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The Proposed AT&T/T-Mobile Merger: Would It Create a Virtuous Cycle or a Vicious Cycle?

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Summary

In March 2011, AT&T announced an agreement to acquire T-Mobile USA (T-Mobile) from Deutsche Telekom for $25 billion in cash and $14 billion in AT&T stock, subject to the approval of the Department of Justice (DOJ) and the Federal Communications Commission (FCC). Post-merger, Deutsche Telekom would own approximately 8% of AT&T's stock. AT&T is the second-largest mobile wireless service provider in the United States; T-Mobile is the fourth-largest. The combined company would be the largest mobile wireless service provider. In recent years, AT&T has been gaining subscribers while T-Mobile has been losing subscribers. On August 31, 2011, DOJ filed a complaint with the United States District Court for the District of Columbia seeking to permanently enjoin (block) the merger. AT&T responded that it would "vigorously contest" the complaint. Under the terms of the agreement, if the merger is not consummated AT&T would have to pay Deutsche Telekom and T-Mobile a breakup fee of $3 billion in cash plus access to roaming and spectrum valued at an additional $3 billion.

AT&T and T-Mobile state that combining their spectrum holdings and networks represents the most efficient way to alleviate each company's largest strategic challenge—AT&T's "network spectrum and capacity constraints" and T-Mobile's lack of a "clear path" to deployment of 4G Long Term Evolution (LTE) network technology, "the gold standard for advanced mobile broadband services." They assert that the merger would turn two companies that currently are capacity-constrained into "an efficient capacity-enhancing combination" that would have the incentive to increase output, improve quality, and lower prices. Most notably, AT&T claims the merger "will enable it to deploy LTE to more than 97% of Americans—approximately 55 million more Americans than under AT&T's current plans" to build out its LTE network to just 80% of Americans.

DOJ claims the merger likely will lessen competition for consumer mobile wireless telecommunications services – from the perspective of consumers, in 97 local markets, and from the perspective of suppliers, in the national market – and also will lessen competition in the national market for enterprise and government wireless telecommunications services. It claims actual and potential competition between AT&T and T-Mobile will be eliminated; competition in general likely will be lessened; prices are likely to be higher than otherwise; the quality and quantity of services are likely to be lower than otherwise due to reduced incentives to invest in capacity and technology improvements; and innovation and product variation likely will be reduced. DOJ asserts that the merging parties cannot demonstrate merger-specific, cognizable efficiencies sufficient to reverse the acquisition's anticompetitive effects.

The mobile wireless industry is characterized by economies of scale and scope. In a static market, it would be less costly and/or more efficient to build out and operate a single network instead of multiple networks with partially duplicative facilities; to give a single provider use of a large block of spectrum rather than giving a number of providers use of subsets of that block; and to design and mass-produce a single suite of handsets rather than making handsets for smaller groups of customers using many different standards and network technologies. In a dynamic market with rapidly changing technology, however, the claims of scale economies must be weighed against the possibility that any lessening of competition will lessen pressure for innovation and cost and price restraint

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Overview

In March 2011, AT&T, the largest telecommunications company in the United States by market capitalization, announced an agreement to acquire T-Mobile USA (T-Mobile) from Deutsche Telekom on a debt-free basis for $25 billion in cash and $14 billion in AT&T stock, subject to the approval of the Department of Justice (DOJ) and the Federal Communications Commission (FCC). Post-merger, Deutsche Telekom would own approximately 8% of AT&T's stock. On August 31, 2011, DOJ filed a complaint with the United States District Court for the District of Columbia seeking to permanently enjoin (block) the merger.[1] AT&T responded that it would "vigorously contest" the complaint.[2] Under the terms of the agreement, if the merger is not consummated AT&T would have to pay Deutsche Telekom and T-Mobile a breakup fee of $3 billion in cash plus access to roaming and spectrum valued at an additional $3 billion.

Supporters claim that the merger would create a virtuous cycle: by allowing the combined firm to use its spectrum and network more efficiently, AT&T would expand output, improve service offerings, reduce prices, and spur innovation both on its own part and on the part of competitors. Opponents claim that the merger would create a vicious cycle: by allowing AT&T to consolidate its share of customers and of available spectrum, it would place competitors other than Verizon Wireless in an untenable situation as they could not compete in scale and scope and would not have the same access to innovative handsets from suppliers, who would be motivated to make exclusive or otherwise favorable arrangements with the two giant companies.

AT&T is the second-largest mobile wireless service provider in the United States; T-Mobile is the fourth-largest. The combined company would be the largest mobile wireless service provider in terms of revenues and number of subscribers. In recent years, AT&T has been gaining subscribers; it even gained 62,000 subscribers in the first quarter of 2011 when it lost its exclusivity for the Apple iPhone and was expected to lose customers to Verizon Wireless.[3] At the same time, T-Mobile has been losing subscribers. This is in part because AT&T has successfully positioned itself in the submarket that focuses on high-end customers who seek advanced data services and who use advanced smartphones not available from all providers. T-Mobile, in contrast, has focused more on "value customers" who are sensitive to price and who have been very receptive to the low price pre-paid services offered by companies like MetroPCS and Leap.

AT&T and T-Mobile have compatible networks that are hybrids of the same older generations of wireless technology—the 2G GSM standard and the 3G UMTS/HSPA standard—and therefore their customers have devices that can be readily modified to work on both networks. AT&T has significant spectrum holdings in four frequency bands.[4] It has large holdings in the lower

[1] In the United States District Court for the District of Columbia, *United States of America v. AT&T Inc., T-Mobile USA, Inc., and Deutsche Telekom AG,* Case: 1:11-cv-01560, Complaint, August 31, 2011, available at http://www.justice.gov/atr/cases/f274600/274613.pdf.

[2] See Paul Barbagallo, "DOJ Moves to Block AT&T-T-Mobile Merger; AT&T Vows 'Vigorous' Court Fight on Issue," *BNA Daily Report for Executives,* September 1, 2011.

[3] Greg Bensinger, "AT&T Boost Subscriber Rolls Even as Verizon Gains iPhone," *Bloomberg News*, April 20, 2011, available at http://www.bloomberg.com/news/2011-04-20/at-t-beats-estimates-by-luring-iphone-users-even-after-losing-exclusivity.html.

[4] For detailed data on the spectrum holdings of U.S. mobile wireless providers, see *In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 09-66, Fourteenth Report (Fourteenth Mobile Wireless Competition Report), adopted and released May 20, 2010, at Tables 25 (continued...)

frequency 700 MHz and Cellular (800 MHz) bands, which are considered "beachfront" property because lower frequency bands "possess more favorable intrinsic propagation characteristics ... [and] can provide superior coverage over larger geographic areas, through adverse climate and terrain, and inside buildings and vehicles."[5] It also has substantial holdings in the PCS (1.9GHz) and AWS (1.7/2.1 GHz) frequency bands. T-Mobile has substantial holdings in the PCS and AWS frequency bands; its spectrum is contiguous to AT&T's spectrum in those bands.

In addition, as a major wireline telecommunications carrier, AT&T is a major provider of backhaul facilities that link mobile providers' cell sites to wireline networks in order to carry wireless voice and data traffic for routing and onward transmission.[6] Thus, AT&T provides an essential input to its mobile wireless competitors. Also, AT&T is a major wireline broadband provider at a time of market convergence, as both customers and applications providers are beginning to consider wireline and wireless alternatives as substitutes in an increasing number of situations that require broadband capabilities.

In a joint submission to the FCC,[7] AT&T and T-Mobile state that combining their spectrum holdings and networks represents the most efficient way to alleviate each company's largest strategic challenge—AT&T's "network spectrum and capacity constraints" and T-Mobile's lack of a "clear path" to deployment of 4G Long Term Evolution (LTE) network technology, "the gold standard for advanced mobile broadband services"—and that this is the primary motivation for the merger.[8] LTE, which also is being deployed by Verizon Wireless, is viewed by many as the technology of choice for mobile wireless networks seeking to offer advanced broadband services and, in part because Verizon Wireless and AT&T have chosen to deploy it, is the technology that has attracted the most activity by network equipment manufacturers.

