Additions to
Reply Comments re Dr. Mark Israel's Reply Declaration Concerning
An Analysis of Competitive Effects and Consequences for Consumers and Other Stakeholders from the Proposed Acquisition

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Summary

AT&T and Leap Wireless submitted initial responses to the Federal Communications Commission's (FCC) Information and Discovery Request of November 8, 2013 in WT Docket 13-193 on November 22, 2013 and have submitted additional responses during December. Information Age Economics (IAE) has reviewed and analyzed those responses available to date, focusing exclusively on the links between the proposed AT&T/Leap transaction and its holistic impact on critical issues for the future of competition, consumer welfare and support of the public interest in the U.S. wireless services and applications market.

We have already demonstrated in a previous research report[1] on the implications and consequences of this transaction that any review and evaluation must take account of its role in AT&T's long-term strategy, along with a series of anti-competitive policy and strategic initiatives. This review must also recognize how AT&T is likely to respond to the outcome of this transaction in the pursuit of its aggressive advocacy and lobbying for regulations (or the lifting of regulations) and policies that are aimed at eroding and ultimately eliminating effective competition in the U.S. wireless sector, and more broadly in the entire broadband market.

Our analyses of the contents of AT&T's and Leap Wireless' Interrogatory responses to the FCC's Discovery and Information Request of November 8, 2013 have led to the following IAE conclusions:

- Dr. Israel's findings that there would be no significant competitive consequences of the proposed AT&T/Leap transaction and indeed this merger would be pro-competitive are not only unfounded, but are directly contradicted by the very data he says he relied on to justify them;
- The AT&T/Leap transaction would adversely affect the environment for establishing fair and reasonable roaming agreements that all but the Tier 1 mobile operators require in order to be able to provide national coverage to their customers, without which they are increasingly uncompetitive. Furthermore, approval of this transaction would validate, reinforce and expand the capability of AT&T to charge excessive roaming fees and act in an arbitrary and discriminatory manner to the detriment of consumer welfare and market competition, thereby also flouting the intent and authority of the FCC as expressed in its 2011 Data Roaming Order;

[1] Information Age Economics Report, attached to the Youghiogheny Communications, LLC filing at http://apps.fcc.gov/ecfs/document/view?id=7520954475

- Both AT&T's and Leap's statements about the status and fate of the 700 MHz Lower Band Block A license held by Leap Wireless lack credibility, while AT&T's connection with this license in the context of the proposed Leap transaction poses a risk that it will be able to continue inhibiting the productive exploitation of Block A licenses. Moreover, it will put AT&T in a stronger position to block an opportunity for building a valuable national footprint of these sub 1GHz frequencies that is independent of both AT&T and Verizon. This development would make a notable contribution to ensuring an effectively competitive U.S. wireless market for all customers, including those who reside in areas where sub 1 GHz frequencies, today dominated by AT&T and Verizon, are needed to enable wireless broadband networks to be deployed economically.

Approval of the proposed AT&T/Leap transaction would validate the legitimacy of AT&T's persistent anti-competitive behavior, including its flouting of the FCC's authority and responsibility to sustain competition in the U.S. wireless market. Consummation of this transaction would constitute an unwarranted and destructive step toward the effective elimination of small operators as autonomous competitors in the U.S. wireless market.

1. Introduction

The Interrogatory responses by AT&T and Leap Wireless are voluminous, comprising hundreds of gigabytes of information in documents that are transmitted in multiple electronic formats. IAE has focused in the first instance on finding and assessing information on which Dr. Mark Israel based the findings of his report (Reply Declaration)[2]. In addition, we have identified and evaluated other information pertinent to an assessment of the correctness of the alleged benefits and denial of any adverse competitive consequences that would follow from consummation of this proposed transaction, currently under review by the FCC. This information covers major factors in the U.S. wireless market that have been ignored by AT&T, Leap Wireless and Dr. Israel in the material submitted to the FCC.

In addition to the further direct rebuttal of Dr. Israel's mostly unsubstantiated claims and assertions, this follow up IAE report to our earlier Reply Comments includes two analyses of major issues whose outcomes will affect the dynamics and competiveness of the U.S. wireless market, namely, (1) Roaming and (2) The future of the700 MHz Lower Band (specifically Block A licenses). AT&T has persistently pursued anti-competitive and customer-hostile practices in these areas that approval of its proposed acquisition of Leap Wireless would further validate, exacerbate, encourage and reinforce.

[2] Reply Declaration of Dr. Mark Israel, pp. 58-97 in http://apps.fcc.gov/ecfs/document/view?id=7520950301

2. Information Relevant to Dr. Israel's Reply Declaration

We have discovered examples of data and information, supplied by AT&T and Leap Wireless in their Interrogatory Responses, that further discredit and contradict the validity of the claims and assertions that they have previously presented in order to justify this proposed acquisition. Three illustrative examples of these fatal flaws in the claims presented by the Applicants that Dr. Israel states he has validated are:

Porting Data: [BEGIN REDACTED MATERIAL] [END REDACTED MATERIAL] **Dr. Israel's findings that AT&T and Leap are not close competitors and that Leap is not a national competitor are contradicted by the very data he says he relies on to justify these assertions.**

Cricket's Marketing Plan [BEGIN REDACTED MATERIAL]

[END REDACTED MATERIAL]

AT&T's plans for migration of Leap customers [BEGIN REDACTED MATERIAL]

[END REDACTED MATERIAL] The consequences of the proposed merger for roaming are one example of a key point that Dr. Israel has overlooked or ignored in his assessment of its competitive consequences.

These examples demonstrate and reinforce IAE's finding in our Reply Comments that there is no rational connection, or sensible basis, for the findings presented by Dr. Israel in his declaration, based in the data on which he says he relied, in order to reach these findings. These data not only fail to support his findings, they directly contradict them.

AT&T's responses to requests for information about the future of its prepaid Aio service provide further evidence that is irreconcilable with the claim, supported by Dr. Israel, that AT&T and Leap are not close competitors. Competition between these two companies has been intensifying in both their go-to-market planning leading up to this proposed transaction. Two extracts from AT&T's responses illustrate this internal contradiction within AT&T's positions (emphasis added):

*"Based on **historical patterns and industry experience**, AT&T expects that many Leap customers will find AT&T's device and rate plans attractive and therefore choose to migrate on their own initiative."*

"In addition, AT&T intends to compete vigorously and broadly for prepaid customers, and to that end, AT&T will continue to offer all customers, including migrating Leap customers, competitive rate plans that appeal to value-conscious customers, including the option of choosing low-cost devices and low-cost services."

In its own words AT&T is targeting all the customer segments that Leap has been serving, while Leap [BEGIN REDACTED MATERIAL] [redacted] [END REDACTED MATERIAL]

2.1 Findings

As has been demonstrated, Dr. Israel's finding that AT&T and Leap have not been close competitors is directly contradicted by the very data he has relied on. Furthermore, even more damning to his thesis, there is evidence from both AT&T and Leap themselves that they were actively planning to become even closer competitors up to the time they negotiated AT&T's proposed acquisition of its smaller rival. In the face of this evidence, the conclusion of Dr. Israel that significant adverse competitive effects are unlikely and the proposed merger is pro-competitive is evidently completely illogical[3].

