicine. The improved reliability and more robust and flexible security permitted by LTE networks will likewise open new doors to even more innovative uses of wireless networks.

30. *Cloud Computing.* The most fundamentally transformative change on the horizon may be the integration of cloud computing with advanced wireless networks. Cloud computing – especially when coupled with common platforms and application programming interfaces (“APIs”) and devices with interfaces adapted to this environment – will be far more “game changing” than most people realize.

31. Cloud computing refers to the use of remote devices and applications that transmit data to and receive data from processors and databases in the network that have vast computing and storage resources. Cloud computing is transformative because it creates a shared infrastructure that transfers most of the intelligence to the network. As wireless connectivity effectively becomes ubiquitous, cloud computing can allow the individual mobile devices to become much thinner, simpler, and able to support longer battery life. The processing power can reside in the cloud, can be orders of magnitude greater than could ever be achieved on a portable device, and can be delivered wirelessly over the network. Storage of applications and data can also be in the cloud, and since cloud storage is highly scalable, devices will not need large storage capacities.

32. Cloud computing also has dramatic implications for machine-to-machine devices. Almost every major electronic device, vehicle, building component, and piece of equipment has the ability to become “smart” by connecting sensors to it. Connecting such special-purpose wireless devices to cloud computing would allow those devices to be monitored (potentially with real-time video), controlled and coordinated and modified remotely from within the cloud, using

powerful processors and taking advantage of vast data storage capabilities. The possibilities are endless and have potentially far-reaching implications for managing health care, “smart” vehicles and transportation, public safety and national security, and much else. To reach its full wireless potential, however, cloud computing will require reliable, high-speed connectivity.

33. *HTML5*. The transition to the next generation programming language for Internet sites and Internet-based applications – HTML5¹² – will further improve and expand the potential capabilities of mobile devices, driving even more innovation and traffic in the wireless ecosystem. HTML5 natively supports robust video, music, databases, geolocation, and other services that permit developers efficiently to create full-featured applications. Because these are *web*-based applications, they are not dependent on the particular device or operating system used to run them; any device with an HTML5-compatible browser, which includes virtually all mainstream browsers, can access the applications. This platform independence allows developers much more efficiently to develop mobile applications that can be operated across different devices, networks, and operating systems, and gives them “the freedom to create rich, dynamic and interactive experiences for any platform with any web browser.”¹³

34. AT&T has undertaken initiatives to help developers quickly transition to HTML5. By the second half of 2011, AT&T expects the majority of its new smartphones and a number of quick messaging phones to support the current HTML5 standards. AT&T is working proactively with its device partners to provide a developer-friendly HTML5 environment. AT&T is also extending these HTML5 adoption efforts to ensure that they are compliant with the global Wholesale Application Community specifications (specifically with the WAC’s 2.0

¹² “HTML” stands for Hypertext Markup Language.

¹³ *Netflix Sheds Light on Benefits of HTML5 for Apps*, Digital Trends, Dec. 7, 2010, <http://www.digitaltrends.com/mobile/netflix-sheds-light-on-benefits-of-html5-for-apps>.

specifications) to facilitate, for example, the ability of applications developers to receive payment for their applications through a wide range of applications stores. And AT&T recently partnered with other innovators through the AT&T Foundry to launch a new beta “app store” for HTML5 applications. Once developers marry HTML5 with cloud computing, innovation in applications will take off to another level, because developers will be able to write a single, powerful application that can be accessed from any device running any operating system on any network.

35. *Transforming Existing Services.* Even in the immediate and near term, the latest network technologies have created new possibilities for, and spurred explosive growth in, many familiar services. Cisco estimates that video will represent more than half of all data traffic worldwide in 2011 and two thirds in 2015.¹⁴ Network technology advances make possible many exciting new video applications from HD video monitoring of homes and commercial facilities to large screen (tablet and laptop) video teleconferencing.

36. Social networking services are also introducing more real-time features, and such services – including Facebook, Twitter, FourSquare (location sharing), and Pandora (music) – have dramatically accelerated mobile usage.¹⁵ From 3Q 2009 to 3Q 2010, Facebook’s mobile active users grew from 50 million to 200 million,¹⁶ and Facebook’s mobile users are twice as active as desktop-only users.¹⁷ In fact, analysts now estimate that wireless consumers spend 60 percent of their time on mobile devices on “new” activities, such as social networking, web

¹⁴ See Cisco Report, at 8-9.