AT&T and T-Mobile claim that the merger would not lessen competition because, while there are many other strong competitors, T-Mobile already "is not a significant competitive constraint on AT&T"[9] and would be an even less effective competitor in the future since it lacks the ability to effectively and economically deploy 4G LTE on its own.[10] They assert that the merger would turn two companies that currently are capacity-constrained into one "efficient capacity-enhancing combination" that would have the incentive to increase output, improve quality, and lower prices.[11] Most notably, AT&T claims the merger "will enable it to deploy LTE to more than 97%

(...continued)

and 26 and Chart 40, which are reproduced as Tables 2 and 3 and Chart 1 later in this report.

[5] Ibid., at para. 269.

[6] Ibid., at para. 293.

[7] *Acquisition of T-Mobile USA, Inc. by AT&T Inc., Description of Transaction, Public Interest Showing and Related Demonstrations* (AT&T Merger Support Documentation), filed by AT&T Inc. and T-Mobile USA with the Federal Communications Commission April 21, 2011, redacted for public inspection. Unfortunately, this document is so heavily redacted that most of the empirical evidence presented in support of the companies' claims has been removed.

[8] AT&T Merger Support Documentation at p. 1.

[9] Ibid., at p. 71.

[10] See AT&T Merger Support Documentation, Declaration of Thorsten Langheim, Senior Vice President for Mergers and Acquisitions, Deutsche Telekom AG, at paras. 23-35. Given the evolution of its mobile wireless network, LTE is the only 4G network technology T-Mobile could reasonably deploy.

[11] AT&T Merger Support Documentation at p. 71.

of Americans—approximately 55 million more Americans than under AT&T's current plans" to build out its LTE network to just 80% of Americans.[12]

While AT&T has not made the claim, others argue that the proposed merger manifests AT&T's conclusion that the federal government is unable to adopt in a timely fashion the spectrum policy changes needed to make additional spectrum available for mobile wireless services.[13]

DOJ claims[14] the merger likely will lessen competition for consumer mobile wireless telecommunications services – from the perspective of consumers, in 97 local markets, and from the perspective of suppliers, in the national market – and also will lessen competition in the national market for enterprise and government wireless telecommunications services. It claims actual and potential competition between AT&T and T-Mobile will be eliminated; competition in general likely will be lessened; prices are likely to be higher than otherwise; the quality and quantity of services are likely to be lower than otherwise due to reduced incentives to invest in capacity and technology improvements; and innovation and product variation likely will be reduced. DOJ asserts that the merging parties cannot demonstrate merger-specific, cognizable efficiencies sufficient to reverse the acquisition's anticompetitive effects.

More specifically, DOJ claims that T-Mobile has positioned itself, both historically and currently, as the value option for wireless service, focusing on aggressive pricing, value leadership, and innovation, describing itself as "the No. 1 value challenger of the established big guys in the market and as well positioned in a consolidated 4-player national market."[15] DOJ asserts that an internal T-Mobile document identifies its numerous "firsts" in the U.S. mobile wireless industry as an innovator in terms of network development and deployment.[16] DOJ also claims internal AT&T documents identify competitive pressure from T-Mobile's innovation.[17] It states that T-Mobile has brought in new management that seeks to reposition the company as the carrier to "make smart phones affordable for the average US consumer."[18] DOJ contends that the elimination of T-Mobile as a competitor would result in a significant loss of competition in 97 cellular market areas in the United States and some loss of competition in the other local cellular market areas.[19] DOJ adds that although consumers make choices within their local markets, suppliers make choices at a national level and thus it also is necessary to review the competitive impact on the consumer market at the national level. It further claims that as part of its 2011 business plan, T-Mobile re-dedicated itself to becoming a bigger player in the enterprise market[20] and contends that the removal of one of only four national firms capable of competing for large enterprise and government projects would reduce the incentive for any of the three remaining companies to submit low competitive bids.[21]

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[12] Ibid., at p. 1.

[13] See, for example, Jasmin Melvin, "Analysis: AT&T meg merger bad sign for spectrum reform," *Reuters*, March 24, 2011. available at http://www.reuters.com/assets/print?aid=USTRE72N64X20110324.

[14] This summary of claims appears in the Complaint at pp. 20-21.

[15] Complaint at p. 12.

[16] Ibid., at p. 13.

[17] Ibid., at p. 13.

[18] Ibid., at p. 14.

[19] Ibid., at p. 15.

[20] Ibid., at p. 19.

[21] Ibid., at p. 19.

The FCC's public interest standard for reviewing the proposed merger is much broader than DOJ's standard and is not limited to competition analysis. For example, Congress instructed the FCC to construct a national broadband plan to "seek to ensure that all people of the United States have access to broadband capability."[22] Thus, to the extent that the FCC finds that the proposed merger would in fact allow AT&T to deploy its broadband 4G LTE network more widely than otherwise, that finding could counter projected anticompetitive effects of the proposed merger in the FCC's public interest determination. Similarly, the FCC has identified the goal of increasing broadband adoption, especially by rural, minority, and low income households that have had low adoption rates for wireline broadband services. To the extent that these households are more likely to purchase wireless broadband services than wireline services, and the proposed merger would increase the availability of wireless broadband, the FCC can be expected to explicitly consider that in its public interest analysis.

A number of merger opponents have filed Petitions to Deny the merger at the FCC. The most extensive petition was filed by Sprint,[23] which provided detailed arguments, data, and economic studies in support of its contention that the proposed merger would not be in the public interest. The various petitioners argue that the merger would result in two firms—AT&T and Verizon Wireless—sharing more than 70% of the market as well as the lion's share of the spectrum that provides the highest quality mobile wireless service, which the former Bell companies would be able to leverage in their dealings with device suppliers to place other mobile wireless service providers at a competitive disadvantage. These opponents claim that allowing AT&T to own such a large portion of mobile wireless spectrum—especially in conjunction with AT&T's pending acquisition of mobile wireless spectrum from Qualcomm—"would further empower an already dominant wireless carrier to leverage its control over devices, backhaul, and consumers in ways that stifle competition."[24] They further argue that any market challenges AT&T and T-Mobile face are the result of their own strategic decisions and, in particular, the result of anticompetitive AT&T strategies intended to weaken T-Mobile by denying it (and other providers) access to the iPhone and to data roaming at reasonable rates. They argue that a combined entity would be in an even stronger position to weaken its competitors, especially if it obtained T-Mobile's valuable spectrum holdings.

According to one estimate, AT&T, T-Mobile, and Verizon Wireless combined have 72% of U.S. mobile wireless subscribers and 76.4% of mobile wireless revenues.[25] Their share of those

[22] The American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5) at section 6001(k).

[23] See, for example, *In the Matter of Application of AT&T Inc. and Deutsche Telekom AG for Consent to Assign or Transfer Control of Licenses and Authorizations,* WT Docket No. 11-65, DA 11-799, ULS File No. 0004669383, Petition to Deny, Sprint Nextel Corporation (Sprint Petition), submitted May 31, 2011.

[24] *Notice of Ex Parte Presentation*, letter dated April 27, 2011, to FCC Chairman Julius Genachowski from M. Chris Riley, Counsel for Free Press, WT Docket No. 11-18, 11-65,DA 11-252, ULS File No. 0004566825.

[25] Debra Kaufman, "Sprint attacks AT&T, T-Mobile deal," Broadcast Engineering, March 30, 2011, citing the estimates of Wireless Intelligence, a market research and data collection company that specializes in the global wireless industry, available at http://broadcastengineering.com/news/sprint-attacks-at-t-t-mobile-deal-20110405. Market shares can be calculated with respect to the number of subscribers or with respect to revenues. Subscriber market shares will diverge from revenue market shares if some carriers generate more revenues per subscriber than others. Some carriers, such as T-Mobile or Metro PCS, have targeted "value customers" who tend to be price sensitive and tend not to purchase expensive wireless services; other carriers, such as Verizon Wireless and AT&T, have targeted higher-end customers who tend to spend more per month because they consume voice, data, and messaging services. Also, some carriers have networks capable of offering more complex and more expensive services than others, or have had exclusive contracts with the providers of smart phones that are capable of offering customers additional services and thus attract higher spending customers. As a result, carriers' subscriber market shares are correlated with, but do not exactly match, their revenue market shares.

customers who purchase service using post-paid contracts (typically of one to two years) is greater, perhaps 79%.[26] Tycoon Research, an investment research firm, confirms that AT&T and Verizon generate more revenues per subscriber than most industry providers, as shown in **Table 1**. Interestingly, the companies that target price-sensitive customers and have lower revenues per user also tend to experience higher churn rates—the percentage of customers who leave the carrier in a month. This is not surprising as these companies compete on price more than on product features and thus there tends to be less customer loyalty to a specific product or provider.

