Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Reexamination of Roaming Obligations of	)	WT Docket No. 05-265
Commercial Mobile Radio Service Providers and	)	
Other Providers of Mobile Data Services	)	

SECOND REPORT AND ORDER

Adopted: April 7, 2011 **Released: April 7, 2011**

By the Commission: **Chairman Genachowski and Commissioners Copps and Clyburn issuing separate statements; Commissioners McDowell and Baker dissenting and issuing separate statements.**

TABLE OF CONTENTS

Heading Paragraph #

I. INTRODUCTION 1
II. BACKGROUND 3
III. DISCUSSION 8
A. The Public Interest in a Data Roaming Rule 9
B. Scope and Requirements of the Data Roaming Rule 37
C. Legal Authority 57
D. Dispute Resolution 71
E. Other Issues 88
IV. PROCEDURAL MATTERS 90
A. Final Regulatory Flexibility Analysis 90
B. Paperwork Reduction Analysis 91
C. Congressional Review Act 93
V. ORDERING CLAUSES 94

APPENDICES
Appendix A - Final Rules
Appendix B – List of Commenters and Reply Commenters
Appendix C - Final Regulatory Flexibility Analysis

I. INTRODUCTION

1. In this Order, we promote consumer access to nationwide mobile broadband service by adopting a rule that requires 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. Widespread availability of data roaming capability will allow consumers with mobile data plans to remain connected when they travel outside their own provider's network coverage areas by using another provider's network, and thus promote connectivity for and nationwide access to mobile data services such as e-mail and wireless broadband Internet access. The rule we adopt today also serves the public interest by promoting investment in and deployment of mobile broadband networks,

consistent with the recommendations of the National Broadband Plan. The deployment of mobile data networks is essential to achieve the goal of making broadband connectivity available everywhere in the United States, and the availability of data roaming will help ensure the viability of new wireless data network deployments and thus promote the development of competitive facilities-based service offerings for the benefit of consumers. Today's actions will therefore advance our goal of ensuring that all Americans have access to competitive broadband mobile data services.

2. We adopt the data roaming rule based on our authority under the Act, including several provisions of Title III, which provides the Commission with authority to manage spectrum and establish and modify license and spectrum usage conditions in the public interest. This rule will apply to all facilities-based providers of commercial mobile data services regardless of whether these entities are also providers of commercial mobile radio service (CMRS).[1] To resolve disputes arising pursuant to the rule we adopt here, we provide that parties may file a petition for declaratory ruling under Section 1.2 of the Commission's rules or file a formal or informal complaint under the rule established herein depending on the circumstances specific to each dispute. Also, in order to facilitate the negotiation of data roaming arrangements, we provide guidance on factors that the Commission could consider when evaluating any data roaming disputes that might be brought before the agency.

II. BACKGROUND

3. Since the early days of commercial mobile services, the Commission has taken a number of actions to promote the availability of roaming to American consumers as mobile services have evolved. The Commission first adopted "manual" roaming requirements in 1981 as part of the original cellular service rules, finding that such requirements would further the public interest in promoting the availability of mobile communications service.[2] In 1996, the Commission extended the original cellular "manual" roaming rules to the newly established broadband Personal Communications Services (PCS), as well as

[1] For purposes of this proceeding, "commercial mobile data service" is defined as any mobile data service that is not interconnected with the public switched network but is (1) provided for profit; and (2) available to the public or to such classes of eligible users as to be effectively available to the public. 47 C.F.R. § 20.12. The current roaming obligation in Section 20.12 applies to CMRS carriers' provision of mobile voice and data services that are interconnected with the public switched network, as well as their provision of text messaging and push-to-talk services. The data roaming rule adopted herein will cover mobile services that fall outside the scope of the current automatic roaming obligation if provided for profit; and available to the public or to such classes of eligible users as to be effectively available to the public.

[2] *See* An Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems, CC Docket No. 79-318, *Report and Order*, 86 FCC 2d 469 (1981) (*Cellular Report & Order*) (adopting requirement in then Section 22.911(b) of the Commission's rules that base stations render service to properly licensed roamers). Roaming services that subscribers receive are "manual" or "automatic." For manual roaming, the subscriber must establish a relationship directly with the host provider on whose system the subscriber wants to roam in order to make a call. Typically, the roaming subscriber accomplishes this in the course of attempting to originate a call by giving the host provider a valid credit card number. With automatic roaming, the roaming subscriber is able to immediately originate or terminate a call without first taking any actions to establish a relationship with the host provider. Instead, automatic roaming occurs pursuant to a pre-existing contractual agreement between the subscriber's own provider and the host provider.

certain Specialized Mobile Radio (SMR) carriers, provided that the roamers' handsets are "technically capable" of accessing the roamed-on ("host") network.[3]

4. In the *Report and Order* adopted by the Commission in 2007, the Commission clarified that "automatic" roaming is a common carrier obligation for CMRS carriers generally, requiring them to provide automatic roaming services to other carriers upon reasonable request on a just, reasonable, and non-discriminatory basis pursuant to Sections 201 and 202 of the Communications Act.[4] The Commission found that the services covered by the automatic roaming obligation include the same services subject to manual roaming and other regulatory obligations – real-time, two-way switched voice or data services, provided by CMRS carriers, that are interconnected with the public switched network and utilize an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls.[5] The Commission established the presumption that a request for automatic roaming is reasonable under Sections 201 and 202 if the requesting carrier's network is technologically compatible with the host carrier's network.[6] The Commission also extended the scope of the automatic roaming obligation beyond interconnected voice service to include both push-to-talk and text-messaging provided that certain conditions are met.[7]

5. In our 2010 *Order on Reconsideration*, we took further action to increase consumers' access to roaming services by eliminating the "home roaming exclusion" that had been adopted in the *Report and Order*. In particular, we found that the exclusion in many circumstances had discouraged facilities-based competition.[8] The revised rule that we adopted provides that "[u]pon a reasonable request, it shall be the duty of each host carrier subject to . . . [Section 20.12(a)(2) of our rules] . . . to provide automatic roaming to any technologically compatible, facilities-based CMRS carrier on reasonable and not unreasonably discriminatory terms and conditions, pursuant to Sections 201 and 202 of the Communications Act, 47 U.S.C. Sections 201 and 202."[9] We affirmed that carriers must provide push-to-talk roaming upon reasonable request.[10] We also provided additional guidance on various factors

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[3] *See* Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Service Providers, CC Docket No. 94-54, *Second Report and Order and Third Notice of Proposed Rulemaking*, 11 FCC Rcd 9462, 9470-71 ¶ 13 (1996) (*Interconnection and Resale Second Report and Order*); 47 C.F.R. § 20.12(c).

[4] Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers, WT Docket No. 05-265, *Report and Order and Further Notice of Proposed Rulemaking*, 22 FCC Rcd 15817, 15818 ¶ 1 (2007) (*Report and Order* and *Further Notice*, respectively).

[5] *Id.* at 15837 ¶ 54.

[6] *Id.* at 15831 ¶ 33. The Commission also codified this automatic roaming obligation in section 20.12(d) of its rules. *Id.* at 15840 ¶ 63; 47 C.F.R. §§ 20.3, 20.12(d).

[7] *Report and Order*, 22 FCC Rcd at 15837 ¶¶ 54-55.

[8] Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265, *Order on Reconsideration and Second Further Notice of Proposed Rulemaking*, 25 FCC Rcd 4181, 4190 ¶ 18 (2010) (*Order on Reconsideration* and *Second Further Notice*, respectively).

[9] 47 C.F.R. § 20.12(d). That rule also provides that the Commission "shall presume that a request by a technologically compatible CMRS carrier for automatic roaming is reasonable pursuant to Sections 201 and 202 of the Communications Act, 47 U.S.C. Sections 201 and 202." *Id*. The rule states that this "presumption may be rebutted on a case-by-case basis. The Commission will resolve automatic roaming disputes on a case-by-case basis, taking into consideration the totality of the circumstances presented in each case." *Id*.

[10] *Order on Reconsideration*, 25 FCC Rcd at 4204 ¶ 45.

that the Commission could consider when evaluating any roaming disputes that were brought before the agency.

6. *Data Roaming.* In the *Further Notice* issued in 2007, the Commission sought comment on whether it should extend the automatic roaming obligation generally to non-interconnected data services or features, including information services or other non-CMRS services offered by CMRS carriers.[11] The Commission also sought comment on the legal bases for imposing a roaming obligation on mobile wireless broadband Internet access services.[12]

7. In the *Second Further Notice* that we adopted in conjunction with the *Order on Reconsideration* in 2010, we sought to refresh and further develop the record by requesting additional comment on whether to extend roaming obligations to mobile data services, including mobile broadband Internet access, that are provided without interconnection to the public switched telephone network.[13] We also sought comment on whether any such obligations should apply only to service providers that are also CMRS providers or more broadly to facilities-based mobile data service providers whether or not they also provide CMRS.[14] Among other things, we sought comment on the importance of data roaming, the potential impact on incentives for investment and innovation in mobile broadband services if roaming requirements were extended to data roaming, and the appropriate scope of any data roaming requirement, including consideration of the technical issues that data roaming requirements might raise with respect to a provider's network capacity and security.[15] In addition, we sought further comment on our legal authority to establish data roaming obligations to the extent that we concluded that adopting data roaming requirements would serve the public interest.[16] Finally, we sought comment on the appropriate process for dispute resolution, whether we should provide the same process for data roaming requests as for other roaming requests, and whether we should adopt measures to require or encourage parties to employ alternative vehicles for resolving disputes such as arbitration.[17]

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[11] *Further Notice*, 22 FCC Rcd at 15845 ¶ 77. We do not address in this Order "interconnected service," as defined in 47 U.S.C. § 332(d)(2) and our rules.

[12] The Commission noted that it had determined that mobile wireless broadband Internet access service is an information service, and that it is not CMRS. *See Further Notice*, 22 FCC Rcd at 15846 ¶ 81 (citing Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks, WT Docket No. 07-53, 22 FCC Rcd 5901 (2007) (*Wireless Broadband Internet Access Classification Order*)).

[13] The Commission had received several proposals concerning data roaming in response to the *Further Notice*, including a request by SpectrumCo that the Commission reconsider its decision to limit the automatic roaming obligation only to services that use the public switched network. *See Second Further Notice*, 25 FCC Rcd at 4212-13 ¶ 63. The Commission noted that issues in SpectrumCo's petition for reconsideration were being addressed in the *Second Further Notice*. *Id.* at 4185 ¶ 9.

[14] *Second Further Notice*, 25 FCC Rcd at 4212 ¶ 62. The Commission also sought comment on the specific proposals that had been submitted in response to the *Further Notice*, as well as on any other proposals for addressing data roaming obligations. *Id.* at 4212-13 ¶ 63.

[15] *Second Further Notice*, 25 FCC Rcd at 4218-24 ¶¶ 72-91.

[16] *Id*. at 4213-18 ¶¶ 64-71.

[17] *Second Further Notice*, 25 FCC Rcd at 4223-24 ¶ 91. The deadline for comments on the *Second Further Notice* was June 14, 2010, and the deadline for reply comments was July 12, 2010. A list of commenters and reply commenters is in Appendix B of this Order.

III. DISCUSSION

8. In this Second Report and Order, we conclude that it is in the public interest to establish requirements to promote the availability of data roaming arrangements, as set forth below. We first discuss our determination to require that facilities-based providers of commercial mobile data services offer data roaming arrangements to other such providers on commercially reasonable terms and conditions. We then describe in more detail the scope and the limitations of the data roaming rule, taking into account the relevant policy and technical issues. We next provide a full discussion of the legal basis for our adoption of this rule pursuant to our authority under the Act. In order to address disputes relating to the rule we adopt, we also set out a complaint process for such disputes, and also permit disputes to be brought through petitions for declaratory ruling, depending on the circumstances specific to each dispute. We provide that commercial reasonableness will be determined based on the totality of the circumstances, and provide guidance on factors that the Commission may consider in resolving disputes. For example, providers of commercial mobile data services may negotiate commercially reasonable measures to safeguard quality of service against network congestion that may result from data roaming traffic or to prevent harm to their networks.

A. The Public Interest in a Data Roaming Rule

9. Background. In the *Second Further Notice*, we underscored that broadband deployment is a key priority for the Commission. We stated that the policy goals that informed our determinations regarding the scope of roaming obligations for interconnected voice and data would also guide our consideration with respect to commercial mobile data services – that of facilitating the provision of mobile services in a manner that provides the greatest benefit to consumers.[18] Specifically, we sought to ensure that consumers have access to seamless coverage nationwide, to provide the incentives for new entrants and incumbent providers to invest and innovate by using available spectrum and constructing wireless network facilities on a widespread basis, and to promote competition for commercial mobile broadband business by multiple providers.[19]

10. In seeking comment on how best to serve our policy goals, we noted the mobile broadband industry is in a critical stage of development, with a rapidly evolving mobile broadband ecosystem and a rapid increase in mobile broadband data use.[20] Accordingly, we sought to develop a full record on whether to adopt data roaming requirements. We sought comment on the importance of roaming for commercial mobile data services, and we asked in what ways data roaming arrangements will affect competitive entry and network deployment in the data services marketplace.[21] We inquired about current roaming arrangements for commercial mobile data services and the extent to which data subscribers make use of such roaming arrangements.[22] We sought comment as well on how deployment, competition, and consumer access to services would be affected in the commercial mobile broadband marketplace depending on whether we adopted any data roaming obligations.[23] With respect to investment incentives, we sought comment on the impact that extending roaming requirements to wireless

[18] *See Second Further Notice*, 25 FCC Rcd at 4207 ¶ 50, 4211¶ 60.

[19] *Id.*

[20] *Id.* at 4207-13 ¶¶ 50-54, 60, 61, 63.

[21] *Id*. at 4218 ¶ 72.

[22] *Id*. at 4218 ¶ 74.

[23] *Id.*

data services would have on the incentives of providers to invest in advanced data networks and fully use available spectrum.[24] We also requested comment on how roaming rules for non-interconnected services, if any, should compare to our current automatic roaming rules for voice services.[25]

11. The overwhelming majority of commenters favor our adoption of roaming rules to promote the availability of commercial mobile data services. These commenters include a wide variety of regional and rural providers and two nationwide mobile service providers,[26] as well as consumer interest organizations[27] and equipment and software manufacturers.[28] They argue that to be competitive in the commercial mobile marketplace and to meet the demand of their customers, it is critical that providers be able to provide data roaming services to their customers, particularly given the transition of mobile wireless to a more data-centric mobile marketplace.[29] In this regard, these commenters observe that the volume of traffic for mobile services is shifting away from interconnected services to non-interconnected services,[30] and they highlight the fact that data usage has risen sharply over the past few years and will continue to do so as a result of the increased adoption of smartphones and the increased data consumption per device.[31] These commenters also assert that adoption of a data roaming requirement is necessary to ensure the nationwide seamless connectivity to mobile services that consumers have come to expect.[32] They contend that such a requirement is necessary to ensure continued investment and innovation by existing providers to expand and upgrade broadband data networks, as well as by new entrants seeking to

[24] *Id.* at 4218-19 ¶ 75.

[25] *Id.* at 4212 ¶ 63.

[26] *See, e.g.*, Blooston Comments at 1; Bright House Comments at 9; Cellular South Comments at 2; Cincinnati Bell Comments at 4; Clearwire Comments at 2; Leap Comments at 29; MetroPCS Comments at 55; NTCH Comments at 3; NTELOS Comments at 8-9; OPASTCO & NTCA Comments at 2; RCA Comments at 1, RTG Comments at 13; SkyTerra Comments at 1; SouthernLINC Comments at 41; Sprint Comments at 1, 5; T-Mobile Comments at 1; US Cellular Comments at 1; BendBroadband Reply Comments at 2-3. *See also* Letter from Leonard Steinberg and Elisabeth H. Ross, ACS Wireless, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Mar. 22, 2011 (ACSW Mar. 22, 2011 *Ex Parte*).

[27] *See, e.g.*, Free Press Comments at 2; Media Access Comments at 9.

[28] *See* Letter from Phillip Berenbroick, Computer & Communications Industry Association, to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Oct. 27, 2010.

[29] *See, e.g.*, Cellular South Comments at 19; Cincinnati Bell Comments at 3; Leap Comments at 2; Sprint Comments at 7-9; T-Mobile Comments at 5-6; US Cellular Comments at i, 2-3. *See also* 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, *Fourteenth Report*, WT Docket No. 09-66, FCC 10-81, at 5-6 ¶ 4 (rel. May 20, 2010), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-81A1.pdf (noting the "transition to a data-centric market" where "data traffic has grown significantly, due to the increased adoption of smartphones") ("*Fourteenth Competition Report*").

[30] *See, e.g.*, T-Mobile Comments at 5-6.

[31] *See, e.g.*, Sprint Comments at 8, citing *Fourteenth Competition Report*, FCC 10-81, at 5 ¶ 4.

[32] *See, e.g.*, Leap Comments at 1-3; Letter from Thomas J. Sugrue, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Feb. 2, 2011 (T-Mobile Feb. 2, 2011 *Ex Parte*) at 3 & n.8 (asserting that T-Mobile "will continue to require roaming arrangements to achieve a nationwide service footprint in those regions of the country where it does not yet have its own facilities. . . . These markets include areas in virtually every state."). .

provide mobile broadband services.[33] Further, they assert that providers with data roaming arrangements will continue to have the necessary and appropriate incentives to invest in and expand their networks in order to reduce their payments for data roaming,[34] to compete more effectively with larger providers in areas where their customers roam substantially,[35] and to fulfill regulatory buildout obligations.[36] Those favoring a data roaming rule also assert that, given increasing consolidation and other constraints, roaming arrangements for commercial mobile data services at present are often difficult to obtain,[37] and when available, are offered on unreasonable terms and conditions.[38]

12. By contrast, only AT&T and Verizon Wireless oppose the Commission's adoption of a data roaming requirement.[39] AT&T and Verizon Wireless argue that providers are already able to obtain nationwide coverage through data roaming arrangements without a regulatory requirement.[40] They also

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[33] *See, e.g.*, BendBroadband Reply Comments at 5; Blooston Reply Comments at 6-8; Cellular South Comments at 2, Declaration of Ben Pace, Chief Financial Officer; MetroPCS Comments at 4-5, 8; Letter from Maria Cattafesta, Senior Counsel, Government Affairs, Sprint to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Sept. 7, 2010 at 2-3 (Sprint and T-Mobile Sept. 7th *Ex Parte*); Letter from Howard J. Symons, Counsel to T-Mobile to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 10, 2010 at 2; Letter from Daniel L. Brenner, Counsel to Bright House Networks, to Marlene Dortch, FCC, WT Docket No. 05-265, filed Dec. 3, 2010 (Bright House Dec. 3, 2010 *Ex Parte*), Affidavit of Leo Cloutier, Senior VP; T-Mobile Feb. 2, 2011 *Ex Parte* at 2-4; Letter from Charles W. McKee, Vice President, Government Affairs, Sprint to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Feb. 7, 2011 at 2-3 (Sprint Feb. 7, 2011 *Ex Parte*)..

[34] Leap Comments at 6; MetroPCS Comments at 47; SouthernLINC Comments at 39 (stating that while the initial cost of deploying new facilities and services can be high, the costs of relying on roaming can be significantly higher); Leap Reply Comments at 5-6; T-Mobile Reply Comments at 14.

[35] *See, e.g.*, Leap Reply Comments at 4.

[36] SouthernLINC Comments at 39-40; NTELOS Reply Comments at 5; T-Mobile Reply Comments at 14.

[37] *See ,e.g.*, Bright House Comments at 8-9; Cellular South Comments at 21; Cincinnati Bell Comments at 5-6; OPASTCO & NTCA Comments at 2, 4-5; RTG Comments at 9-10; T-Mobile Comments at 7-8; MetroPCS Reply Comments at 11-12; *see also* ACSW Mar. 22, 2011 *Ex Parte* at 2.

[38] *See, e.g.*, Cellular South Comments at 21; T-Mobile Comments at 10; BendBroadband Reply Comments at 4-5.

[39] *See generally*, AT&T Comments, and Verizon Wireless Comments. In its initial comments, ACSW also opposed a data roaming obligation, arguing *inter alia* that "ACSW's experience demonstrates that it is not necessary for the FCC to impose a mandatory data roaming requirement in these market conditions." ACSW Comments at 1-2, 6-7. In its March 22, 2011 *Ex Parte*, however, ACSW changed its position, stating that, "[h]aving evaluated *ex parte* submissions in this docket identifying recurring problems encountered by rural and regional wireless carriers seeking data roaming agreements with the large national carriers and reflecting on our own experiences negotiating agreements with these carriers, ACSW now sees merit in adoption of an automatic data roaming obligation." ACSW Mar. 22, 2011 *Ex Parte*.

[40] AT&T Comments at 1-2, 32, 37; Verizon Wireless Comments at 3-4, 7-9; Verizon Wireless Reply Comments at 4-7, 10-13. For example, Verizon Wireless asserts that as of January 18, 2011, it has 65 active roaming partners, that approximately 75% of these have requested data roaming arrangements, that approximately 85% of the providers that want data roaming have obtained an agreement, and that most of the rest are currently in negotiations for such an agreement. Letter from Tamara Preiss, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Jan. 18, 2011 (Verizon Wireless Jan. 18, 2011 *Ex Parte*). It also indicates that over 60% of those data roaming agreements are for EV-DO roaming, and that between April 2010 and January 2011, it has entered into 16 additional EV-DO roaming agreements. *Id. See also* Letter from Tamara Preiss, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Apr. 13, 2010 (Verizon Wireless Apr. 13, 2010 *Ex Parte*), at 4; Letter (continued….)

contend that providers in the commercial mobile wireless marketplace are already making extensive investments in advanced data networks, wireless competition is thriving, and therefore there is no market failure or no consumer harm and, thus, there is no justification for regulatory intervention.[41] AT&T and Verizon Wireless also assert that a roaming obligation will discourage investment and lead to less efficient spectrum use by both roaming providers and host providers, particularly in rural areas.[42] AT&T argues that mandatory roaming will weaken host providers' incentives to invest because it "impedes" their ability to "'monetize' their enormous investment in broadband networks" by "depriv[ing] them of the ability to compete on the basis of the scope and quality of their network coverage."[43] AT&T also argues host providers will be reluctant and less able to make new investments when they will have "no control over the terms and conditions under which they will carry the substantial and unpredictable data traffic of others in addition to their own."[44]

13. Discussion. After carefully considering the arguments in the record, we conclude that it will serve the public interest to adopt a data roaming rule. Specifically, we require providers of commercial mobile data services to offer data roaming arrangements on commercially reasonable terms and conditions, subject to specified limitations as set forth below, pursuant to our authority under the Communications Act. We conclude that adopting a roaming rule tailored for mobile data services will best promote consumer access to seamless mobile data coverage nationwide, appropriately balance the incentives for new entrants and incumbent providers to invest in and deploy advanced networks across the country, and foster competition among multiple providers in the industry, consistent with the National Broadband Plan. Broadband deployment is a key priority for the Commission, and the deployment of commercial mobile data networks will be essential to achieve the goal of making broadband connectivity available everywhere in the United States. As discussed above, our determination to adopt a commercial mobile data roaming rule is supported by the overwhelming majority of commenters and evidence in the record.

14. Commercial mobile data services provided over advanced mobile broadband technologies have become an increasingly significant part of the lives of American consumers and the shape of the mobile industry.[45] Mobile data services increasingly are used for a variety of both personal and business purposes, including back-up communications during emergencies and for accessibility.[46]

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of Tamara Preiss, Vice President, Regulatory Affairs, Verizon Wireless, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 5, 2010 (Verizon Wireless Nov. 5, 2010 *Ex Parte*), at 2.

[41] *See* AT&T Comments at 17, 48-53; Verizon Wireless Comments at 3-7, 9-16; AT&T Reply Comments at 37-41. *See also* Letter from Joan Marsh, AT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Feb. 4, 2011 (AT&T Feb. 4, 2011 *Ex Parte*) at 2 (noting a T-Mobile announcement that it will add approximately 5,000 new cell sites, and that this decision was made "despite the lack of any unwarranted broadband data roaming mandate.").

[42] *See* AT&T Comments at 42-48; Verizon Wireless Comments at 9-16; AT&T Reply Comments at 28-31; Verizon Wireless Reply Comments at 20-23.

[43] AT&T Reply Comments at 29.

[44] AT&T Comments at 44-45.

[45] For purposes of this Order, "mobile broadband" refers to mobile data services provided using Third-Generation (3G) and Fourth-Generation (4G) mobile network technologies, such as CDMA EV-DO (EV-DO), WCDMA/HSPA, HSPA+, LTE, and WiMAX. For a detailed discussion of the different generations of mobile wireless network technologies, *see Fourteenth Competition Report*, at 213, App. B.

[46] *See, e.g.*, SouthernLINC Comments at 5-9.

