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FILED/ACCEPTED

August 8, 2011

AUG - 8 2011

Federal Communications Commission  
Office of the Secretary

**VIA HAND DELIVERY & ECFS**

Marlene H. Dortch, Esq.  
Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, D.C. 20554

Re: **Notice of Ex Parte Presentation: *In re Applications of AT&T Inc. and Deutsche Telekom AG for Consent to Assign or Transfer Control of Licenses and Authorizations*, WT Dkt No. 11-65**  
**REDACTED - FOR PUBLIC INSPECTION**

Dear Ms. Dortch:

On August 4, 2011, Joan Marsh, Bill Drexel, James Meza III, and Gary L. Phillips of AT&T Inc. ("AT&T"); Rich Rosen and Maureen Jeffreys of Arnold & Porter LLP, Jonathan E. Neuchterlein of Wilmer Cutler Pickering Hale and Dorr LLP, and David Lawson of Sidley Austin LLP, representing AT&T; Volker Stapper of Deutsche Telekom AG ("DT"); Kathleen Ham of T-Mobile USA; Thomas Dombrowsky and Eric DeSilva of Wiley Rein LLP, and Mark Nelson and Jennifer Mellott of Cleary Gottlieb Steen and Hamilton LLP, representing DT, met in person with Renata Hesse, the FCC's Senior Counsel to the Chairman for Transactions; Austin Schlick, Jim Bird, Michael Steffen, and Joel Rabinovitz of the FCC's Office of the General Counsel; Paul Murray, James Schlichting, Tom Peters, Patrick DeGraba, Rick Kaplan, Ziad Sleem, Melissa Tye, Thuy Tran, Chris Helzer, and Paul D'Ari of the FCC's Wireless Telecommunications Bureau; and Paul de Sa of the FCC's Office of Strategic Planning and Policy Analysis.

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The purpose of the meeting was to discuss the Migration White Paper and various Network Integration materials filed on July 26, 2011 in this docket.<sup>1</sup> The presentation by AT&T and DT was based on the attached slide presentation.

In accordance with the Protective Order<sup>2</sup> and Second Protective Order<sup>3</sup> enclosed please find two redacted copies of the slide deck. Unredacted Highly Confidential paper copies are being delivered to Kathy Harris of the Wireless Telecommunications Bureau or her designee. A CD-ROM containing an unredacted Highly Confidential copy of the slide deck is being hand delivered to your office today under seal.

Please contact me regarding any questions.

Sincerely,



William E. Cook, Jr.  
Counsel for AT&T Inc.

Enclosures

cc (via email): Best Copy and Printing, Inc.  
Jim Bird  
Paul D'Ari  
Patrick DeGraba

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<sup>1</sup> See Letter from Richard L. Rosen, counsel for AT&T Inc., to Marlene H. Dortch, Secretary, FCC (July 26, 2011); Letter from Samir C. Jain, counsel for AT&T Inc., to Marlene H. Dortch, Secretary, FCC (July 26, 2011).

<sup>2</sup> *In re Applications of AT&T Inc. & Deutsche Telekom AG for Consent to Assign or Transfer Control of Licenses and Authorizations*, WT Dkt No. 11-65, Protective Order, DA 11-674 (WTB rel. Apr. 14, 2011).

<sup>3</sup> *In re Applications of AT&T Inc. & Deutsche Telekom AG for Consent to Assign or Transfer Control of Licenses and Authorizations*, WT Dkt No. 11-65, Second Protective Order (Revised), DA 11-1100 (WTB rel. June 22, 2011).

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Paul de Sa  
Chris Helzer  
Renata Hesse  
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Michael Steffen  
Thuy Tran  
Melissa Tye

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# AT&T Acquisition of T-Mobile USA

Presentation to the FCC  
August 4, 2011

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# Migration

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# AT&T Is Taking Aggressive Steps To Address Its Capacity Constraints

- Expanded UMTS footprint
  - From M in 2007 to over M by year-end 2012
- HSPA+ deployment to virtually all UMTS sites
- Accelerated LTE build by one full year
- Cell site additions
  - About /year
  - more than Verizon
- Market leader in Wi-Fi/DAS deployment
- First to introduce tiered pricing plans