Table 1. Subscribers, Churn, and Revenues per User, by Company, End-2010

Company	Million Subscribers	Monthly Churn	Monthly Revenue per User
AT&T	95.54	1.3%	$48.98
T-Mobile	33.74	3.6%	$46.59
Verizon	102.25	1.3%	$50.61
Sprint	49.65	2.7%	$47.87
Metro PCS	8.16	3.5%	$39.79
US Cellular	6.01	2.0%	$54.37
Leap Wireless	5.52	4.0%	$38.14
Clearwire	4.38	2.1%	$16.07

Source: Ed Pawelec, "Who's Next in Wireless Tie-Ups?," *Tycoon Report*, March 28, 2011, available at http://tycoonreport.tycoonresearch.com/articles/204334333/who-s-next-in-wireless-tie-ups.

AT&T's Showing That the Proposed Merger Would Create a Virtuous Cycle and Be in the Public Interest

In this section, AT&T's arguments in support of the proposed merger are presented without discussion.[27] Unfortunately, most of the data that AT&T uses to support its arguments are redacted from the documentation that is publicly available or available to CRS and therefore, to a great extent, it is not possible for CRS to verify that the empirical evidence provided in fact supports the claims.

AT&T: The Benefits of the Proposed Merger

AT&T claims that it faces a unique spectrum shortage not shared by its competitors. Because it has been a leader in the mobile wireless industry and in wireless innovation—and has a larger

[26] See, for example, Bill Myers, Y-Ting Wang, Howard Buskirk, Lucy Warren, and Tim Warren, "FCC Review of AT&T/T-Mobile to be Granular, May Take More Than Year, Official Says," *Communications Daily*, March 22, 2011, citing a Sprint spokesman who stated the merger would result in a wireless industry dominated "overwhelmingly by two vertically-integrated companies that control almost 80 percent of the U.S. wireless post-paid market." Similarly, Sprint chief executive officer Dan Hesse has been widely quoted that, post-merger, AT&T (including T-Mobile) and Verizon would have in combination 79% of the market.

[27] This section is based on the AT&T Merger Support Documentation submitted to the FCC on April 21, 2011, especially at pp. 19-102.

portion of customers who use spectrum-hungry data applications on smartphones—it is "on the leading edge of the mobile traffic growth curve." AT&T's mobile data volumes increased by 8000% from 2007 to 2010. Further, unlike its competitors, AT&T has deployed three different generations of technology in its network and must continue to dedicate a significant portion of its spectrum to maintaining all three during its transition to state of the art LTE technology, which severely limits its flexibility to use its spectrum with optimum efficiency. In contrast, while its competitors may eventually face similar spectrum constraints, AT&T claims that they currently have access to sufficient spectrum[28] and the FCC is likely to have reallocated additional spectrum to mobile wireless use before the spectrum shortage becomes a problem for them.

AT&T has attempted to address its network-capacity challenges by adding thousands of cell sites to extend and deepen its network and by deploying indoor and outdoor distributed antenna systems and Wi-Fi hotspots and hotzones[29] to offload traffic from AT&T's mobile broadband network, but these are "short-term and expensive patches" that do not resolve the fundamental capacity problem. Absent a more robust solution to its spectrum shortage, AT&T's customers would face a greater number of blocked and dropped calls, less reliable and slower data connections, and, in some markets, no access to more advanced technologies, such as LTE.

Although T-Mobile does not face an immediate spectrum shortage, it has "no clear path to an effective, economical deployment of LTE," which is a spectrum-efficient technology that is setting a new standard for wireless deployment. It too faces projected growth in customer demand for spectrum-intensive data services that is likely to require all of its existing spectrum and, like AT&T, it currently serves its customers using relatively inefficient GSM technologies and cannot abandon those legacy customers by reassigning the spectrum they use to support a new LTE network. T-Mobile will require additional spectrum to be able to deploy LTE. But its parent company, Deutsche Telekom, has made the business decision to focus on its core business in Europe and will not provide the billions of dollars in investment capital needed to acquire the additional spectrum.

The merging companies describe the transaction as providing "the most effective, efficient, and timely solution of the capacity constraints facing AT&T and T-Mobile USA." Their spectrum and networks are "uniquely complementary": they have contiguous and compatible spectrum assets, both use GSM/HSPA technologies, and they have well-matched cell site grids that would yield substantial synergies. This would allow them to push back the date of an expected spectrum crunch in many markets, which would provide the additional time needed to migrate from GSM to LTE technologies. The "combined network will far exceed the sum of its parts," thus allowing for increased overall output, to the benefit of consumers. Neither firm could realize similar efficiencies if acting alone. In particular, the combination would allow for:

- Network capacity expansion through the integration of AT&T and T-Mobile cell sites.
- Better use of spectrum through the elimination of redundant control channels.

[28] AT&T provides citations from Verizon Wireless, Sprint, Leap, and MetroPCS executives indicating that they either own spectrum or have access to wholesale sources of spectrum sufficient to meet their needs. (AT&T Merger Support Documentation at p. 26, fn. 36.)

[29] A hotzone is, in effect, an extended hotspot that might cover as much as five or six blocks in a neighborhood. For example, AT&T has deployed a hotzone that extends for about five blocks in a neighborhood in Austin, TX.

- Pooled (and hence more efficient) usage of the radio channels connecting handsets with the network.
- Tying up less spectrum for the two companies' legacy GSM networks, since their GSM customers could share that otherwise underutilized spectrum.
- Additional spectrum available for more spectrally efficient LTE services.

AT&T claims that these efficiencies would allow the combined company to offer LTE in some markets where neither company could have offered it separately and, more broadly, would provide benefits for consumers by increasing overall output, producing better services, and resulting in more competitive prices than would prevail absent the merger. AT&T customers would experience fewer dropped and blocked calls, better in-building and in-home coverage, and faster and more reliable data services, particularly during peak periods. They also would benefit from T-Mobile's industry-leading customer care practices. AT&T also claims that the merger would allow it to expand its deployment of LTE to reach 97% of the U.S. population versus the 80% it would reach absent the merger. The LTE services would support such applications as telemedicine, video conferencing, and online gaming.

According to the submission, T-Mobile customers, who are unlikely to get LTE services absent the merger, would not only enjoy the benefits that would accrue to AT&T customers, but also would gain access to a broader range of current devices, such as the iPhone and iPad, as well as faster access to the next generation of devices. T-Mobile customers also would gain access to the much fuller range of rate plans that AT&T offers.

AT&T claims that alternative solutions to the two companies' capacity challenges would be far inferior. They are costly, prone to lengthy delays, and would not provide the benefits and efficiencies of the merger. These alternatives include adding cell sites, deploying distributed antenna systems and Wi-Fi hotspots and hotzones, redeploying existing spectrum, and adding spectrum through purchase or lease. For example, AT&T argues that the spectrum it currently is purchasing from Qualcomm is one-way spectrum that cannot be integrated into two-way wireless technologies to supplement downlink capacity until the technical specifications for doing so in LTE are developed in 2012, after which equipment manufacturers would then need substantial time to design, test, and build the relevant equipment. Thus, the spectrum likely would not be available until 2014 at the earliest.[30]

AT&T further claims that the merger would advance U.S. broadband and high tech goals because it "gives the combined company the necessary scale, scope, resources, and spectrum to deploy LTE" more widely, "thereby stimulating economic growth and thousands of jobs." Moreover, this broadband expansion would not require any expenditure of public funds and much of it would be in rural areas that currently have limited access to broadband services. LTE's low latency rate (the time it takes for a signal to travel from one point to another in a network) is especially useful for delay-sensitive online applications such as distance learning, video conferencing, remote medical monitoring, real-time patient examinations by doctors in multiple locations, and complex gaming systems played simultaneously by thousands of users. AT&T claims the merger and LTE deployment also would create a virtuous cycle of investment and innovation in cloud computing, networks, operating systems, and mobile applications, helping to preserve America's global leadership. It further claims that expansion of LTE deployment would help close the digital divide

[30] AT&T Merger Support Documentation at p. 49.

because wireless is the only broadband technology for which minority adoption and usage levels are above the national average. AT&T also states that the merger would enhance public safety by allowing AT&T to build on its experience in disaster management.