3. Roaming – Grounds for Rejection of the AT&T/Leap Transaction

3.1 Summary

The responses of AT&T and Leap to the Information and Discovery Request with respect to roaming arrangements confirm that the consequences of AT&T's acquisition of Leap Wireless would be anti-competitive and customer-hostile, extending a long AT&T tradition of initiatives with this outcome. Specifically, the acquisition of Leap would strengthen AT&T's ability to frustrate the intent of the FCC's Data Roaming Order[4] in order to sustain competition in the U.S. wireless market. It would reaffirm the benefit to AT&T of charging excessively high and discriminatory wholesale roaming rates to small operators. This practice is part of a trend whose ultimate foreseeable outcome will be the effective elimination of small operators as viable autonomous competitors in the U.S. wireless market.

On the basis of the evidence that we have been able to find, the level of "fair and reasonable" wholesale data roaming charges in the conditions prevailing in recent years should be no higher than $10/GB (gigabyte) and probably significantly lower. Furthermore, the trend in these charges should be reflecting a substantial decline in the network costs of delivery of mobile data, with in the near future wholesale roaming charges of under $2/GB for LTE roaming. This decline is being driven by the deployment of new and more efficient network technologies, along with

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[3] Dr. Israel's position is reminiscent of the White Queen in "Alice in Wonderland," who developed the skill of believing "six impossible things before breakfast."

[4] FCC Second Report and Order, April 7, 2011, http://apps.fcc.gov/ecfs/document/view?id=7021237530

increases in network utilization, due to recent and continuing rapid growth in mobile data traffic.

3.2 Need for and Value of Roaming

Inter-operator roaming within a country and internationally has been a key driver in stimulating the extraordinary growth and success of the terrestrial mobile sector in the U.S., and also throughout the world, for the past 30 years or so. In the U.S., mobile operators were initially segregated by geography as a result of the regional structure of spectrum licenses. Roaming enabled the most mobile or peripatetic (and often the most valuable) customers to obtain service wherever they traveled (or roamed) outside the home territory of their service provider.

Over time, a few operators emerged with national or quasi-national coverage of their facilities following a lengthy and continuing consolidation trend via mergers and acquisitions. Today America is left with four wireless operators who own spectrum licenses that cover all or almost all the U.S. population, two of which are dominant and powerful market leaders, namely Verizon and AT&T. Sprint and T-Mobile, who rank third and fourth respectively in terms of the sizes of their customer bases, are weaker competitors in terms of subscribers and the populations that they are able to reach when compared to the Big Two. Even so, small and often rural operators, as well as a few larger operators, including Leap, that compete nationally but only have spectrum licenses that cover limited regions of the U.S., continue to play significant roles in some communities and regions, as well as for some segments of the market.

The FCC and current public policy have long recognized the value of these operators in addition to the Big Four.

Although the facilities of these other operators cover limited, and in some cases only minor proportions of the total U.S. population, they depend on being able to offer national coverage to their customers in order to remain competitive, as their sales and marketing campaigns and the needs and expectations of customers demonstrate. The U.S. wireless market is a national one, and roaming has been a critical component of the creation of a national market available to all subscribers. However, in order to strengthen, not weaken, competition, roaming rates must be just and reasonable, and also fair, non-discriminatory and non-preferential. In fact, ideally roaming rates should be transparent, and the FCC must advocate and protect that pro-competitive, pro-consumer goal.

Therefore, in order to fulfill this competitive imperative effectively and economically, small operators depend on roaming arrangements with national

coverage that are established – as the FCC's Data Roaming Order of April 2011[5] specifies – with "reasonable commercial conditions." And today, roaming must also include mobile data as well as voice and text (SMS) services, since mobile data (including video) usage has been increasing exponentially and has become the largest single component of total mobile network traffic, while the volume of mobile voice and SMS (text) traffic has been flat, or even declining.

There is compelling evidence, outlined below, that AT&T has persistently and consistently pursued a strategy, and has employed obstructive tactics, in order to prevent small operators from roaming onto its network under "reasonable commercial conditions." Evidence of AT&T's "unreasonableness" is based on a combination of evidence from:

- Examples of wholesale roaming charges levied by other operators (benchmarking);
- The level of retail prices for mobile services, given that wholesale prices for roaming services should be significantly lower ("retail minus" pricing); and
- Estimates of the network costs of delivering mobile services.

An alternative, and possible confirmation for "retail minus" as a basis for establishing "reasonable" wholesale prices, may be justified on a formula of "actual network cost plus."

AT&T's acquisition of Leap Wireless will inevitably further enhance its already powerful market position in pursuing its policy of imposing unreasonable and discriminatory roaming rates and "agreements" on small operators, or even refusing to negotiate with them in a timely and responsive manner. It will further limit the alternatives that these small operators can find as roaming partners in some areas of the country, particularly as LTE (Long Term Evolution), which is being aggressively deployed, becomes the dominant mobile broadband network technology in the U.S. for both GSM/WCDMA and CDMA/EV-DO operators.

It is not easy to find quantitative evidence to prove conclusively that AT&T is behaving consistently and broadly in an anti-competitive and discriminatory manner with respect to roaming, since there is no or little transparency (required or voluntary) about the details of the roaming agreements that are in place or on offer, or have been rejected. Nevertheless, as outlined below, there is a mutually reinforcing set of facts and indicators that can be pulled together in order to justify this finding beyond reasonable doubt. The evidence includes:

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[5] The validity of this Order, and the authority of the FCC in the matter of data roaming, was challenged by Verizon, but the Washington DC Court of Appeals upheld the FCC's authority in December 2012.

- Isolated examples of wholesale roaming charges cited by a number of sources;
- Extensive evidence of the level of retail prices for mobile services based on analyses of the prices of packages (data-only and data/voice minutes/texts) published by multiple operators; and
- Analyses of the costs of modern mobile networks published by major equipment vendors and others.

3.3 Relevance of Comparisons between Mobile Markets in the U.S. and Europe

The factual data and evidence presented below cover both U.S. and European markets. The relevance of evidence from Europe to assessments of the situation in the U.S. is well established. The CTIA-The Wireless Association® (the wireless communications industry association) among others, has not hesitated to present analyses of the mobile sector on both sides of the Atlantic that purport to demonstrate the superior achievements and performance of the U.S. mobile sector, including AT&T, compared to its counterparts in Europe, and even globally[6]. In one of the documents referenced in this footnote (its June 17 2013, Comments filed with the FCC in Docket 13-135 on p. 67) the CTIA presents yet again its spurious spectrum efficiency metric to assert that the four largest European mobile sectors (Germany, France, the United Kingdom, and Italy) are operating at only between 18-27% the level of efficiency of U.S. mobile operators![7]

Roaming has been, and remains, a controversial issue in Europe as well as in the U.S., in particular with regard to the huge gap between the prices paid by European customers when they travel to another country within Europe as compared to their domestic prices, and the resulting "bill shock" they encounter on returning home. As a result, various parties – regulators and independent analysts – have carried out a number of surveys, investigations and comparisons of roaming charges in Europe and the underlying network costs whose findings are applicable to the U.S.[8]

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[6] See for example CTIA - "THE U.S. WIRELESS INDUSTRY: Leading the World in Investment, Value, Innovation, and Competition," November 2013, http://apps.fcc.gov/ecfs/document/view?id=7520957611; Comments in WT Docket 13-135, June 17, 2013, http://apps.fcc.gov/ecfs/document/view?id=7520920372

[7] This result should be causing consternation at the headquarters of Deutsche Telekom about its poor performance in its home market of Germany compared to its U.S. subsidiary, T-Mobile USA.