# AT&T Has Been Rapidly Ramping Down Its GSM Network

- Number of users on GSM network has dropped from about [REDACTED] at the end of 2008 to about [REDACTED] today
- Drop for individual retail customers is even faster: nearly 60 percent reduction from about [REDACTED] to about [REDACTED]
- AT&T has radically curtailed sale of GSM devices to retail customers
  - Stopped supplying for postpaid consumers as of Nov. 2010
  - Phasing out sales to prepaid customers by [REDACTED]

## AT&T Has Aggressively Redeployed Spectrum from GSM to UMTS

- AT&T has engaged in targeted migration campaigns to free up 10 MHz blocks for redeployment
- Without spectrum redeployment, GSM customer migration would *worsen* UMTS congestion
- AT&T has redeployed spectrum in capacity-constrained markets, e.g.:

## **Further Accelerating GSM Customer Migration Would Not Resolve Capacity Issues**

- AT&T cannot shut down its GSM network anytime soon
- Because AT&T already has redeployed much of its GSM spectrum to UMTS, it is running out of spectrum that can be redeployed
- Mass migration could swamp achieved capacity gains
- LTE will not relieve UMTS congestion in the near-to-intermediate term

# AT&T Cannot Shut Down Its GSM Network Anytime Soon

- [REDACTED] users with GSM-only devices rely on AT&T's GSM network
- Many are not AT&T's own customers or otherwise present difficult migration challenges
  - Resellers
  - Machine-to-machine
  - Roaming Partners
  - Public safety

# AT&T Cannot Shut Down Its GSM Network Anytime Soon (cont'd)

- Even aggressive promotions are insufficient to overcome many customers' resistance to migration
  - In recent campaigns, AT&T targeted high-usage GSM customers in certain capacity-constrained metro areas
  - Offers of
  - Even

# AT&T Is Running Out of Spectrum Available for Redeployment to UMTS

- Already down to 15 MHz or less of GSM spectrum in many markets such as
- Expects to reach 15 MHz or less in over      markets by      , including
- GSM service quality
- AT&T is left with a Hobson's choice between degrading quality for GSM customers vs. degrading quality for UMTS customers

## Mass Migration to UMTS Would Not Necessarily Produce Net Capacity Gains

- UMTS is more spectrally efficient than GSM, but customers who migrate increase their usage by an even greater factor
- Two AT&T studies of upgrading customers in Dec. 2010 and Mar. 2011 found that they increased data consumption on average by a factor of
- As a result, mass migration may not yield net UMTS capacity gains (exception for markets where few customers need to be migrated to free up new 10 MHz increment for UMTS)
- The transaction avoids this problem because it provides *new* congestion-relieving capacity without simultaneously increasing bandwidth demands

## **LTE Migration Will Not Solve AT&T's UMTS Congestion in the Near-to-Intermediate Term**

- Customer migration from legacy networks to LTE will provide some long-term relief
- But large-scale migration takes years
  - LTE ecosystem, network deployment and device development are still in early stages and so migration will take time to ramp up
- LTE migration cannot keep pace with exploding traffic growth on AT&T's UMTS network—

## **The Transaction Will Create Additional Capacity Needed To Facilitate Migration and Maintain Service Quality During Migration**

- 
- The transaction creates needed capacity in both GSM and UMTS networks through functional equivalent of new spectrum
  - New capacity in GSM network will permit redeployment of spectrum to UMTS without harming GSM service quality
  - Increased cell density will create new capacity directly on the UMTS network, supporting growing traffic from both existing and migrating customers without undermining service quality
- Transaction also provides additional spectrum needed to launch LTE, or deploy faster and more efficient LTE, in additional markets, which will facilitate customer migration to LTE

# Network Efficiencies

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## The Network Efficiencies Are 3G/4G Efficiencies

- Transaction permits “1+1=3” gain in network capacity
- All efficiencies alleviate UMTS (and LTE) spectrum capacity constraints:
  - Increased cell density directly increases UMTS capacity
  - In addition, GSM efficiencies will free up spectrum that can be repurposed for UMTS:
    - Increased cell density of GSM network
    - Channel pooling
    - Elimination of redundant control channels
    - Network utilization gains

# Increased Cell Density

- Initial analysis
  - Conservative criteria used to estimate over 70% of T-Mobile cell sites productively assimilated into existing AT&T cell grid
- Further Analysis
  - Detailed, site-by-site network engineering integration analysis
  - For areas in San Francisco and Los Angeles
  - UMTS-focused
  - Identifies specific T-Mobile sites best suited to address UMTS needs
  - More than 70% of T-Mobile sites kept in San Francisco
  - More than 70% of T-Mobile sites kept in Los Angeles