Data traffic has risen sharply over the past few years as a result of the increased adoption of smartphones combined with increased data consumption per device. Our data roaming rule will maximize consumers' ability to use and benefit from wireless broadband data services wherever they are by enhancing the ability of all facilities-based providers, including small and regional providers, to provide nearly nationwide data coverage through roaming arrangements.

15. As data services increasingly become the focus of the mobile wireless services, consumers increasingly expect their providers to offer competitive broadband data services,[47] and the availability of data roaming arrangements can be critical to providers remaining competitive in the mobile services marketplace.[48] We agree that the availability of roaming capabilities is and will continue to be a critical component to enable consumers to have a competitive choice of facilities-based providers offering nationwide access to commercial mobile data services. As more and more consumers use mobile devices to access a wide array of both personal and business services, they have become more reliant on their devices.[49] These consumers expect to be able to have access to the full range of services available on their devices wherever they go.[50] Providers with local or regional service areas need roaming arrangements to offer nationwide coverage, and there may be areas where building another network may be economically infeasible or unrealistic.[51] Even where providers have invested in and built out broadband networks in a regional service territory, a service provider's inability to offer roaming easily can deter customers from subscribing. For example, Cincinnati Bell represents that "[d]ue to the limited availability of nationwide roaming partners for 3G and 4G services, [it] is seeing a steady defection of its customers to the national carriers even though Cincinnati Bell offers a superior network in its operating area."[52] Availability of such roaming arrangements also may be particularly important for consumers in rural areas -- where mobile data services may be solely available from small rural providers.[53] According to BendBroadband, its mobile broadband product is "not commercially viable for most consumers primarily because we cannot offer mobility outside of our service area, due to our inability to secure reasonable rates and terms for data roaming."[54] A data roaming requirement will therefore help to ensure that, as consumers become increasingly reliant on wireless devices, continuity of spectrum-based services

[47] BendBroadband Reply at 2; Blooston Rural Carriers Comments at 2; Clearwire Comments at 1; Leap Comments at 7; RCA Comments at 8; SouthernLINC Comments at 4-5, 32; Sprint Comments at 9; T-Mobile Comments at 6.

[48] *See, e.g.*, Cellular South Comments at 19; Cincinnati Bell Comments at 3-4; Leap Comments at 2; Sprint Comments at 7-12; T-Mobile Comments at 5-7.

[49] *See, e.g.*, Clearwire Comments at 1; RCA Comments at 13.

[50] *See, e.g.*, Blooston Comments at 2-3; MetroPCS Comments at 45-46; NTELOS Comments at 6.

[51] *See Order on Reconsideration*, 25 FCC Rcd at 4192 ¶ 23. We have found that, in some areas of the country with very low population densities, it is simply uneconomic for several carriers to build out. Further, we note that it may be significantly more costly to build out when the carrier only has access to higher spectrum frequencies where propagation characteristics are less advantageous. *Id. See also* T-Mobile Reply Comments at 15.

[52] Cincinnati Bell Comments at 7.

[53] OPASTCO & NTCA Comments at 3-4 ("[M]any rural consumers face a difficult choice when choosing a mobile data services provider. They can choose the services of a large nationwide carrier and receive service that is quite often spotty in the rural areas where they live and work. Or, they can choose the mobile data services offered by their local rural wireless carrier and obtain excellent service in the areas where they live and/or work but lose service entirely when they travel outside the small geographic license area of that local provider."); SouthernLINC Comments at 30-31.

[54] BendBroadband Reply Comments at 2, 5.

is preserved across networks and geographic regions.

16. We also conclude that the data roaming rule that we adopt today will encourage investment in and deployment of broadband networks by multiple service providers, including large nationwide providers, regional providers, and small providers. Given that mobile broadband networks, particularly "fourth-generation" networks, are still at an early stage of development, significant network investment and deployment will also be critical to nationwide broadband access and for the promotion of competitive choice in broadband services.[55] This data roaming rule will promote mobile broadband network deployment, investment, and competition,[56] consistent with the goals of the National Broadband Plan, by helping to ensure the viability of new data network deployments.[57]

17. We are persuaded by the evidence that roaming arrangements help encourage investment by ensuring that providers wanting to invest in their networks can offer subscribers a competitive level of mobile network coverage. Roaming arrangements can help provide greater assurance to service providers that, if they make the investment to expand or upgrade their facilities, they will be able to offer competitive service options to their customers through a combination of local or regional facilities-based service and roaming arrangements.[58] Sprint and T-Mobile state that data roaming arrangements will allow service providers to compete more effectively and thus greater certainty in access to such arrangements will give them "the resources and the confidence to continue to invest in their businesses, including in the construction of new network infrastructure."[59] SouthernLINC explains that "when carriers are considering whether to invest in the deployment of new technologies and services, the availability of data roaming assures the carriers that they will be able to meet customers' expectations of seamless connectivity for these services. This in turn provides carriers with the certainty they need to move forward with these much-needed investments."[60] NTELOS reports that its roaming agreement with Sprint led to its ability to upgrade virtually its entire network to EV-DO Revision A.[61] Clearwire asserts

[55] *See, e.g.*, NTELOS Reply Comments at 5 ("Small and regional carriers like NTELOS are again evaluating upgrades to their networks, this time for 4G . . . .").

[56] *See, e.g.*, Sprint Comments at 9-11; Letter from Charles W. McKee, Vice President, Government Affairs, Sprint, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Feb. 7, 2011 (Sprint Feb. 7, 2011 *Ex Parte*) at 2-3.

[57] *See, e.g.*, National Broadband Plan at 3.

[58] *See, e.g.*, Cincinnati Bell Comments at 6-7 (asserting that, "[d]ue to the limited availability of nationwide roaming partners for 3G and 4G services, Cincinnati Bell is seeing a steady defection of its customers to the national carriers even though Cincinnati Bell offers a superior network in its operating area and attractive rate plans that are available without a long-term contract"); BendBroadband Reply Comments at 2 ("Our mobile broadband product is not commercially viable for most consumers primarily because we cannot offer mobility outside of our service area"). *See also* MetroPCS Comments at 45-46.

[59] *See* Sprint and T-Mobile Sept. 7th *Ex Parte* at 2-3.

[60] SouthernLINC Reply Comments at 6.

[61] *See* NTELOS Comments at 7; NTELOS Reply Comments at 4; *see also* "NTELOS Announces Amended Resale with Sprint - EVDO Rev A Upgrade," www.evdoinfo.com/content/view/2036/64/. *See also, e.g.*, SouthernLINC Comments at 35-37; NTELOS Reply Comments at 5. An upgrade to CDMA2000 1xRTT (1xRTT) technology, CDMA2000 EV-DO (Evolution-Data Optimized or EV-DO) provides significantly greater maximum data throughput speeds, with 1xRTT delivering peak mobile data rates of 307 kbps, EV-DO Revision 0 (Rev. 0) providing a maximum data throughput speed of 2.4 Mbps, and Revision A (Rev. A) providing a maximum of 3.1 Mbps. *See Fourteenth Competition Report*, at App. B ¶ 4. For purposes of this Order, we refer to both EV-DO technologies collectively as EV-DO.

that a data roaming obligation supports long-term facilities-based entry into new markets, and that once providers enter into new markets they will continue to build out networks to contain business costs associated with roaming.[62] Further, as argued by several commenters representing rural providers -- Blooston Rural Carriers, OPASTCO and NTCA, RCA, and RTG -- the lack of roaming for commercial mobile wireless services may deter providers from investing in broadband at the exact time such investment is sorely needed.[63] The Chief Financial Officer of regional provider Cellular South, for example, states that "investment banks and other sources of investment capital are likely to make the judgment that a small rural or regional carrier that cannot obtain data roaming agreements with the large national carriers will find it more difficult to attract and retain customers" and that "[s]uch a judgment would lead to the withholding of investment capital which, in turn, would hamstring the carrier's efforts to deploy advanced broadband infrastructure."[64] MetroPCS contends that in order to ensure that smaller, rural and mid-tier carriers invest now in LTE, they need to know that they will have access to LTE roaming once they have upgraded.[65]

18. The availability of roaming arrangements can also provide additional incentives to enter a market by allowing network providers without a presence in an area a competitive level of local coverage during the early period of investment and buildout.[66] We find that encouraging new entry and local or regional deployments serves the public interest, given that such network deployments, particularly when these deployments are coupled with roaming availability beyond the network service area, would provide consumers with greater competitive choices in mobile broadband. Previously, we found that lack of roaming can constitute a significant hurdle to new competition and can delay or deter entry into a market because a provider seeking to provide service in a new geographic area, without the ability to supplement its networks with roaming and whose initial facilities would necessarily be limited, would be required to compete with incumbents that had been developing and expanding their networks for many years.[67]

19. The record in this proceeding supports these findings. Bright House Networks, for example, contends that a data roaming requirement would remove a barrier to entry[68] and a Senior Vice President of the company states that such a requirement would be key to Bright House investing more.[69]

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[62] Clearwire Comments at 6.

[63] *See , e.g.,* Blooston Comments at 2; Cellular South Comments at 20; MetroPCS Reply Comments at 52; OPASTCO & NTCA Comments at 5-6; RCA Comments at 7-9; NTELOS Reply Comments at 5.

[64] Cellular South Comments, Declaration of Ben Pace, Chief Financial Officer, at 20. *See also* Cellular South Feb. 9, 2011 *Ex Parte* at 3 (stating that "The capital needed for an extensive deployment of LTE . . . has remained sidelined as a result of the lingering uncertainty surrounding data roaming and interoperability.").

[65] MetroPCS Comments at 43-46.

[66] *Fourteenth Competition Report* at 47 ("To create a customer base, a new facilities-based entrant must provide network coverage that is sufficient to attract new customers, including enticing customers to switch from existing service providers. . . . We note that roaming on competitors' networks can offer entrants access to greater network coverage while they are deploying their own networks.").

[67] *See Order on Reconsideration,* 25 FCC Rcd at 4191 ¶ 21. *See also Resale First Report and Order*, 22 FCC Rcd 18455 18465-66 ¶¶ 17-18.

[68] Bright House Comments at 12.

[69] Bright House Dec. 3, 2010 *Ex Parte* (Affidavit of Leo Cloutier, Senior VP) at 5 (Bright House's entry into data services market would produce several hundred million dollars in capital investment). *See also* NTELOS Comments at 3-7 (stating that before pursuing a 4G upgrade, with a capital outlay of many millions of dollars, NTELOS must be confident that it will continue to be able to reach agreements on roaming).

T-Mobile notes that the ability to roam has enabled the company to "build a facilities-based footprint over time as its customer base grows,"[70] and asserts that a roaming rule will enable it to "invest in new facilities in smaller markets that would not be economical to build out unless T-Mobile could use roaming to serve the adjacent more sparsely populated areas," and thus promote rural investment.[71] In addition, according to US Cellular, new wireless providers entering the wireless marketplace today face far more daunting prospects than did their predecessors of decades ago unless they can offer their customers both voice and data roaming on a seamless nationwide basis.[72] SkyTerra (now LightSquared) states that the absence of a data roaming obligation can discourage service providers from entering the market and building upon existing networks.[73] SkyTerra further states that without a data roaming obligation, its potential customers would likely be discouraged from purchasing terrestrial-based services from SkyTerra, especially in the initial stages of SkyTerra's network build out.[74]

20. Accordingly, we find that availability of roaming arrangements helps provide consumers with greater competitive choices in mobile broadband by encouraging investment and network deployments and ensuring that providers wanting to invest in their networks or to enter into a new market can offer subscribers a competitive level of mobile network coverage and service. By removing barriers to customer acquisition by providers in smaller or remote areas, the rule we adopt today will encourage greater use of spectrum and additional sustainable investment in broadband networks serving these areas.

21. We find the roaming rule that we adopt, discussed in greater detail below, also will provide incentives for host providers to invest and deploy advanced data networks, and avoid potential disincentives for those providers to invest. We agree with AT&T and Verizon that there are pro-competitive benefits that flow from providers differentiating themselves on the basis of coverage in their licensed service areas, including in rural and remote areas.[75] We find that the terms and scope of the

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[70] Letter from Howard J. Symons, for T-Mobile USA, Inc., to Marlene H.Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 10, 2010, at 2.

[71] Letter from Kathleen O'Brien Ham, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Dec. 20, 2010, at 3. *See also* T-Mobile Comments at 9-10; Leap Reply Comments at 5 ("Without roaming, carriers, in order to offer service in new areas, would need to invest in building extensive networks before offering service. Roaming enables carriers to continue their investments while serving their customers in the interim."); Letter from Charles W. McKee, Sprint Nextel Corporation, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Feb. 7, 2011, at 2 ("Sprint is more likely to build additional network facilities in areas where it can supplement its new network with cost-effective data roaming coverage."); T-Mobile Feb. 2, 2011 *Ex Parte* at 2 ("T-Mobile has been able to build out its network in smaller and rural communities because voice roaming allowed it to provide service in the very sparsely populated areas adjacent to these communities where customers often traveled and therefore expected service."). T-Mobile asserts that the availability of voice roaming has "played an important role" in enabling it "to locate a call center in the state [of Maine], creating jobs and establishing a presence that attracted a new and growing customer base" and that roaming helped it "to grow to become a facilities-based provider" in other markets. T-Mobile February 2, 2011 *Ex Parte* at 3. T-Mobile states that such other markets include State College, Pennsylvania, Knoxville, Tennessee, and southeastern New Mexico. *Id.*

[72] US Cellular Reply Comments at 3-4.

[73] SkyTerra Comments at 3-4 (as a new entrant, SkyTerra asserts data roaming obligation is necessary as it builds out its network, stating that it has billions of investment dollars on the line).

[74] *Id.*

[75] *See Order on Reconsideration*, 25 FCC Rcd at 4197 ¶ 31. *See, e.g.*, AT&T Comments at 8, 33; AT&T Reply Comments at 29; Verizon Wireless Reply Comments at 22.

roaming rule that we adopt will protect these benefits, maintain incentives for host providers to invest and deploy advanced data networks, and avoid potential disincentives for those providers to invest.[76] First, host providers will be paid for providing data roaming service, and we adopt a general requirement of commercial reasonableness for all roaming terms and conditions, including rates, rather than a more specific prescriptive regulation of rates requested by some commenters. This will give host providers appropriate discretion in the structure and level of such rates that they offer. As we found in the *Order on Reconsideration*, "the relatively high price of roaming compared to providing facilities-based service will often be sufficient to counterbalance the incentive to 'piggy back' on another carrier's network."[77] We note that the pro-investment incentives that providers will have as a consequence of the high cost of roaming are reflected in the terms and conditions offered by mobile data service providers, which commonly include authorizing termination of service or other actions if a subscriber's roaming on other networks becomes too large a part of the subscriber's service use.[78] At a minimum, these roaming limitations demonstrate that providers are unlikely to rely on roaming arrangements in place of network deployment as the primary source of their service provision,[79] nor will such arrangements lead to reduced investment by requesting providers.

22. Finally, as discussed more fully below, we provide that, if providers bring disputes to the Commission, we will take into account factors including the impact on buildout incentives and the extent and nature of providers' existing build-out in determining the commercial reasonableness of proffered terms.[80] As we have concluded before, a case-by-case determination of commercial reasonableness in the event of a dispute preserves incentives to invest and protects consumers by facilitating their access to nationwide service.[81]

23. The data roaming rule we adopt today also adequately addresses AT&T's argument that a data roaming requirement would weaken host providers' investment incentives by leaving them with "no control" over the terms under which they will carry roaming traffic and thus unable to manage the

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[76] *See also Order on Reconsideration*, 25 FCC Rcd at 4197 ¶ 31 (noting that "there are pro-competitive benefits that flow from carriers differentiating themselves on the basis of coverage in their licensed service areas"). For further discussion of the terms and scope of the roaming rules, *see infra* III.B.

[77] *Order on Reconsideration*, 25 FCC Rcd at 4197-98 ¶ 32.

[78] *See, e.g.*, T-Mobile Terms and Conditions, http://www.t-mobile.com/Templates/Popup.aspx?WT.z_unav=ftr__TC&PAsset=Ftr_Ftr_TermsAndConditions&print=true (permitting suspension or termination if more than 50% of a subscriber's voice and/or data usage is "Off-Net" for any three billing cycles within any 12 month period); AT&T Wireless Customer Agreement, http://www.wireless.att.com/cell-phone-service/legal/index.jsp?q_termsKey=wirelessCustomerAgreement&q_termsName=Wireless+Customer+Agreement#howDoIGetServOutsideNet (termination or other measures if off-net data usage exceeds the lesser of 24 megabytes or 20% of the kilobytes included with a subscriber's plan); MetroPCS Terms and Conditions of Service, http://www.metropcs.com/privacy/terms.aspx ("Our Services and Rate Plans are designed for you to use your service each month predominantly in our service area. If your usage each month is not predominantly in our service area, we may terminate your Service or restrict your ability to receive Service outside the areas served by our network."); SouthernLINC Acceptable Use Policy, http://www.southernlinc.com/privacy/acceptable-use-policy.aspx (providing roaming usage allowance of 30% of the Anytime minutes in the subscriber's plan).

[79] *See, e.g.*, MetroPCS Comments at 47; SouthernLINC Comments at 39; Leap Reply Comments at 5-6.

[80] *See infra* III.D.

[81] *Order on Reconsideration*, 25 FCC Rcd at 4190 ¶ 18, 4197 ¶ 31.

additional network congestion caused by such traffic.[82] Under our data roaming rule, providers will have the ability to negotiate commercially reasonable measures to safeguard the quality of service against network congestion that may result from roaming traffic or to prevent harm to the network.[83] This rule also includes the ability to offer individualized, commercially reasonable terms, including rates, and to evaluate a number of factors on a case-by-case basis in determining commercial reasonableness. We find that this approach strikes the best balance between concerns over the potential for congestion or other harms from roaming traffic and the significant benefits that data roaming arrangements can provide to consumers.

24. We reject arguments by AT&T and Verizon Wireless that a data roaming rule is unnecessary because data roaming agreements are occurring without regulation.[84] We find that providers have encountered significant difficulties obtaining data roaming arrangements on advanced "3G" data networks, particularly from the major nationwide providers.[85] For example, Cellular South states that after constructing its own EVDO facilities in some portions of its service area, its requests for data roaming on large carriers' compatible networks were "rebuffed" for over a year.[86] OPASTCO and NTCA state that "rural wireless carriers' attempts to enter into negotiations with the nationwide wireless providers for data roaming agreements are many times rejected out of hand, with a citation to the lack of a data roaming requirement in the Commission's rules" and that "[t]his trend has increased as the mobile wireless industry has begun to transition to 3G wireless services."[87]

25. We observe that AT&T has largely refused to negotiate domestic 3G roaming arrangements until recently,[88] even though it launched its 3G service in 2005 and was providing coverage to 275 major metropolitan areas in May 2008.[89] For example, RTG has stated that "collectively, its

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[82] AT&T Comments at 44-45. *See also* AT&T Comments at 2; Verizon Wireless Comments at 47; AT&T Reply Comments at 26-27; Verizon Wireless Reply Comments at 21.

[83] *See infra* III.C. As a consequence, we do not agree with Verizon Wireless that host providers could be forced by this requirement to incur significant financial expenditure to expand capacity by adding cell sites, backhaul, network equipment, and spectrum resources. Verizon Wireless Comments at 47.

[84] *See* AT&T Comments at 2, 32-33, 36-37; Verizon Wireless Comments at 7-9; Verizon Wireless Reply Comments at 10-13; *see also* AT&T Feb. 4, 2011 *Ex Parte* at 2 ("As the record makes clear, such 2G data roaming agreements are now ubiquitous, and were reached widely throughout the industry on mutually agreeable terms without any regulatory oversight.").

[85] Letter from Michael H. Pryor, Counsel to Cox Communications, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 09-104, filed Apr. 28, 2010 (Cox Apr. 28, 2010 *Ex Parte*). *See also* NTELOS Reply Comments at 6; OPASTCO & NTCA Comments at 2, 4; RCA Comments at 15; Letter from Thomas J. Sugrue, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Feb. 9, 2011 (stating that in some cases over the past 36 months, "potential roaming partners were willing to offer 2G and 2.5G roaming, but would not offer access to their 3G network"). *Compare* Letter from Caressa D. Bennet, Counsel to RTG, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 22, 2010 *with* Letter of Tamara Preiss, Vice President, Regulatory Affairs, Verizon Wireless, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 5, 2010 (Verizon Wireless Nov. 5, 2010 *Ex Parte*).

[86] Cellular South Comments at 21.

[87] OPASTCO & NTCA Comments at 4.

[88] *See* AT&T Reply Comments at 32-34.

[89] Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, *Eleventh Report*, 21 FCC (continued….)

members have not been able to enter into 3G data roaming agreements with AT&T."[90] In addition, according to RCA, AT&T indicated "recently" that "it will not negotiate any 3G data roaming agreements unless it helps to fill-in its nationwide coverage map."[91] AT&T itself stated in its Reply Comments filed July 12, 2010, that it had just "begun to offer 3G roaming arrangements . . . ."[92] In mid-November, 2010, it stated that it was "actively negotiating" several domestic 3G agreements but did not indicate that it had entered into any such agreements.[93] On March 24, 2011, AT&T filed an *ex parte* with the Commission indicating that it had entered into a domestic HSPA+ roaming agreement, with Mosaic Telecommunications[94] -- apparently, its first roaming agreement for data service above 2.5G.

26. Commenters also assert difficulties reaching agreements with Verizon Wireless. Cox Communications states that obtaining an initial response to a request to negotiate a roaming agreement with Verizon Wireless required nearly four months and that negotiations over the terms of Verizon Wireless's requirement for a nondisclosure agreement consumed another four months; and thus, actual negotiations over terms and conditions of a roaming agreement did not even begin for eight months after Cox's initial request.[95] RTG and RCA assert that Verizon Wireless has "told numerous RTG members

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Rcd 10947, 10993-94 ¶ 113 (2006); Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, *Twelfth Report*, 23 FCC Rcd 2241, 2302-2303 ¶ 137 (2008); Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, *Thirteenth Report*, 24 FCC Rcd 6185, 6255-6256 ¶ 139 (2009); *Fourteenth Competition Report*, FCC 10-81 at 70 ¶ 115.

[90] *See* Letter from Caressa D. Bennet, General Counsel, Rural Telecommunications Group, Inc., to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 3, 2010. *See also* Letter from Rebecca Murphy Thompson, General Counsel, Rural Cellular Association, and Caressa D. Bennet, General Counsel, Rural Telecommunications Group, RTG, to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 12, 2010 (RCA & RTG Nov. 12, 2010 *Ex Parte*) (stating that "[a]fter launching service in 2009, Mosaic Telecom attempted to negotiate a 3G data roaming agreement with AT&T but was denied outright"); Letter from Daryl A. Zakov, Attorney for CTC Telcom dba Mosaic Telecom, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Jan. 14, 2011 (stating that Mosaic "proposed including 3G roaming with [a June 2009] roaming agreement but was told AT&T was not interested in a 3G roaming agreement with Mosaic," that AT&T "did in fact reach out to Mosaic on November 15, 2010 to negotiate a 3G data roaming agreement" but that after Mosaic responded with a particular rate proposal the same day, and following "a short series of e-mail exchanges, AT&T has stopped communicating with Mosaic"). In a January 18, 2011 response, AT&T does not state whether or not it initially refused to negotiate a 3G roaming agreement, but emphasizes that it initiated discussions with Mosaic for such an agreement in 2010, and it disputes Mosaic's assertion that it has "stopped communicating" with Mosaic, stating that it is "in the process of responding to Mosaic's rate proposal." Letter from Jeanine Poltronieri, AT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Jan. 18, 2011, at 1-2. On March 24, 2011, AT&T reported that it had reached a HSPA+ roaming agreement with Mosaic Telecommunications. *See infra* n.94.

[91] *See* RCA & RTG Nov. 12, 2010 *Ex Parte*.

[92] AT&T Reply Comments at 32.

[93] *See* Letter from Michael Goggin, AT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 23, 2011, at 2.

[94] *See* Letter from Jeanine Poltronieri, AT&T, to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Mar. 24, 2011 (AT&T Mar. 24, 2010 *Ex Parte*). *See also* Letter from Daryl A. Zakov, Attorney for CTC Telcom dba Mosaic Telecom, to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Mar. 30, 2011 (Mosaic Mar. 30, 2011 *Ex Parte*).

[95] Cox Reply Comments at 7 (citing Cox Apr. 28, 2010 *Ex Parte*).

that it will not enter into EVDO (3G) roaming agreements in areas where it already has 3G coverage," and therefore is not open to 3G roaming agreements for customers of smaller providers that serve areas where Verizon Wireless has its own network coverage.[96] Although Verizon Wireless indicates that it currently has a number of EV-DO roaming arrangements with other providers (including with several providers that it asserts are members of RCA),[97] it had only nine EV-DO roaming agreements as of April, 2010 even though its EV-DO network has been in operation since October of 2003 and as of June 2007, covered more than 210 million pops with EV-DO Rev. A.[98] We note again the importance of roaming to consumers in rural areas, where mobile data services may be solely available from small rural providers, and therefore the past difficulties of rural providers in obtaining data roaming presents a serious concern.