[8] AT&T and European mobile networks deploy the same technologies from the same global supply ecosystem. Differences between the costs of networks may result from variations in geography, labor costs and other contributing factors, but Europe contains rural areas (e.g., Sweden) as well as urban and suburban demographics that are comparable to the U.S. so there is no reason to believe that AT&T's network costs are significantly higher than those in Europe – indeed, AT&T seems more inclined to claim that it is superior to European operators in the value, prices and performance of the services it is delivering.

According to the CTIA, U.S. operators are allegedly much more efficient and deliver much greater value to U.S. customers than do their European counterparts to European customers. However, IAE has shown both that the CTIA's metric of operators' efficiency is fundamentally flawed and has found evidence outlined below that the CTIA is presenting a distorted and exaggerated disparaging picture[9] of the mobile sector in Europe. AT&T, one of its two largest members, agrees with the CTIA's position that the U.S. is leading the world in mobile communications, thanks to its efforts, among others. AT&T cannot credibly claim that its costs, and hence its wholesale prices in the U.S. for mobile services, should be higher than in Europe.

3.3.1 A Balanced Assessment and Comparison of the European and U.S. Mobile Sectors

We recognize that European environments for the development of the mobile communications sector within the European Union as a whole, and particularly in several of its members, are not superior in all respects to the U.S. They also confront their own policy and regulatory challenges and uncertainties. The introduction of LTE networks in Europe has been slower than in the U.S. However, the practical consequences of this current situation for European customers, if any, are likely to be short lived. In fact they are mitigated, and of no practical significance, thanks to the availability of HSPA+ networks that offer performance levels that are comparable to those of the first generation LTE networks that have been deployed so far in the U.S. Furthermore, Europeans do not suffer from the anti-competitive consequences of LTE non-interoperability that have been unilaterally introduced into the U.S. market by AT&T and Verizon[10].

We recommend for review an analysis carried out by the Finnish consultancy Rewheel[11] that covers the prices and mobile broadband speeds available to customers in European countries and the U.S.

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[9] An analysis of the distortions and errors in the CTIA's presentations with respect to Europe is beyond the scope of this report. However, in summary the CTIA ignores the vast discrepancies between national mobile markets across Europe that persist despite the continuing attempts of the European Union to create a continent-wide "*Connected Market*". Accurate assessments of Europe and comparisons with the U.S. show that the best models for the mobile sector within the U.S. and Europe (not considering other world regions) in terms of value to customers, competition and regulation are found in some European countries not in the U.S. Both the U.S. and other less competitive European countries should strive to emulate these European models. AT&T's behavior is similar to that of large operators with significant market power found in the less competitive European markets.

[10] Flattering comparisons of the U.S. compared to the European mobile sector ignore non-interoperability as a differentiating factor between these two regions worthy of consideration.

[11] http://www.rewheel.fi/downloads/Rewheel_contribution_EP_ITRE_public_consultation_Nov_2013_Merged.pdf - especially the section "Debunking GSMA & ETNO claims (echoed by some Commission officials) that EU is falling behind the US." (ETNO, the European Telecommunications Network Operators' Association, is an industry group of former incumbent operators in Europe).

This report is critical of several major countries in Europe as well as of the U.S. Interestingly the Rewheel analysis equates the U.S. to European countries such as Switzerland and Germany in terms of the oligopolistic structure of their markets, the high prices charged to mobile subscribers, and the relatively low usage of mobile data by their subscribers. The report demonstrates that both the U.S. and these European examples lag behind more competitive European markets such as the U.K., Austria, and Nordic countries along these dimensions. The Rewheel report also identifies the advantage of the harmonized LTE-suitable spectrum bands that have been allocated in Europe (800, 1800, 2600 MHz) in contrast to the fragmented and in some cases less efficient spectrum configurations found in the U.S.[12] It points out that investment levels in mobile networks, while lower in Europe than in the U.S. in absolute terms, are at the same level as a percentage of revenues. In other words, the high investment levels in the U.S., as well as the high profit levels of AT&T and Verizon, are enabled by the high prices they charge customers.

Rewheel acknowledges that there is an unsatisfactory situation with respect to intra-European (indeed international) roaming for European mobile subscribers, which involves both high international wholesale roaming charges and retail prices for travelers. ***However, as outlined below, intra-European international wholesale roaming charges that are much higher than domestic roaming charges, and exceed domestic mobile data retail prices in Europe, are comparable to the high wholesale roaming charges that AT&T offers to some small operators for national roaming in the U.S.***

The key conclusions of the Rewheel analysis are:

[12] Whether or not these situations are the unavoidable result of legacy usage, nevertheless the assignments and license structures of the non-interoperable 700 MHz band (the digital dividend band equivalent to 800 MHz in Europe) as well as of the 2600 MHz band that effectively now lies entirely under the control of only one operator (Sprint) are neither efficient nor conducive to effective competition between operators since they necessitate the development of carrier-specific devices. Thus far in the U.S. only the AWS band is comparable to the harmonized band plans in Europe in being available to more than one operator that is deploying LTE, although in time the PCS band will also fall in this category when refarmed. Furthermore AWS is the only LTE-suitable band plan that is being or will soon be used for LTE in a significant number of countries outside the U.S. (all in the Americas), whereas the European band plans and license structures will facilitate international LTE roaming not only within Europe, Africa, and the Middle East but also in major markets in Asia and Latin America (and will include in addition the second digital dividend 700 MHz band that is expected to be adopted in Europe after the next World Radiocommunication Conference in 2015 (WRC-15)).

GSMA and/or ETNO claims regarding US market superiority echoed by some European Commission officials are simply NOT TRUE!

	GSMA or ETNO claim	The factual reality
Investments	US operators invested more in recent years	True in absolute terms when compared to EU28. But as a % of revenue they invest the same with EU operators
LTE roll out	Higher investment has yielded faster LTE rollout in the US	Not true, slow legacy 3G networks forced US operators to earlier LTE investments
Prices	EU consumers pay less per month than U.S	Not just less, 5x less per GB in both data only and tariffs with unlimited minutes & SMS
Usage	U.S. consumers use 2x more data than European consumers	Not true, in many of EU's progressive (competitive) markets they use 3x more
Speeds	US investment growth is translating into 75% faster speeds	Not true, EU leads the world in fast LTE speeds (2x more US) and is in parity with US on the overall mobile connection speeds

US consumers pay 5x more for using use less data at slower connections speeds than European consumers

Source: Rewheel

3.4 Basis of "Commercially Reasonable" Wholesale Roaming Charges

There are several ways in which to establish a credible basis for determining the level of "commercially reasonable" wholesale roaming charges by AT&T or any other operator. Three alternatives examined below are:

1. Benchmarking against known wholesale roaming charges;
2. Retail Minus, i.e., wholesale charges based on discounts from retail prices;
3. Cost Plus, i.e., wholesale charges based on the network costs of delivery plus a mark-up or margin requirement to cover shared or common costs.