**“Keep”  
Increased Cell Density  
of T-Mobile Sites in San Francisco Study Area**

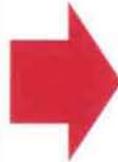
# Increased Cell Density: Keep Sites in the Right Places

of S.F. Keep Sites Address Capacity-Related Issues

# Increased Cell Density: “Like-for-Like” Antenna Swaps

## Existing T-Mobile Antenna

4' quad-pole 65-deg. antenna  
RFS APX16DWV-16DWVS  
(About % of T-Mobile's  
San Francisco antennas)



- 1710-2200 MHz
- 65-deg HBW, quad-pole
- 55.9"x13.5"x3.15" (LxWxD)
- 40.7 lbs
- 18.4 dBi gain
- Wind loading: 125 mph



# Increased Cell Density: New Site Challenges

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# Elimination of Control Channels

- When the two GSM networks are integrated, T-Mobile control channels can be eliminated.
- Reed and Tripathi have quantified expected spectrum capacity gains based on actual T-Mobile data, and estimate that in many cities this efficiency alone could free up close to **of spectrum** for UMTS services
- Example Opportunities for Elimination of BCCH Carriers (sample markets):

## Channel Pooling

- Sector level analysis by Reed and Tripathi confirms that capacity gains from channel pooling will be largely within or above 10-15 percent range previously estimated
- For the [REDACTED] of the thousands of sectors studied in which each operator has from [REDACTED] TRXs, additional gain in capacity from pooling ranged from [REDACTED] more than the sum of the two networks' current capacities.

# Network Utilization/Load Balancing Efficiencies

- Combined company can achieve substantial utilization load rebalancing even when both local networks are heavily loaded
- Large traffic variations even within a city (or neighborhood), and even on relatively heavily loaded networks there could be geographic or temporal variations in which one network or the other is lightly loaded
- When two networks are combined, peaks and valleys are smoothed out and less spectrum is needed to handle peak loads

# Bringing It All Together

- When all of the network efficiencies are considered, UMTS capacity gains are very large; coverage and quality also improve
- Substantial increase in UMTS capacity from increased cell density alone
- On top of that, GSM efficiencies free up **additional spectrum** that can be repurposed to UMTS (of spectrum for UMTS in San Francisco study area)

# Sprint's "Levers" Suggestion Is Wrong

- Sprint's consultant Stravitz claims that AT&T could address its spectrum capacity issues by using three "levers":
  - (1) Use 700 MHz spectrum to deploy LTE
  - (2) Aggressively migrate customers to LTE
  - (3) Use more "heterogeneous" network topology in LTE network starting in 2015
- Stravitz's LTE-focused "solution" – which he admits does not really kick in until 2016 – does not even address the near to mid term spectrum exhaust issues both companies face

# Sprint's "Heterogeneous" Network Claims Are Baseless

- AT&T already extensively uses the "heterogeneous" technologies Stravitz recommends:
  - Wi-Fi: world's largest Wi-Fi deployment
  - Femtocells: world's largest 3G femtocell deployment
  - Micro/pico cells: very extensive deployment of micro/pico cells
  - DAS: full-time employees; deploying DAS in markets nationwide
  - "Indian" technology solutions: AT&T *already* employs each of the technologies from India that Stravitz touts
- All these heterogeneous solutions have limits
  - *E.g.*, very significant interference and macro handoff issues
- As Stravitz concedes, these technologies will be "best realized" only after 2015 under LTE-Advanced Release 10 standards, which have not even been released yet

# Additional Information

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# Increased Cell Density: Los Angeles

“Keep” of T-Mobile Sites in Los Angeles Study Area

# Examples of “Like-for-Like” Antennas (cont’d)

## Existing T-Mobile Antenna

4’ dual-pole 65-deg. Antenna

APXV18-206516S-C

(About % of existing T-Mobile San Francisco antennas)



- 1710-2200 MHz
- 65-deg HBW, dual-pole
- 59.8”x10.2”x7.8” (LxWxD)
- 18.7 lbs
- 18.4 dBi
- Wind loading: 125 mph

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