¹⁵ Matt Murphy & Mary Meeker, *Top Mobile Internet Trends*, KPCB, at 15, Feb. 10, 2011 (“KPCB Report”), available at http://static.googleusercontent.com/external_content/untrusted_dlcp/www.google.com/en/us/events/thinkmobile2011/pdfs/10-mobile-trends.pdf.

¹⁶ *Id.* at 21.

¹⁷ *Id.*

browsing, gaming, and maps, rather than on telephony uses (including phone calls, text messaging, and email).¹⁸ The use of mobile devices for online commerce is also expected to grow rapidly over the next few years,¹⁹ especially as the introduction of innovative new capabilities like Near Field Communications (NFC) will allow the mobile device itself to act as a payment card, boarding pass, or any number of other possibilities.

37. Enhanced wireless network capabilities have also attracted completely new competitors, such as Apple and Google, to the wireless marketplace, intensifying competition and innovation still further, as illustrated by the rapid ascent of Google's Android operating system. Android's success reflects both the innovative nature of the operating system itself and Google's parallel development of the Android Market, but Android's growth is also the result of a fierce rivalry among wireless service providers that have added a host of Android-based handsets to their device portfolios and aggressively marketed those devices to consumers. AT&T alone plans to launch twelve new Android devices in 2011.²⁰

38. *Rural Areas.* New network technologies will particularly benefit rural areas. As network technologies such as LTE increasingly offer much greater broadband capabilities, and as computing becomes increasingly mobile, these technologies offer the promise of dramatically narrowing the "digital divide." The possible benefits are quite significant: as just one example, these technologies could eliminate long drives to doctors' offices by substituting the use of video conferencing and telehealth monitoring.

¹⁸ *Id.* at 19.

¹⁹ *Id.* at 33.

²⁰ AT&T News Release, *AT&T Announces Plans to Deliver Nation's Most Advanced Mobile Broadband Experience*, Jan. 5, 2011, <http://www.att.com/gen/press-room?pid=18885&cdvn=news&newsarticleid=31477&mapcode=wireless-networks-general|consumer>.

39. In short, as one U.S. venture capitalist recently said of the wireless ecosystem, we are in the “early innings of a massive phenomenon.”²¹ With this transaction, AT&T is expecting to help lead this transformation.

III. THE PROPOSED TRANSACTION INCREASES THE ABILITY OF AT&T AND OTHERS TO INNOVATE AND TO DEVELOP AND DEPLOY NEW, ADVANCED MOBILE BROADBAND PRODUCTS AND SERVICES.

40. AT&T’s goal is to bring the innovation benefits described above to customers as quickly as reasonably possible. But the cycle of innovation that is providing so many consumer benefits throughout the wireless ecosystem depends on the availability of spectrum and network resources to support the introduction of these new services and to handle the resulting traffic.

41. The popularity of smartphones and other data-centric devices has generated an enormous amount of traffic on AT&T’s network. From 2007 through 2010, AT&T experienced an *8,000 percent* increase in mobile broadband use on its network. In February 2011, AT&T carried more than 1 billion “API calls” – *i.e.*, communications from within an application to either another application or a database (such as an app seeking location information). These upward trends are expected to continue for the foreseeable future.

42. As my colleague Bill Hogg explains in his declaration, AT&T faces severe spectrum and network capacity constraints in certain markets today and projects that the occurrence of such constraints will increase and expand to many other areas throughout the country over the next several years.²² These constraints jeopardize AT&T’s ability to continue to play its role in the cycle of innovation. The proposed combination of the highly

²¹ KPCB Report, at 53, 54.