27. We are also concerned that the recent successes by some providers in obtaining 3G data roaming agreements or offers[99] may have been the result of large providers seeking to defuse an issue under active Commission consideration and may not accurately reflect the ability of requesting providers to obtain data roaming arrangements in the future if the Commission were to decide not to adopt any data roaming rules.[100] For example, although the Commission determined in 2007 that CMRS providers were not entitled to voice roaming within their own licensed service areas (the "home roaming" exclusion) in part because it contemplated that providers would negotiate home roaming agreements, we concluded in the *Order on Reconsideration* that "the adoption of an automatic roaming obligation with a home roaming exclusion appears to have significantly reduced the incentive to make home roaming available, and will lead to a reduction in the availability of home roaming arrangements over time."[101] Consolidation in the mobile wireless industry has reduced the number of potential roaming partners for some of the smaller, regional and rural providers.[102] In addition, this consolidation may have simultaneously reduced the incentives of the largest two providers to enter into such arrangements by reducing their need for

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[96] *See* Letter from Rebecca Murphy Thompson, General Counsel, Rural Cellular Association, and Caressa D. Bennet, General Counsel, Rural Telecommunications Group, RTG, to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 12, 2010 (RCA & RTG Nov. 12, 2010 *Ex Parte*).

[97] *See* Verizon Wireless Jan. 18, 2011 *Ex Parte*; Verizon Wireless Nov. 5, 2010 *Ex Parte*. Verizon Wireless stated in April, 2010, that "[n]o carrier . . . can credibly claim that Verizon Wireless has denied a request for data roaming services." *See* Letter from Tamara Preiss, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Apr. 13, 2010 (Verizon Wireless Apr. 13, 2010 *Ex Parte*), at 4.

[98] *See* "Verizon Wireless: 100 Percent Of Wireless Broadband Network Now Enhanced With Faster Speeds," http://news.vzw.com/news/2007/06/pr2007-06-28h.html.

[99] *See*, *e.g.*, AT&T Reply Comments at 32-34.

[100] *See* Letter from Grant B. Spellmeyer, United States Cellular Corporation, to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Feb. 18, 2011, at 2 (asserting that US Cellular's "ability to eventually enter into a data roaming agreement was reinforced by the strong likelihood that the FCC would act to require the negotiation of data roaming agreements on reasonable terms and conditions."). *See also* Mosaic Mar. 30, 2011 *Ex Parte* (stating that it had reached an HSPA+ roaming agreement with AT&T and that the Commission announcement of its decision to adopt a data roaming rule "certainly accelerated the near-dormant pace of the negotiations").

[101] *Order on Reconsideration*, 25 FCC Rcd at 4195 ¶¶ 26, 28.

[102] *See Order on Reconsideration*, 25 FCC Rcd 4181, 4196 ¶ 29; Letter from Thomas J. Sugrue, T-Mobile USA, Inc., to Chairman Julius Genachowski, FCC, WT Docket No. 05-265, filed Mar. 11, 2011, at 2 ("Consolidation in the wireless industry – specifically acquisition of many regional carriers by AT&T and Verizon – has reduced the total number of potential roaming partners.").

reciprocal roaming.[103] We also note that AT&T and Verizon Wireless are only now deploying "fourth-generation" Long Term Evolution networks.[104] Based on the record before us, we find it likely that these providers will not be willing to offer roaming arrangements that cover these networks any time in the near future, except in very limited circumstances.[105] We agree with many of the commenters that, given the coverage of these nationwide providers, there is a serious risk they might halt the negotiations of roaming on their advanced mobile data networks altogether in the future in the absence of Commission oversight, harming competition and consumers.[106] Given these developments in the mobile services marketplace, and in light of past difficulties that providers have experienced obtaining data roaming arrangements, we find that adopting a balanced, flexible requirement will help to promote the availability of data roaming in the future. We note that we intend to closely monitor further development of the commercial mobile broadband data marketplace and stand ready to take additional action if necessary to help ensure that our goals in this proceeding are achieved.

28. In sum, we conclude that there are substantial benefits that will be derived from adoption of the data roaming rule set forth herein, and that these benefits substantially outweigh the minimal costs associated with the rule. We reach this conclusion even though it is not possible to quantify with precision the benefits and costs based on the information we have before us, and even though many of the benefits are not subject to quantification. Adoption of the rule, which is designed to promote access to nationwide mobile broadband service and enhance incentives for providers to invest in deployment of broadband facilities, is necessary to help ensure that the benefits of mobile broadband services will be more fully realized. Absent such a rule, there will be a significant risk that fewer consumers would have nationwide access to competitive mobile broadband services, and that even voice roaming will ultimately be rolled back as voice becomes a data application.

29. The benefits of adopting the proposed data roaming obligation are substantial. The rule promotes the availability of commercially reasonable data roaming arrangements that might not otherwise be available. Consistent with the record comments submitted by providers of all sizes serving a large

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[103] *See, e.g.*, T-Mobile Comments at 8.

[104] *See* Verizon Launches 4G LTE In 38 Major Metropolitan Areas By The End Of The Year, Oct. 6, 2010, http://news.vzw.com/news/2010/10/pr2010-10-01c.html; Eric Zeman, *AT&T Says LTE Roll-Out Coming Mid-2011*, InformationWeek, Sept. 16, 2010, at http://www.informationweek.com/news/telecom/voice/showArticle.jhtml?articleID=227500076&cid=RSSfeed_IWK_News; Phil Goldstein, AT&T to Launch LTE by Mid-2011, FierceWireless, Sept. 16, 2010, at http://www.fiercewireless.com/story/t-launching-lte-mid-2011/2010-09-16 (citing AT&T Operations CEO John Stankey). Cellular South asserts that it has "asked national carriers for assurances that [they] will able to negotiate for 4G roaming at the appropriate time," but that these requests have been refused. Letter from Eric Graham, Cellular South, Inc., to Marlene H. Dortch, FCC, WT Docket No. 05-265, filed Feb. 9, 2011, at 2.

[105] We note that Verizon Wireless has indicated its willingness to enter into roaming agreements with small rural providers that agree to construct 4G LTE networks in areas where Verizon Wireless does not currently have 4G coverage, use Verizon Wireless's 700 MHz spectrum, and substantially integrate their network operations into Verizon Wireless's 4G LTE network. *See Verizon Wireless Nov. 5, 2010 Ex Parte* at 2 ("Verizon Wireless will offer 4G data roaming to participants in its LTE in Rural American [sic] program."). *See also* Verizon Wireless Comments at 17; Verizon Wireless Reply Comments at 1, 33 n.104.

[106] *See, e.g.*, Blooston Comments at 7; Cellular South Comments at 17; Leap Reply Comments at 18; Media Access Project Comments at 6; NTCH Comments at 3; T-Mobile Comments at 10-11; MetroPCS Reply Comments at 11-12; NCTA Reply Comments at 2-3; NTELOS Reply Comments at 6; RCA Reply Comments at 6; US Cellular Reply Comments at 3.

portion of consumers throughout all parts of this country, millions of American consumers who otherwise might not have full access to mobile broadband services will benefit from adoption of the rule.

30. Furthermore, we find that the rule will promote significant investment in facilities-based broadband networks throughout the country. As discussed above, several providers state that a data roaming obligation is necessary to provide an acceptable level of risk for the investment in data capabilities for their network, as it increases their chances of being able to offer their subscribers the nationwide coverage needed for a viable product offering. Based on the information in the record, we expect that there could be billions of dollars of additional investment in upgraded facilities and/or expanded coverage, providing consumers with substantial benefits while also creating thousands of jobs.[107]

31. With the added investment and deployment of broadband services by multiple providers, additional benefits will result from increased competition. As discussed above, several commenters have stated that a data roaming obligation is necessary for them to provide competitive services, and enables them to upgrade existing services or build out facilities-based coverage in new markets. The benefits of competition include likely lower prices for such services, which will result in direct consumer surplus as well as greater utilization of broadband data services. In addition, less expensive mobile broadband services increase the availability of these services to consumers, which in turn creates incentives for edge providers to develop innovative new services that use this capability. Although the benefits cannot be calculated with precision, a rough estimate is that the benefits from the increased competition would be in the billions of dollars per year.[108]

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[107] *See* Bright House Dec. 3, 2010 *Ex Parte* (Affidavit of Leo Cloutier, Senior VP) at 5 (Bright House's entry into data services market would produce several hundred million dollars in capital investment); SkyTerra Comments at 3-4 (as a new entrant, SkyTerra asserts data roaming obligation is necessary as it builds out its network, stating that it has billions of investment dollars on the line); Cellular South, February 9, 2011 *Ex Parte* at 3 ("The capital needed for an extensive deployment of LTE . . . has remained sidelined as a result of the lingering uncertainty surrounding data roaming and interoperability); NTELOS Comments at 3 ("Before pursuing a 4G upgrade, with a capital outlay of many millions of dollars and increased operating expenses, NTELOS must be confident that it will continue to be able to reach agreements on roaming arrangements with other carriers."). *See generally* paragraphs 17-19 *supra*. We also note that studies find that there could be a substantial increase in jobs in rural America that would result from increased broadband deployment. *See, e.g.,* "Economic Impact of Wireless Broadband in Rural America" by Raul Katz *et al*, attachment to Letter from Rebecca Murphy Thomas, General Counsel, RCA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed February 24, 2011.

[108] Our estimate is based on a consideration of the impact that lower prices for data services could have on the customers who now or in the future are likely to have data plans. At the end of 2009, for instance, approximately 52.5 million customers had wireless Internet access subscriptions (s*ee Internet Access Services: Status as of December 31, 2009*, Industry Analysis and Technology Division, Wireline Telecommunications Bureau, FCC, December 2010, at 15); this number is anticipated to increase substantially over the next few years. Assuming, based on this figure, that 52.5 million customers now have data plans, the additional usage following the implementation of the data roaming rule would be determined by the amount by which prices are lower and by the price elasticity of data services. The consumer benefit of marginal units can be valued at the price of those units.

Using Verizon Wireless data, for example, it can be assumed that providers incur a variable cost of serving this additional demand equal to approximately 32% of the revenue. (For 2009, Verizon Wireless reports $62,131million in service and equipment revenue, $7,722 million in cost of services, and $12,222 million in equipment costs. *See* Verizon Wireless Form 10-K 3/1/2011. Treating all of these costs as variable costs yields a variable cost to revenue ratio of 19,944/62,131 = ~ 0.32.) The record does not address the elasticity of demand for wireless broadband services, but the academic literature provides estimates of elasticities for wireless voice minutes of use and wired broadband usage. For wireless voice minutes of use, these estimates range between -0.1 and -1.3. (*See, e.g.*, Allan (continued….)

32. By comparison with the benefits of adopting a data roaming rule that promotes the availability of data roaming arrangements, we find that the potential costs of adopting the rule that requires providers to offer data roaming arrangements on commercial reasonable terms and conditions are small.

33. As discussed above, the two major opponents of a data roaming obligation – Verizon Wireless and AT&T – assert that adoption of such an obligation could discourage investment by providers, particularly in rural areas, which in turn would reduce mobile broadband availability and utilization. The rule adopted in this Order, however, allows host providers to control the terms and conditions of proffered data roaming arrangements, within a general requirement of commercial reasonableness. For the reasons stated above, we conclude that such terms would preserve providers' incentive to invest in their networks. Indeed, neither AT&T nor Verizon state that they would invest less under a roaming obligation and therefore do not expect the roaming rule to reduce the investment of host networks.

34. Another potential cost is the possibility that requesting providers will substitute roaming for investment in coverage and accordingly under-invest in deploying new infrastructure. Again, however, our rule obligates the host provider only to offer data roaming on commercially reasonable terms and conditions. As discussed above,[109] such a standard will provide the requesting provider with sufficient incentive to invest in facilities, except where doing so would be economically infeasible or

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T. Ingraham, Sidak, J. Gregory, "Do States Tax Wireless Services Inefficiently – Evidence on the Price Elasticity of Demand," 24 Va. Tax Rev. 249, Fall, 2004; Christian Growitsch, J. Scott Marcus, and Christian Wernick, "The effects of lower Mobile Termination Rates (MTRs) on retail price and demand," Communications & Strategies Article, October 1, 2010; Youngsoo Kim, Rahul Telang, William B. Vogt, Ramayya Krishnan, "An Empirical Analysis of Mobile Voice Service and SMS: A Structural Model," Management Science Vol. 56, No. 2, pp. 234–252, February 2010.) The estimates in the academic literature for wired broadband usage range from -0.97 to -2.5. (*See, e.g.*, M. Cardona, A. Schwarz, B. B. Yurtoglu, and C. Zulehner, "Demand Estimation and Market Definition for Broadband Internet Services," University of Vienna, 2008; P. Rappaport, L. Taylor, and D. Kridel, "Willingness to Pay and Demand for Broadband Services, in (Ed), Allan L. Shampine, *Down to the Wire*, Nova Science Publishers Inc., Hauppauge, NJ, 2003; P. Rappaport, D. Kridel, L. Taylor, K. Dunny-Deno, and J. Alleman, "Residential Demand for Access to the Internet," in *International Handbook of Telecommunications Economics*, Vol. II, ed. G. Madden, pp. 55-72, Edward Elgar, Cheltenham, UK, 2003.)

Since wireless data services are likely to be more price elastic than voice services, and likely to more closely mirror wired broadband service elasticities, the midpoint of the range of elasticity estimates for wireless voice (which is -0.7) would likely underestimate the elasticity of wireless data services alone, and therefore provides a conservative estimate of the social benefit of an output increase arising from lower prices. Using this elasticity and an average revenue per user (ARPU) of $513 per year for non-text data services, a 5% industry-wide reduction in prices for data services would imply approximately $17.51 in additional usage per year for 52.5 million subscribers. After subtracting variable costs, the aggregate social benefit (increase in aggregate surplus) can be estimated to be ~$0.62 billion per year. (An ARPU of $513 per year is calculated by multiplying $41.5 billion in total data revenue (reported in Robert F. Roche and Lesley O'Neill, CTIA's Wireless Industry Indices, Semi-Annual Data Survey Results: A Comprehensive Report from CTIA Analyzing the U.S. Wireless Industry, Year-End 2009 Results, May 2010, at 118-119) by 65% (the percentage of data revenue not attributed to text messaging in 2008, *see Fourteenth Competition Report* at p. 116 (Chart 28)), then divided by 52.5 million wireless Internet subscribers.) Assuming a 10% industry-wide reduction in prices for data would imply a ~$1.2 billion benefit to society per year. If an elasticity of -1.1 were used, it would suggest a range for the increased social benefit of between ~$0.97 billion to $1.9 billion per year.

[109] *See* para. 21 *supra.*

unrealistic regardless of the availability of roaming agreements.[110] Further, we provide that the data roaming obligation does not create mandatory resale obligations.

35. An additional potential cost could result from harm to the host provider's network that might result from congestion or technical problems. To enable a host provider to safeguard its quality of service against network congestion, the order expressly provides that host providers are permitted to negotiate commercially reasonable measures to safeguard against network congestion that might result from data roaming traffic.[111] The host provider thus would have the flexibility to account for the additional traffic roaming would generate, and therefore avoid harmful congestion. Similarly, the rule expressly provides that it is reasonable for a provider not to offer a data roaming arrangement to a requesting provider that is not technologically compatible, or where it is not technically feasible to provide roaming for the particular data service for which roaming is requested, or where any changes to the host provider's network required to accommodate roaming are not economically reasonable.

36. Thus, we conclude that there are substantial benefits that will be derived from adoption of the data roaming rule set forth herein, and that these benefits substantially outweigh the minimal costs associated with the rule.

B. Scope and Requirements of the Data Roaming Rule

37. Background. In the *Second Further Notice*, we sought comment on the appropriate scope of any data roaming requirements that we might adopt, including what entities should be entitled to request data roaming and whether the scope of the rules should differ in various respects from the roaming obligations that the Commission has established for interconnected services.[112] In addition, we requested comment on whether the scope of entities that would be covered by the rules should include providers of commercial mobile data services that do not also offer CMRS, and whether the class of covered entities should be limited to terrestrial networks or also encompass satellite providers of mobile data services (either by satellite or ancillary terrestrial component).[113]

38. In particular, we sought comment on what specific terms, conditions, or restrictions the Commission should include in any data roaming rule that we might adopt. We wanted to know whether any conditions might be appropriate to help ensure that providers' incentives to innovate and invest are not undermined.[114] We inquired whether, for instance, we should limit any data roaming requirement in a manner similar to the manner by which the Commission has addressed push-to-talk and text messaging service, whereby the requesting provider must provide the underlying service for which roaming is requested, roaming must be technically feasible, and any changes to the host network necessary to accommodate roaming access to the requested service must be economically reasonable.[115] We stated our belief that including these conditions may be appropriate in the data roaming context, noting in particular that requiring a requesting provider to offer a data service on its network would appear to be an essential

[110] In our previous decision applying the voice roaming obligation to "in-market" roaming, the Commission concluded that there may be areas where building another network may be economically infeasible or unrealistic. *Order on Reconsideration*, 25 FCC Rcd at 4192 ¶ 23.

[111] *See infra* III.B.

[112] *See Second Further Notice*, 25 FCC Rcd at 4221 ¶ 85.

[113] *See id*.

[114] *See Second Further Notice*, 25 FCC Rcd at 4222, ¶ 87.

[115] *See id.*; *Further Notice*, 22 FCC Rcd at 15845-46 ¶ 79.

element of a request for data roaming, and would help ensure that the request is not a request for resale.[116] Further, we sought comment on whether these conditions would address concerns regarding the potential technical issues that may arise when implementing data roaming arrangements.[117]

39. We also sought comment on the impact of data roaming obligations on the network capacity of host providers and their ability to provide full access to their own customers.[118] In the 2007 *Further Notice*, the Commission had sought comment on any issues concerning network capacity, network integrity, or network security if automatic roaming obligations were extended to non-interconnected services and features, and on the effect that automatic roaming would have on the capacity of data networks and the ability of providers to offer full access to their customers.[119] In the *Second Further Notice*, we requested specific information "on how concerns regarding capacity or traffic management issues from data roaming traffic could be addressed," particularly as to network congestion issues.[120]

40. Discussion. As discussed above, we conclude that the public interest would be served by adopting a data roaming rule. We will require that facilities-based providers of commercial mobile data services offer data roaming arrangements to other such providers on commercially reasonable terms and conditions, subject to certain limitations specified below. We determine that the data roaming rule we adopt should apply to all facilities-based providers of commercial mobile data services. In establishing this rule, we seek to balance various competing interests, and we find that it is appropriate to specify certain grounds on which, under the rule adopted today, providers of commercial mobile data services can reasonably refuse to offer a data roaming arrangement. We also clarify that under the data roaming rule adopted herein, providers of commercial mobile data roaming services are permitted to negotiate commercially reasonable measures to safeguard quality of service against network congestion that may result from roaming traffic or to prevent harm to their networks. We discuss the rule and limitations and the standard of commercial reasonableness in more detail below.

41. *Covered Entities.* Consistent with the comments addressing the scope of covered entities, we determine that the data roaming requirement should apply to all facilities-based providers of commercial mobile data services. For purposes of data roaming, we define a "commercial mobile data service" as any mobile data service that is not interconnected with the public switched network but is (1) provided for profit; and (2) available to the public or to such classes of eligible users as to be effectively

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[116] *See Second Further Notice*, 25 FCC Rcd at 4223 ¶ 89. We noted that, as with our automatic voice roaming requirement, we did not intend a data roaming requirement "to constitute a resale requirement" and we emphasized we would decide in the case of a specific dispute whether data roaming should be provided in a particular instance, and on what terms, or whether the request is essentially a request for resale. *Id.*

[117] *See Second Further Notice*, 25 FCC Rcd at 4223 ¶ 90.

[118] *See Further Notice*, 22 FCC Rcd at 15846 ¶ 80; *Second Further Notice*, 25 FCC Rcd at 4220-21 ¶¶ 80-84.

[119] *Further Notice*, 22 FCC Rcd at 15846 ¶ 80. The Commission noted its concern that requiring a carrier to offer roaming service on its data network to the customers of other carriers may result in the carrier facing capacity constraints that adversely affect its own customers, and asked whether a carrier should have the right to limit access to its network by roamers and what would justify any such limits. *Id.*

[120] *See Second Further Notice*, 25 FCC Rcd at 4220 ¶¶ 80-81. Some comments filed in response to the *Further Notice* addressed quality of service in terms of congestion. *See id.*, 25 FCC Rcd at 4220 ¶ 80 n.226 (contrasting commenters arguing that roaming traffic will create congestion problems and undermine the quality of service for users with those arguing that additional capacity needed to accommodate roamers will be negligible and that capacity concerns therefore do not justify denying automatic roaming).

available to the public. The scope of the current roaming obligation in Section 20.12 covers the CMRS providers' provision of mobile voice and data services that are interconnected with the public switched network, as well as their provision of text messaging and push-to-talk services.[121] The rule adopted herein will complement the current roaming obligation in Section 20.12 and cover mobile services that fall outside the scope of that obligation. Under our decision today, as long as a provider provides mobile data services that are for profit and available to the public or to such classes of eligible users as to be effectively available to the public, it will be covered by the rule adopted herein regardless of whether the provider also provides any CMRS and without regard to the mobile technology it is utilizing to provide services. Thus, the scope includes MSS/ATC providers that offer commercial mobile data services that meet these requirements. In addition, the data roaming rule adopted herein covers all facilities-based providers of commercial mobile data services, including those constructing network facilities to offer service on a wholesale basis.[122] Further, providers of commercial mobile data services are covered without regard to the devices used to access or receive their services. This approach is supported by those parties in the record that commented on this issue,[123] will help to achieve technological neutrality in the data roaming obligation, and will ensure that the rule we adopt is adequate in the face of rapid changes in commercial mobile technology and the commercial mobile ecosystem overall.

42. *Application of the Commercial Mobile Data Roaming Rule*. The rule we adopt today requires all facilities-based providers of commercial mobile data services to offer data roaming arrangements to other such providers on commercially reasonable terms and conditions. As noted above, we conclude that this rule serves the public interest by promoting connectivity for and nationwide access to mobile data services and by promoting investment in and deployment of mobile broadband networks, among other benefits. When a request for data roaming negotiations is made, as a part of the duty of providers to offer data roaming arrangements on commercially reasonable terms and conditions, a would-be host provider has a duty to respond promptly to the request and avoid actions that unduly delay or stonewall the course of negotiations regarding that request. We will determine whether the terms and conditions of a proffered data roaming arrangement are commercially reasonable on a case-by-case basis, taking into consideration the totality of the circumstances.[124]

43. The duty to offer data roaming arrangements on commercially reasonable terms and conditions is subject to certain limitations. In particular: (1) providers may negotiate the terms of their roaming arrangements on an individualized basis; (2) it is reasonable for a provider not to offer a data roaming arrangement to a requesting provider that is not technologically compatible; (3) it is reasonable for a provider not to offer a data roaming arrangement where it is not technically feasible to provide roaming for the particular data service for which roaming is requested and any changes to the host

[121] *See* 47 C.F.R. § 20.12(a)(2).

[122] *See* SkyTerra Comments at 6. As we have stated in the past, however, roaming arrangements cannot be used as a backdoor way to create *de facto* mandatory resale obligations. *See Report and Order*, 22 FCC Rcd at 15836 ¶ 51.

[123] *See, e.g.*, RCA Comments at 1 (urging the Commission to extend roaming obligations to data services, including mobile broadband services, which are provided without interconnection to the public switched network); Cincinnati Bell Comments at 4 (arguing the Commission should "extend automatic roaming obligations to all data services and . . . apply the obligation to all facilities-based providers, whether or not they also provide CMRS"); SkyTerra Comments at 1 (supporting extending automatic roaming obligations to all data services), 4-5 ("The very nature of data roaming requires that the Commission apply it to a broader set of entities than are currently covered by the automatic roaming rule . . . [and] . . . the Commission should apply the obligation, at a minimum, to all providers of facilities-based commercial data services.").

[124] *See infra* III.D.

provider's network necessary to accommodate roaming for such data service are not economically reasonable; and (4) it is reasonable for a provider to condition the effectiveness of a data roaming arrangement on the requesting provider's provision of mobile data service to its own subscribers using a generation of wireless technology comparable to the technology on which the requesting provider seeks to roam.[125]

44. We conclude that it serves the public interest to include these limitations in recognition of the particular technical and policy issues that arise with respect to the provision of data services. As discussed above, we recognize that the commercial mobile broadband data marketplace, particularly 4G deployment, is still in a critical early stage. It encompasses many different services offered in conjunction with many different devices employing wide-ranging technologies and exacting varying network demands. In light of that continuing evolution, we find that the scope we establish for the roaming rule is sufficiently flexible to apply to a wide range of ever changing technologies and commercial contexts, and should afford parties negotiating commercial mobile data services roaming agreements a solid framework within which to arrange their negotiations and ultimately reach agreement on commercially reasonable terms. Below, we further discuss and clarify each of these limitations in turn.