The quantity and quality of publicly available information on wholesale roaming charges, and the underlying network costs, are far from ideal along either dimension. This information is fragmented and based on sources that reflect information from different years. Both technologies and data traffic volumes (i.e., utilization) – and hence costs per GB - have been changing rapidly, which makes coordinated analysis of results developed at different times problematic.

The figures presented in this analysis should not be regarded as definitive recommendations for appropriate wholesale roaming charges, but as indications of "reasonableness" that should be validated with more comprehensive information

and modified if necessary. They may nevertheless be useful for the purpose of setting interim levels for reasonable roaming charges, if a long-term solution based on extensive analysis of costs is to be developed. Otherwise in the interim large operators would be able to delay the introduction of more reasonable wholesale agreements than they currently offer by presenting voluminous and opaque economic and cost models that purport to justify or ensure the perpetuation of the status quo over a long enough period for them to inflict substantial damage on operators seeking to obtain new or improve existing roaming conditions.

There is *prima facie* evidence presented below that AT&T is being non-compliant with the requirements of the FCC's Data Roaming Order. Given the critical importance of roaming arrangements to the viability of small operators, AT&T should therefore be required to divulge sufficient information (see Appendix 2), subject to its use under conditions of commercial confidentiality, to determine whether it is in compliance with this Order.

3.4.1 Benchmarking Wholesale Data Roaming Charges (WRCs)

Wholesale roaming charges vary by at least one order of magnitude even between operators whose technologies and costs are comparable. Some of these charges are even higher than the retail prices of these operators[13]. Thus benchmarks for "commercially reasonable" WRCs should not take account of the higher values that can be found, but only of those that can also be justified or are based on a formula of either a "retail minus" and/or a "cost plus" calculation, with a reasonable discount or margin respectively.

The examples of wholesale roaming charges that we have been able to find, and are not confidential, supplement the information that can be gleaned from Leap's responses to the Discovery and Information Request. They include:

1. AT&T Offer to an anonymous member of the Competitive Carriers Association: $1,000/GB[14]

2. Several instances of discriminatory and excessive wholesale roaming proposals and obstructive tactics by AT&T (and Verizon) reported in a filing to the FCC by the Rural Cellular Association (RCA) and the Rural Telecommunications Group (RTG) in Docket 05-265 in November 2010[15], from which the following extracts have been taken:

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[13] An Enron-like perversion of competitive pricing - Enron exploited the circumstance that unregulated wholesale electricity prices in California rose above capped retail prices, see http://www.ferc.gov/industries/electric/indus-act/wec/chron/chronology.pdf

[14] This offer was cited in the Rural Telecommunications Group and National Telecommunications Cooperative Association filing in FCC Docket WT 05-265, November 2012, http://apps.fcc.gov/ecfs/document/view?id=7022040097

[15] RCA and RTG *ex parte,* http://apps.fcc.gov/ecfs/document/view?id=7020920412

(a) "In another RCA member's attempt to negotiate a 3G voice and data roaming agreement with AT&T, it took four months before AT&T offered a "universal" proposal. Once received, the proposal stated that AT&T had no intention of allowing the AT&T customers to roam on our member's network, and proposed rates of $1 per megabit for data[16]*, doubled the voice rate, and added an SMS rate which has been on a bill and keep basis since the genesis of SMS. Additionally, AT&T required Most Favored Nations pricing on its own 2G traffic."*

(b) "Anonymous RTG Members: At least two other RTG members, which prefer to remain unnamed due to competitive concerns, have had similar difficulties in obtaining data roaming agreements with national carriers. Carrier A, a small rural carrier, requested a 3G data roaming agreement with AT&T, however AT&T would only enter into such an agreement if Carrier A agreed to an increase in previously established data and voice roaming rates now that Carrier A's customers roam on AT&T more than AT&T roams on Carrier A. Carrier A and AT&T are direct retail competitors in the majority of Carrier A's licensed markets. Like many small carriers, Carrier A is now in a position where it is forced to either dramatically increase its operating expenses in exchange for obtaining 3G data roaming with AT&T (and risk getting upside down) or forego offering 3G data roaming services to its customers at the risk of losing the customer altogether. Carrier B, a new RTG member from Wisconsin, is in a similar position. Carrier B launched 3G service and sought a data roaming agreement with AT&T but was informed that the data roaming rate offered would be ten times higher than its rate with another national carrier, and furthermore, that the voice roaming rate would be three times higher than the member has with the same alternative national carrier. Because of the prohibitive rates, the carrier has not entered into a data roaming agreement with AT&T."

3. Hutchison Drei (Austria) Reference Offer for *national* roaming (valid from July 1, 2013-June 30, 2014): $20.25/GB (2013)[17]

4. Orange (France) Unilateral *International* Roaming Agreement (valid from July 1st, 2014)[18]: $67.50/GB

5. Wholesale International roaming inbound intra-European wholesale roaming rates (Q1 2013)[19]:

- European Union Average: $93.15/GB

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[16] We assume that this is a typographical error and the wholesale price offered by AT&T was $1/megabyte or $1,000/GB. Otherwise this price would be equivalent to $8,000/GB, a figure too outrageous for AT&T to demand.

[17] *http://www.drei.at/portal/media/bottomnavi/ueber_3/wholesale/Wholesale_Roaming_Resale_Access_Reference_Offer.pdf* - *a* conversion rate of €= $1.35 is used.

[18] *Orange, downloadable from http://www.orange.com/en/synomia/search?q=wholesale+unilateral+international+roaming+agreement&submit=search*

[19] *International Roaming BEREC Benchmark Data Report July 2012 – March 2013, http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/1483-international-roaming-berec-benchmark-data-report-july-2012-8211-march-2013*

- Netherlands: $68.85/GB
- U.K.: $113.40/GB

6. Leap's [BEGIN REDACTED MATERIAL]
[redacted]END REDACTED MATERIAL] [20].

7. Included in information provided into the record pursuant to the FCC's information request, AT&T [BEGIN REDACTED MATERIAL]
[redacted][END REDACTED MATERIAL] [21].

The fragmentary nature of this information, due to the lack of transparency in wholesale roaming tariffs, makes it impossible to present an accurate and comprehensive picture of their level and variations by operator, inbound/outbound pair, and national versus international roaming. Nevertheless, it seems clear that there are huge variations in wholesale roaming charges between inbound/outbound pairs and between national and international roaming that are NOT justifiable on any reasonable cost or pro-competitive basis. Furthermore, these wholesale charges can exceed the retail prices of mobile data services of the operators who collect high wholesale roaming charges, since, as shown below, retail prices can be found in a range from under $2 to $30/GB.

There is considerable discussion and concern in Europe about the huge discrepancies between mobile data prices for users domestically, when traveling abroad within Europe, and when travelling outside Europe. These discrepancies are enormous[22], and are the subject of much controversy and efforts in Europe to reduce them in the interest of mobile users and competition in the wireless market within Europe. It seems that the same kind and magnitude of discrepancies is experienced domestically in the U.S. at the wholesale level.