AT&T: Why the Proposed Merger Would Preserve and Promote Competition

AT&T argues that the merger would preserve and promote competition because the combined entity would have the ability and incentive to exploit the resulting spectrum and network efficiencies to expand capacity and output and provide strong price competition, while competing firms do not face spectrum constraints and thus would continue to provide the dynamic competition that characterizes the mobile wireless market today.

According to AT&T, the mobile wireless market is characterized by accelerating growth in industry output; rapid improvements in the quality of mobile wireless services, devices, mobile broadband applications, and networks; falling prices as market consolidation allows the remaining providers to exploit economies of scale; continued investment in advanced network infrastructure; billions of dollars in advertising expenditures to differentiate products; and fierce competition based on price, service quality, speeds, devices, and operating systems.

AT&T argues that the mobile wireless marketplace would remain highly competitive following the merger because three-quarters of Americans live in areas that would still be served by at least four facilities-based providers. They also will have access to mobile virtual network operators (MVNOs), such as TracFone, that do not have their own networks but resell the spectrum of wholesale service providers. In addition, LightSquared, which has announced plans to begin deploying a nationwide 4G LTE network in the second half of 2011, upon resolution of GPS interference issues, already has struck deals with Best Buy and other retailers to be a wholesale service provider. Although it will not be a retail provider, it could be an important source of spectrum for new and growing retail service providers. AT&T also asserts that it is not a close competitor with T-Mobile, and that other providers, notably Sprint, MetroPCS, and Leap are more effective competitors than T-Mobile,[31] so the departure of T-Mobile from the market would have minimal competitive effect. Moreover, it claims that the creation of an efficient capacity-enhancing combination to replace two capacity-constrained providers creates market incentives for the firms to pursue expanded output, higher quality, and lower prices.

AT&T explains how DOJ should perform its antitrust analysis. It proposes that the relevant product market that DOJ employ for its antitrust analysis be "the provision of mobile broadband services using more recent and advanced networks (e.g., 3G, 4G) and the provision of mobile and voice and data services over earlier generations of wireless networks as part of a combined mobile telephone/broadband service market" and that the relevant geographic market be local rather than national. It explains that while there are major providers that are regional in the sense that they have networks and recruit customers in only a portion of the country, they have entered into wholesale roaming agreements throughout the country in order to offer nationwide service plans that provide "seamless coverage in most or all population centers throughout the United States, generally without retail roaming fees." These providers, according to AT&T, compete in

[31] Ibid., at p. 70.

the same product market as carriers that market nationally, but compete in only some of the local geographic markets.

AT&T also provides guidance to the FCC in its public interest analysis. Since the FCC only reviews mergers that involve the transfer of radio spectrum licenses, it has constructed a "spectrum screen" as a tool to determine whether additional scrutiny is needed of a proposed merger in which the spectrum represents an essential input. In past merger reviews involving mobile wireless services, the FCC designed a screen that included spectrum bands designated for cellular, Personal Cellular Service (PCS), Specialized Mobile Radio, and 700 MHz services, as well as AWS-1 and 55.5 MHz of Broadband Radio Services (BRS/EBS) spectrum where available. AT&T argues that the screen, as currently defined, substantially overstates potential threats to competition because it excludes much of the spectrum currently available for mobile telephony and broadband services. It proposes that 90 MHz of mobile satellite service (MSS/ATC) spectrum be included in the screen because MSS/ATC providers soon will provide similar mobile services. It also proposes that all 194 MHz of BRS/EBS spectrum (not just the 55.5 MHz it has considered before) be included because the BRS/EBS transition[32] is complete in most areas of the country and because Clearwire and its partners (including Sprint and Time Warner Cable) are making widespread use of WiMAX service throughout the country, passing more than 100 million people.

Using its proposed market definition and spectrum screen, AT&T identifies strong competition from many sources:

- Verizon Wireless, currently the largest mobile wireless service provider, competes with AT&T in almost every local market, is aggressively deploying 4G LTE, does not face the same spectrum constraints as AT&T, and targets AT&T in its advertising by asserting that its network is superior to AT&T's more congested network.
- Sprint, currently the third-largest mobile wireless service provider, which AT&T claims has reversed recent negative trends and is increasing the number of subscribers, scores well in customer satisfaction surveys, offers a wide array of popular handsets that use Google's stack of software (operating system, middleware, and key mobile applications), enjoys a strong spectrum position in conjunction with Clearwire (in which it has a majority ownership stake), was the first to market with a 4G product using Clearwire's WiMAX network, and offers "aggressively priced unlimited data plans."[33]
- MetroPCS and Leap, industry mavericks that "each offer unlimited voice and data plans to value-oriented customers at low rates and on a no-contract basis," and that are now taking away customers from AT&T, Verizon, Sprint, and T-Mobile, the four national providers that generally have focused on offering "postpaid contract" service. MetroPCS has expanded beyond the voice market and now offers LTE services in a number of large markets, seeking to offer what one analyst has characterized as "the best value for data at the high-end."[34]

[32] The BRS/EBS transition involves the migration of educational broadcast users (formerly known as instructional television fixed service providers) and other former users of this frequency band to another frequency band.

[33] Ibid., at p. 79-82.

[34] Ibid., at p. 85.

- U.S. Cellular, Cellular South, Allied Wireless, Cincinnati Bell, and Cox Communications all market mobile wireless services in portions of the United States.
- Clearwire, owned by a consortium of Sprint, Comcast, Time Warner Cable, Intel, Google, and Bright House Networks, is the largest holder of spectrum in the United States, and uses its spectrum in the 2.5-2.6 GHz band to offer retail 4G data services and to supply wholesale inputs to 4G WiMAX retail providers such as Sprint, Time Warner Cable, Comcast, and Best Buy.
- LightSquared intends to use spectrum previously assigned to satellite use to deploy a nationwide 4G LTE network in the second half of 2011, upon resolution of GPS interference issues, with the aim of reaching 100 million people by year-end 2012 and 260 million by year-end 2015. It has entered into a long-term 4G roaming agreement with Leap. LightSquared announced an agreement to lease spectrum to Open Range, a wireless broadband provider in rural communities, and has entered into a wholesale arrangement with Best Buy.

AT&T concludes its public interest showing by claiming that the transaction poses no prospect of either anticompetitive coordination among the providers that would remain in the market after the merger takes place or anticompetitive unilateral effects on the part of the combined AT&T/T-Mobile.[35] It argues that anticompetitive coordination is not possible because (1) wireless markets are characterized by many heterogeneous firms with many different service plans and diverse market positions, competing on multiple dimensions—price structures, service quality, operating systems, and devices; (2) wireless markets are characterized by both strong demand and rapid technological flux, which would make coordination among firms very difficult; (3) wireless markets are prone to disruption by maverick firms, such as MetroPCS and Leap, which have effectively distinguished themselves from Verizon and AT&T on the basis of price;[36] and (4) the geographically local nature of wireless markets—different competitors, of different sizes, in each market—would preclude any nationwide coordination arrangement.

AT&T argues that there is no basis for concern that the merger would have anticompetitive unilateral effects because (1) the merger, by eliminating the capacity constraints on AT&T and T-Mobile, would result in greater output and lower prices than would exist otherwise; (2) T-Mobile does not currently have the ability to constrain AT&T's behavior and "the two brands serve substantially different groups of subscribers";[37] and (3) the threat of new entry by LightSquared, Cox, Time Warner Cable, and others minimizes any concerns about unilateral effects.

AT&T also indicates that it is instructive to look at markets in Western Europe and Japan, which tend to be dominated by top-two competitors that have combined market shares ranging from 70 to 78%. AT&T claims such large combined market shares reflect foreign regulators' recognition of the consumer benefits from economies of scope and scale.[38]

[35] DOJ will analyze whether the proposed AT&T/T-Mobile merger is likely to enhance market power simply by eliminating competition between the merging parties, even if there are no changes in the way other firms behave; this is known as "unilateral effects." It also will analyze if the merger is likely to enhance market power by increasing the risk of coordinated, accommodating, or interdependent behavior among rivals; this is known as "coordinated effects."