45. First, providers may negotiate the terms of their roaming arrangements on an individualized basis. In other words, providers may offer data roaming arrangements on commercially reasonable terms and conditions tailored to individualized circumstances without having to hold themselves out to serve all comers indiscriminately on the same or standardized terms. Conduct that unreasonably restrains trade, however, is not commercially reasonable. As discussed below, the Commission may consider a range of individualized factors in addressing disputes over the commercial reasonableness of the terms and conditions of the proffered data roaming arrangements.[126] Giving providers flexibility to negotiate the terms of their roaming arrangements on an individualized basis ensures that the data roaming rule best serves our public interest goals discussed herein, and the boundaries of the rule are narrowly tailored to execute our spectrum management duties under the Act.

46. Second, it is commercially reasonable for providers not to offer a data roaming arrangement to a requesting provider that is not technologically compatible. We clarify, however, that technological compatibility does not necessarily require the same air interface in the network infrastructure of the two providers.[127] Technological compatibility can be achieved by using mobile equipment that can communicate with the host provider's network.[128] For example, requesting providers that operate on different bands or technologies than the host might achieve technological compatibility by

[125] In other words, a provider offering service only through, for example, a 1xRTT or GPRS/EDGE network, would not be able to rely on the data roaming obligation for this service to obtain roaming on a later generation EV-DO or UMTS/HSPA network until it starts offering the later generation service.

[126] *See infra* III.D.

[127] *Report and Order*, 22 FCC Recd at 15819 ¶ 5 (stating that "[t]he basic technical requirement for roaming, whether done manually or automatically, is that the subscriber has a handset that is capable of accessing the roamed-on (host) system."). *See also Manual and Automatic Roaming Obligations Pertaining to Commercial Mobile Radio Services*, Notice of Proposed Rulemaking, 15 FCC Rcd 21628, 21629 ¶ 2 (2000) (*2000 CMRS Roaming NPRM*); *Interconnection and Resale Second Report and Order*, 11 FCC Rcd at 9466 ¶ 7.

[128] We expect that, when one of two overlapping frequency bands is a subset of the other, a mobile device with a compatible air interface technology that supports the larger of the two bands will be capable of communicating with a network deployed in the smaller band.

providing subscribers with multi-band[129] and multi-mode user devices.[130]

47. Even if providers are technologically compatible, however, roaming for a particular service may not be feasible for other technical reasons.[131] Accordingly, it is also commercially reasonable for a provider to refuse to enter into a data roaming arrangement for a particular data service where it is not technically feasible to provide roaming for such service and where any changes to its network that are necessary to accommodate such data roaming are economically unreasonable. With regard to these grounds for reasonably refusing to enter into a roaming arrangement, we disagree with commenters that they are too vague or would be too open to interpretation by providers seeking to delay or deny roaming access.[132] As noted above, identical conditions already apply to requests for push-to-talk and text-messaging roaming arrangements.[133] Further, we find that these grounds will offer parties negotiating roaming agreements reasonable flexibility to negotiate terms without, for example, unduly hampering a host provider with the burden of either adopting technologies which it has not already adopted in order to accommodate the requesting provider's technology or undertaking economically unreasonable changes to its network.

48. Finally, we provide that it is commercially reasonable for a provider to condition the effectiveness of a roaming arrangement on the requesting provider's provision of mobile data service using a generation of wireless technology comparable to the technology on which the requesting provider seeks to roam. We note that as with technological compatibility, this does not mean that the requesting provider must have exactly the same air interface as the host provider.[134] Rather, this focuses on capabilities, including data rates, of the generation of mobile wireless technology that is being used to provide services to subscribers. Permitting a service provider to condition the effectiveness of a roaming arrangement in this circumstance provides additional incentives for the requesting provider to invest in and upgrade its network to offer advanced services to its subscribers and ensures that the requesting provider is not merely reselling the host provider's services. This limitation prevents providers, for example, from only building a 2G network, providing their customers with 3G capable handsets, and then relying on roaming arrangements to provide nationwide 3G coverage, and thus reasonably addresses concerns raised by AT&T.[135] To prevent undue delay in negotiations, we clarify that a host provider may

[129] We note that in the case of overlapping bands, it is possible that multi-band support could be accomplished via a software solution in the device or a software solution in the network. The term "multi-band support" is not necessarily intended to imply a hardware solution in the mobile device.

[130] *See, e.g.*, MetroPCS Comments at 50-51; RCA Comments at 17-18; Sprint Comments at 6 n.11; T-Mobile Reply Comments at 17; U.S. Cellular Reply Comments at 4-5.

[131] *See Report and Order*, 22 FCC Rcd at 15837 ¶ 55.

[132] SouthernLINC Reply Comments at 23-24.

[133] *See, e.g.*, Cincinnati Bell Comments at 14.

[134] *See, e.g.*, Leap Comments 28-29; RTG Comments at 8 & n.25; Leap Reply Comments at 25-26.

[135] *See* AT&T Comments at 63-66 (raising concerns that providers would have an incentive to build a 2G network, provide their customers with 3G capable handsets, and rely on roaming arrangements to provide national 3G coverage, and suggesting as example that a provider could build out a less expensive GSM/EDGE network in Los Angeles and provide customers with HSPA handsets that are backwards compatible with its GSM/EDGE network, and then rely on roaming arrangements to supply its customers with HSPA services in both its home area and throughout the country). For purposes of this rule, we note that a next generation network will be regarded as comparable to previous generation networks. For example, an LTE network provider can request non-interconnected data roaming from an HSPA or EDGE network provider.

not decline to enter into a roaming agreement with a requesting provider on the grounds that the requesting provider is not actually providing service at the time of the request for negotiations, but may tie the effectiveness of the agreement to the requesting provider offering the underlying service to its subscribers with a generation of wireless technology comparable to the technology on which it would roam. We find that incorporating this limitation as part of the scope of the data roaming rule is in the public interest and critical to ensuring facilities are deployed, helping to alleviate concerns about providers merely reselling commercial mobile data services on other networks.[136] While we agree that providers have many different legitimate business and technological reasons for rolling out services in certain markets and not in others,[137] we find that requiring, at a minimum, the underlying service to be offered by the requesting provider with a generation of wireless technology comparable to the technology on which it seeks to roam best balances competing interests of affording data roaming while also encouraging facilities-based service.

49. This limitation is also consistent with the Commission's previous roaming decisions where the Commission has consistently limited roaming obligations to provisioning of certain services on technologically compatible networks.[138] The limitation on covered services coupled with the technologically compatible networks requirement was sufficient to ensure that the generations of wireless technologies used were comparable. The commercial mobile data services marketplace, however, encompasses a broad array of generations of wireless technology and many different applications-- many of which may require different technical considerations and offer different data speeds. Some of these also may be more competitively attractive than others. We seek to encourage facilities-based offerings of advanced mobile data services by providers and usage of data roaming arrangements to supplement such offerings. Accordingly, it serves the public interest to focus on capabilities, including data rates, of the generation of mobile wireless technology that is being used to provide services to subscribers.

50. We decline to adopt certain other requirements proposed by AT&T, which suggests that, in order to preserve the proper incentives for investment, the Commission establish an "equal network" rule that would limit data roaming to only providers that use the same radio technologies and air interfaces and that have substantial networks of their own.[139] For the reasons discussed above, we conclude, contrary to AT&T's argument, that providers will not have heightened incentives under the rule adopted here to scale back their own deployments and "free-ride" on the superior investments of others.[140]

51. We find it is unnecessary to adopt a requirement of identical interfaces. We require that the air interfaces be comparable in terms of capabilities, which should achieve the same benefits as a requirement of identical interfaces while providing greater technological flexibility in the rule. Further,

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[136] *See, e.g.,* AT&T Comments at 65-66. *See also Second Further Notice,* 25 FCC Rcd at 4223 ¶ 89.

[137] *See, e.g.,* MetroPCS Comments at 49-52 (stating that these reasons could include not having sufficient spectrum to deploy such technology, needing the spectrum to service both existing customers and plan for future growth, or not deploying a technology in one metropolitan area or another because the technology may be incompatible with existing uses or may cause interference to other licensees).

[138] *See, e.g., Report and Order,* 22 FCC Rcd at 15831 ¶ 33 (stating that "[t]o be deemed reasonable, a request for automatic roaming may involve only those real-time, two-way switched voice or data services that are interconnected with the public switched network and utilize an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls"). *See also* T-Mobile Reply Comments at 17-18.

[139] AT&T Comments at 63-66.

[140] *Id.*

we agree with Leap and RCA that adopting a "substantial network" requirement could be problematic.[141] An inability to negotiate a roaming arrangement before making a substantial build out could deter new entrants and small, rural, and mid-sized providers from investing in broadband at the exact time such investment is sorely needed.[142] We are concerned that a "substantial network" requirement could hamper or dampen facilities-based build-out in rural areas by unduly limiting the role of roaming in network buildout. We also disagree with AT&T that, absent this requirement, providers will have heightened incentives to scale back their own deployments and "free-ride" on the superior investments of others.[143] As discussed above, the relatively high price of roaming compared to providing facilities-based service will often be sufficient to counterbalance the incentive to scale back deployments in favor of relying on another provider's network.[144] Further, although we do not find that lack of "substantial" networks deployments is categorically a commercially reasonable ground for declining to enter into a roaming arrangement, the Commission may consider the extent and nature of providers' build-out as one of the relevant factors in determining whether the proposed terms and conditions of a particular data roaming arrangement are commercially reasonable.[145]

52. *Reasonable safeguards against congestion.* With respect to any issues concerning network capacity, network integrity, or network security, we note that under the rule that we are adopting providers of commercial mobile data services are free to negotiate commercially reasonable measures to safeguard quality of service against network congestion that may result from roaming traffic or to prevent harm to their networks.[146] We expect any measures, methods, or practices to manage the roaming traffic to be part of the roaming terms and conditions offered by the host providers in their roaming arrangements given that once providers enter into a data roaming arrangement, the arrangement will govern the terms under which roaming is provided. Any issues arising in connection with the negotiation of these measures will be resolved in accordance with the dispute resolution procedures we adopt in this Order. We note that reasonable measures to safeguard against network congestion from roaming traffic are supported by a number of commenters,[147] and are already a feature of many commercially negotiated

[141] Leap Comments at 28-29; RCA Comments at 17-18.

[142] *See, e.g.*, Blooston Comments at 2, 10; Cellular South Comments at 20; MetroPCS Reply Comments at 52; RCA Comments at 7-10.

[143] AT&T Comments at 63-66.

[144] *See supra* III.A.

[145] *See infra* III.D.

[146] The record indicates that providers already commonly include in their negotiated roaming agreements terms that give a host provider the ability to suspend roaming service if roaming becomes impractical for reasons such as overload, outage, or other operational or technical issues. *See* Letter from Kathleen O'Brien Ham, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Dec. 20, 2010, at 4.

[147] *See* AT&T Comments at 61-63; NTCH Comments at 6; Clearwire Reply Comments at 14-15;Letter from Erin Boone, Clearwire, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Oct. 29, 2010 (Clearwire Oct. 29, 2010 *Ex Parte*) (stating that "mobile data roaming arrangements must be carefully negotiated and managed to prevent unexpected congestion across a carrier's network"); Letter from Howard J. Symons, Counsel to T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 2, 2010 (T-Mobile Nov. 2, 2010 *Ex Parte*) (a host carrier should be able to take reasonable management practices to address congestion attributable to roaming traffic, and also argues that the Commission must "make clear that the host carrier may not insist on suspension or management rights that have the intent or effect of undermining or frustrating its obligation to provide roaming on just and reasonable terms and conditions."); Letter from Charles W. McKee, Sprint Nextel, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 22, 2010 (Sprint Nov. 22, 2010 *Ex Parte*) (continued….)

roaming arrangements.[148] We caution, however, that host providers may not engage in stonewalling behavior or refuse to negotiate because of concerns over the impact of roaming traffic on network congestion.

53. We decline to further detail the specific measures that may be adopted to safeguard subscriber quality of service, as proposed by AT&T.[149] As discussed herein, the commercial mobile data services marketplace encompasses an array of generations of wireless technology and many different services -- many of which may require different technical considerations in resolving network congestion. Providers should have significant flexibility to negotiate safeguards subject to commercial reasonableness, and a dispute over the reasonableness of any particular measure can be addressed under the dispute resolution procedures, on a case-by-case basis based on the totality of circumstances. We do not agree with AT&T that our approach will lead to "constant second-guessing" by the Commission.[150]

54. We also decline to specify, as suggested by Clearwire, that data roaming be limited to "best efforts access" to the host provider's network.[151] We do not see the benefit in prohibiting parties from negotiating other access terms in their roaming arrangement.[152]

55. Host providers of commercial mobile data roaming services also are authorized to negotiate commercially reasonable measures to ensure that data roaming does not compromise the security and integrity of their networks.[153] We are aware of the risks network operators face from harmful devices on their networks and note that the Commission has previously considered the need for providers to protect their networks when it adopted open platform provisions for the 700 MHz Band C Block.[154] It would also be appropriate for providers of commercial mobile data roaming service to take

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(stating that network management practices should not conceal anticompetitive conduct). *Cf.* RCA Comments to *Further Notice* at 5 (supporting suspension or denial of service to roamer that causes congestion).

[148] *See* Clearwire Reply Comments at 15; AT&T Comments at 61-63. *See also* T-Mobile Nov. 2, 2010 *Ex Parte* ("T-Mobile's existing roaming agreements include a provision giving the host carrier the ability to suspend roaming service if roaming becomes impracticable for reasons such as system overload, system outage, or other operational or technical issues"). *Cf.* AT&T Comments at 39-40 (noting that because host providers have no control over the data plans, services and other options available to roamers that may affect their demand for data, they have "severely diminished ability to manage or predict data usage by roamers, and this uncertainty adds to the cost of managing networks and creates significant potential for degraded service quality").

[149] *See* AT&T Comments at 61. AT&T comments that such safeguards should include prioritization of subscriber traffic, and could take several forms: "(1) manual or dynamic packet prioritization at times and locations of congestion; (2) limiting roaming users to 2/2.5G networks at times and locations of congestion; (3) 'speed' limits on roaming users; and (4) congestion-based pricing." *Id.* at 63.

[150] AT&T Comments at 36; *see also* AT&T Reply Comments at 37 ("wireless broadband providers simply have no way to predict what the Commission will, in after-the-fact adjudication, deem to be a 'reasonable' denial or limitation on roaming.").

[151] *See* Clearwire Reply Comments at 15-16.

[152] Because it is outside of the scope of this proceeding, we also decline to adopt SouthernLINC's suggestion that the Commission amend its existing priority access service rules to require carriers choosing to provide the service to do so on a non-discriminatory basis to all customers on the network, including roamers. *See* SouthernLINC Reply Comments at 31 n.85 (citing 47 C.F.R. § 64.402 and Part 64, Appendix B).

[153] *See* AT&T Comments at 61.

[154] *See* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-

(continued….)

reasonable measures to ensure that network performance will not be significantly degraded.

56. We emphasize again that we intend to closely monitor further development of the commercial mobile broadband data marketplace and stand ready to take additional action if necessary to help ensure that our goals in this proceeding are achieved.

C. Legal Authority

57. Background. In the *Second Further Notice*, we sought additional comment on the extent of the Commission's authority to impose roaming duties on non-interconnected data services. We sought comment on various different bases, including under our Title III authority relating to wireless services, our Title II common carrier authority, and our ancillary authority under Title I of the Communications Act.[155] Commenters in support of our adoption of data roaming requirements contend that the Commission has broad statutory authority to impose such requirements.

58. Several proponents of data roaming assert that the Commission's legal authority under Title III to regulate radio spectrum provides the Commission with a sufficient legal basis to require any entity utilizing radio spectrum to make available data roaming to other wireless service providers.[156] RCA argues that Title III provides the Commission with enormous discretion to regulate service providers that utilize radio spectrum.[157] SouthernLINC and Cellular South contend that the scope of this authority is not affected by whether the service using the spectrum is classified as a telecommunications or information service under the Act; rather, the Commission may use its Title III authority to adopt data roaming rules regardless of whether the service involved is a voice or data service, whether it is a telecommunications service or an information service, whether it is being offered on a common carriage basis, or whether it is interconnected with the public switched telephone network.[158]

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102, Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket 03-264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, WT Docket No. 06-169, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, Declaratory Ruling on Reporting Requirement Under Commission's Part 1 Anti-Collusion Rule, WT Docket No. 07-166, *Second Report and Order*, 22 FCC Rcd 15289, 15371 ¶ 223 (2007) (*700 MHz Second Report and Order*).

[155] *Second Further Notice* at ¶¶ 64-71.

[156] Cellular South Comments at 4-7; Leap Comments at 9-10; US Cellular Comments at 9-10; SouthernLINC Comments at 12-18; T-Mobile Comments at 16-18; US Cellular Comments at 9-10. Proponents argue that Section 301 empowers the Commission to regulate mobile data service including the imposition of roaming obligations that encompass data as well as voice as a means of efficiently managing the use of the nation's radio spectrum resources. *See* Bright House Comments at 11; RCA Comments at 4; T-Mobile Comments at 16-18. T-Mobile and SouthernLINC state that the Commission has authority under Section 303(b) to impose obligations on licensees including the nature of services provided by each class of licensee. *See* T-Mobile Comments at 17; SouthernLINC Comments at 13-14; Clearwire Reply Comments at 7.

[157] RCA Comments at ii, 2-6. *See also* Letter from Daniel L. Brenner, Counsel to Bright House Networks, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 22, 2010, at 1 (Bright House Nov. 22, 2010 *Ex Parte*).

[158] Cellular South Comments 5-7; SouthernLINC Comments at 11-12. *See also* RCA Comments at ii, 2-6. As further evidence of the Commission's authority to regulate all wireless services, US Cellular, Cellular South and (continued….)

59. MetroPCS argues that the Commission has authority under Title II of the Act, asserting that the service provided to the home carrier by the roaming partner is merely a transmission service that qualifies under existing legal precedents as a telecommunications service under the Communications Act and is subject to the Commission's Title II authority.[159] MetroPCS asserts that the transmission service provided by a third-party wireless roaming carrier (the roaming partner) to facilitate data roaming is only telecommunications, and a roaming partner merely passes the end-user's transmitted data to the home carrier without any material change in the form or content making the transmission telecommunications.[160] Leap argues that the Commission should invoke Title I because a data roaming requirement is reasonably ancillary to the Commission's authority under Title III to manage radio spectrum and establish license conditions.[161] Leap also argues that wireless data roaming obligations are reasonably ancillary to the Commission's regulation of wireless voice roaming obligations because as voice and data increasingly converge, implementing wireless data roaming obligations is ancillary to achieving the public interest goals of its wireless voice roaming regulations.[162]

60. In contrast, AT&T and Verizon Wireless argue that the Commission lacks the legal authority to require data roaming under any provision of the Communications Act.[163] They assert that the Commission has no legal authority to impose a common carriage data roaming obligation because data roaming is a private mobile service as defined in 47 U.S.C. § 332.[164] Verizon Wireless asserts that Section 153(44) of the Communications Act prohibits the Commission from imposing a data roaming obligation on any service that is not a "telecommunications service under any Title in the Act."[165]

61. Discussion. We find that we have the authority to require facilities-based providers of commercial mobile data services to offer data roaming arrangements to other such providers on

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RCA argue that Section 303(r) grants the Commission the general power to prescribe rules, restrictions, and conditions that are necessary to carry out the provision of the Act. *See* US Cellular Comments at 9-10; Cellular South Comments at 7; RCA Comments at 5-7. *See also* T- Mobile Comments at 17. Further, manyProponents assert that the Commission also may grant, revoke, or modify licenses, and may prescribe new conditions for licenses under Sections 307, 309, 312, and 316. *See* Leap Comments at 12-15. *See also* RCA Comments at 5-6; US Cellular Comments at 10; SouthernLINC Comments at 14; Clearwire Reply Comments at 7-9; Cellular South Reply Comments at 23-31; Bright House Comments at 12-13.

[159] MetroPCS Comments at 8-32.

[160] *Id.* at 6.

[161] Leap Comments at 25-27.

[162] *Id.* at 25-27.

[163] AT&T argues that Section 332(a) prohibits the Commission from imposing any roaming obligation on mobile data services that do not offer interconnection with the public switched networks and that are not CMRS services. *See* AT&T Comments at 12-19; AT&T Reply Comments at 12-23. AT&T also argues that the Commission lacks the legal authority under Titles I, II and III. *See* AT&T Comments at 19-32; AT&T Reply Comments at 12-22. Verizon Wireless asserts that Section 332(c)(2) and 153(44) as well as Titles I, II and III prohibit Commission action. *See* Verizon Wireless Comments at 19-36; Verizon Wireless Reply Comments at 23-43

[164] AT&T Comments at 10-19; AT&T Reply Comments at 1-12; Verizon Wireless Comments at 24-27; Verizon Wireless Reply Comments at 23-37; Letter from Michael Goggin, AT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Sept. 22, 2010 (AT&T Sept. 22, 2010 *Ex Parte*).

[165] Verizon Wireless Comments 23-27, 32-35; Verizon Wireless Reply Comments at 27-36; Letter from John T. Scott, Deputy General Counsel of Verizon Wireless, to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 8, 2010, at 10-13 (Verizon Wireless Nov. 8, 2010 *Ex Parte*) .

commercially reasonable terms and conditions. As discussed above, we find that the rule we adopt today serves the public interest by promoting connectivity for, and nationwide access to, mobile broadband. By promoting consumer access to advanced wireless services, the data roaming rule will enhance the unique social and economic benefits that a mobile service provides. The data roaming rule will also serve the public interest by promoting competition and investment in and deployment of mobile broadband services. Broadband deployment is a key priority for the Commission, and the deployment of mobile data networks will be essential to achieve the goal of making broadband connectivity available everywhere in the United States. As noted earlier, mobile broadband networks, particularly "fourth-generation" networks, are still at an early stage of deployment. Both nationwide and non-nationwide providers have obtained licenses, including AWS and 700 MHz spectrum licenses, which will be used to provide innovative wireless data services to consumers. We find that the availability of data roaming will help ensure the viability of new data network deployments and promote the development of competitive service offerings for the benefit of consumers.

62. Our authority under Title III allows us to adopt requirements to serve these public interest objectives. Spectrum is a public resource, and Title III of the Act provides the Commission with broad authority to manage spectrum, including allocating and assigning radio spectrum for spectrum based services and modifying spectrum usage conditions in the public interest.[166] The Commission is charged with maintaining control "over all the channels of radio transmission" in the United States.[167] Section 301 states that "[i]t is the purpose of this Act, among other things, to maintain the control of the United States over all the channels of radio transmission; and to provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license."[168] The issuance of a Commission license does not convey any ownership or property interests in the spectrum and does not provide the licensee with any rights that can override the Commission's proper exercise of its regulatory power over the spectrum.[169] Section 316 authorizes the Commission to adopt

[166] Application of the Title III provisions is not affected by whether the service using the spectrum is a telecommunications service or information service under the Act. *See Wireless Broadband Internet Access Classification Order*, 22 FCC Rcd at 5915 ¶ 36 (finding that wireless broadband Internet access, although an information service, continues to be subject to obligations promulgated pursuant to Title III). The Commission also relied on authority under Section 303(r) to impose "open platform" obligations on Upper 700 MHz C Block licensees, without regard to whether such licensees were providing telecommunications services or information services. *700 MHz Second Report and Order*, 22 FCC Rcd at 15365 ¶ 207. *See also* Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, CC Docket No. 94-54, *Report and Order*, 11 FCC Rcd 18455, 18459-60 ¶ 7, 188471-72 ¶ 31 (relying on Title III authority to impose resale obligations on non-Title II services); Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, CC Docket No. 94-54, *Memorandum Opinion and Order on Reconsideration*, FCC 99-250, ¶ 27 (1999) (expressly rejecting "[a]rguments that the scope of the resale rule is overbroad because it extends to non-Title II services," reaffirming that Title III provided a basis for imposing the rule).

[167] 47 U.S.C. § 301.

[168] *Id.*

[169] 47 U.S.C. §§ 301, 304, 309. Section 301 states that the Act provides for "use, under federally-issued licenses of limited duration, of channels of radio transmission," "but not the ownership thereof," and that "no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license." Section 304 states that "[n]o station license shall be granted by the Commission until the applicant therefore shall have waived any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise." Section 309(h) requires that each FCC license contain, *inter alia*, a condition that the "station license shall not vest in the licensee any right to operate (continued….)

new conditions on existing licenses if it determines that such action "will promote the public interest, convenience, and necessity."[170] Further, the Commission may utilize its rulemaking powers to modify licenses when a new policy is based upon the general characteristics of an industry.[171] Section 303 provides the Commission with authority to establish operational obligations for licensees that further the goals and requirements of the Act if the obligations are in the "public convenience, interest, or necessity" and not inconsistent with other provisions of law.[172] Section 303 also authorizes the Commission, subject to what the "public interest, convenience, or necessity requires," to "[p]rescribe the nature of the service to be rendered by each class of licensed stations and each station within any class."[173]

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the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized therein."