Sizable discrepancies in wholesale data charges between pairs of operators within the U.S. are inconsistent with the letter and intent of the FCC's Data Roaming Order and have adverse consequences for competition, and ultimately for mobile

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[20] Information Age Economics (IAE) calculation from Leap's responses to the Discovery and Information Request in *file LEAP-FCCEXH – 00008022.xlsx*

[21] AT&T has also established an LTE Roaming Agreement with the largest Canadian operator Rogers, the terms of which are however unknown to us - http://www.att.com/gen/press-room?pid=25149&cdvn=news&newsarticleid=37333&mapcode=consumer|mk-att-wireless-networks

[22] "Why data roaming costs too much," http://www.zdnet.com/why-data-roaming-costs-too-much-3040092266/

subscribers, [23]. Furthermore, one in three of rural operators recently surveyed reported that they pay more to the national carriers (including AT&T) for wholesale data roaming services than they themselves are paid for the same services.[24].

3.4.2 Retail Mobile Data Prices

There is a much greater body of available information on the retail prices of mobile data services than on wholesale charges. This information is derived from the published tariffs or price lists of operators for data-only and integrated (data, voice minutes, SMS) packages. The variety of packages on offer means that there is no single figure for the retail price/GB, which varies by the volume included in and other parameters of the packages.

Nevertheless, it is possible to draw conclusions from aggregated evidence such as:

1. Range of Tier 1 U.S. Operators' Retail Mobile Data Prices: $10-60/GB (2010) – *source:* iGR, "U.S. Mobile Data Pricing Survey: Highs, Lows, Means and Medians," attachment to Rural Telecommunications Group and National Telecommunications Cooperative Association FCC filing in Docket WT 05-265, November 2012, http://apps.fcc.gov/ecfs/document/view?id=7022040097

2. Average U.S. retail mobile data price in 2012: $30/GB
   - *source:* Visage, Infographic: The Staggeringly Huge Future of Mobility, http://visagemobile.com/mobilityblog/2012/09/06/infographic, included in the CTIA filing to the FCC in Docket 13-135, "THE U.S. WIRELESS INDUSTRY: Leading the World in Investment, Value, Innovation, and Competition," November 2013, http://apps.fcc.gov/ecfs/document/view?id=7520957611

3. Retail mobile data prices in Europe in 2013 are up to 5 times lower per GB than the U.S. (i.e. below $2/GB) in the most competitive markets such as the U.K., Nordic countries, and Austria for both data-only packages and smartphone tariffs with unlimited voice minutes and SMS. These European users also enjoy faster network speeds than users in the U.S.
   - *source:* Rewheel, "Debunking GSMA & ETNO claims (echoed by some Commission officials) that EU is falling behind the US," ibid.

On the basis that wholesale roaming charges within the U.S. should reflect retail

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[23] Some differences in wholesale roaming charges may be reasonable, for example as a function of the volume of traffic involved.

[24] "NTCA 2012 Wireless Survey Report, September 2012," The National Telecommunications Cooperative Association, (published October 10, 2012), http://www.ntca.org/images/stories/Documents/Advocacy/SurveyReports/2012ntcawirelesssurveyreport.pdf

mobile data pricing in the U.S., and correspond to one third of these prices (a margin of 200%), a "reasonable" level for inter-operator wholesale roaming fees would lie around $10/GB. If the much lower retail pricing found in the offerings of several competitive operators in Europe is used as a standard, then "reasonable" wholesale roaming charges would lie around $1/GB, or even lower. Finally, given the trend in network costs, it should be expected that "reasonable" wholesale data roaming charges should be significantly lower today than estimates produced on the basis of 2010 data, and should be expected to continue to fall over the next few years, at least as far as roaming onto modern LTE and HSPA+ networks is concerned.

3.4.3 Network Costs of Mobile Data Delivery

This description of the costs of mobile network capacity focuses on the delivery of data since it is data (including video, i.e., non-voice traffic) that is driving the investments required in a mobile network in the U.S. such as AT&T's[25]. The cost of delivering a gigabyte (GB) of data is highly dependent on network utilization, and the relationship between cost and traffic per subscriber is not linear.

Although there is no universally applicable figure that can be applied to mobile data network costs, a reasonable range can be determined for efficiently engineered modern mobile broadband networks. If total data use is high, either due to a large number of subscribers or to high usage per subscriber, the cost per GB can be below $1.50. This cost is unlikely, with modern network technology, to be higher than $5/GB, and future decreases can be anticipated as technology progresses into the next generation of LTE-Advanced.

The most important factor in the network cost structure is network opex (operating expense) that is typically higher than capex (capital expense). The largest contributors to opex are backhaul transport, site rental, network maintenance and electricity. Other opex factors, such as customer acquisition and marketing, are not included in network costs and are not relevant to the costs that wholesale roaming charges must cover.

Sources for these estimates of the costs of mobile broadband networks to deliver wireless broadband data are analyses by leading mobile network equipment vendors with extensive experience in network management, notably Ericsson and Nokia Solutions and Networks (NSN).[26]

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[25] Although the costs attributed to data depend on how the site and transport costs are allocated between voice and broadband data.

[26] "Mobile broadband with HSPA and LTE –capacity and cost aspects," downloadable at http://nsn.com/portfolio/products/mobile-broadband - "The recipe for mobile broadband profitability"; http://www.ericsson.com/ericsson/corpinfo/publications/ericsson_business_review/pdf/309/309_the_recipe_for_mobile_broadband_profitability.pdf; "Mobile Broadband – busting the myth of the

Other estimates of the wholesale costs of mobile broadband networks for broadband data traffic have been made in analyses carried out by BEREC (Body of European Regulators of Electronic Communications). In 2010 BEREC concluded that these costs in Europe ranged from €0.0163-15 per MB or €16.3-150/GB (i.e. $22-203/GB) based on 2009 information.[27] This report noted, *"…. those results remain conservative, because they rely on data for 2009, stemming from models that have been designed as far back as 2007 when data services had barely started to develop in most member states. Recent experience has proved that usage forecasts and technical progress predicted by models built in the early years of mobile data services were too conservative and updated results tend to correspond to the lower boundary rather the upper boundary. This is why there are strong reasons to believe that underlying costs of providing mobile data services by 2012 would be more in line with the lower boundaries known at present that with upper bound results."*

A more recent BEREC report[28] noted that the wholesale data price in Europe in Q1 2013 had fallen to under 6% of its average level in Q2 2009, i.e., at a time before this price was regulated, i.e., capped, at the European level. In Europe, as in the U.S., mobile data traffic has been growing exponentially in recent years, e.g., in Europe mobile data volume grew more than 88% between Q1 2013 and Q1 2012, in contrast to flat or declining volumes of voice calls and SMS messages. Thus the underlying costs of delivery of data per GB are being driven down both by the deployment of more efficient technologies and by higher utilization rates, offset by the need to deploy additional network capacity to mitigate congestion.

Presumably AT&T would agree that its network costs should be considered to be aligned with, or perhaps even lower than, the "best-in-class" in Europe. AT&T's profitability suggests that it is pricing its mobile data services with an adequate or satisfactory margin above its total costs.

In early 2011, shortly before the FCC issued its Data Roaming Order – and presumably based on 2010 information - an independent assessment of network costs in the U.S. as a basis of "fair and reasonable" wholesale data roaming rates arrived at costs of between $3.4-5.7/GB[29].