²² Hogg Decl. ¶¶ 28-41.

complementary spectrum and networks of AT&T and T-Mobile USA will directly address that issue and thus ensure that AT&T can maximize its own contribution to that virtuous cycle.²³

43. First, by addressing AT&T's capacity constraints – and avoiding degradation in network performance – the transaction will enhance the incentives of AT&T and other innovators to develop and deploy advanced services in the years immediately ahead. Second, the transaction will also increase innovation in the longer term by broadening and deepening AT&T's LTE network, and thereby enhancing the ability of AT&T and other innovators to develop advanced services and devices for the LTE network. And, by significantly increasing the addressable rural customer base for LTE services, the transaction will attract even more capital, expertise, and other resources to the development and deployment of LTE services that will transform the wireless experience, including in areas that might not otherwise have wireless broadband alternatives.

A. The Transaction Increases the Near-to-Medium Term Incentive and Ability to Develop and Deliver Innovative Broadband Mobile Products and Services, by AT&T and Others.

44. Capacity constraints degrade service quality through an increased number of dropped calls or connections, slower throughput speeds, and increased latency. If faced with a scenario in which it is unable to meet customer demand from existing service offerings at target performance levels, AT&T's incentives to invest in and promote innovative new capabilities, devices, applications, and services that would only exacerbate those performance issues would be severely dampened. In fact, capacity constraints, by reducing the level of services that AT&T could support and hence the expected returns to innovation, could negatively impact innovation by AT&T and others that would offer products or services using AT&T's network.

²³ See also *id.* ¶¶ 42-64.

45. Most immediately, capacity constraints would reduce AT&T's own ability to develop and deploy innovative services. Many innovative services require significant spectrum capacity and have high performance requirements. If capacity constraints prevent the provision of those innovative services or make those services less attractive to consumers, then AT&T would have diminished incentives to invest in or pursue that innovation. In this regard, research confirms the correlation between network performance and consumer satisfaction and adoption of advanced services, applications, and devices.²⁴

46. In fact, introducing new, innovative services under such circumstances would even degrade service quality for *existing* services. The new services, by adding demand to networks that are already performance challenged, could degrade service for all customers and thus cause more dropped calls, greater delays accessing the network, and increased latency and lower throughput in service use. Those service impairments, in turn, would have very real and adverse economic effects. Any development and deployment of new services would thus have to take account of the impact on existing services, further increasing incentives to shift resources away from innovative – but capacity-consuming – mobile broadband innovations.

47. For the same reasons, absent the transaction, AT&T would have reduced incentives to devote scarce resources to app developer and device maker collaborations and support designed to accelerate the introduction of innovative – but capacity consuming – new devices, applications and services. As described above, AT&T spends considerable time and

²⁴ See, e.g., *Mobile 2010, Year In Review*, comScore, at 9, Feb. 2011, available at <http://www.tendencias21.net/attachment/256788> (“The top consideration for device purchases was network quality”); Norazah Mohd Suki, *Subscribers’ Intention Towards Using 3G Mobile Services*, *Journal of Economics and Behavioral Studies*, Vol. 2, No. 2, at 68, Feb. 2011, available at [http://www.ifrnd.org/JEBS/2%20\(2\)%20Feb%202011/Subscribers%E2%80%99%20intention_towards%20using%203G%20mobile%20services.pdf](http://www.ifrnd.org/JEBS/2%20(2)%20Feb%202011/Subscribers%E2%80%99%20intention_towards%20using%203G%20mobile%20services.pdf) (“Performance Expectancy has positive influence towards Behavioral Intention and Use behavior”).

money collaborating with other actors throughout the wireless ecosystem, including device manufacturers, application developers, and cloud computing partners to develop innovative products and services. It would be difficult to justify continuing that investment at existing levels if the upshot was accelerated introduction of innovations that would further degrade already performance-challenged networks.

48. More broadly, capacity constraints create disincentives for innovation throughout the ecosystem. If AT&T's networks were allowed to become capacity constrained and performance challenged – with lower throughput speeds, increased latency and more blocked and dropped calls and data connections – AT&T customers would find applications and devices that need better network performance less attractive. As noted, customer satisfaction and adoption of innovative new devices, applications and services is correlated with network performance, and the expected returns to innovators throughout the wireless ecosystem would thus be negatively impacted if AT&T's network performance were substantially degraded (or failed to continue to improve).