[170] 47 U.S.C. § 316.

[171] *See, e.g.*, *Celtronix Telemetry v. FCC*, 272 F.3d 585, 589 (D.C. Cir. 2001) (stating that the Commission "always retained the power to alter the term of existing licenses by rulemaking" and finding that the Commission may exercise this authority even if the licenses were awarded at auction); *WBEN, Inc. v. U.S.*, 396 F.2d 601, 618 (2d Cir. 1968) (stating that the Commission may modify licenses by rule making "when . . . a new policy is based upon the general characteristics of an industry, rational decision is not furthered by requiring the agency to lose itself in an excursion into detail that too often obscures fundamental issues rather than clarifies them"); *California Citizens Band Ass'n v. U.S.*, 375 F.2d 43, 50-52 (9th Cir. 1967); *cf. U.S. v. Storer*, 351 U.S. 763 (1956) (holding that Section 309(b) requirement that full hearing be conducted before license application is denied did not prevent the FCC from changing eligibility requirements by rulemaking, thereby obviating need for full hearing for applicants who failed new eligibility criteria); *Community Television v. FCC*, 216 F.3d 1133, 1140-41 (D.C. Cir. 2000) (holding that the "FCC may modify entire classes of licenses" through the rulemaking process and rejecting the argument that the nature of Commission action – giving broadcasters new digital channels that would eventually replace their analog channels – was too extreme to constitute a license modification, since the FCC "ha[d] not wrought a fundamental change to the terms of those permits and licenses"); *Committee for Effective Cellular Rules v. FCC*, 53 F.3d 1309, 1319-20 (D.C. Cir. 1995) (holding that the FCC has authority to act by rulemaking to establish rules of general applicability that modify technical requirements of all licenses in a given class); *American Airlines v. CAB*, 359 F.2d 624 (D.C. Cir. 1966) (upholding CAB regulation that modified through rule making all existing aviation certificates despite statutory requirement of a full adjudicatory hearing for modifications of specific certificates, and rejecting the contention that *Storer* doctrine is inapplicable to rulemaking proceedings in which outstanding licenses are affected).

[172] *See* 47 U.S.C. § 303(r) (stating that if the "public convenience, interest, or necessity requires" the Commission shall ". . . prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this Act"); *Schurz Communications, Inc. v. FCC*, 982 F.2d 1043, 1048 (7th Cir. 1992) (stating that the Communications Act invests Commission with "enormous discretion" in promulgating licensee obligations that the agency determines will serve the public interest). *See also* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket 03-264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, WT Docket No. 06-169, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, Declaratory Ruling on Reporting Requirement under Commission's Part 1 Anti-Collusion Rule, WT Docket No. 07-166, *Second Report and Order*, 22 FCC Rcd 15289, 15365 ¶ 207 (2007) (*700 MHz Second Report and Order*).

[173] 47 U.S.C. § 303(b).

63. We find that these provisions establish our authority to adopt rules facilitating roaming with respect to commercial mobile data services. Specifically, we find that it is within our authority to manage spectrum and to impose conditions on licensees where necessary to promote the public interest, convenience, and necessity to adopt data roaming rules.[174] As discussed above, we find that the data roaming rule we adopt today serves the public interest by facilitating consumer access to ubiquitous mobile broadband service.[175] As more and more consumers use mobile devices to access a wide array of both personal and business services, they have become more reliant on their devices. These consumers expect to be able to have access to the full range of services available on their devices wherever they go. By promoting connectivity for, and ubiquitous access to, mobile broadband, the rule we adopt today supports consumer expectations and helps ensure that consumers are able to fully utilize and benefit from the availability of wireless broadband data services.[176]

64. As discussed earlier, the data roaming rule we adopt today also supports our goal of encouraging investment and innovation and the efficient use of spectrum. We agree with commenters that adopting a data roaming rule will encourage service providers to invest in and upgrade their networks to be able to compete with other providers and control their costs.[177] By encouraging build-out and deployment of advanced data services, the rule we adopt today helps ensure that spectrum is being put to its best and most efficient use.[178] Data roaming also furthers the goals under Section 706(a) and (b) of the Telecommunications Act of 1996, including encouraging new deployment of advanced services to all Americans by promoting competition and by removing barriers to infrastructure investment, including the barriers to new entrants.[179] The Commission estimated that more than 10 million Americans live in rural

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[174] 47 U.S.C. §§ 301, 303, 304, 309, 316. *See also Interconnection and Resale Order*, 11 FCC Rcd at,9470-71 ¶ 13 (noting that the Commission has "authority to impose a roaming requirement in the public interest pursuant to our license conditioning authority under Sections 303(r) and 309 of the Act").

[175] *See supra* III.A.

[176] Under Title I, the Commission may exercise ancillary authority over a matter when it falls within the agency's general statutory grant of jurisdiction under Title I and the regulation is reasonably ancillary to the effective performance of the Commission's statutorily mandated responsibilities. *United States v. Southwestern Cable Co.*, 392 U.S. 157, 172–73 (1968); *accord United States v. Midwest Video Corp.*, 406 U.S. 649, 662 (1972). *See also American Library Ass'n. v. FCC*, 406 F.3d 689, 700 (D.C. Cir. 2005); *Comcast Corp. v. FCC*, 600 F. 3d 642 (D.C. Cir. 2010). Because encouraging data roaming serves the public interest by promoting connectivity for, and ubiquitous access to, mobile broadband as well as facilitating consumer access to wireless broadband data coverage nationwide, the obligations set forth above are reasonably ancillary to the Title III provisions to manage spectrum, allocate, assign, and to establish spectrum usage conditions in the public interest as set forth above.

[177] *See e.g.*, Leap Reply Comments at 4.

[178] 47 U.S.C. § 303(g).

[179] *See supra*, III.A. Section 1302(a) directs the Commission to take actions that encourage the deployment of "advanced telecommunications capability." It directs the Commission to encourage the deployment of such capability by "utilizing, in a manner consistent with the public interest, convenience, and necessity," various tools including "measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment." 47 U.S.C. § 1302(a). Section 1302(b) directs the Commission to undertake annual inquiries concerning the availability of advanced telecommunications capability to all Americans and requires that, if the Commission finds that such capability is not being deployed in a reasonable and timely fashion, it "shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market." 47 U.S.C. § 1302(b). *See also* Preserving the Open Internet, GN Docket. No. 09-191, Broadband Industry Practices, WC Docket. No. 07-52, *Report and Order*, FCC 10-201, ¶¶ 117-123 (rel. Dec. 23, 2010) (*Open Internet Order*).

census blocks with two or fewer mobile service providers.[180] Data roaming will encourage service providers to invest in and upgrade their networks and to deploy advanced mobile services ubiquitously, including in rural areas.

65. We disagree with AT&T and Verizon Wireless's argument that the Commission lacks authority to impose data roaming rules because data roaming is a private mobile radio service, as defined in section 332 of the Act and thus any common carrier regulation of data roaming is prohibited under the terms of the statute. Section 332(c)(2) provides that "a person engaged in the provision of a service that is a private mobile service shall not … be treated as a common carrier for any purpose …"[181] AT&T and Verizon Wireless argue that Section 332(c)(2) prohibits the Commission from imposing any roaming obligation for provisioning of commercial mobile data services that do not interconnect with the public switched networks because non-interconnected commercial mobile data services are not CMRS but private mobile radio service (PMRS).[182] AT&T argues that roaming obligations clearly amount to common carrier obligations and that, under the Supreme Court's decision in *Midwest Video II*, such regulations are prohibited. In *Midwest Video II*, the Supreme Court found that obligations requiring cable television systems to allocate channels for educational, government, public, and leased access users had "relegated cable systems, *pro tanto*, to common-carrier status."[183] The Court noted that the rules required operators to make these channels available on a first-come non-discriminatory basis, prohibited cable operators from influencing the content of access programming, and also put limits on charges for access.[184] The Court found that this "common carrier status" violated the Act's prohibition against deeming broadcasters to be common carriers, because at the time, cable regulations rested on the FCC's authority to regulate broadcasting.[185] AT&T argues that requiring carriers to offer data roaming "on reasonable request, on reasonable terms and rates, and free from unreasonable discrimination"[186] would similarly treat such providers as common carriers in violation of the prohibition against common carrier treatment in the definition of "private mobile service."[187]

66. Contrary to the arguments of AT&T and Verizon Wireless, to adopt a data roaming rule as discussed herein, we do not need to determine that a mobile service should be classified as CMRS.[188] Section 332 does not bar the Commission from establishing spectrum usage conditions based upon our Title III authority. As discussed above, Title III generally provides the Commission with authority to regulate "radio communications" and "transmission of energy by radio."[189] Among other provisions,

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[180] *Fourteenth Competition Report*, FCC 10-81 at 188-89 ¶ 353 & Table 38.

[181] 47 U.S.C. § 332(c)(2).

[182] *See* AT&T Comments at 12-19; AT&T Reply Comments at 12-22; Verizon Wireless Comments at 19-36; Verizon Wireless Reply Comments at 24-27, 37-43.

[183] *FCC v. Midwest Video Corp*., 440 U.S. 689, 700-01 (1979) (*Midwest Video II*).

[184] *Id*. at 702.

[185] *Id*. at 703-09.

[186] AT&T Sept. 22, 2010 *Ex Parte* at 3.

[187] *Id.*

[188] T-Mobile Oct. 22, 2010 *Ex Parte* at 11; MetroPCS Oct. 15, 2010 *Ex Parte* attachment at 4; SouthernLINC Oct. 6, 2010 Ex Parte at 2.

[189] *See* Title III - Provisions Relating to Radio, 47 U.S.C. §§ 301 et seq. *See also* IP-Enabled Services NPRM, 19 FCC Rcd 4863, 4918 (2004).

Title III gives the Commission the authority to classify radio stations.[190] It also establishes the basic licensing scheme for radio stations, allowing the Commission to grant, revoke, or modify licenses.[191] The Commission has imposed operating conditions on licensees regardless of the type of service they provide.[192]

67. In this Order, we impose an obligation with limitations on facilities-based providers of commercial mobile data services to offer data roaming arrangements to other facilities-based providers of commercial mobile data services on an individualized case-by-case basis, subject to a standard of commercial reasonableness as well as certain specified limitations set forth herein.[193] Imposing such a requirement is consistent with our authority to impose certain operating conditions on any spectrum authorization holders, including private mobile radio licensees, if it serves the public interest. The data roaming rule will complement the current roaming rules applicable to interconnected services, improve efficiency of spectrum use, encourage competition and increase sharing opportunities between private mobile services and other services.[194] In particular, we find that the rule we adopt today is consistent with the requirements of sections 332(a)(2)-(4) of the Act. Sections 332(a)(2)-(4) provide that, in managing the spectrum made available for use by private mobile services, the Commission shall consider whether its actions will: improve the efficiency of spectrum use and reduce the regulatory burden upon spectrum users, based upon sound engineering principles, user operational requirements, and marketplace demands; encourage competition and provide services to the largest feasible number of users; or increase interservice sharing opportunities between private mobile services and other services.[195] We find that, by promoting competition, investment, and new entry while facilitating consumer access to ubiquitous mobile broadband service, the rule we adopt today will serve these objectives.

68. We also find that the data roaming rules we adopt do not amount to treating mobile data service providers as "common carriers" under the Act.[196] As AT&T and Verizon Wireless recognize, a

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[190] 47 U.S.C. §§ 302, 303.

[191] 47 U.S.C. §§ 307-309, 312, 316.

[192] *See*, 700 MHz Second Report and Order, 22 FCC Rcd at 15365 ¶ 207 (imposing "open platform" obligations on Upper 700 MHz C Block licensees based on Title III authority); Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, CC Docket No. 94-54, *Report and Order*, 11 FCC Rcd 18455, 18459 ¶ 7, 188471-72 ¶ 31 (relying on Title III authority to impose resale obligations on non-Title II services); Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, CC Docket No. 94-54, *Memorandum Opinion and Order on Reconsideration*, FCC 99-250, ¶ 27 (1999) (expressly rejecting "[a]rguments that the scope of the resale rule is overbroad because it extends to non-Title II services," reaffirming that Title III provided a basis for imposing the rule).

[193] *See supra* III.B and *infra* III.D for detailed discussions of the scope and the application of the data roaming rule and other factors that may be relevant in determining commercial reasonableness.

[194] *See* Section 332(a).

[195] 47 U.S.C. § 332(a)(2)-(4).

[196] We note that courts review the Commission's application of the test for common carrier status deferentially. *See U.S. Telecom. Ass'n v. FCC*, 295 F.3d 1326, 1332 (D.C. Cir. 2002) ("[W]here an agency has adopted a judicial test as its own, we . . . review its application of that test only to determine whether it is unreasonable or arbitrary and capricious.").

"*sine qua non*" of common carrier treatment is "the undertaking to carry for all people indifferently."[197] The extent of the obligation we impose today is to offer, in certain circumstances, individually negotiated data roaming arrangements with commercially reasonable terms and conditions. The rule we adopt will allow individualized service agreements and will not require providers to serve all comers indifferently on the same terms and conditions.[198] Providers can negotiate different terms and conditions on an individualized basis, including prices, with different parties. The commercial reasonableness of terms offered to a particular provider may depend on numerous individualized factors, including the level of competitive harm in a given market and the benefits to consumers; the extent and nature of the requesting provider's build-out; whether the requesting provider is seeking roaming for an area where it is already providing facilities-based service; and the impact of granting the request on the incentives for either provider to invest in facilities and coverage, services, and service quality.[199] In addition, providers may reasonably choose not to offer a roaming arrangement to a requesting provider that is not technologically compatible or refuse to enter into a roaming arrangement where it is not technically feasible to provide roaming for the service for which it is requested.[200] A provider is not required to make changes to its network that are economically unreasonable, and it is reasonable for a provider to condition the effectiveness of a roaming arrangement on the requesting provider's provision of mobile data service to its own subscribers using a generation of wireless technology comparable to the technology on which the requesting provider seeks to roam.[201] Providers of commercial mobile data services also are free to negotiate commercially reasonable measures to safeguard quality of service against network congestion that may result from roaming traffic or to prevent harm to their networks.[202] In addition, the rule we adopt does not impose any form of common carriage rate regulation or obligation on providers of mobile data services to publicly disclose the rates, terms, and conditions of their roaming agreements. Under the agreements to which negotiations may lead, providers will have flexibility with regard to roaming charges, subject to a general requirement of commercial reasonableness.[203] Further, actual provisioning

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[197] Letter from John T. Scott, Deputy General Counsel of Verizon Wireless, to Marlene Dortch, Secretary, FCC, WT Docket No. 05-265, filed Mar. 30, 2011, at 3 (Verizon Wireless Mar. 3, 2011 *Ex Parte*) (quoting *NARUC v. FCC*, 533 F.2d 601, 608–09 (D.C. Cir. 1976) (*NARUC II*) (internal quotation marks omitted)).

[198] *See infra* III. D; *see also Southwestern Bell Tel. Co. v. FCC*, 19 F.3d 1475, 1481(D.C. Cir. 1994) ("[T]he indiscriminate offering of service on generally applicable terms . . . is the traditional mark of common carrier service."). Verizon notes that in *Iowa Telecommunications Services v. Iowa Utilities Bd.*, 563 F.3d 743, 745-46 (8th Cir. 2009), the Eighth Circuit concluded that Sprint qualified as a telecommunications carrier, and thus a common carrier, "notwithstanding individually negotiated contracts." Verizon Wireless Mar. 3, 2011 *Ex Parte* at 6. But in that case, Sprint, unlike the carriers here, "self-certified that it is a common carrier" and "ma[de] public its intent to act as a common carrier" for the services at issue. 563 F.3d at 749. Verizon also relies on *Orloff v. FCC.* 352 F.3d 415 (D.C. Cir. 2003). In *Orloff*, the D.C. Circuit reviewed an FCC policy of generally relying on market forces to ensure ultimate compliance by CMRS providers with the statutory prohibition on "unjust or reasonable discrimination in charges" of common carriers. 47 U.S.C. § 202(a); *see id.* at 419-21. In contrast, we here *reject*—rather than determine how to enforce—a common carriage requirement of "just and reasonable" rates, terms, and conditions.

[199] *Id.*

[200] *See supra* III. B.

[201] *Id.*

[202] *Id.*

of data roaming under those arrangements and any practices in connection with such arrangements will be subject to individually negotiated contractual provisions,[204] unlike a common carrier obligation under Sections 201 and 202 of the Act which covers all charges and practices in connection with such services. In view of these boundaries, we find that the rule we adopt today to execute our spectrum management duties under the Act does not subject a spectrum-based commercial mobile data service provider to Title II nor does it treat these providers as common carriers with respect to their regulatory status and obligations. [205]

69. *Imposition of the Data Roaming Rule under Title III does not amount to Regulatory Taking*. Verizon Wireless argues that imposing data roaming obligations amounts to a physical and regulatory taking.[206] Verizon Wireless claims that data roaming is a physical taking of wireless carriers' property rights in their network infrastructure by authorizing third parties to occupy the physical space available on carrier networks at will.[207] Verizon Wireless also claims that data roaming would constitute a regulatory taking because it would interfere with licensees' reasonable expectations not to have common carrier regulations imposed on information services. We disagree. Under Section 304 of the Communications Act, the issuance of an FCC license does not provide the licensee with any rights that can override the Commission's proper exercise of its regulatory power over the spectrum: "[n]o station license shall be granted by the Commission until the applicant therefore shall have waived any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise."[208] Further, under the data roaming rule, the host provider will be compensated for service it provides consistent with the commercially reasonable terms it negotiates in the roaming agreement. There can be no taking if that compensation is "just."[209] It does not appear to be possible that compensation could be "unjust" if it is commercially reasonable. Commercially reasonable terms may also include measures that allow the host

(Continued from previous page)

[203] This is one fundamental distinction between the rules adopted here and those at issue in *Midwest Video II*, on which AT&T and Verizon rely. *See Midwest Video II*, 440 U.S. at 694, 701-02 (1979); *see also id.* at 702 (noting that the Commission "conceded before this Court that the rules 'can be viewed as a limited form of common carriage-type obligation'"(quoting Government brief)).

[204] *See infra* III. D.

[205] We also note that, although we do not treat non-interconnected commercial mobile data providers as common carriers here, Section 332 does not provide an absolute prohibition on imposing common carrier regulation on a provider of private mobile radio service to the extent that the provider offers a telecommunications service. *See* In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Docket Nos. 96-98, 95-185, *First Report and Order*, 11 FCC Rcd 15499, 15989 ¶ 993 (1996) (finding that "to the extent a PMRS provider uses capacity to provide domestic or international telecommunications for a fee directly to the public, it will fall within the definition of 'telecommunications carrier' under the Act and will be subject to the duties listed in section 251(a)").

[206] Verizon Wireless Comments at 43-48.

[207] Verizon Wireless Comments at vi, 43-48.

[208] 47 U.S.C. § 304.

[209] U.S. CONST. amend. V ("nor shall private property be taken for public use, without just compensation"); *see e.g.*, Bauman v. Ross, 167 U.S. 548, 574 (1897) ("The just compensation required by the Constitution to be made to the owner is to be measured by the loss caused to him by the appropriation. He is entitled to receive the value of what he has been deprived of, and no more.").

provider to safeguard the quality of service and allow measures to prevent harm to the host provider's network.

70. *Commission's Title II Authority*. Several commenters argue that data roaming is a telecommunications service under Title II.[210] MetroPCS, for example, asserts that the transmission service provided by a third-party wireless roaming carrier (the Roaming Partner) to facilitate data roaming is only telecommunications and that the transmission provided by the Roaming Partner is functionally equivalent to the telecommunications services provided for voice roaming.[211] MetroPCS asserts that "the separate, severable, non-integrated transmission service provided by a third-party wireless Roaming Partner is properly viewed as purely a transmission service that qualifies under long-standing Commission precedent as 'telecommunications' and as a 'telecommunications service.'"[212] Leap argues that the Commission can act pursuant to its Title II authority, stating that "the Commission could define data roaming as a telecommunications service because during data roaming, the host carrier is providing pure data transmission to another carrier."[213] We find that we need not decide whether data roaming services provisioned in this manner are or are not telecommunications services. In any case, we impose the data roaming rule described herein based on our authority under Title III.

D. Dispute Resolution

71. Background. In the *Second Further Notice*, we sought comment on the appropriate process for dispute resolution and whether we should provide the same process for data roaming requests as for voice roaming requests.[214] We also sought comment on whether we should adopt measures to require or encourage the resolution of data roaming disputes through alternative dispute resolution procedures such as arbitration.[215] In addition, we asked whether there are any legal considerations, limitations, or concerns the Commission should consider with respect to alternative dispute resolution procedures and whether such procedures should be applicable more generally to roaming disputes if they are appropriate for data roaming disputes.[216]

72. Some commenters urge the Commission to adopt mandatory mediation or arbitration procedures for resolving data roaming disputes. NTCH asserts that the Commission should require mandatory mediation of data roaming disputes prior to the initiation of a complaint.[217] Cox states that the Commission should "backstop" the negotiation of roaming agreements by providing a forum for "reasonably fast resolution through mediating or, if necessary, arbitrating agreements."[218] RCA asserts

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[210] *See, e.g.*, Clearwire Comments at 10-11; Cellular South Comments at 7-9; Leap Comments at 15-25; MetroPCS Comments at 8-33; RTG Comments at 4-5.

[211] MetroPCS Comments at 8-33.

[212] MetroPCS Comment at 18. *See also* Letter from Carl W. Northrop, Counsel to MetroPCS, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Nov. 22, 2010.

[213] Leap Reply Comments at 16.

[214] *Second Further Notice*, 25 FCC Rcd 4181, 4223-24 ¶ 91.

[215] *Id*.

[216] *Id*.

[217] NTCH Comments at 5.

[218] Cox Reply Comments at 6-7.

that the Commission should adopt a "stalemate resolution process" that requires arbitration or mediation if a receiving carrier stonewalls or ignores roaming requests.[219] Other commenters argue that the Commission should adopt measures to expedite the resolution of all roaming disputes and place all such disputes into the accelerated docket process.[220] AT&T disagrees that the Commission should require mediation or arbitration, or that all roaming disputes should be placed on the Commission's accelerated docket.[221] AT&T states that the Commission in the 2007 *Report and Order* rejected proposals to handle all voice roaming complaints via its accelerated docket, and there is no reason to depart from that ruling now.[222] In addition, AT&T argues that disputes regarding data roaming will raise novel engineering and technical issues that make them even less likely to be resolved appropriately on an accelerated basis.[223]

73. Some commenters also urge the Commission to adopt criteria or factors to use in resolving data roaming disputes. Bright House Networks urges us to use the factors we set forth for consideration in voice roaming disputes in the 2010 *Order on Reconsideration*,[224] as well as additional criteria related to the reasonableness of a provider's proposed rates.[225] T-Mobile also urges us to use the factors from the 2010 *Order on Reconsideration* but argues that we should add some new factors and delete others.[226]

74. Discussion. To the extent that a complaint proceeding is an appropriate procedural vehicle to resolve a particular dispute arising out of the negotiation of a data roaming arrangement, we find that it is in the public interest to establish a complaint process similar to the complaint process

[219] RCA Comments at 17.

[220] *See e.g.*, T-Mobile Comments at 20-21 (urging the Commission to adopt expedited procedures for roaming disputes, including an accelerated docket process for roaming disputes; a mandatory 21-day supervised settlement period; expedited discovery of parties' roaming agreements with third parties, subject to nondisclosure and confidentiality requirements; express authority for Commission staff to interpret and decide roaming complaints; and specific time periods governing roaming complaint decisions and appeals); SouthernLINC Reply Comments at 28-29; Letter from Shirley S. Fujimoto and David D. Rines, Counsel, SouthernLINC to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, Oct. 21, 2010 at 12-13 (SouthernLINC Oct. 21, 2010 *Ex Parte*); Bright House Comments at 14; BendBroadband Reply Comments at 5.

[221] AT&T Reply Comments at 53-54.

[222] *Id*. at 54.

[223] *Id*.

[224] *See Order on Reconsideration*, 25 FCC Rcd 4181, 4200-4201 ¶ 39 (setting out factors that the Commission may consider when resolving disputes that are brought before it).

[225] Bright House Networks argues that the Commission should develop additional factors, such as examination of a provider's retail yield, for disputes that focus primarily on rates. *See* Bright House Comments at 13-14; *see also* Bright House Nov. 22, 2010 *Ex Parte* at 1 (proposing that the Commission use retail yield as a possible test for the reasonableness of charges); BendBroadband Reply Comments at 5 (agreeing with Bright House Networks that the Commission should develop criteria it will use in resolving roaming disputes and that it should be willing to review providers' proposed rates); SouthernLINC Reply Comments at 27-28 (the Commission should use the factors it identified in the voice roaming context but also should "evaluate the reasonableness of the rates being offered by the host carrier, particularly to the extent that the offered rates are tantamount to a denial of data roaming"); U.S. Cellular Reply Comments at 5 (host carriers should provide data roaming on reasonable terms and conditions); RCA Comments at 16 (the Commission should require that data roaming terms and conditions are just and reasonable).