Wholesale roaming charges for data might be based on costs of network delivery

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scissor effect" ; http://www.ericsson.com/ericsson/corpinfo/publications/ericsson_business_review/pdf/210/210_strategy_mobile_broadband.pdf;

[27] http://berec.europa.eu/doc/berec/bor_10_58.pdf

[28] BEREC International Roaming Benchmark Report, July 2012-March 2013, downloadable at http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/1483-international-roaming-berec-benchmark-data-report-july-2012-8211-march-2013

[29] JSI Capital Advisors, attachment to FCC filing by the Rural Telecommunications Group at http://apps.fcc.gov/ecfs/document/view?id=7021033912

with a reasonable mark-up applied to cover shared or common costs. In addition to network assets, the costs of providing roaming include CDR (call data record) management and business support systems. The question of what constitutes a "reasonable" mark-up is discussed below.

An analogy to help determine a cost plus mark-up can be derived from examples of required wholesale services such as local loop unbundling that are priced on a cost plus basis. One example of such a mark-up - to cover shared and common costs - is 25%[30], which would result in wholesale roaming data charges of $4.3-7.1 on the basis of the network costs estimated above. Another analysis of the mark-up that might be applied can be found from Telecom New Zealand[31]. This other estimate for a mark-up is based on a commissioned study that looked at a peer group benchmark of U.S. jurisdictions that apply to mark-up to cover common and shared, fixed and operational costs and resulted in a recommended mark-up by Telecom to the New Zealand Commerce Commission of 17.93%. Even these mark-ups may be excessive since they are heavily influenced by the efforts of incumbents to generate the greatest profit they can from every service they offer, or are required to offer. They typically employ their considerable resources to produce voluminous economic or accounting analyses to justify their cost allocations that other smaller services providers may find excessively burden a wholesale service that they need. A mark-up factor of 17.93% yields a range of cost plus wholesale roaming charges of $4-6.7.

3.5 Findings

There is persuasive *prima facie* evidence that AT&T treats roaming "partners," and requests for roaming arrangements, in a discriminatory and anti-competitive manner, thus flouting the FCC's Data Roaming Order. This finding is based on just the quantitative pricing information that is available in a non-transparent environment with regard to inter-operator roaming arrangements. AT&T offers high to extortionate inbound roaming fees to small U.S. operators that cannot be justified on any credible basis, whether cost-based or retail minus. Prevalent "fair and reasonable" wholesale data roaming charges should not exceed the $10/GB level on a retail minus basis and could be significantly lower in a cost plus calculation (say $5/GB). The trend in these charges should be to lower levels in the short to medium term, e.g. to below $2/GB for LTE roaming.

AT&T is not the only large operator in the U.S., or abroad, that indulges in the practice of charging outrageous and discriminatory wholesale data roaming fees to some of its roaming partners, but that is no excuse for, or defense of, its behavior. [BEGIN REDACTED MATERIAL] [redacted] [END REDACTED MATERIAL] The FCC

[30] The Canadian regulator CRTC in 1997 quoted in http://www.oecd.org/sti/6869228.pdf
[31] http://www.comcom.govt.nz/dmsdocument/8196 (2007)

should develop a long-term solution for establishing "fair and reasonable" roaming fees based on independent study and research. In the interim the FCC should establish these charges on the basis of the approaches we have suggested in this report (cost plus), or on the basis of transparent actual justified wholesale pricing information provided by AT&T as delineated in Appendix 2. It should be AT&T's responsibility to justify charges higher than those we have outlined here. If it turns out that AT&T has actually been charging lower wholesale roaming rates to favored partners than the estimated rates just outlined then the interim "fair and reasonable" wholesale mobile data charges should be set at these lower levels so that anti-competitive discrimination in roaming agreements is eliminated.

Approval of the Leap transaction would remove an alternative roaming partner for some U.S. operators in areas of the country covered by Leap's networks, and would confirm that AT&T's discriminatory roaming practices have no adverse consequences for its business despite its non-compliance with an FCC Order. Even if AT&T agreed to some limited post-acquisition extension of acceptable roaming arrangements established by Leap, it would be naïve and unrealistic to expect that it will not continue its discriminatory roaming practices throughout the rest of its network. Furthermore, AT&T would likely use every loophole, or excuse, to make sure that these practices were extended to its entire network, including deployments in Leap's acquired frequencies as soon as possible.

AT&T's anti-competitive and discriminatory strategy and tactics with respect to roaming arrangements therefore justify rejecting its acquisition of Leap Wireless.

4. The AT&T/Leap Transaction and the 700 MHz Lower Band Block A

4.1 Background to the 700 MHz Lower Band Block A Licenses

The 700 MHz Lower Band Block A frequencies ("Block A") offer a unique opportunity to deploy LTE in a sub 1 GHz band with a national or quasi-national footprint that will compete with AT&T's and Verizon's otherwise duopoly control over this entire band, both Upper and Lower. There are remaining but soluble interference issues that have to be resolved in some areas of the country to enable exploitation of some Block A licenses. However, removal of the principal obstacles to achieving this outcome and making more valuable spectrum available ***and exploited*** for LTE – an outcome that is publicly and repeatedly professed by the mobile industry – is hostage in the first place to the decisions and actions of AT&T and Verizon, as is explained below.

Use of Block A for LTE-based services will be even more valuable when it is combined with other initiatives. One such initiative would be a national LTE deployment by one operator (which would have to be AT&T) exploiting Band 12

(that covers Lower Blocks A, B and C) in 2x15 MHz channels. Alternatively roaming between multiple operators' LTE deployments in the 700 MHz band could ensure nationwide coverage. Furthermore, 700 MHz deployments could be combined with LTE deployments in other bands to improve performance through carrier aggregation implemented with the emerging LTE-Advanced (LTE-A) technology.

It may not be obvious that the AT&T/Leap transaction is a significant factor in the Block A issue since it involves a Block A license in only one, albeit important area, namely Chicago. Leap acquired this license from Verizon in August 2012 at an alleged valuation of $204 million, as one element in a spectrum swap. This valuation is approximately one third higher than the price Verizon paid for this license in the FCC's 3008 auction. Leap has said the value of this license is "temporarily" depressed while AT&T has said it has no interest in this license. According to the agreement with Leap its Chicago Block A license is to be sold after the transaction is approved with the proceeds to go to Leap shareholders.

The history of Block A is as follows:

1. Immediately after the 700 MHz 2008 Auction AT&T, through Motorola for whom it was a key customer, pursued the establishment of Band Class 17 at the 3GPP (the global organization responsible for LTE standards among other roles), thereby creating non-interoperability within the Lower 700 MHz band. To the best of our knowledge this initiative was not discussed with or agreed to by the FCC while the sole Block A licensee present at key 3GPP meetings in 2008 (all of which were directly affected by the introduction of Band 17 that only applied to the U.S. and no other countries at that time) was Verizon, the largest Block A holder. Verizon spent over $2 billion to acquire just over 50% of the MHz-POPs for this Block. Also to the best of our knowledge the FCC was not involved with the 3GPP at this time, and Verizon did not discuss the implications of Band Class 17 with the FCC or with other Block A licensees at that time. AT&T acquired no Block A licenses in the 2008 Auction.
2. It has been well documented that the smaller Block A licensees have been delayed and many have until today been unable to deploy LTE in these licensed frequencies as a result of non-interoperability within the Lower 700 MHz band since their markets are too small to attract the interest of vendors in device development and national roaming which is required for them to be competitive has been impossible.
3. Verizon has made no serious attempts since 2008 to use its considerable market power to encourage vendors to develop devices for Block A that would have benefited smaller Block A licensees by enabling them to offer the same or similar devices in LTE networks they could have deployed in these frequencies (US Cellular has secured a few Block A devices during this period which indicates that the substantially larger purchasing power of Verizon could have achieved much more in this respect). In 2012 Verizon declared

during the review of the Verizon/Spectrum Co and other transactions that it had no further interest in its Block A licenses and intended to sell them if these transactions were approved. However Verizon also stated that it intended to get a fair price and a satisfactory return for selling these licenses and was not prepared to offer them in a fire sale.