[36] Ibid., at p. 96.

[37] Ibid., at p. 98.

[38] Ibid., at p. 103.

The Critics: Why the Proposed Merger Would Harm Competition and Consumers

Competitors and other critics of the proposed AT&T/T-Mobile merger have filed with the FCC Petitions to Deny the license transfers. This section presents some of the arguments against the proposed merger without discussion.

The critics take exception to AT&T's characterization of T-Mobile as stuck somewhere between the high-end providers (AT&T, Verizon Wireless, and Sprint) and the value-driven providers (MetroPCS, Leap) and unable to carve out its own niche. In fact, T-Mobile is a national provider that offers high-end service, as demonstrated by its television commercials comparing the speed of its network to those of AT&T and Verizon Wireless. Its high-end service at comparatively low prices constrains the ability of AT&T and Verizon Wireless to raise prices to their relatively price inelastic customers. The proposed merger would eliminate this important option for consumers.

Critics also contend that the proposed merger would leave Sprint as the only remaining national provider to compete with AT&T and Verizon Wireless. But Sprint would be less than half the size of either of its competitors. In addition to facing significant network scale disadvantages, it would have an increasingly difficult time securing handset arrangements with manufacturers comparable to those of its two dominant rivals. Sprint will be depending on Clearwire's 4G WiMAX network as an alternative to the LTE networks used by AT&T and Verizon Wireless, but with the dominant carriers deploying LTE it will be more difficult to attract the manufacturers and funding needed to develop WiMAX compatible equipment. (Sprint/Clearwire defensively claim it will be possible to migrate from WiMAX to LTE, if necessary, but that is not proven.)

Another stated objection to the proposed merger is that smaller competitors will be hard-pressed to compete in the high-end market. AT&T claims that MetroPCS, Leap, and others will be able to migrate from the value-driven to the high-end submarket, where their presence will serve to restrain prices. But these companies will face a myriad of challenges, including access to comparable handset arrangements with manufacturers and access to data roaming, that will be at least influenced by, if not in the control of, AT&T and Verizon Wireless. And they will have to compete using spectrum with inferior propagation characteristics for mobile wireless transmission, for which network equipment manufacturers may have little incentive to develop network equipment.

For all of these reasons, critics have voiced concern that if the proposed merger goes through, leaving two wireless behemoths, the remaining providers will be under great pressure to seek partners to provide the scale needed to have any opportunity to compete. And some speculate Verizon Wireless might even try to acquire Sprint in an ongoing vicious cycle.

Some commenters also have taken exception to AT&T's argument that the market concentration in overseas mobile wireless markets, where the top two providers have between 70% and 78% of the market, shows that such concentration is not undesirable. Those markets are far smaller than the U.S. market and therefore cannot support as many providers at efficient scale. The large U.S. market, on the other hand, could readily accommodate more providers without the loss of scale economies that benefit consumers.

Economic Considerations Relating to Potential Market Power in Mobile Wireless

The mobile wireless industry is characterized by economies of scale and scope. In a static market, it would be less costly and/or more efficient to build out and operate a single network instead of multiple networks with partially duplicative facilities; to give a single provider use of a large block of spectrum rather than giving a number of providers use of a subset of that block; and to design and mass-produce a single suite of handsets rather than making handsets for smaller groups of customers using many different standards and network technologies. In a dynamic market with rapidly changing technology, however, the claims of scale economies must be weighed against the possibility that any lessening of competition will lessen pressure for innovation and cost and price restraint. Consolidation that gives one or two providers a dominant share of the market and of the available spectrum may promote static efficiency, but it may undermine dynamic efficiency.

Spectrum

Spectrum is an essential input into mobile wireless service. Indeed, AT&T identifies its shortage of spectrum in certain key markets as the primary motivation for the proposed merger. Over time, as it has projected future growth in demand for mobile wireless services, the FCC has made additional spectrum available for that use. It is in the midst of making additional spectrum available due to its expectation that there will be explosive demand growth for mobile wireless data services.[39]

While spectrum is an essential input for mobile wireless service, the amount of mobile wireless traffic that can be accommodated by a given amount of spectrum is not fixed. With greater investment in network facilities, such as cell sites, a given amount of spectrum can handle more traffic. It also is possible to innovate around spectrum constraints, again to support a greater amount of traffic with a given amount of spectrum. Thus, throwing spectrum at a perceived shortage might relieve a short-term problem but it also might provide a disincentive for investment in efficient network facilities and for innovation that increases the productivity of existing spectrum and facilities. Of course, if the additional spectrum would otherwise lie fallow, then both the societal costs and the private costs associated with additional network investment in cell sites would be greater than those associated with making use of the spectrum. But if the additional spectrum is obtained by merger, it is unlikely to otherwise lie fallow.

In the short run, when the amount of spectrum available is fixed, there may be risks associated with allowing a small number of providers to aggregate a large portion of the available spectrum and thus limiting the amount of spectrum available for other providers to enter and/or grow. One firm's attempt to control a large amount of spectrum, perhaps so that it can save on network capital expenditures, can affect the availability of spectrum to other providers, potentially

[39] See, for example, *In the Matter of Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, ET Docket No. 10-235, Notice of Proposed Rulemaking, adopted and released November 30, 2010, and *In the Matter of Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz*, ET Docket No. 10-142, Report and Order, adopted on April 5, 2011 and released on April 6, 2011.

depriving them of scale economies. It also can exacerbate existing disincentives for handset suppliers to serve smaller service providers as well as they serve the larger ones.

After the introduction of spectrum license auctions as the primary method of assigning spectrum rights, the FCC employed a "spectrum cap." Under this cap, no entity could control more than 45 megahertz of the 190 megahertz of Cellular, SMR, and broadband PCS spectrum then available for mobile wireless use. This limit was intended to preserve competitive opportunities, retain incentives for innovation, and promote the efficient use of spectrum.[40]

The FCC eliminated the spectrum cap beginning in 2003 and now uses a case-by-case market analysis of proposed mergers. It employs a "spectrum screen" that triggers more intensive review in those markets in which the merged entity would hold more than one-third of the available spectrum. As mentioned earlier, AT&T has proposed that certain spectrum that is now potentially available for mobile wireless use be added to the pool of spectrum that provides the basis for the spectrum screen calculation.

Table 2 and **Table 3** and **Figure 1** reproduce Table 25 and Table 26 and Chart 40 from the FCC's Fourteenth Mobile Wireless Competition Report. They provide information about the mobile wireless spectrum holdings of the various retail and wholesale mobile wireless providers. Three carriers—Verizon Wireless, AT&T, and Sprint Nextel—hold the bulk of the low frequency spectrum available for mobile wireless, but Clearwire has a huge amount of spectrum in the 2.5 GHz band and T-Mobile (as well as AT&T, Verizon Wireless, and Sprint Nextel) has a significant amount of PCS and AWS spectrum in the 1.7-2.1 GHz range.

In reviewing the FCC data, it is important to take into account the different capabilities of the different frequency bands. The FCC found that:[41]

> Low-band spectrum can enable the same level of service, at a lower cost, than higher-frequency bands, such as 1.9 the GHz PCS band, the 1.7/2.1 GHz AWS band, and the 2.5 GHz BRS/EBS band. A licensee that exclusively or primarily holds spectrum in a higher frequency range generally must construct more cell sites (at additional cost) than a licensee with primary holdings at a lower frequency in order to provide equivalent service coverage, particularly in rural areas. The National Institute of Standards and Technology (NIST) developed a propagation model comparing the 700 MHz, 1.9 GHz, and 2.4 GHz spectrum bands. It concluded that the favorable propagation characteristics meant that coverage using the same transmission power differed significantly, translating into the need for less infrastructure: while it required nine cells at 2.4 GHz and four cells at 1.9 GHz to span 100 meters squared, it was projected to require only one cell at 700 MHz. Similarly, an analysis using the Okumura-Hata model shows that rural, suburban, and urban cell sizes at 700 MHz are more than three times larger than cells in the PCS band. [footnotes omitted]

[40] Fourteenth Mobile Wireless Competition Report at para. 262 and fn. 716.

[41] Ibid., at para. 270.