[226] *See* T-Mobile Comments at 20; Letter from Howard J. Symons, Counsel, T-Mobile-USA to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, Oct. 14, 2010, Attachment at 7-8 (T-Mobile Oct. 14, 2010 *Ex Parte*).

available under the current roaming obligations.[227] Specifically, to ensure consistent Commission processes for resolving all voice and data roaming disputes where a complaint is the appropriate procedural vehicle, we will use the procedural complaint processes established in the Commission's Part 1, Subpart E rules for data roaming to the extent discussed herein.[228] Disputes will be resolved based on the totality of the circumstances. The remedy of damages will not be available for data roaming complaints.

75. Parties may file a formal or informal complaint under the Commission's Part I, Subpart E rules[229] or file a petition for declaratory ruling under Section 1.2 of the Commission's rules[230] to resolve any disputes arising out of the data roaming rule adopted herein.[231] These procedural mechanisms are currently available for resolving voice roaming disputes, and we find that it is in the public interest to ensure a consistent Commission process for resolving both voice and data roaming complaints. Moreover, some roaming disputes will involve both data and voice and are likely to have factual issues common to both types of roaming. The approach we are taking allows, but does not require, a party to bring a single proceeding to address such a dispute, rather than having to bifurcate the matter and initiate two separate proceedings under two different sets of procedures. This, in turn, will be more efficient for the parties involved, as well as for the Commission, and should result in faster resolution of such disputes.

76. With respect to remedies, we exclude provisions applicable to damages in this context. We note that the remedy of damages after hearing on a complaint is specifically provided for in Section 209 of the Communications Act and applicable to claims arising out of Section 208 complaints.[232] This means that if a complaint alleges violations with respect to both voice and data roaming, damages potentially are available as a remedy for only the portion of the complaint that deals with roaming obligations arising out of Sections 201, 202, and 208 of the Act.[233]

77. When roaming-related complaints or petitions for declaratory ruling are filed, we intend to address them expeditiously. Further, we note that the Accelerated Docket procedures, including pre-complaint mediation, will be available to data roaming complaints.[234] Several commenters requested use

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[227] *See* 47 C.F.R. § 20.12; *see also* SouthernLINC Oct. 21, 2010 *Ex Parte* at 12-13 (asserting that the Commission has authority to apply the Section 208 complaint procedures to complaints involving data roaming).

[228] Specifically, we are extending, as applicable, the procedural rules in the Commission's Part I, Subpart E rules, 47 C.F.R. §§ 1.716-1.718, 1.720, 1.721, and 1.723-1.735, to disputes arising out of the data roaming rules.

[229] *See* 47 C.F.R. §§ 1.716-1.718, 1.720, 1.721, and 1.723-1.735.

[230] 47 C.F.R. § 1.2.

[231] As discussed below, extending the procedural complaint processes established in the Commission's Part 1, Subpart E rules to complaints regarding data roaming will require approval by the Office of Management and Budget pursuant to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. We note that the Commission's rules already provide for the use of petitions for declaratory ruling for the purpose of "terminating a controversy or removing uncertainty" and the potential use of this vehicle to address data roaming controversies therefore does not require PRA approval.

[232] *See* 47 U.S.C. § 209.

[233] Section 1.722 of the Commission's rules, which addresses the recovery of damages in a complaint proceeding, is not applicable to data roaming complaints. *See* 47 C.F.R. § 1.722.

[234] *See* 47 C.F.R. § 1.730.

of the Commission's Accelerated Docket procedures to resolve all roaming complaints.[235] Although all roaming complaints will not automatically be placed on the Accelerated Docket, an affected provider can seek consideration of its complaint under the Commission's Accelerated Docket rules and procedures where appropriate.

78. We note that the duty to offer data roaming arrangements on commercially reasonable terms and conditions will allow greater flexibility and variation in terms and conditions, as parties will negotiate their rights and obligations under the agreements. We expect providers to include any material practices regarding provisioning of roaming in the agreement (*e.g*., any practice to manage roaming traffic in times of congestion) because many disputes arising out of provisioning of roaming will be subject to the roaming contract provisions and generally applicable laws. To provide parties with additional certainty regarding rights and obligations and to facilitate timely resolution of disputes, we provide the following clarifications and guidance.

79. During ongoing negotiations, parties can seek Commission dispute resolution – including a determination whether the host provider has met its duty. We will consider claims regarding the commercial reasonableness of the negotiations, providers' conduct, and the terms and conditions of the proffered data roaming arrangement. With respect to claims regarding the commercial reasonableness of the proffered terms and conditions, including prices, the Commission staff may, in resolving such claims, require both parties to provide to the Commission their best and final offers (final offers) that were presented during the negotiation. For example, if negotiations fail to produce a mutually acceptable set of terms and conditions, including rates, the Commission staff may require parties to submit on a confidential basis their final offers, including price, in the form of a proposed data roaming contract.[236] These submissions would enable Commission staff, if it so chose, to resolve a particular roaming dispute in which a violation of our rules is found by ordering the parties to enter into a data roaming agreement pursuant to the terms of the complainant's commercially reasonable final offer or to otherwise rely on the submitted offers in determining an appropriate remedy. In cases where no violation of our rules is found, the complainant would be free, but not obligated, to enter into a roaming agreement on the proffered terms of the would-be host. The Commission staff also could order the parties to resume negotiations. The Commission staff's determination of the appropriate steps in resolving a particular dispute would depend in part of an assessment of the actions of both the host provider and the requesting provider.

80. With respect to disputes filed before reaching an agreement regarding the commercial reasonableness of a would-be host provider's proffered terms and conditions, we find that it is in the public interest to provide a possible avenue for the requesting provider to obtain data roaming service on an interim basis during the pendency of the dispute. Accordingly, in a case where a requesting provider disputes the commercial reasonableness of a roaming arrangement offered by a would-be host and none of the limitations is applicable,[237] the Commission staff may, if requested and in appropriate

[235] *See* T-Mobile Comments at 20; SouthernLINC Reply Comments at 28; SouthernLINC Oct. 21, 2010 *Ex Parte* at 12-13; *see also* Bright House Comments at 14 (urging the Commission to adopt an accelerated process for roaming disputes); BendBroadband Reply Comments at 5 (supporting an expedited resolution process for roaming complaints).

[236] Of course, at any time following the submission of the final offers and prior to the Commission's staff's decision, either party may accept the other party's final offer, at which point the offer will become a binding contract between the parties.

[237] As discussed above, the duty to offer data roaming arrangements is subject to certain specified limitations, such that a host provider may not have an obligation to offer data roaming arrangements to a requesting provider. *See supra* III.B.

circumstances, order the host provider to provide data roaming on its proffered terms, during the pendency of the dispute, subject to possible true-up once the roaming agreement is in place. Similarly, if the Commission staff chooses to require submission of final offers as discussed above, in appropriate circumstances the Commission staff could order the host provider to provide data roaming in accordance with its final offer, subject to possible true-up. The ability to obtain data roaming service on an interim basis during the pendency of the dispute would enable the requesting provider's subscribers to obtain data roaming coverage without undue delay while the Commission staff considers the dispute. Alternatively, the parties may agree prior to the filing of the dispute to an interim roaming arrangement that will govern during the pendency of the dispute. Further, in the event a would-be host provider violates its duty by actions that unduly delay or stonewall the course of negotiations, we stand ready to move expeditiously with fines, forfeitures, and other appropriate remedies, which should reduce any incentives to delay data roaming negotiations.

81. After the parties have entered into a data roaming agreement, the terms of the agreement generally will govern the data roaming rights and obligations of the parties, and disputes relating to performance, validity, or interpretation of the agreement will be subject to review in court under the relevant contract law, with certain exceptions. For instance, parties may bring before the Commission a claim that a host provider's conduct during negotiations violated the federal duty to offer a data roaming arrangement with commercially reasonable terms and conditions. In addition, the requesting provider may show that a host provider engaged in undue delay, or negotiated without any intent to perform. Further, we provide that a requesting provider could file a complaint or petition for declaratory ruling regarding the commercial reasonableness of the agreed terms and conditions to the extent such claims are based on new information that the requesting provider reasonably did not know prior to signing the agreement. Because the standard of commercial reasonableness is one that we expect to accommodate a variety of terms and conditions in data roaming, and to discourage frivolous claims regarding the reasonableness of the terms and conditions in a signed agreement, we will presume in such cases that the terms of a signed agreement meet the reasonableness standard and will require a party challenging the reasonableness of any term in the agreement to rebut that presumption.

82. We further clarify that the Enforcement Bureau has delegated authority to resolve complaints arising out of the data roaming rule.[238] We note that the Wireless Telecommunications Bureau has delegated authority to resolve other disputes with respect to the data roaming rule adopted herein. We also note that whether or not the appropriate procedural vehicle is a complaint under Section 20.12(e) or a petition for declaratory ruling under Section 1.2 may vary depending on the circumstances of each case. If a dispute arises regarding data roaming, parties are encouraged to contact Commission staff for procedural guidance and for negotiations using the Commission's informal dispute resolution processes.

83. Some commenters propose other measures for resolving data roaming disputes or roaming disputes in general, such as mandatory mediation or arbitration.[239] Although we are not adopting any such mandatory processes, we note that providers are free to negotiate and mutually agree to other processes, such as third party mediation or arbitration, as a means to resolve the roaming dispute.

84. A few commenters propose that we adopt a time limit for roaming negotiations to limit

[238] We add appropriate clarifying language to this effect to the rule governing the functions of the Enforcement Bureau. *See* Appendix A (modification to 47 C.F.R. § 0.111(a)(11)).

[239] *See* NTCH Comments at 5; Cox Reply Comments at 6-7; RCA Comments at 17.

the opportunity for host carriers to delay in negotiating roaming agreements.[240] We decline to adopt a specific time limit because some data roaming negotiations may be more complex or fact-intensive than others and are likely to require more time. A single time limit for all negotiations would not be appropriate in such cases. As part of the requirement to offer a data roaming arrangement, we expect parties to proceed with such negotiations in a timely manner and to avoid stonewalling behavior or undue delays. If a provider involved in a data roaming negotiation believes that another provider is delaying the negotiation unduly, it may ask the Commission to set a time limit for that particular negotiation. We will consider such requests on a case-by-case basis.

85. *Determination of Commercial Reasonableness*. We will assess whether a particular data roaming offering includes commercially reasonable terms and conditions or whether a provider's conduct during negotiations, including its refusal to offer data roaming, is commercially reasonable, on a case-by-case basis, taking into consideration the totality of the circumstances.[241] As discussed above, providers can negotiate different terms and conditions, including prices, with different parties, where differences in terms and conditions reasonably reflect actual differences in particular cases. Further, providers of commercial mobile data services can negotiate commercially reasonable measures to safeguard quality of service against network congestion that may result from data roaming traffic or to prevent harm to their networks.[242] Conduct that unreasonably restrains trade, however, is not commercially reasonable.

86. In the interconnected services context, we listed factors we will take into account in resolving roaming disputes that are brought before us.[243] Some parties have asked us to use these factors, or others, in resolving disputes that arise with respect to data roaming.[244] These factors relate to public interest benefits and costs of a data roaming arrangement offered in a particular case, including the impact on investment, competition, and consumer welfare and whether a particular data roaming offering is commercially reasonable. We find it is therefore appropriate to take them into account, as listed below, and to the extent relevant in the data roaming context. We emphasize that each case will be decided based on the totality of the circumstances. With that in mind, we clarify that, to guide us in determining the reasonableness of the negotiations, providers' conduct, and the terms and conditions of the proffered data roaming arrangements, including the prices, we may consider the following factors, as well as others:

- whether the host provider has responded to the request for negotiation, whether it has engaged in a persistent pattern of stonewalling behavior, and the length of time since the initial request;

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[240] *See, e.g.*, Cox Reply Comments at 6-8; RCA Comments at 17; SouthernLINC Reply Comments at 25 -26; U.S. Cellular Reply Comments at 5.

[241] *See Order on Reconsideration*, 25 FCC Rcd 4181, 4200 ¶ 39.

[242] *See supra* III.B. The record indicates that providers already commonly include in their negotiated roaming agreements terms that give a host provider the ability to suspend roaming service if roaming becomes impractical for reasons such as overload, outage, or other operational or technical issues. *See* Letter from Kathleen O'Brien Ham, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 05-265, filed Dec. 20, 2010, at 4.

[243] *See id*.

[244] *See, e.g.*, T-Mobile Comments at 20; T-Mobile Oct. 14, 2010 *Ex Parte*, Attachment at 7-8 (stating that the Commission should use the factors it developed in the voice roaming context but should add some factors and delete others); SouthernLINC Reply Comments at 27-28 (the Commission should use the factors it identified in the voice roaming context but also should "evaluate the reasonableness of the rates being offered by the host carrier, particularly to the extent that the offered rates are tantamount to a denial of data roaming").

- whether the terms and conditions offered by the host provider are so unreasonable as to be tantamount to a refusal to offer a data roaming arrangement;
- whether the parties have any roaming arrangements with each other, including roaming for interconnected services such as voice, and the terms of such arrangements;
- whether the providers involved have had previous data roaming arrangements with similar terms;
- the level of competitive harm in a given market and the benefits to consumers;
- the extent and nature of providers' build-out;
- significant economic factors, such as whether building another network in the geographic area may be economically infeasible or unrealistic, and the impact of any "head-start" advantages;
- whether the requesting provider is seeking data roaming for an area where it is already providing facilities-based service;
- the impact of the terms and conditions on the incentives for either provider to invest in facilities and coverage, services, and service quality;
- whether there are other options for securing a data roaming arrangement in the areas subject to negotiations and whether alternative data roaming partners are available;
- events or circumstances beyond either provider's control that impact either the provision of data roaming or the need for data roaming in the proposed area(s) of coverage;
- the propagation characteristics of the spectrum licensed to the providers;
- whether a host provider's decision not to offer a data roaming arrangement is reasonably based on the fact that the providers are not technologically compatible;
- whether a host provider's decision not to enter into a roaming arrangement is reasonably based on the fact that roaming is not technically feasible for the service for which it is requested;
- whether a host provider's decision not to enter into a roaming arrangement is reasonably based on the fact that changes to the host network necessary to accommodate the request are not economically reasonable;
- whether a host provider's decision not to make a roaming arrangement effective was reasonably based on the fact that the requesting provider's provision of mobile data service to its own subscribers has not been done with a generation of wireless technology comparable to the technology on which the requesting provider seeks to roam;
- other special or extenuating circumstances.

87. We emphasize that these factors are not exclusive or exhaustive and that providers may argue that the Commission should consider other relevant factors in determining the commercial reasonableness of the negotiations, providers' conduct, and the terms and conditions of the proffered data roaming arrangements, including the prices. In addition, in making this determination we also will consider all relevant precedents and decisions by the Commission.

E. Other Issues

88. *Advertising*. In the *Second Further Notice*, we sought comment on whether we should "clarify that a carrier that obtains automatic roaming from another carrier does not have a right to advertise that it offers its subscribers roaming on a particular host carrier's network absent a voluntary agreement of the host carrier" and whether such measure would help to "prevent free riding on the value of the host carrier's brand name recognition and service quality reputation."[245] We now clarify that we do not intend the rule we adopt today to be construed as permitting a provider that obtains roaming from another provider to use the trade name of a host provider when it advertises extended coverage due to roaming, unless the parties to the roaming agreement agree otherwise. Although Cellular South argues any such restrictions are not necessary or appropriate,[246] we agree with AT&T that providers can make significant capital and marketing investments with respect to differentiating the quality and brand image of their networks from competitors.[247] Also, we are concerned that construing the rule we adopt as allowing a roaming provider to engage in unauthorized use of a competitor's brand name recognition and/or service quality reputation as a means of differentiating the roaming provider's own service may indeed encourage the use of roaming as *de facto* resale.[248] The Commission has previously stated with regard to automatic roaming for voice and data services for CMRS providers that "automatic roaming obligations can not be used as a backdoor way to create *de facto* mandatory resale obligations or virtual reseller networks."[249] As requested,[250] we also further clarify that we do not intend the data roaming rule we establish in this order to disturb any provider's existing right, under applicable law, to advertise the geographic reach of their services, as extended by roaming agreements, and to use data roaming to expand their advertised service area, where under applicable law there is no unauthorized use of a competitor's brand name and/or image associated with such advertising.

89. *Spectrum Sharing*. In the *Second Further Notice*, we sought comment on what other actions might be appropriate to address spectrum capacity needs that may arise out of data roaming or to help ensure that spectrum is utilized to the fullest extent possible, including, for example, whether facilitating spectrum sharing arrangements between a host provider and a requesting provider would be helpful or appropriate.[251] After review of the record, we find there is an insufficient basis to make a determination on spectrum sharing in the context of data roaming services at this time.[252] The one comment addressing the issue does so briefly in a footnote and provides no detail on how such a requirement would be implemented.[253] Given the very limited record on this option, we find that requiring spectrum sharing arrangements as a condition for commercial mobile data services roaming arrangements is not warranted at this time.

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[245] *Second Further Notice*, 25 FCC Rcd at 4219 ¶ 76.

[246] Cellular South Comments at 16.

[247] AT&T Comments at 68.

[248] *See* AT&T Comments at 68.

[249] *Report and Order*, 22 FCC Rcd at 15836 ¶ 51 (footnote omitted).

[250] *See* Cox Reply Comments at 9; Free Press Comments at 5.

[251] *Second Further Notice*, 25 FCC Rcd at 4221 ¶ 83.

[252] *Id.*

[253] *See* AT&T Comments at 68 n.172.

IV. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Analysis

90. As required by the Regulatory Flexibility Act of 1980 ("RFA"),[254] the Commission has prepared a Final Regulatory Flexibility Analysis ("FRFA") relating to the Second Report and Order. The FRFA is set forth in Appendix C.

B. Paperwork Reduction Analysis

91. This document contains modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the modified information collection requirements contained in this proceeding. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we seek specific comment on how we might "further reduce the information collection burden for small business concerns with fewer than 25 employees."

92. In this present document, we have assessed the effects of using the procedural complaint processes established in the Commission's Part 1, Subpart E rules, including applicable filing and discovery procedures, to govern the process for data roaming complaints, and find that this will ensure that voice and data roaming complaints are resolved under a consistent Commission process, which will reduce the regulatory burden of understanding and using these processes, and will allow a party to bring a single proceeding to address a roaming dispute that involves both voice and data services. This will, in turn, be more efficient for providers and result in faster resolution of such disputes.

C. Congressional Review Act

93. The Commission will send a copy of this Second Report and Order to Congress and the Government Accountability Office, pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A).

V. ORDERING CLAUSES

94. Accordingly, IT IS ORDERED, pursuant to the authority contained in Sections 1, 4(i), 4(j), 301, 303, 304, 309, 316, and 332 of the Communications Act of 1934, as amended, and Section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 301, 303, 304, 309, 316, 332, and 1302, that this SECOND REPORT AND ORDER in WT Docket No. 05-265 IS HEREBY ADOPTED.

95. IT IS FURTHER ORDERED that Parts 0 and 20 of the Commission's rules, 47 C.F.R. Parts 0 and 20, are AMENDED as set forth in Appendix A, and such rule amendments shall be effective 30 days after the date of publication of the text thereof in the Federal Register, except for § 20.12(e)(2), which contains an information collection that is subject to OMB approval.

96. IT IS FURTHER ORDERED that § 20.12(e)(2) and the information collection contained in this Second Report and Order WILL BECOME EFFECTIVE following approval by the Office of Management and Budget. The Commission will publish a document at a later date establishing the effective date.

97. IT IS FURTHER ORDERED that, pursuant to Section 5(c) of the Communications Act of 1934, as amended, 47 U.S.C. § 155(c), the Enforcement Bureau and the Wireless Telecommunications

[254] *See* 5 U.S.C. § 604.

Bureau ARE GRANTED DELEGATED AUTHORITY to resolve any disputes arising out of the data roaming rule, as set forth in this SECOND REPORT AND ORDER and the rules in Appendix A.

98. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this SECOND REPORT AND ORDER, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

99. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this SECOND REPORT AND ORDER in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A).

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch

Secretary

APPENDIX A

Final Rules

PART 0 – Commission Organization

PART 0 – COMMISSION ORGANIZATION

Subpart A – Organization

- 1. The authority citation for Part 0 continues to read as follows:

AUTHORITY: Secs. 5, 48 Stat. 1068, as amended; 47 U.S.C. 155.

- 2. Section 0.111(a) is amended by revising subparagraph (11) to read as follows:

§ 0.111 Functions of the Bureau.

(a) * * * * *

(11) Resolves other complaints against Title III licensees and permittees, including complaints under § 20.12(e) of this chapter.

* * * * *

PART 20 – Commercial Mobile Radio Services

PART 20 – COMMERCIAL MOBILE RADIO SERVICES

- 1. The authority citation for Part 20 is revised to read as follows:

AUTHORITY: 47 U.S.C. 154, 160, 201, 251-254, 301, 303, 316, and 332 unless otherwise noted. Section 20.12 also issued under 47 U.S.C. 1302.

- 2. Part 20 is amended by revising its title to read as follows:

PART 20 – COMMERCIAL MOBILE SERVICES

* * * * *

- 3. Section 20.3 is amended by adding the definition "Commercial Mobile Data Service" after "Automatic Roaming" to read as follows"

* * * * *

Commercial Mobile Data Service. Any mobile data service that is not interconnected with the public switched network and is: (1) provided for profit; and (2) available to the public or to such classes of eligible users as to be effectively available to the public. Commercial mobile data service includes

services provided by Mobile Satellite Services and Ancillary Terrestrial Component providers to the extent the services provided meet this definition.

* * * * *

▪ 4. Part 20.12 is amended by adding the following new paragraph (a)(3) after paragraph (a)(2) to read as follows:

* * * * *

(3) ***Scope of Offering Roaming Arrangements for Commercial Mobile Data Services.*** Paragraph (e) of this section is applicable to all facilities-based providers of commercial mobile data services.

5. Part 20.12 is amended by adding new paragraph (e) to read as follows:

§ 20.12 Resale and roaming.

* * * * *

(e) *Offering Roaming Arrangements for Commercial Mobile Data Services*.

(1) A facilities-based provider of commercial mobile data services is required to offer roaming arrangements to other such providers on commercially reasonable terms and conditions, subject to the following limitations: (1) providers may negotiate the terms of their roaming arrangements on an individualized basis; (2) it is reasonable for a provider not to offer a data roaming arrangement to a requesting provider that is not technologically compatible; (3) it is reasonable for a provider not to offer a data roaming arrangement where it is not technically feasible to provide roaming for the particular data service for which roaming is requested and any changes to the host provider's network necessary to accommodate roaming for such data service are not economically reasonable; and (4) it is reasonable for a provider to condition the effectiveness of a roaming arrangement on the requesting provider's provision of mobile data service to its own subscribers using a generation of wireless technology comparable to the technology on which the requesting provider seeks to roam.

(2) A party alleging a violation of this section may file a formal or informal complaint pursuant to the procedures in §§ 1.716-1.718, 1.720, 1.721, and 1.723-1.735 of this chapter, which sections are incorporated herein. For purposes of section 20.12(e), references to a "carrier" or "common carrier" in the formal and informal complaint procedures incorporated herein will mean a provider of commercial mobile data services. The Commission will resolve such disputes on a case-by-case basis, taking into consideration the totality of the circumstances presented in each case. The remedy of damages shall not be available in connection with any complaint alleging a violation of this section. Whether the appropriate procedural vehicle for a dispute is a complaint under this paragraph or a petition for declaratory ruling under § 1.2 of this chapter may vary depending on the circumstances of each case.