4. Verizon has since sold a small amount of its Block A licenses but is still by far the largest Block A licensee accounting for an estimated total of some 48% of U.S. MHz-POPs. The largest such Block A sale was consummated in August 2012, with Leap's acquisition of the Chicago license at a valuation of $204 million, which constitutes an increase of about one third over the price originally paid by Verizon in 2008. *However, this valuation is inevitably arbitrary since this sale was part of a multi-license transaction swap with net cash proceeds of $120 million to Leap – this net cash result can be achieved with many different valuations of the deal's components. It was and is in Verizon's interests to value this license highly to set a precedent for future sales of its Block A licenses (see 3. preceding).*

4.2 The Opportunity for a National 700 MHz Block A Footprint

Key observations are:

1. Ten operators (including Leap today) cover 94% of the U.S. population with Block A licenses – T-Mobile is now one of these ten thanks to the Boston license it acquired with Metro PCS. Verizon plus the next 6 largest Block A licensees cover an estimated 83% of the U.S. population.
2. Hence if these holdings can be consolidated, either under one owner or in a consortium arrangement (in either configuration Verizon's Block A licenses would have to be sold) it would be possible to build a competitive business model using them that thanks to inter-band carrier aggregation would not have to be confined to the Block A frequencies.
3. The two current players who are capable of playing a central role in a potential operational consolidation of Block A licenses by virtue of their financial resources and existing network assets are AT&T and T-Mobile. T-Mobile lacks sub 1 GHz frequencies except in the Boston BEA (Basic Economic Area). T-Mobile is also targeting the Incentive Auctions as a path to obtaining sub 1 GHz frequencies. However the outcome and the timing of these auctions are still uncertain and problematic, so the Block A is an alternative that T-Mobile must consider[32]. AT&T's motivation despite its oft

[32] News of an agreement between T-Mobile and Verizon for T-Mobile to acquire the latter's 700 MHz Block A licenses as part of a spectrum swap was announced as this report was being completed (http://www.reuters.com/article/2014/01/06/us-tmobile-verizon-idUSBREA050FM20140106). This initiative confirms the validity of and interest in the opportunity for establishing a national Block A footprint, as well as the lack of justification for Leap's claim that the value of its Block A license is "temporarily depressed".

repeated insistence that it has no interest in Block A is that with Block A in its control it could build a very powerful LTE deployment at 700 MHz across the combined Lower Band A, B, and C blocks (i.e. Band 12). Sprint could also perhaps take a lead role in Block A consolidation, however its hands and financial resources (even with Softbank) may be too full and too committed to participate given its catch up mode and urgent and expensive need to expand LTE coverage with Network Vision and the multi-band Spark program.

4. An ultimate scenario for a seamless (for practical purposes) national footprint of Block A spectrum independent of AT&T or Verizon could be built by consolidation of the holdings of a limited number of Block A licensees (six or seven) supplemented later by strategic partnerships and roaming alliances.

A critical step in Block A consolidation would be the acquisition of Verizon's Block A licenses. Ideally Verizon would naturally like to get as much money for these licenses as it can, and if possible divest them ahead of the Incentive Auctions to reduce accusations that it is a hoarder of spectrum and already holds such a large quantity of sub 1 GHz frequencies that it should have restrictions placed on its bidding for 600 MHz licenses.

AT&T could benefit from either of two outcomes if it decides to bid for Verizon's Block A licenses. If it wins the bid then it will be in a strong position to control the disposition of the remaining Block A licenses, either by acquiring them (for which it would likely at this stage be the only bidder and hence be able to command a low price) or by imposing on the licensees interconnection and roaming conditions skewed to its advantage. Alternatively if it loses the bidding war it will nevertheless be able to make T-Mobile pay a significantly higher price for Verizon's Block A licenses than would otherwise be the case, thereby diminishing T-Mobile's ability to compete in the Incentive Auctions.

Timing is a significant factor in these considerations. While as noted Verizon would benefit in the context of controversies about whether or not it should be subject to a sub 1 GHz spectrum cap by divesting its Block A frequencies *before* the Incentive Auctions, AT&T's acquisition of Block A licenses ahead of these Auctions would correspondingly increase its vulnerability to claims that it has accumulated an excessive concentration of sub 1 GHz spectrum and should be subject to restrictions in the Incentive Auctions. AT&T's assertion that it does not matter how much sub 1 GHz spectrum it acquires on the claim that a Hz is a Hz independent of band for the economic and operational purposes of wireless network deployments, has been conclusively demonstrated to be false on the basis of the laws of frequency-dependent electromagnetic propagation, using verifiable economic and wireless

network engineering data and spectrum or license costs obtained from a range of independent sources[33].

4.3 Findings

AT&T and Verizon like all for-profit businesses in the U.S. wireless market are entitled to use whatever legal strategies and tactics they wish to advance their business interests. However it is the responsibility of the FCC, in collaboration with the Department of Justice (DOJ) in competition-related matters, to reject strategies and actions that harm the public interest, and approve those that are congruent with this interest and with consumer welfare. While AT&T (and Verizon) professes to support the goal and repeatedly emphasizes in many forums the urgent need to make more spectrum available for commercial mobile services the history of the Block A outlined above demonstrates that its actions and decisions not to take action combined with those of Verizon have in effect frustrated this goal for several years as far as the potentially valuable Block A is concerned. They have unfairly impeded the development of an effectively competitive market in the U.S. for LTE-based broadband services.

The AT&T/Leap transaction is a continuation of AT&T's overall anti-competitive strategy and specifically will have an impact on the future of Block A and hence on the potential for achieving a desirable outcome for the nationwide exploitation of these 700 MHz frequencies as outlined above.

This impact will be felt in several ways that are linked to other major events and issues in the U.S. wireless market:

1. The discussion above about the impact of the timing of Verizon's divestment of its Block A frequencies and AT&T's potential acquisition of or even bidding unsuccessfully for these licenses - given its strong motivation for considering use of the Block A frequencies in then being able to build a high capacity LTE deployment in the 700 MHz band (2x15 MHz) - shows that the outcome of the AT&T/Leap transaction will have an effect on the scenario for the Incentive Auctions;
2. The disposition of Leap's Block A license in Chicago if the AT&T/Leap transaction is approved will affect the potential to achieve the desirable national Block A footprint that has been outlined, depending on whether this license remains unsold until such time as AT&T feels free to keep it (presumably it could do so for example by paying say $204 million to Leap's

[33] See for example, Information Age Economics Report, attached to the Youghiogheny Communications, LLC filing, ibid.

shareholders) or on to whom it is sold (T-Mobile or someone else) that will influence the shape of and prospects for building a national Block A footprint;

3. Despite the Interoperability Order[34], AT&T still has scope for delaying or impeding the actual implementation of interoperability in the 700 MHz Lower Band[35]. In effect AT&T's commitment in this Order enables it to change its timeframes to suit its own schedule simply by sending the FCC a letter. If the AT&T/Leap transaction is approved then the fate of Leap's Chicago license – for example if no buyer can be found for it in the next year or so – may provide an opportunity for AT&T to argue that this situation is evidence that the difficulties in making use of Block A justify further delay in the implementation of the Band 12 roll-out.