Table 2. Percentage Spectrum Holdings, Measured on a MHz-POPs Basis by Provider, by Frequency Band[a]

(Providers Listed by Number of Subscribers as of 2Q 2009)

Licensee	700 MHz	Cellular (850 MHz)	SMR (800/900 MHz)	PCS (1.9 GHz)	AWS (1.7/2.1 GHz)	BRS (2.5 GHz)	EBS Leases (2.5 GHz)
Verizon Wireless	42.7%	48.5%	0.0%	15.4%	15.0%	0.0%	0.0%
AT&T	24.3%	42.3%	0.0%	25.9%	11.2%	0.0%	0.0%
Sprint Nextel	0.0%	0.0%	93.0%[a]	26.8%	0.0%	0.0%	0.0%
T-Mobile	0.0%	0.0%[b]	0.0%	19.7%	27.5%	0.0%	0.0%
MetroPCS	0.5%	0.0%	0.0%	2.6%	5.9%	0.0%	0.0%
US Cellular	2.7%	4.3%	0.0%	1.8%	2.0%	0.0%	0.0%
Leap	0.0%	0.0%	0.0%	2.3%	8.8%	0.0%	0.0%
Other	29.8%	4.9%	7.0%[a]	5.5%	29.6%	13.7%[a]	38.0%[a]
Clearwire	0.0%	0.0%	0.0%	0.0%	0.0%	86.3%[a]	62.0%[a]
Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

a. These are estimates based on the available data.

b. T-Mobile holds a very small amount of Cellular spectrum.

Table 3. Population-Weighted Average Megahertz Holdings[a] by Provider, by Frequency Band

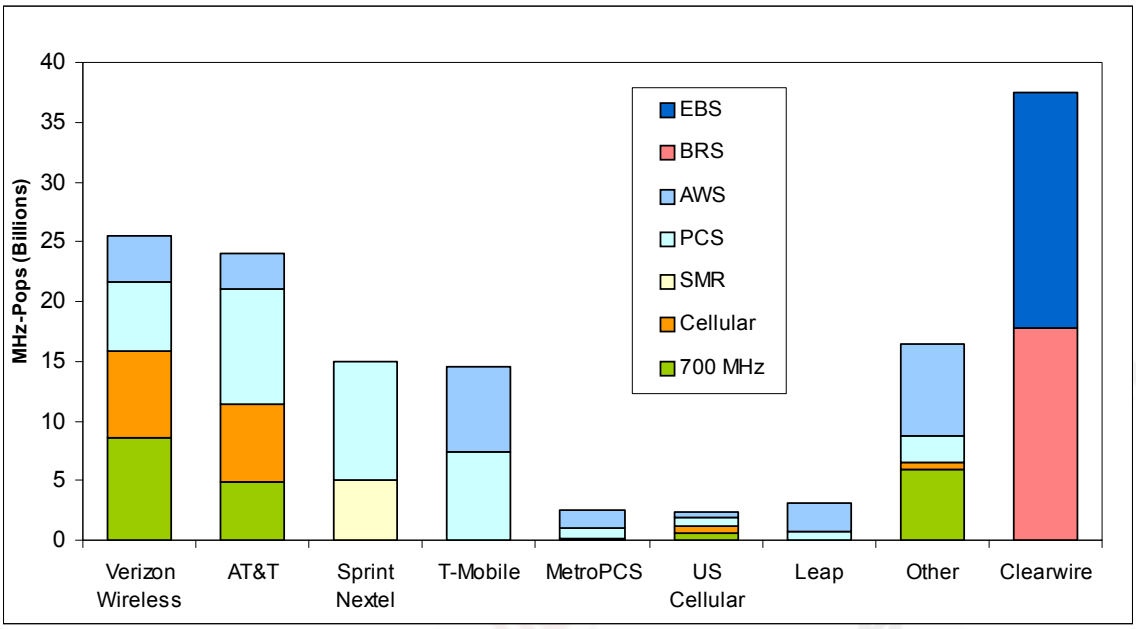
(Providers Listed by Number of Subscribers as of 2Q 2009)

Licensee	700 MHz	Cellular	SMR	PCS	AWS	BRS	EBS
Verizon Wireless	29.9	24.3	0.0	20.0	13.5	0.0	0.0
AT&T	17.0	21.2	0.0	33.7	10.1	0.0	0.0
Sprint Nextel	0.0	0.0	17.7	34.8	0.0	0.0	0.0
T-Mobile	0.0	0.0[b]	0.0	25.6	24.8	0.0	0.0
MetroPCS	0.4	0.0	0.0	3.4	5.3	0.0	0.0
US Cellular	1.9	2.2	0.0	2.3	1.8	0.0	0.0
Leap	0.0	0.0	0.0	3.0	7.9	0.0	0.0
Other	20.9	2.5	1.3	7.2	26.6	10.1	42.8
Clearwire	0.0	0.0	0.0	0.0	0.0	63.4	69.8

a. Weighted average megahertz is the sum of the provider's MHz-POPs, divided by the U.S. population.

b. T-Mobile holds a very small amount of Cellular spectrum.

Figure 1. Mobile Wireless Provider Spectrum Holdings by Band Weighted by Population



In reviewing the available spectrum and its characteristics, the FCC concluded:[42]

> spectrum resources in different frequency bands have distinguishing features that can make some frequency bands more valuable or better suited for particular purposes. For instance, given the superior propagation characteristics of spectrum under 1 GHz, particularly for providing coverage in rural areas and for penetrating buildings, providers whose spectrum assets include a greater amount of spectrum below 1 GHz spectrum may possess certain competitive advantages for providing robust coverage when compared to licensees whose portfolio is exclusively or primarily comprised of higher frequency spectrum. As discussed above, holding a mix of frequency ranges may be optimal from the perspective of providing the greatest service quality at low cost.

Some observers have compared the spectrum holdings and market shares of AT&T and Verizon Wireless and, finding them relatively similar, have wondered why AT&T is complaining of a spectrum shortage and its customers in key cities are experiencing dropped calls and slow data speeds while Verizon Wireless is not having those problems.[43] One critic alleges that "AT&T is today sitting on more spectrum than any other wireless operator in the top 21 markets in the U.S., and about a third of that spectrum is still being unused."[44] AT&T has explained its unique situation: still having to allocate much of its spectrum to customers served by 2G and 3G technologies and thus not having that spectrum available to handle the growth in data traffic, and having borne earlier than others the brunt of the rapid growth in spectrum-hungry data services through its initially exclusive contract with Apple for the iPhone. But, according to one

[42] Ibid., at para. 283.

[43] See, for example, Marguerite Reardon, "Is AT&T a Wireless Spectrum Hog?," *CNET News*, available at http://news.cnet.com/8301-30686_3-20058494-266.html. Cnet.com specializes in tech product review.

[44] Ibid.

commenter, AT&T began to experience congestion problems when it introduced the iPhone in 2007, yet it increased its wireless capital expenditures by only 1% in 2009 while Verizon Wireless increased its wireless capital expenditures by 10% and, in total, had lower capital expenditures than Verizon Wireless.[45] This has occurred at a time when industry capital expenditures have been a falling portion of revenues.

From AT&T's perspective, the proposed merger may be the most efficient way to expand its capacity. But from a public policy perspective, AT&T's private efficiencies may not outweigh the potential consumer harm from concentrating spectrum in a few hands. AT&T states that it experienced 8,000% growth in data traffic between 2007 and 2010 but now projects that mobile data growth in its network in 2015 will be only 8 to 10 times what it was in 2010.[46] With this slower projected growth in data traffic, one of the questions the FCC is likely to consider is whether AT&T should be expected to address its capacity shortage issues through network capital investment rather than through the acquisition of additional spectrum.

In its submission, AT&T claims that the FCC understates the total amount of spectrum available for mobile wireless use because it does not take into account in its spectrum count its decisions that will allow 90 MHz of mobile satellite service (MSS/ATC) spectrum and all 194 MHz of the BRS/EBS spectrum to be available for such use. It states that LightSquared is already taking contracts to provide wholesale spectrum from the MSS band (though interference problems involving GPS have not yet been resolved and may well delay mobile wireless use of that spectrum) and that Clearwire and its partners are making widespread use of WiMAX using the BRS/EBS band. Inclusion of this additional spectrum would add columns to **Table 2** and **Table 3** and **Figure 1** and would yield lower market shares for existing firms, such as AT&T and T-Mobile, that do not have holdings in those spectrum bands.