APPENDIX B

List of Commenters and Reply Commenters

Commenters
ACS Wireless, Inc. (ACSW)
AT&T Inc. (AT&T)
Blooston Rural Carriers (Blooston)
Bright House Networks (Bright House)
Cellular South, Inc. (Cellular South)
Cincinnati Bell Wireless LLC (Cincinnati Bell)
Clearwire Corporation (Clearwire)
Free Press (Free Press)
Leap Wireless International, Inc. & Cricket Communications, Inc. (Leap)
Media Access Project
MetroPCS Communications, Inc. (MetroPCS)
NTCH, Inc. (NTCH)
NTELOS Inc. (NTELOS)
The Organization for the Advancement of Small Telecommunications Companies (OPASTCO) & the National Telecommunications Cooperative Association (NTCA)
Rural Cellular Association (RCA)
Rural Telecommunications Group, Inc. (RTG)
SkyTerra Subsidiary LLC (SkyTerra)
Southern Communications Services, Inc. d/b/a SouthernLINC Wireless (SouthernLINC)
Sprint Nextel Corporation (Sprint)
T-Mobile USA, Inc. (T-Mobile)
United States Cellular Corporation (U.S. Cellular)
Verizon Wireless

Reply Commenters
AT&T
Bend Cable Communications, LLC d/b/a BendBroadband (BendBroadband)
Blooston
Clearwire
Cellular South
Cox Communications (Cox)
Free Press
Leap
MetroPCS
National Cable & Telecommunications Association (NCTA)
NTELOS
RCA
RTG
SouthernLINC
T-Mobile
U.S. Cellular
Verizon Wireless

APPENDIX C

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Order on Reconsideration and Second Further Notice of Proposed Rulemaking in WT Docket No. 05-265.[2] The Commission sought written public comment on the proposals in the Second Further Notice, including comment on the IRFA. The comments received are discussed below. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[3]

A. Need for, and Objectives of, the Proposed Rules

2. In the *Second Further Notice* that we adopted in conjunction with the *Order on Reconsideration* in 2010, we sought to refresh and further develop the record by requesting additional comment on whether to extend roaming obligations to mobile data services, including mobile broadband Internet access, that are provided without interconnection to the public switched telephone network.[4] The objective of the rules adopted is to require providers of commercial mobile data services to offer data roaming arrangements on commercially reasonable terms and conditions, pursuant to our authority under the Communications Act. In addition, we also clarify that providers of commercial mobile data roaming services are permitted to negotiate commercially reasonable measures to safeguard quality of service against network congestion that may result from roaming traffic or to prevent harm to their networks.

3. This rule will apply to all facilities-based providers of commercial mobile data services regardless of whether these entities are also providers of commercial mobile radio service (CMRS).[5] For purposes of data roaming, we define a "commercial mobile data service" as any mobile data service that is not interconnected with the public switched network but is (1) provided for profit; and (2) available to the public or to such classes of eligible users as to be effectively available to the public.

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[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265, *Order on Reconsideration and Second Further Notice of Proposed Rulemaking*, 25 FCC Rcd 4181 (2010).

[3] *See* 5 U.S.C. § 604.

[4] The Commission had received several proposals concerning data roaming in response to the *Further Notice*, including a request by SpectrumCo that the Commission reconsider its decision to limit the automatic roaming obligation only to services that use the public switched network. *See Second Further Notice*, 25 FCC Rcd at 4212-13 ¶ 63. The Commission noted that issues in SpectrumCo's petition for reconsideration were being addressed in the *Second Further Notice*. *Id.* at 4185 ¶ 9.

[5] For purposes of this proceeding, "commercial mobile data service" is defined as any mobile data service that is not interconnected with the public switched network but is (1) provided for profit; and (2) available to the public or to such classes of eligible users as to be effectively available to the public. 47 C.F.R. § 20.12. The current roaming obligation in Section 20.12 applies to CMRS carriers' provision of mobile voice and data services that are interconnected with the public switched network, as well as their provision of text messaging and push-to-talk services. The data roaming rule adopted herein will cover mobile services that fall outside the scope of the current automatic roaming obligation if provided for profit; and available to the public or to such classes of eligible users as to be effectively available to the public.

4. Below, we describe the duty of providers of commercial mobile data services to offer data roaming arrangements on commercially reasonable terms and conditions subject to certain limitations. When a request for data roaming negotiations is made, as a part of the duty of providers to offer data roaming arrangements on commercially reasonable terms and conditions, a would-be host provider has a duty to respond promptly to the request and avoid actions that unduly delay or stonewall the course of negotiations regarding that request. We will determine whether the terms and conditions of a proffered data roaming arrangement are commercially reasonable on a case-by-case basis, taking into consideration the totality of the circumstances. The duty to offer data roaming arrangements on commercially reasonable terms and conditions is subject to certain limitations. In particular: (1) providers may negotiate the terms of their roaming arrangements on an individualized basis; (2) it is reasonable for a provider not to offer a data roaming arrangement to a requesting provider that is not technologically compatible; (3) it is reasonable for a provider not to offer a data roaming arrangement where it is not technically feasible to provide roaming for the particular data service for which roaming is requested and any changes to the host provider's network necessary to accommodate roaming for such data service are not economically reasonable; and (4) it is reasonable for a provider to condition the effectiveness of a data roaming arrangement on the requesting provider's provision of mobile data service to its own subscribers using a generation of wireless technology comparable to the technology on which the requesting provider seeks to roam.[6]

B. Legal Basis

5. The authority for the actions taken in this Second Report and Order is contained in Sections 1, 4(i), 4(j), 301, 303, 304, 309, 316, and 332 of the Communications Act of 1934, as amended, and Section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 301, 303, 304, 309, 316, 332, and 1302.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

6. The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the proposed rules, if adopted. The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[7] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[8] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[9]

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[6] In other words, a provider offering service only through, for example, a 1xRTT or GPRS/EDGE network, would not be able to rely on the data roaming obligation for this service to obtain roaming on a later generation EV-DO or UMTS/HSPA network until it starts offering the later generation service.

[7] 5 U.S.C. § 601(6).

[8] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[9] 15 U.S.C. § 632.

7. In the following paragraphs, the Commission further describes and estimates the number of small entity licensees that may be affected by the rules the Commission proposes in this Second Report and Order. This rule will apply to all facilities-based providers of commercial mobile data services regardless of whether these entities are also providers of commercial mobile radio service (CMRS).

8. This FRFA analyzes the number of small entities affected on a service-by-service basis. When identifying small entities that could be affected by the Commission's new rules, this FRFA provides information that describes auction results, including the number of small entities that were winning bidders. However, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily reflect the total number of small entities currently in a particular service. The Commission does not generally require that licensees later provide business size information, except in the context of an assignment or a transfer of control application that involves unjust enrichment issues.

9. *Wireless Telecommunications Carriers (except Satellite)*. Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category.[10] Prior to that time, such firms were within the now-superseded categories of "Paging" and "Cellular and Other Wireless Telecommunications."[11] Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.[12] For the category of Wireless Telecommunications Carriers (except Satellite), Census data for 2007, which supersede data contained in the 2002 Census, show that there were 1,383 firms that operated that year.[13] Of those 1,383, 1,368 had fewer than 100 employees, and 15 firms had more than 100 employees. Thus under this category and the associated small business size standard, the majority of firms can be considered small. Similarly, according to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, Personal Communications Service (PCS), and Specialized Mobile Radio (SMR) Telephony services.[14] Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.[15] Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, we estimate that the majority of wireless firms can be considered small.

10. *Broadband Personal Communications Service*. The broadband personal communications services (PCS) spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission initially defined a "small business" for C- and F-Block licenses as an entity that has average gross revenues of $40 million or less in the three

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[10] U.S. Census Bureau, 2007 NAICS Definitions, "Wireless Communications Carriers (Except Satellite), NAICS code 517210"; http://www.census.gov/naics/2007/def/ND517210.HTM#N517210.

[11] U.S. Census Bureau, 2002 NAICS Definitions, "517211 Paging"; http://www.census.gov/epcd/naics02/def/NDEF517.HTM.; U.S. Census Bureau, 2002 NAICS Definitions, "517212 Cellular and Other Wireless Telecommunications"; http://www.census.gov/epcd/naics02/def/NDEF517.HTM.

[12] 13 C.F.R. § 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

[13] U.S. Census Bureau, 2007 Economic Census, Sector 51, 2007 NAICS code 517210 (rel. Oct. 20, 2009), http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-_skip=700&-ds_name=EC0751SSSZ5&-_lang=en.

[14] *See Trends in Telephone Service* at Table 5.3.

[15] *See id*.

previous calendar years.[16] For F-Block licenses, an additional small business size standard for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[17] These small business size standards, in the context of broadband PCS auctions, have been approved by the SBA.[18] No small businesses within the SBA-approved small business size standards bid successfully for licenses in Blocks A and B. There were 90 winning bidders that claimed small business status in the first two C-Block auctions. A total of 93 bidders that claimed small business status won approximately 40 percent of the 1,479 licenses in the first auction for the D, E, and F Blocks.[19] On April 15, 1999, the Commission completed the reauction of 347 C-, D-, E-, and F-Block licenses in Auction No. 22.[20] Of the 57 winning bidders in that auction, 48 claimed small business status and won 277 licenses.

11. On January 26, 2001, the Commission completed the auction of 422 C and F Block Broadband PCS licenses in Auction No. 35. Of the 35 winning bidders in that auction, 29 claimed small business status.[21] Subsequent events concerning Auction 35, including judicial and agency determinations, resulted in a total of 163 C and F Block licenses being available for grant. On February 15, 2005, the Commission completed an auction of 242 C-, D-, E-, and F-Block licenses in Auction No. 58. Of the 24 winning bidders in that auction, 16 claimed small business status and won 156 licenses.[22] On May 21, 2007, the Commission completed an auction of 33 licenses in the A, C, and F Blocks in Auction No. 71.23 Of the 12 winning bidders in that auction, five claimed small business status and won 18 licenses.24 On August 20, 2008, the Commission completed the auction of 20 C-, D-, E-, and F-Block Broadband PCS licenses in Auction No. 78.[25] Of the eight winning bidders for Broadband PCS licenses in that auction, six claimed small business status and won 14 licenses.[26]

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[16] *See Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap; Amendment of the Commission's Cellular/PCS Cross-Ownership Rule*; WT Docket No. 96-59, GN Docket No. 90-314, Report and Order, 11 FCC Rcd 7824, 7850–52, paras. 57–60 (1996) ("*PCS Report and Order*"); *see also* 47 C.F.R. § 24.720(b).

[17] *See PCS Report and Order*, 11 FCC Rcd at 7852, para. 60.

[18] *See Alvarez Letter 1998*.

[19] *See Broadband PCS, D, E and F Block Auction Closes*, Public Notice, Doc. No. 89838 (rel. Jan. 14, 1997).

[20] *See C, D, E, and F Block Broadband PCS Auction Closes*, Public Notice, 14 FCC Rcd 6688 (WTB 1999). Before Auction No. 22, the Commission established a very small standard for the C Block to match the standard used for F Block. *Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licensees*, WT Docket No. 97-82, Fourth Report and Order, 13 FCC Rcd 15743, 15768, para. 46 (1998).

[21] *See C and F Block Broadband PCS Auction Closes; Winning Bidders Announced*, Public Notice, 16 FCC Rcd 2339 (2001).

[22] *See Broadband PCS Spectrum Auction Closes; Winning Bidders Announced for Auction No. 58*, Public Notice, 20 FCC Rcd 3703 (2005).

[23] *See Auction of Broadband PCS Spectrum Licenses Closes; Winning Bidders Announced for Auction No. 71*, Public Notice, 22 FCC Rcd 9247 (2007).

[24] *Id*.

[25] *See Auction of AWS-1 and Broadband PCS Licenses Closes; Winning Bidders Announced for Auction 78*, Public Notice, 23 FCC Rcd 12749 (WTB 2008).

[26] *Id.*

12. *Narrowband Personal Communications Service.* In 1994, the Commission conducted an auction for Narrowband PCS licenses. A second auction was also conducted later in 1994. For purposes of the first two Narrowband PCS auctions, "small businesses" were entities with average gross revenues for the prior three calendar years of $40 million or less.[27] Through these auctions, the Commission awarded a total of 41 licenses, 11 of which were obtained by four small businesses.[28] To ensure meaningful participation by small business entities in future auctions, the Commission adopted a two-tiered small business size standard in the Narrowband PCS Second Report and Order.[29] A "small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $40 million.[30] A "very small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $15 million.[31] The SBA has approved these small business size standards.[32] A third auction was conducted in 2001. Here, five bidders won 317 (Metropolitan Trading Areas and nationwide) licenses.[33] Three of these claimed status as a small or very small entity and won 311 licenses.

13. *Specialized Mobile Radio.* The Commission awards "small entity" bidding credits in auctions for Specialized Mobile Radio (SMR) geographic area licenses in the 800 MHz and 900 MHz bands to firms that had revenues of no more than $15 million in each of the three previous calendar years.[34] The Commission awards "very small entity" bidding credits to firms that had revenues of no more than $3 million in each of the three previous calendar years.[35] The SBA has approved these small business size standards for the 900 MHz Service.[36] The Commission has held auctions for geographic area licenses in the 800 MHz and 900 MHz bands. The 900 MHz SMR was completed in 1996. Sixty bidders claiming that they qualified as small businesses under the $15 million size standard won 263 geographic area licenses in the 900 MHz SMR band. The 800 MHz SMR auction for the upper 200

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[27] Implementation of Section 309(j) of the Communications Act – Competitive Bidding Narrowband PCS, *Third Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 10 FCC Rcd 175, 196 ¶ 46 (1994).

[28] *See* "Announcing the High Bidders in the Auction of ten Nationwide Narrowband PCS Licenses, Winning Bids Total $617,006,674," *Public Notice*, PNWL 94-004 (rel. Aug. 2, 1994); "Announcing the High Bidders in the Auction of 30 Regional Narrowband PCS Licenses; Winning Bids Total $490,901,787," *Public Notice*, PNWL 94-27 (rel. Nov. 9, 1994).

[29] Amendment of the Commission's Rules to Establish New Personal Communications Services, Narrowband PCS, *Second Report and Order and Second Further Notice of Proposed Rule Making*, 15 FCC Rcd 10456, 10476 ¶ 40 (2000).

[30] *Id.*

[31] *Id.*

[32] *See* Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

[33] *See* "Narrowband PCS Auction Closes," *Public Notice*, 16 FCC Rcd 18663 (WTB 2001).

[34] 47 C.F.R. § 90.814(b)(1).

[35] *Id.*

[36] *See* Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated August 10, 1999.

channels was conducted in 1997. Ten bidders claiming that they qualified as small businesses under the $15 million size standard won 38 geographic area licenses for the upper 200 channels in the 800 MHz SMR band.[37] A second auction for the 800 MHz band was conducted in 2002 and included 23 BEA licenses. One bidder claiming small business status won five licenses.[38]

14. The auction of the 1,050 800 MHz SMR geographic area licenses for the General Category channels was conducted in 2000. Eleven bidders won 108 geographic area licenses for the General Category channels in the 800 MHz SMR band qualified as small businesses under the $15 million size standard.[39] In an auction completed in 2000, a total of 2,800 Economic Area licenses in the lower 80 channels of the 800 MHz SMR service were awarded[40]. Of the 22 winning bidders, 19 claimed "small business" status and won 129 licenses. Thus, combining all three auctions, 40 winning bidders for geographic licenses in the 800 MHz SMR band claimed status as small business.

15. In addition, there are numerous incumbent site-by-site SMR licensees and licensees with extended implementation authorizations in the 800 and 900 MHz bands. We do not know how many firms provide 800 MHz or 900 MHz geographic area SMR pursuant to extended implementation authorizations, nor how many of these providers have annual revenues of no more than $15 million. One firm has over $15 million in revenues. In addition, we do not know how many of these firms have 1500 or fewer employees.[41] We assume, for purposes of this analysis, that all of the remaining existing extended implementation authorizations are held by small entities, as that small business size standard is approved by the SBA.

16. *AWS Services (1710–1755 MHz and 2110–2155 MHz bands (AWS-1); 1915–1920 MHz, 1995–2000 MHz, 2020–2025 MHz and 2175–2180 MHz bands (AWS-2); 2155–2175 MHz band (AWS-3))*. For the AWS-1 bands, the Commission has defined a "small business" as an entity with average annual gross revenues for the preceding three years not exceeding $40 million, and a "very small business" as an entity with average annual gross revenues for the preceding three years not exceeding $15 million.[42] In 2006, the Commission conducted its first auction of AWS-1 licenses.[43] In that initial AWS-1 auction, 31 winning bidders identified themselves as very small businesses.[44] Twenty-six of the

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[37] *See* "Correction to Public Notice DA 96-586 'FCC Announces Winning Bidders in the Auction of 1020 Licenses to Provide 900 MHz SMR in Major Trading Areas,'" *Public Notice*, 18 FCC Rcd 18367 (WTB 1996).

[38] *See* "Multi-Radio Service Auction Closes," *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

[39] *See* "800 MHz Specialized Mobile Radio (SMR) Service General Category (851-854 MHz) and Upper Band (861-865 MHz) Auction Closes; Winning Bidders Announced," *Public Notice*, 15 FCC Rcd 17162 (2000).

[40] *See*, "800 MHz SMR Service Lower 80 Channels Auction Closes; Winning Bidders Announced," *Public Notice*, 16 FCC Rcd 1736 (2000).

[41] *See generally* 13 C.F.R. § 121.201, NAICS code 517210.

[42] *See* Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, *Report and Order*, 18 FCC Rcd 25,162, App. B (2003), *modified by* Service Rules for Advanced Wireless Services In the 1.7 GHz and 2.1 GHz Bands, *Order on Reconsideration*, 20 FCC Rcd 14,058, App. C (2005).

[43] *See* "Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 66," AU Docket No. 06-30, *Public Notice*, 21 FCC Rcd 4562 (2006) ("*Auction 66 Procedures Public Notice*").

[44] *See* "Auction of Advanced Wireless Services Licenses Closes; Winning Bidders Announced for Auction No. 66," *Public Notice*, 21 FCC Rcd 10,521 (2006) ("*Auction 66 Closing Public Notice*").

winning bidders identified themselves as small businesses.[45] In a subsequent 2008 auction, the Commission offered 35 AWS-1 licenses.[46] Four winning bidders identified themselves as very small businesses, and three of the winning bidders identified themselves as a small business.[47]For AWS-2 and AWS-3, although we do not know for certain which entities are likely to apply for these frequencies, we note that the AWS-1 bands are comparable to those used for cellular service and personal communications service. The Commission has not yet adopted size standards for the AWS-2 or AWS-3 bands but has proposed to treat both AWS-2 and AWS-3 similarly to broadband PCS service and AWS-1 service due to the comparable capital requirements and other factors, such as issues involved in relocating incumbents and developing markets, technologies, and services.[48]

17. *Rural Radiotelephone Service.* The Commission has not adopted a size standard for small businesses specific to the Rural Radiotelephone Service.[49] A significant subset of the Rural Radiotelephone Service is the Basic Exchange Telephone Radio System ("BETRS").[50] In the present context, we will use the SBA's small business size standard applicable to Wireless Telecommunications Carriers (except Satellite), *i.e*., an entity employing no more than 1,500 persons.[51] There are approximately 1,000 licensees in the Rural Radiotelephone Service, and the Commission estimates that there are 1,000 or fewer small entity licensees in the Rural Radiotelephone Service that may be affected by the rules and policies adopted herein.

18. *Wireless Communications Services.* This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses in the 2305-2320 MHz and 2345-2360 MHz bands. The Commission defined "small business" for the wireless communications services (WCS) auction as an entity with average gross revenues of $40 million for each of the three preceding years, and a "very small business" as an entity with average gross revenues of $15 million for each of the three preceding years.[52] The SBA has approved these definitions.[53] The Commission auctioned geographic area licenses in the WCS service. In the auction, which commenced on April 15, 1997 and closed on

[45] *See id.*

[46] *See AWS-1 and Broadband PCS Procedures Public Notice*, 23 FCC Rcd at 7499. Auction 78 also included an auction of broadband PCS licenses.

[47] *See* "Auction of AWS-1 and Broadband PCS Licenses Closes, Winning Bidders Announced for Auction 78, Down Payments Due September 9, 2008, FCC Forms 601 and 602 Due September 9, 2008, Final Payments Due September 23, 2008, Ten-Day Petition to Deny Period," *Public Notice*, 23 FCC Rcd 12,749 (2008).

[48] Service Rules for Advanced Wireless Services in the 1915–1920 MHz, 1995–2000 MHz, 2020–2025 MHz and 2175–2180 MHz Bands et al., *Notice of Proposed Rulemaking*, 19 FCC Rcd 19,263, App. B (2005); Service Rules for Advanced Wireless Services in the 2155–2175 MHz Band, *Notice of Proposed Rulemaking*, 22 FCC Rcd 17,035, App. (2007); Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band, *Further Notice of Proposed Rulemaking*, 23 FCC Rcd 9859, App. B (2008).

[49] The service is defined in § 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

[50] BETRS is defined in §§ 22.757 and 22.759 of the Commission's Rules, 47 C.F.R. §§ 22.757 and 22.759.

[51] 13 C.F.R. § 121.201, NAICS code 517210.

[52] Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service (WCS), *Report and Order*, 12 FCC Rcd 10785, 10879 ¶ 194 (1997).

[53] *See* Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

April 25, 1997, there were seven bidders that won 31 licenses that qualified as very small business entities, and one bidder that won one license that qualified as a small business entity.

19. *220 MHz Radio Service – Phase I Licensees*. The 220 MHz service has both Phase I and Phase II licenses. Phase I licensing was conducted by lotteries in 1992 and 1993. There are approximately 1,515 such non-nationwide licensees and four nationwide licensees currently authorized to operate in the 220 MHz band. The Commission has not developed a small business size standard for small entities specifically applicable to such incumbent 220 MHz Phase I licensees. To estimate the number of such licensees that are small businesses, the Commission applies the small business size standard under the SBA rules applicable. The SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.[54] For this service, the SBA uses the category of Wireless Telecommunications Carriers (except Satellite). Census data for 2007, which supersede data contained in the 2002 Census, show that there were 1,383 firms that operated that year.[55] Of those 1,383, 1,368 had fewer than 100 employees, and 15 firms had more than 100 employees. Thus under this category and the associated small business size standard, the majority of firms can be considered small.

20. *220 MHz Radio Service – Phase II Licensees.* The 220 MHz service has both Phase I and Phase II licenses. The Phase II 220 MHz service is a new service, and is subject to spectrum auctions. In the *220 MHz Third Report and Order*, the Commission adopted a small business size standard for defining "small" and "very small" businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[56] This small business standard indicates that a "small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years.[57] A "very small business" is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that do not exceed $3 million for the preceding three years.[58] The SBA has approved these small size standards.[59] Auctions of Phase II licenses commenced on and closed in 1998.[60] In the first auction, 908 licenses were auctioned in three different-sized geographic areas: three nationwide licenses, 30 Regional Economic Area Group (EAG) Licenses, and 875 Economic Area (EA) Licenses. Of the 908 licenses auctioned, 693 were sold.[61] Thirty-nine small businesses won 373 licenses in the first 220 MHz auction.

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[54] 13 C.F.R. § 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

[55] U.S. Census Bureau, 2007 Economic Census, Sector 51, 2007 NAICS code 517210 (rel. Oct. 20, 2009), http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-_skip=700&-ds_name=EC0751SSSZ5&-_lang=en.

[56] Amendment of Part 90 of the Commission's Rules to Provide For the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, *Third Report and Order*, 12 FCC Rcd 10943, 11068-70 ¶¶ 291-295 (1997).

[57] *Id.* at 11068 ¶ 291.

[58] *Id.*

[59] *See* Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated January 6, 1998 (*Alvarez to Phythyon Letter 1998*).

[60] *See generally* "220 MHz Service Auction Closes," *Public Notice*, 14 FCC Rcd 605 (WTB 1998).

[61] *See* "FCC Announces It is Prepared to Grant 654 Phase II 220 MHz Licenses After Final Payment is Made," *Public Notice*, 14 FCC Rcd 1085 (WTB 1999).

A second auction included 225 licenses: 216 EA licenses and 9 EAG licenses. Fourteen companies claiming small business status won 158 licenses.[62] A third auction included four licenses: 2 BEA licenses and 2 EAG licenses in the 220 MHz Service. No small or very small business won any of these licenses.[63] In 2007, the Commission conducted a fourth auction of the 220 MHz licenses.[64] Bidding credits were offered to small businesses. A bidder with attributed average annual gross revenues that exceeded $3 million and did not exceed $15 million for the preceding three years ("small business") received a 25 percent discount on its winning bid. A bidder with attributed average annual gross revenues that did not exceed $3 million for the preceding three years received a 35 percent discount on its winning bid ("very small business"). Auction 72, which offered 94 Phase II 220 MHz Service licenses, concluded in 2007.[65] In this auction, five winning bidders won a total of 76 licenses. Two winning bidders identified themselves as very small businesses won 56 of the 76 licenses. One of the winning bidders that identified themselves as a small business won 5 of the 76 licenses won.

21. *700 MHz Guard Band Licenses.* In the *700 MHz Guard Band Order*, the Commission adopted size standards for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[66] A small business in this service is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $40 million for the preceding three years.[67] Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years.[68] SBA approval of these definitions is not required.[69] In 2000, the Commission conducted an auction of 52 Major Economic Area

[62] *See* "Phase II 220 MHz Service Spectrum Auction Closes," *Public Notice*, 14 FCC Rcd 11218 (WTB 1999).

[63] *See* "Multi-Radio Service Auction Closes," *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

[64] *See* "Auction of Phase II 220 MHz Service Spectrum Scheduled for June 20, 2007, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction 72, *Public Notice*, 22 FCC Rcd 3404 (2007).

[65] *See* "Auction of Phase II 220 MHz Service Spectrum Licenses Closes, Winning Bidders Announced for Auction 72, Down Payments due July 18, 2007, FCC Forms 601 and 602 due July 18, 2007, Final Payments due August 1, 2007, Ten-Day Petition to Deny Period, *Public Notice*, 22 FCC Rcd 11573 (2007).