Thus the outcome of the AT&T/Leap transaction is inseparably linked to the question of the fate of a valuable and until now almost entirely unused and therefore non-value-creating portion of the 700 MHz band. This situation is harmful to the public interest at a time of growing scarcity of spectrum for mobile broadband services especially in the sub 1 GHz range. Sub 1 GHz frequencies today lie predominantly in the hands of AT&T and Verizon. Maximum efficient exploitation of the 700 MHz Band depends on putting Block A into the hands of an organization or configuration of entities that will use it, which for the sake of competition in the U.S. wireless market should not be AT&T (or Verizon). Reliance on the 600 MHz band alone (Incentive Auctions) to achieve the objective of putting adequate amounts of sub 1 GHz spectrum into the hands of one or more operators other than AT&T and Verizon is risky and very uncertain given all the actors and powerful interests involved with conflicting interests (broadcasters as well as wireless operators and others), as well as the complexity of the proposed auction processes (interdependent Reverse and Forward Auctions).

The 700 MHz Block A licenses could play a valuable role in the U.S. wireless market, while several of Leap's and AT&T's statements about the history and future of the Chicago Block A license are of dubious credibility. Hence in Appendix 2 to this report requests for supplemental information from AT&T and Leap are specified to clarify the link between the AT&T/Leap transaction and the fate of these licenses.

The 700 MHz Block A frequencies are a valuable supplement to the 600 MHz Band and may turn out to be the only practical possibility for freeing more sub 1 GHz spectrum for LTE deployments over the next two years or so.

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[34] REPORT AND ORDER AND ORDER OF PROPOSED MODIFICATION, October 25, 2013, http://apps.fcc.gov/ecfs/document/view;jsessionid=nML5S91pgd1pbCWhXDNS2DrL7b5mNynrGnTRzLvfcq6bkDGhhTSx!-1864380355!1357496456?id=7520952821

[35] For example, AT&T could delay implementation of Band 12 rollout for 6 months if it were to determine that the MFBI (Multi-Frequency Band Indicator) implementation would result in "significant negative customer impact. AT&T further states that if it encounters "obstacles beyond its control" that threatens its ability to meet its commitments, or undermines the quality of its services, then it reserves the right to "seek an extension of time or a waiver" as appropriate.

In the public interest and for the sake of consumer welfare the FCC and DOJ should strive to achieve an outcome in which a national Block A footprint can be achieved that is independent and free from the direct involvement of AT&T and Verizon. Approval of the AT&T/Leap transaction would make this outcome less likely and possibly impossible.

5. Overall Conclusions

In summary, the entire set of unsupported claims and assertions, on which the AT&T/Leap proposed transaction relies, along with the back-up reports of Dr. Israel, are without merit and should be rejected by the FCC. There is not just one reason for rejection of this transaction but several, including (but not limited to) its anti-competitive and harmful impact on roaming and the future of valuable 700 MHz frequencies, as well as the pattern of consistent misrepresentations and disregard of verifiable facts that characterize AT&T's justification of its actions and initiatives.

Approval of the proposed AT&T/Leap transaction would validate the legitimacy of this misbehavior and flouting of the FCC's authority and responsibility to sustain competition in the U.S. wireless market. Consummation of this transaction would constitute another unwarranted and destructive step towards the effective elimination of small operators as autonomous competitors in the U.S. wireless market.

In contrast, while rejection of the AT&T/Leap transaction would not guarantee a desirable outcome for consumers and competition in the U.S. wireless market, it would constitute an important step toward the creation of an improved pro-consumer, pro-competitive environment in which positive outcomes will become more likely, and market participation more attractive to investors independent of AT&T. It would also send an encouraging signal to investors and other stakeholders that the FCC is committed to sustaining competition in the U.S. wireless market, and to supporting the public interest and consumer welfare.

In sum, it would draw a line in the sand to halt a series of anti-competitive initiatives by AT&T. Furthermore, it would establish a precedent that can be invoked in rejecting future initiatives that rely like this AT&T/Leap proposal on disregard of substantial evidence and verifiable facts to support assertions of the alleged benefits that will ensue after approval and the alleged harm that will be caused by rejection.

Appendix 1: Extract from Cricket Marketing Plan for 2013

[BEGIN REDACTED MATERIAL]

[END REDACTED MATERIAL]

Appendix 2: Suggested Supplemental Information and Discovery Requests to AT&T and Leap

A. Questions Related to Wholesale Roaming Charges (WRCs)

1. Please supply details of AT&T's existing roaming arrangements with other operators in Canada as well as the U.S., as well as its pending responses and how long these responses have been pending to requests for such arrangements, and explain how AT&T is complying with the requirement in the FCC's Data Roaming Order (upheld in December 2012 by the Washington

DC Appeals Court[36]) that *"facilities-based providers of commercial mobile data services offer data roaming arrangements to other such providers on commercially reasonable terms and conditions."*

- Explain the range of WRCs (inbound) that AT&T collects from other operators including Canada as well as the U.S., and the bases for any differences.
- Similarly explain the range of outbound WRCs AT&T pays to roaming partners in both the U.S. and Canada and the bases for any differences
- Identify instances in which AT&T receives a higher inbound WRC from than the outbound WRC it pays to another operator, and the basis for any such asymmetries.
- Describe the basis on which AT&T formulates the WRCs it offers to other operators in both the U.S. and Canada (such as its recently announced LTE roaming deal with the largest Canadian mobile operator Rogers) – e.g. "retail minus"; "cost plus"; other (please specify the other methodology(ies) employed).
- Explain why if such is the case that the much smaller Leap Wireless is able to offer lower wholesale roaming charges to partners than AT&T.

2. Delineate the trends in AT&T's inbound and outbound WRCs over the period from 2008-2013 and AT&T's expectations of how these WRCs will evolve over the next three years as a result of the introduction of new more efficient network technologies and changes in network utilization.

3. Provide information on AT&T's current network costs to deliver a GB of mobile data and the expected evolution of this cost over the next few years.

B. Questions Related to Leap's Chicago 700 MHz Lower Band Block A License

1. *To Leap:* On what basis was the Chicago Block A license valued at $204 million in 2012 and why only one year later do you indicate in referring to a "temporary depression" in its value that you underestimated the difficulties in making use of this spectrum (e.g. as a result of TV channel 51) at that time, even though these concerns were well known and explored for several years prior to this acquisition?

2. *To AT&T:* What are the reasons for your lack of interest in Block A frequencies despite their obvious attraction when combined with Block B and Block C and your recent acknowledgment that 700 MHz Lower Band interoperability (Band 12) can be achieved thanks to MFBI (Multi-Frequency Band Indicator) as in the Interoperability Order? Would you accept a condition for approval of the Leap

[36] http://arstechnica.com/tech-policy/2012/12/appeals-court-upholds-fccs-wireless-data-roaming-rules/

acquisition that prohibited you from acquiring any of Verizon's Block A licenses or indeed any other Block A licenses?