But AT&T's proposed change in the spectrum screen does not take into account the challenges and likely delays in making the new spectrum available for use. In its submission, AT&T explains how the 700 MHz spectrum that it is purchasing from Qualcomm (subject to DOJ and FCC approval)[47] "likely will not be available until 2014 at the earliest" because of the need to develop technical specifications and for equipment manufacturers to design, test, and build the relevant equipment.[48] If AT&T projects a long lag before the 700 MHz spectrum will be available for use, then it would seem that an even longer lag is probable before the LightSquared spectrum is available, for the following reasons:

- The 700 MHz spectrum was auctioned long before the MSS band was made available for mobile wireless use, so there have been standards and other developments made in the 700 MHz band that have not yet been addressed in the MSS band.
- The MSS spectrum faces potentially daunting interference problems that GPS users (including national security and public safety entities), AT&T, T-Mobile,

[45] Martin Peers, "Heard on the Street: Spectrum of Choices Confronts AT&T Review," *The Wall Street* Journal, April 29, 2011, at p. C8.

[46] AT&T Merger Support Documentation at pp. 2-3.

[47] The FCC has announced that it will review AT&T's proposed purchase of the Qualcomm spectrum "in a consolidated manner" with its review of the proposed purchase of T-Mobile. See http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-308959A1.pdf.

[48] Ibid., at p. 49.

and others all will have the incentive to ensure are fully resolved before allowing mobile wireless usage of that spectrum.

- The propagation properties in the 700 MHz band are better than those in the 1.5-2.2 GHz MMS band, so the network capital investment needed for comparable capacity in the latter will be greater than that for the former.
- Equipment manufacturers will have far less incentive to expeditiously develop handsets and other equipment for firms (such as those using the LightSquared spectrum) with small market shares than for established firms with large market shares.
- Equipment manufacturers will have less incentive to expeditiously develop equipment for spectrum that has not yet proven itself in the mobile wireless market.

Given these market, regulatory, and standards issues, the lag before the newly available high frequency spectrum is available may be far greater than the lag for the Qualcomm spectrum. If this is the case, it may be premature to give full weight to that new spectrum when constructing a spectrum screen for competition analysis.

Network Infrastructure Facilities

Network infrastructure facilities consist of cellular base stations and towers or other structures on which the base stations are situated. Base stations consist of radio transceivers, antennas, coaxial cable, a regular and a backup power supply, and associated electronics. In addition, switches are needed to connect cell sites, gateways to access other networks, authentication capabilities, and back-office capabilities such as billing and customer service. Often it is most efficient for a new or expanding wireless carrier to co-locate its base station equipment on an existing structure. Many towers are owned by specialist providers rather than by telecommunications companies. The communications tower industry is fairly competitive; new or expanding providers are unlikely to be at a competitive disadvantage except to the extent that the most desirable positions for antennas on towers are already occupied, leaving only sub-optimal positions. The proposed merger is likely to have little impact on the availability of tower space. The merger might allow the combined company to consolidate some antennas currently in sub-optimal positions to better positions. To the extent that AT&T and T-Mobile antennas can be consolidated, that might free better tower placements for competitors.

DOJ and especially the FCC, for which a primary goal is universal access to broadband, have demanded and are reviewing detailed information about the LTE network AT&T plans to deploy, including the robustness of the network. One issue facing the FCC is how the proposed merger might affect AT&T's incentives to invest in its network infrastructure. AT&T claims that, if allowed to merge, it would build out its LTE network to "more than an additional million square miles, which equates to more than one-third of the land mass of the contiguous United States."[49] Much of that deployment will be in areas with low population density and therefore relatively high cost per customer. But, if the FCC finds merit in the criticisms that AT&T's purported capacity problems stem in part from its failure to invest sufficiently in its network, the FCC may

[49] Ibid., at p. 56.

be especially concerned to evaluate how likely the combined company would be to perform the LTE build out and provide high-quality service throughout its large service area.

The FCC and DOJ are likely to explore whether the proposed merger would deplete the cash available for the new entity's proposed LTE deployment. The FCC's Fourteenth Mobile Wireless Competition Report shows that in 2009, the latest year for which data were available, AT&T had capital expenditures of slightly less than $6 billion and T-Mobile had capital expenditures of more than $3.5 billion.[50] Under the terms of the proposed merger, AT&T will have to pay Deutsche Telekom $25 billion in cash. AT&T states that the "the consolidation of these two companies is projected to produce operational savings and other costs synergies exceeding $39 billion, with annual savings of approximately $3 billion starting in year three."[51] Even with the projected savings, it is unclear how AT&T will finance the proposed network buildout.

In its submission, AT&T includes as viable competitors carriers (such as MetroPCS, Leap, U.S. Cellular, and Cellular South) whose networks are regional or local, and which market regionally or locally, but which offer nationwide service to subscribers who travel beyond the physical reach of their network. These carriers can only offer such nationwide service if they can purchase roaming services from other carriers that serve the geographic areas beyond their networks. But some carriers have refused to provide such data roaming or have failed to reach agreement with requesting carriers. For example, T-Mobile has publicly complained that AT&T—which is the primary carrier using the same technology and therefore the carrier it must rely upon for roaming arrangements—has refused to agree to reasonable arrangements.[52]

In April 2011, the FCC adopted an order requiring facilities-based providers of commercial mobile data services to offer data roaming arrangements to other such providers on commercially reasonable terms and conditions, subject to certain limitations.[53] Both Verizon Wireless and AT&T—and two FCC commissioners who dissented from the order—claim that the FCC does not have the authority to impose these data roaming requirements because data roaming is considered a "mobile service" under the Communications Act, but not a "commercial mobile service or the functional equivalent of a commercial mobile service," and therefore section 332(c)(2) of the act prohibits the Commission from subjecting the provision of data roaming to common carrier regulation.[54] In May 2011, Verizon Wireless filed a notice of appeal in the U.S. District Court of Appeals for the District of Columbia Circuit.

In its opposition to the FCC requirement that it negotiate data roaming arrangements, AT&T has stated that it would not build out its network to unserved areas if the result is that other carriers could simply negotiate roaming arrangements to use that network rather than building out their own networks.[55] This would not be consistent with its stated intention in its merger submission to

[50] 14th Mobile Wireless Competition Report at Chart 33.

[51] AT&T Merger Support Documentation at p. 9.

[52] See, for example, "T-Mobile, AT&T deadlock on 3G data roaming deal," *FierceWireless*, February 3, 2011, available at http://www.fiercewireless.com/story/t-mobile-att-deadlock-3g-data-roaming-deal/2011-02-03 and "AT&T: The Gang That Can't Shoot Straight," *GLG News* (Gerson Lehman Group), April 27, 2011, available at http://ww.glgroup.com/NewsWarchPrefs/Print.aspx?pid=53721&cb=1.

[53] *In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, WT Docket No. 05-265, Second Report and Order, adopted and released April 7, 2011.

[54] See "Dissenting Statement of Commissioner Robert M. McDowell, April 7, 2011.

[55] See, for example, "AT&T: The Gang That Can't Shoot Straight," *GLG News* (Gerson Lehman Group), April 27, (continued...)

build out its LTE network to 97% of Americans. If the courts determine that the FCC cannot make data roaming a requirement, AT&T potentially could refuse to reach data roaming arrangements in those rural areas where it builds out its LTE network.

Backhaul Facilities

Backhaul facilities link mobile providers' cell sites to wireline networks to carry wireless voice and data traffic for routing and onward transmission. The backhaul market is projected to grow to $8 billion-$10 billion in the next few years, primarily due to the growth in wireless data traffic.[56]

There are three major technologies for backhaul transmission: copper lines, microwave, and optical fiber. Most backhaul is carried over copper lines, but both microwave and optical fiber are gaining share. The backhaul service providers are incumbent local exchange carriers, independent wireline companies, cable providers, and independent wireless operators. Wireless providers may purchase special access services—that is, services that do not use local switches must instead employ dedicated facilities that run directly between two designated locations—from third parties for backhaul. AT&T and Verizon control most of the special access lines.