49. The combination with T-Mobile USA is the solution to this problem. As described in Bill Hogg's declaration, one of the transaction's principal effects and an important underlying rationale is to enable AT&T to address capacity constraints.²⁵ By providing increased network and spectrum efficiencies where urgently needed, the transaction will substantially expand AT&T's ability to meet the soaring traffic demands from existing and innovative new uses of its networks.²⁶ That extended running room to meet the needs of both

²⁵ Hogg Decl. ¶¶ 42-64.

²⁶ *See id.*

AT&T's and T-Mobile USA's existing customers will permit a much smoother transition to LTE service for all of those users.²⁷ Innovation can remain our principal focus.

B. The Transaction Also Increases the Longer-Term Incentives and Ability of AT&T and Others to Develop and Deliver Innovative Broadband Mobile Products and Services, Especially in Rural Areas.

50. The transaction will also increase innovation for advanced broadband mobile services over the longer term. With the added spectrum and resources provided by the transaction, AT&T has committed to build out a next-generation LTE network that reaches over 97 percent of the population. This expanded buildout will further enhance innovation in at least two major ways.

51. First, every party throughout the ecosystem will have greater incentives to innovate when those innovations can be offered on a broader, deeper, and more robust LTE network. A more expansive network that can reach more than 300 million consumers will give greater certainty regarding the potential returns on investments in broadband devices and services, which in turn will induce higher levels of investment and innovation in those services. The transaction also increases the assurance that AT&T will have sufficient spectrum to support its LTE network prior to auctions for additional spectrum (the timing of which is uncertain), which will further enhance innovators' confidence in deploying new devices and services on AT&T's LTE network. The enhanced innovation on AT&T's network will, in turn, increase pressure on AT&T's facilities-based wireless broadband competitors, including Verizon, Sprint, Clearwire, MetroPCS, Leap, and LightSquared, among others, to press for increased innovation on their own networks. The transaction will therefore help to ensure that the innovation cycle continues as vigorously as possible for LTE services.

²⁷ *See id.*

52. Second, the expanded scope of AT&T's LTE network resulting from the transaction will especially promote innovations aimed at rural Americans. As a result of the transaction, AT&T's LTE network will extend to nearly 55 million additional people, including many rural areas and smaller communities. As explained above, LTE provides higher throughput rates and substantially reduced latency, which will allow AT&T to support a wide variety of beneficial new services for rural customers. The possibilities are wide ranging, but LTE is especially valuable in supporting services that depend on real-time interaction, and therefore expanding AT&T's LTE network to more rural areas holds the promise of more services permitting: (1) remote education with real-time interaction between students and teachers, (2) remote telemedicine applications that allow real-time interactions between patients and doctors and much more accurate assessments of monitoring devices and other complex information such as X-rays, and (3) business-related applications that allow more efficient interaction between businesses and customers.

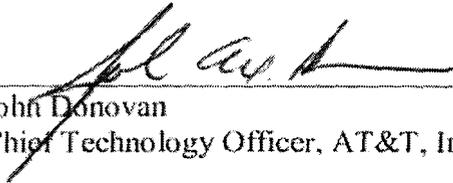
53. These abundant opportunities will significantly expand the potential rural customer base for such services and thus provide strong incentives for additional innovation and advanced services aimed at rural customers. As a result of the transaction, the same virtuous cycle of innovation that has driven the growth of the mobile broadband sector as a whole will be extended to include rural customers and the services specifically tailored to those customers.

CONCLUSION

54. In sum, the proposed transaction will enhance innovation throughout the wireless ecosystem in numerous ways. The transaction will address the capacity constraints on AT&T's network, and thus will substantially improve AT&T's ability to continue to support the introduction and growth of innovative services that place demands on our networks. Because all

levels of the wireless ecosystem depend on robust networks that have sufficient capacity to support their products and services, the transaction will help AT&T continue to play an important role in driving the overall cycle of innovation that has produced so many benefits for consumers and promises many more benefits in the transition to LTE. And the transaction allows AT&T to commit to extending its LTE network to nearly 55 million additional people and thus will have special, additional benefits for rural customers.

I declare under penalty of perjury that the foregoing is true and correct. Executed on
April 20, 2011



John Donovan
Chief Technology Officer, AT&T, Inc.