The FCC has a proceeding that has been open for more than six years on special access prices.[57] Sprint and T-Mobile have been among the parties pushing hardest for the FCC to take action on special access rates, while AT&T and Verizon have been opposed to FCC intervention. It appears that carriers are interested in transitioning to packet based services and existing facilities may be transitioned to IP technology to address increased demand at particular sites. According to the FCC, "Evolving technologies may provide wireless carriers with more alternatives to using special access services, including their own facilities."[58] In the short run, however, AT&T is one of the major providers of essential backhaul facilities to mobile wireless providers.

In its Petition to Deny,[59] Sprint states that wireless carriers that are independent of AT&T and Verizon would prefer to obtain their backhaul services from companies other than those two companies with which they compete. The proposed merger would eliminate T-Mobile as a potential purchaser of alternative backhaul service and thus reduce the incentive for backhaul providers or potential new ones other than AT&T and Verizon to invest in backhaul facilities, leaving the independent wireless carriers ever more dependent on the two former Bell companies. Sprint argues that the merger therefore would increase AT&T's and Verizon's incentive and ability to raise special access rates for backhaul and other services. If AT&T and Verizon do not account for most or all of the growth in demand for backhaul services projected by the FCC, however, there might still be incentives for other companies to invest in backhaul facilities.

(...continued)

2011, available at http://ww.glgroup.com/NewsWarchPrefs/Print.aspx?pid=53721&cb=1.

[56] Fourteenth Mobile Wireless Competition Report at fn. 785.

[57] *In the Matter of Special Access Rates for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket No. 05-25 and RM-10593, Order and Notice of Proposed Rulemaking, adopted January 19, 2005 and released January 31, 2005.

[58] Fourteenth Mobile Wireless Competition Report at fn. 789.

[59] Sprint Petition at pp. 39-42.

Mobile Wireless Handsets

Consumer surveys show that handsets and devices play an increasingly important role in the mobile wireless market. A Consumers Union report states that in 2008 and 2009, 38% of the respondents who had switched providers did so because it was the only way to obtain the handset that they wanted.[60] At the same time, the number of handset manufacturers and number of handset models offered are increasing, as innovative smartphones are taking over an increasing share of the market. Handsets and devices must use technological standards that are compatible with the wireless network used by the consumer, thus most manufacturers make separate suites of handsets for each network technology. In turn, mobile wireless service providers must carry diverse handset portfolios and offer their customers a wide selection of handsets.

Two business models have become increasingly important and tie together the handset and services markets. One is the bundling of wireless service subscriptions with the purchase of handsets. The other is exclusive handset arrangements.

In a bundling contract, a provider conditions the sale of a handset upon the consumer's agreement to purchase wireless service subscription for a minimum of one or two years. The handset and service plan are sold as a single bundled product, with the price of the handset distributed over the length of the subscription. Service providers enforce these contracts by "locking" subsidized devices so they cannot be easily ported to a competitor's network and by charging early termination fees for subscribers who break the contract early. Although wireless service plans are available without bundled contracts, the subsidized rates for the device generally make the bundled offer more appealing to consumers. As handsets have become more sophisticated and more expensive, and thus if purchased separately would impose a greater upfront cost, this type of bundling and contract has become increasingly attractive to high-end consumers.

A stronger distinction seems to be developing between these high-end consumers and value customers who might prefer the additional applications and capabilities provided by smartphones but who remain sensitive to price and increasingly are choosing pre-paid or pay-as-you-go plans. Those latter are likely to provide smaller handset subsidies than prepaid plans, reflecting the fact that prepaid plans tend to have higher churn rates than post-paid plans. With this market bifurcation, the carriers serving the high-end market are relatively protected from the price competition that prevails in the value market.

In exclusive handset agreements (EHA), a handset manufacturer agrees to sell a particular handset model to one and only one wireless service provider, usually for a specified period of time. The most famous EHA was the exclusive agreement between Apple and AT&T for the iPhone, which was maintained for four years. (T-Mobile's parent company, Deutsche Telekom, has had a similar exclusive arrangement with Apple for the iPhone in Germany.) iPhones are now available from Verizon Wireless as well and soon will be available from Sprint, but not from other service providers. EHAs often involve sharing financial commitments and market risks, with the manufacturer typically assuming some R&D commitments and the provider some marketing and minimum volume commitments. The FCC found that "handset manufacturers generally employ EHAs with providers that have larger customer bases and extensive network penetration."[61] Manufacturers have far less incentive to undertake risky R&D for a mobile

[60] Fourteenth Mobile Wireless Competition Report at para. 299.

[61] Ibid., at para. 317.

wireless service provider that does not give the manufacturer entree to a significant segment of the market. The smaller rural mobile wireless carriers have complained that the AT&T-iPhone EHA in particular, and other EHAs in general, place them at a distinct competitive disadvantage.

Does the Proposed Merger Represent a Return to the Old Bell Monopoly?

Although AT&T and Verizon (along with Qwest) are the sole surviving descendants of the old Bell monopoly, there would be several differences between the post-merger AT&T and the old Bell (AT&T) monopoly that was broken up as part of an antitrust consent decree in 1984:

- Although the wireline portions of AT&T and Verizon have chosen not to compete against one another (except in very limited geographic areas where the GTE service areas acquired by Verizon happen to be contiguous to old Bell service areas that are now part of AT&T), AT&T and Verizon Wireless do compete directly with one another in the mobile wireless market.
- The old Bell monopoly was regulated at both the federal and state levels. As evidenced by the Verizon Wireless court challenge to the FCC's authority to regulate data roaming, at least the data portion of the AT&T and Verizon Wireless mobile wireless businesses may not be subject to regulation.
- The old Bell monopoly also included an equipment manufacturing subsidiary, but the current mobile wireless providers rely on a competitive supplier market.

It is useful to note the early history of the mobile wireless industry. When the FCC first made the cellular spectrum available in 1982, the band was divided into two blocks, licensed by Cellular Market Area. At the time of the initial licensing, one of the two cellular blocks in each market was awarded to a local incumbent wireline carrier, while the other block was awarded using a slow process that did not award of majority of licenses until 1991.[62] The Bell Companies served 80% of the population then and thus the Bell Companies received half the spectrum and a multi-year head start in the cellular market for most of the country. The Bell Companies had little incentive to develop a new technology that could threaten their wireline telephone service. Mobile wireless developed much more quickly after the FCC made additional spectrum available and companies without legacy wireline investments entered the market.

Global Competition

The AT&T submission makes no mention of the impact of the proposed merger on global competition and barely mentions the enterprise market that serves large (often multinational or even global) businesses. It is noteworthy that (1) the cities where AT&T has faced the greatest capacity challenge, New York and San Francisco, are global business centers and therefore places that have large numbers of international travelers who are likely to use global voice and data communications; and (2) the proposed merger would give Deutsche Telekom an 8% share of

[62] Ibid., at para. 253.

AT&T. Both of these facts suggest that the proposed merger might be part of some global market strategy on the part of the two companies.

There is nothing in the AT&T submission on how the proposed merger might benefit AT&T in global markets where it may be competing against other global voice and data providers, including Deutsche Telekom. Nor is there any mention of other business relationships or understandings between AT&T and Deutsche Telecom outside the United States. It is at least imaginable that Deutsche Telekom's post-merger 8% interest in AT&T could affect the enterprise market in the U.S. and globally, given that AT&T and Deutsche Telekom are among the world's largest telecommunications carriers.

Several international organizations and corporations have filed comments with the FCC, raising "concerns about the possibility of the United States becoming one of a very few markets in the world in which wholesale international roaming services for GSM operators ... are not subject to competition between at least two providers."[63] The proposed merger would leave AT&T the only significant GSM-based wireless carrier in the U.S.[64] GSM is the predominant wireless technology in most parts of the world. International travelers to the United States – and especially business travelers using wireless data services – and their carriers would be dependent on AT&T for roaming services, where today they can seek such services from T-Mobile as well. Thus there are concerns that AT&T would be able to raise its rates to international carriers, increasing costs for international visitors making calls to the United States.

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[63] Paul Barbagallo, "AT&T's Bid to Acquire T-Mobile USA Beginning to Cause Ripples Overseas," *BNA*, July 1, 2011.

[64] Cincinnati Bell and several very small wireless carriers have geographically-limited GSM networks but do not have facilities to offer roaming services in the vast majority of the United States.