[66] Service Rules for the 746-764 MHz Bands, and Revisions to Part 27 of the Commission's Rules, *Second Report and Order*, 15 FCC Rcd 5299 (2000). Service rules were amended in 2007, but no changes were made to small business size categories. *See* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket 03-264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, WT Docket No. 06-169, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Report and Order and Further Notice of Proposed Rulemaking*, 22 FCC Rcd 8064 (2007).

[67] *Id*. at 5343 ¶ 108.

[68] *Id*.

[69] *Id*. at 5343 ¶ 108 n.246 (for the 746-764 MHz and 776-704 MHz bands, the Commission is exempt from 15 U.S.C. § 632, which requires Federal agencies to obtain Small Business Administration approval before adopting small business size standards).

("MEA") licenses.[70] Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced and closed in 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.[71]

22. *Upper 700 MHz Band Licenses*. In the *700 MHz Second Report and Order*, the Commission revised its rules regarding Upper 700 MHz licenses.[72] On January 24, 2008, the Commission commenced Auction 73 in which several licenses in the Upper 700 MHz band were available for licensing: 12 Regional Economic Area Grouping licenses in the C Block, and one nationwide license in the D Block.[73] The auction concluded on March 18, 2008, with 3 winning bidders claiming very small business status (those with attributable average annual gross revenues that do not exceed $15 million for the preceding three years) and winning five licenses.

23. *Lower 700 MHz Band Licenses*. The Commission previously adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits.[74] The Commission defined a "small business" as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $40 million for the preceding three years.[75] A "very small business" is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years.[76] Additionally, the lower 700 MHz Service had a third category of small business status for Metropolitan/Rural Service Area (MSA/RSA) licenses—"entrepreneur"—which is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years.[77] The SBA approved these small size standards.[78] An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six Economic Area Groupings (EAGs)) was conducted in 2002. Of the 740 licenses available for auction, 484 licenses were won by 102 winning bidders. Seventy-two of the winning bidders claimed small business, very small business or entrepreneur status and won licenses.[79] A second auction commenced on May 28, 2003, closed on June 13, 2003, and included 256 licenses.[80] Seventeen winning bidders claimed small or very small business status, and nine winning bidders claimed entrepreneur

[70] *See* "700 MHz Guard Bands Auction Closes: Winning Bidders Announced," *Public Notice*, 15 FCC Rcd 18026 (2000).

[71] *See* "700 MHz Guard Bands Auction Closes: Winning Bidders Announced," *Public Notice*, 16 FCC Rcd 4590 (WTB 2001).

[72] *700 MHz Second Report and Order*, 22 FCC Rcd 15289.

[73] *See* Auction of 700 MHz Band Licenses Closes, *Public Notice*, 23 FCC Rcd 4572 (WTB 2008).

[74] *See* Reallocation and Service Rules for the 698–746 MHz Spectrum Band (Television Channels 52–59), *Report and Order*, 17 FCC Rcd 1022 (2002) ("*Channels 52–59 Report and Order*").

[75] *See id.*, 17 FCC Rcd at 1087–88 ¶ 172.

[76] *See id*.

[77] *See id.*, 17 FCC Rcd at 1088 ¶ 173.

[78] *See Alvarez Letter 1998*.

[79] *See* Lower 700 MHz Band Auction Closes, *Public Notice*, 17 FCC Rcd 17,272 (2002).

[80] *See* Lower 700 MHz Band Auction Closes, *Public Notice*, 18 FCC Rcd 11,873 (2003).

status.[81] In 2005, the Commission completed an auction of 5 licenses in the Lower 700 MHz band. All three winning bidders claimed small business status.

24. In 2007, the Commission reexamined its rules governing the 700 MHz band in the *700 MHz Second Report and Order*.[82] An auction of A, B and E block 700 MHz licenses was held in 2008.[83] Twenty winning bidders claimed small business status (those with attributable average annual gross revenues that exceed $15 million and do not exceed $40 million for the preceding three years). Thirty three winning bidders claimed very small business status (those with attributable average annual gross revenues that do not exceed $15 million for the preceding three years).

25. *Wireless Telephony*. Wireless telephony includes cellular, personal communications services, and specialized mobile radio telephony carriers. As noted, the SBA has developed a small business size standard for Wireless Telecommunications Carriers (except Satellite).[84] Under the SBA small business size standard, a business is small if it has 1,500 or fewer employees.[85] According to *Trends in Telephone Service* data, 413 carriers reported that they were engaged in wireless telephony.[86] Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.[87] Therefore, more than half of these entities can be considered small.

26. *Air-Ground Radiotelephone Service*. The Commission has previously used the SBA's small business definition applicable to Wireless Telecommunications Carriers (except Satellite), *i.e.*, an entity employing no more than 1,500 persons.[88] There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and under that definition, we estimate that almost all of them qualify as small entities under the SBA definition. For purposes of assigning Air-Ground Radiotelephone Service licenses through competitive bidding, the Commission has defined "small business" as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding $40 million.[89] A "very small business" is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding $15 million.[90] These definitions were approved by the SBA.[91] In 2006, the Commission completed an auction of nationwide commercial Air-Ground Radiotelephone Service licenses in the 800

[81] *See id.*

[82] 700 MHz Second Report and Order, *Second Report and Order*, 22 FCC Rcd 15,289, 15,359 n.434 (2007).

[83] *See* Auction of 700 MHz Band Licenses Closes, *Public Notice*, 23 FCC Rcd 4572 (2008).

[84] 13 C.F.R. § 121.201, NAICS code 517210.

[85] *Id.*

[86] TRENDS IN TELEPHONE SERVICE, tbl. 5.3.

[87] *Id.*

[88] 13 C.F.R. § 121.201, NAICS codes 517210.

[89] Amendment of Part 22 of the Commission's Rules to Benefit the Consumers of Air-Ground Telecommunications Services, Biennial Regulatory Review—Amendment of Parts 1, 22, and 90 of the Commission's Rules, Amendment of Parts 1 and 22 of the Commission's Rules to Adopt Competitive Bidding Rules for Commercial and General Aviation Air-Ground Radiotelephone Service, WT Docket Nos. 03-103, 05-42, *Order on Reconsideration and Report and Order*, 20 FCC Rcd 19663, 19677-83 ¶¶ 28-42 (2005).

[90] *Id.*

[91] *See* Letter from Hector V. Barreto, Administrator, SBA, to Gary D. Michaels, Deputy Chief, Auctions and Spectrum Access Division, Wireless Telecommunications Bureau, FCC (filed Sept. 19, 2005).

MHz band (Auction 65). Later in 2006, the auction closed with two winning bidders winning two Air-Ground Radiotelephone Services licenses. Neither of the winning bidders claimed small business status.

27. *Aviation and Marine Radio Services*. Small businesses in the aviation and marine radio services use a very high frequency (VHF) marine or aircraft radio and, as appropriate, an emergency position-indicating radio beacon (and/or radar) or an emergency locator transmitter. The Commission has not developed a small business size standard specifically applicable to these small businesses. For purposes of this analysis, the Commission uses the SBA small business size standard for the category Wireless Telecommunications Carriers (except satellite)," which is 1,500 or fewer employees.[92] Census data for 2007, which supersede data contained in the 2002 Census, show that there were 1,383 firms that operated that year.[93] Of those 1,383, 1,368 had fewer than 100 employees, and 15 firms had more than 100 employees. Thus under this category and the associated small business size standard, the majority of firms can be considered small. Additionally, the Commission notes that most applicants for recreational licenses in this category of wireless service are individuals. Approximately 581,000 ship station licensees and 131,000 aircraft station licensees operate domestically and are not subject to the radio carriage requirements of any statute or treaty. For purposes of our evaluations in this analysis, the Commission estimates that there are up to approximately 712,000 licensees that are small businesses (or individuals) under the SBA standard. In addition, between December 3, 1998 and December 14, 1998, the Commission held an auction of 42 VHF Public Coast licenses in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands. For purposes of the auction, the Commission defined a "small" business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $15 million dollars. In addition, a "very small" business is one that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $3 million dollars.[94] There are approximately 10,672 licensees in the Marine Coast Service, and the Commission estimates that almost all of them qualify as "small" businesses under the above special small business size standards.

28. *Fixed Microwave Services*. Microwave services include common carrier,[95] private-operational fixed,[96] and broadcast auxiliary radio services.[97] They also include the Local Multipoint Distribution Service (LMDS),[98] the Digital Electronic Message Service (DEMS),[99] and the 24 GHz

[92] 13 C.F.R. § 121.201, NAICS code 517210.

[93] U.S. Census Bureau, 2007 Economic Census, Sector 51, 2007 NAICS code 517210 (rel. Oct. 20, 2009), http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-_skip=700&-ds_name=EC0751SSSZ5&-_lang=en.

[94] *Amendment of the Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, Third Report and Order and Memorandum Opinion and Order, 13 FCC Rcd 19853 (1998).

[95] *See* 47 C.F.R. Part 101, Subparts C and I.

[96] *See* 47 C.F.R. Part 101, Subparts C and H.

[97] Auxiliary Microwave Service is governed by Part 74 of Title 47 of the Commission's Rules. *See* 47 C.F.R. Part 74. Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

[98] *See* 47 C.F.R. Part 101, Subpart L.

[99] *See* 47 C.F.R. Part 101, Subpart G.

Service,[100] where licensees can choose between common carrier and non-common carrier status.[101] The Commission has not yet defined a small business with respect to microwave services. For purposes of the IRFA, the Commission will use the SBA's definition applicable to Wireless Telecommunications Carriers (except satellite)—i.e., an entity with no more than 1,500 persons is considered small.[102] For the category of Wireless Telecommunications Carriers (except Satellite), Census data for 2007, which supersede data contained in the 2002 Census, show that there were 1,383 firms that operated that year.[103] Of those 1,383, 1,368 had fewer than 100 employees, and 15 firms had more than 100 employees. Thus under this category and the associated small business size standard, the majority of firms can be considered small. The Commission notes that the number of firms does not necessarily track the number of licensees. The Commission estimates that virtually all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition.

29. *Local Multipoint Distribution Service.* Local Multipoint Distribution Service (LMDS) is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.[104] In the 1998 and 1999 LMDS auctions,[105] the Commission defined a small business as an entity that has annual average gross revenues of less than $40 million in the previous three calendar years.[106] Moreover, the Commission added an additional classification for a "very small business," which was defined as an entity that had annual average gross revenues of less than $15 million in the previous three calendar years.[107] These definitions of "small business" and "very small business" in the context of the LMDS auctions have been approved by the SBA.[108] In the first LMDS auction, 104 bidders won 864 licenses. Of the 104 auction winners, 93 claimed status as small or very small businesses. In the LMDS re-auction, 40 bidders won 161 licenses. Based on this information, the Commission believes that the number of small LMDS licenses will include the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers as defined by the SBA and the Commission's auction rules.

30. *Offshore Radiotelephone Service.* This service operates on several UHF television broadcast channels that are not used for television broadcasting in the coastal areas of states bordering the

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[100] *See id.*

[101] *See* 47 C.F.R. §§ 101.533, 101.1017.

[102] 13 C.F.R. § 121.201, NAICS code 517210.

[103] U.S. Census Bureau, 2007 Economic Census, Sector 51, 2007 NAICS code 517210 (rel. Oct. 20, 2009), http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-_skip=700&-ds_name=EC0751SSSZ5&-_lang=en.

[104] *See* Local Multipoint Distribution Service, *Second Report and Order*, 12 FCC Rcd 12545 (1997).

[105] The Commission has held two LMDS auctions: Auction 17 and Auction 23. Auction No. 17, the first LMDS auction, began on February 18, 1998, and closed on March 25, 1998. (104 bidders won 864 licenses.) Auction No. 23, the LMDS re-auction, began on April 27, 1999, and closed on May 12, 1999. (40 bidders won 161 licenses.)

[106] *See LMDS Order*, 12 FCC Rcd at 12545.

[107] *Id.*

[108] *See* Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (January 6, 1998).

Gulf of Mexico.[109] There are presently approximately 55 licensees in this service. The Commission is unable to estimate at this time the number of licensees that would qualify as small under the SBA's small business size standard for the category of Wireless Telecommunications Carriers (except Satellite). Under that standard.[110] Under that SBA small business size standard, a business is small if it has 1,500 or fewer employees.[111] Census data for 2007, which supersede data contained in the 2002 Census, show that there were 1,383 firms that operated that year.[112] Of those 1,383, 1,368 had fewer than 100 employees, and 15 firms had more than 100 employees. Thus under this category and the associated small business size standard, the majority of firms can be considered small.

31. *39 GHz Service.* The Commission created a special small business size standard for 39 GHz licenses – an entity that has average gross revenues of $40 million or less in the three previous calendar years.[113] An additional size standard for "very small business" is: an entity that, together with affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[114] The SBA has approved these small business size standards.[115] The auction of the 2,173 39 GHz licenses began and closed in 2000. The 18 bidders who claimed small business status won 849 licenses.

32. *218-219 MHz Service.* The first auction of 218-219 MHz spectrum resulted in 170 entities winning licenses for 594 Metropolitan Statistical Area (MSA) licenses. Of the 594 licenses, 557 were won by entities qualifying as a small business. For that auction, the small business size standard was an entity that, together with its affiliates, has no more than a $6 million net worth and, after federal income taxes (excluding any carry over losses), has no more than $2 million in annual profits each year for the previous two years.[116] In the 218-219 MHz Report and Order and Memorandum Opinion and Order, the Commission established a small business size standard for a "small business" as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and their affiliates, has average annual gross revenues not to exceed $15 million for the preceding three years.[117] A "very small business" is defined as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and its affiliates, has average annual gross revenues not to exceed $3 million for the preceding three years.[118] The SBA has approved of these definitions.[119] These size standards will be

[109] This service is governed by Subpart I of Part 22 of the Commission's Rules. *See* 47 C.F.R. §§ 22.1001-22.1037.

[110] 13 C.F.R. § 121.201, NAICS code 517210.

[111] *Id*.

[112] U.S. Census Bureau, 2007 Economic Census, Sector 51, 2007 NAICS code 517210 (rel. Oct. 20, 2009), http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-_skip=700&-ds_name=EC0751SSSZ5&-_lang=en.

[113] *See* Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, *Report and Order*, 63 Fed. Reg. 6079 (Feb. 6, 1998).

[114] *Id.*

[115] *See* Letter to Kathleen O'Brien Ham, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC, from Aida Alvarez, Administrator, SBA (Feb. 4, 1998).

[116] *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fourth Report and Order, 9 FCC Rcd 2330 (1994).

[117] *Amendment of Part 95 of the Commission's Rules to Provide Regulatory Flexibility in the 218-219 MHz Service*, WT Docket No. 98-169, Report and Order and Memorandum Opinion and Order, 15 FCC Rcd 1497 (1999).

[118] *Id*.

used in future auctions of 218-219 MHz spectrum.

33. *Incumbent 24 GHz Licensees.* This analysis may affect incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band, and applicants who wish to provide services in the 24 GHz band. For this service, the Commission uses the SBA small business size standard for the category "Wireless Telecommunications Carriers (except satellite)," which is 1,500 or fewer employees.[120] To gauge small business prevalence for these cable services we must, however, use the most current census data. Census data for 2007, which supersede data contained in the 2002 Census, show that there were 1,383 firms that operated that year.[121] Of those 1,383, 1,368 had fewer than 100 employees, and 15 firms had more than 100 employees. Thus under this category and the associated small business size standard, the majority of firms can be considered small. The Commission notes that the Census' use of the classifications "firms" does not track the number of "licenses". The Commission believes that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band, Teligent[122] and TRW, Inc. It is our understanding that Teligent and its related companies have less than 1,500 employees, though this may change in the future. TRW is not a small entity. Thus, only one incumbent licensee in the 24 GHz band is a small business entity.

34. *Future 24 GHz Licensees.* With respect to new applicants in the 24 GHz band, the small business size standard for "small business" is an entity that, together with controlling interests and affiliates, has average annual gross revenues for the three preceding years not in excess of $15 million.[123] "Very small business" in the 24 GHz band is an entity that, together with controlling interests and affiliates, has average gross revenues not exceeding $3 million for the preceding three years.[124] The SBA has approved these small business size standards.[125] These size standards will apply to the future auction, if held.

35. *1670–1675 MHz Services*. This service can be used for fixed and mobile uses, except aeronautical mobile.[126] An auction for one license in the 1670–1675 MHz band was conducted in 2003. The winning bidder was not a small entity.

36. *3650-3700 MHz Band*. In March 2005, the Commission released a *Report and Order and*

(Continued from previous page)

[119] *See Alvarez to Phythyon Letter 1998*.

[120] 13 C.F.R. § 121.201, NAICS code 517210.

[121] U.S. Census Bureau, 2007 Economic Census, Sector 51, 2007 NAICS code 517210 (rel. Oct. 20, 2009), http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-_skip=700&-ds_name=EC0751SSSZ5&-_lang=en.

[122] Teligent acquired the DEMS licenses of FirstMark, the only licensee other than TRW in the 24 GHz band whose license has been modified to require relocation to the 24 GHz band.

[123] *Amendments to Parts 1, 2, 87 and 101 of the Commission's Rules to License Fixed Services at 24 GHz*, WT Docket No. 99-327, Report and Order, 15 FCC Rcd 16934, 16967 at para. 77 (2000); *see also* 47 C.F.R. § 101.538(a)(2).

[124] *Amendments to Parts 1, 2, 87 and 101 of the Commission's Rules to License Fixed Services at 24 GHz*, WT Docket No. 99-327, Report and Order, 15 FCC Rcd 16934, 16967 at para. 77 (2000); *see also* 47 C.F.R. § 101.538(a)(1).

[125] *See* Letter to Margaret W. Wiener, Deputy Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC, from Gary M. Jackson, Assistant Administrator, SBA (July 28, 2000).

[126] 47 C.F.R. § 2.106; *see generally* 47 C.F.R. §§ 27.1–.70.

Memorandum Opinion and Order that provides for nationwide, non-exclusive licensing of terrestrial operations, utilizing contention-based technologies, in the 3650 MHz band (*i.e.*, 3650–3700 MHz).[127] As of April 2010, more than 1270 licenses have been granted and more than 7433 sites have been registered. The Commission has not developed a definition of small entities applicable to 3650–3700 MHz band nationwide, non-exclusive licensees. However, we estimate that the majority of these licensees are Internet Access Service Providers (ISPs) and that most of those licensees are small businesses.

37. *Internet Service Providers*. The 2007 Economic Census places these firms, whose services might include voice over Internet protocol (VoIP), in either of two categories, depending on whether the service is provided over the provider's own telecommunications facilities (*e.g.*, cable and DSL ISPs), or over client-supplied telecommunications connections (*e.g.*, dial-up ISPs). The former are within the category of Wired Telecommunications Carriers,[128] which has an SBA small business size standard of 1,500 or fewer employees.[129] These are also labeled "broadband." The latter are within the category of All Other Telecommunications,[130] which has a size standard of annual receipts of $25 million or less.[131] These are labeled non-broadband.

38. The most current Economic Census data for all such firms are 2007 data, which are detailed specifically for ISPs within the categories above. For the first category, the data show that 396 firms operated for the entire year, of which 159 had nine or fewer employees.[132] For the second category, the data show that 1,682 firms operated for the entire year. [133] Of those, 1,675 had annual receipts below $25 million per year, and an additional two had receipts of between $25 million and $ 49,999,999. Consequently, we estimate that the majority of ISP firms are small entities.

39. *Satellite Telecommunications Providers*. Two economic census categories address the satellite industry. The first category has a small business size standard of $15 million or less in average annual receipts, under SBA rules.[134] The second has a size standard of $25 million or less in annual receipts.[135]

40. The category of Satellite Telecommunications "comprises establishments primarily

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[127] The service is defined in section 90.1301 *et seq*. of the Commission's Rules, 47 C.F.R. § 90.1301 *et seq*.

[128] U.S. Census Bureau, 2007 NAICS Definitions, "517110 Wired Telecommunications Carriers"; http://www.census.gov/naics/2007/def/ND517110.HTM#N517110.

[129] 13 C.F.R. § 121.201, NAICS code 517110.

[130] U.S. Census Bureau, 2007 NAICS Definitions, "517919 All Other Telecommunications"; http://www.census.gov/naics/2007/def/ND517919.HTM#N517919.

[131] 13 C.F.R. § 121.201, NAICS code 517919 (updated for inflation in 2008).

[132] U.S. Census Bureau, 2007 Economic Census, Subject Series: Information, "Establishment and Firm Size," NAICS code 5171103 (released Nov. 19, 2010) (employment size). The data show only two categories within the whole: the categories for 1-4 employees and for 5-9 employees.

[133] U.S. Census Bureau, 2007 Economic Census, Subject Series: Information, "Establishment and Firm Size," NAICS code 5179191 (released Nov. 19, 2010) (receipts size).

[134] 13 C.F.R. § 121.201, NAICS code 517410.

[135] 13 C.F.R. § 121.201, NAICS code 517919.

engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications."[136] Census Bureau data for 2007 show that 512 Satellite Telecommunications firms that operated for that entire year.[137] Of this total, 464 firms had annual receipts of under $10 million, and 18 firms had receipts of $10 million to $24,999,999.[138] Consequently, the Commission estimates that the majority of Satellite Telecommunications firms are small entities that might be affected by our action.

41. The second category, i.e. "All Other Telecommunications" comprises "establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry."[139] For this category, Census Bureau data for 2007 show that there were a total of 2,383 firms that operated for the entire year.[140] Of this total, 2,347 firms had annual receipts of under $25 million and 12 firms had annual receipts of $25 million to $49, 999,999.[141] Consequently, the Commission estimates that the majority of All Other Telecommunications firms are small entities that might be affected by our action.

42. *Part 15 Device Manufacturers*. The Commission has not developed a definition of small applicable to unlicensed communications devices manufacturers. Therefore we will utilize the SBA definition applicable to Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing. The Census Bureau defines this category as follows: This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment".[142] The SBA has developed a small business size standard for Radio an Television Broadcasting and Wireless Communications Equipment

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[136] U.S. Census Bureau, 2007 NAICS Definitions, "517410 Satellite Telecommunications," .

[137] See http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en.

[138] . http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en

[139] *http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517919&search=2007%20NAICS%20Search*

[140] U.S. Censhttp://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en.

[141]http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en .

[142] http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=334220&search=2007%20NAICS%20Search

Manufacturing, which is all firms having 750 or fewer employees.[143] The U.S. Census data for 2007 indicate that in that year there were 939 active establishments, of which 912 had less than 500 hundred employees and of which 27 had 500 employees or more.[144] Accordingly, the Commission concludes that the majority of businesses in this category were small.

43. *Telephone Apparatus Manufacturing*. This industry comprises establishments primarily engaged in manufacturing wire telephone and data communications equipment. These products may be standalone or board-level components of a larger system. Examples of products made by these establishments are central office switching equipment, cordless telephones (except cellular), PBX equipment, telephones, telephone answering machines, LAN modems, multi-user modems, and other data communications equipment, such as bridges, routers, and gateways. [145] The SBA has developed a small business size standard for Telephone Apparatus Manufacturing, which is all such firms having fewer than 1000 employees.[146] U.S. Census data for 2007 indicate that there were 398 establishments that were operational during that year. Of that 398, 393 had less than 100 employees and 5 had 1000 employees or more. [147] Accordingly, the Commission concludes that the majority of businesses in this category were small.

44. *Other Communications Equipment Manufacturing.* This industry comprises establishments primarily engaged in manufacturing communications equipment (except telephone apparatus, and radio and television broadcast, and wireless communications equipment).[148] The SBA has developed a small business size standard for Other Communications Equipment Manufacturing, which is all such firms having fewer than 750 employees.[149] U.S. Census data for 2007 indicate that there were 452 establishments that were operational in this category of manufacturing during that year. Of that 452, 452 had fewer than 1000 employees. None had more than 100 employees.[150] Accordingly, the Commission concludes that all of the businesses in this category were small.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

45. The compliance requirement is that facilities-based providers of commercial mobile data

[143] NAICS Code 334220, 13 C.F.R. 121.201(Effective August 8, 2008 to November 4, 2011)

[144] http://factfinder.census.gov/servlet/IBQTable?_bm=y&-ds_name=EC0731SG3&-ib_type=NAICS2007&-NAICS2007=334220

[145] http://www.census.gov/cgi-bin/sssd/naics/naicsrch

[146] NAICS CODE 334210, 13 CR 121.201(Effective August 8, 2008 to November 4, 2011)

[147] http://factfinder.census.gov/servlet/IBQTable?_bm=y&-ds_name=EC0731SG3&-ib_type=NAICS2007&-NAICS2007=334210

[148] http://www.census.gov/naics/2007/def/ND334290.HTM

[149] NAICS CODE 334290, 13 CR 121.201(Effective August 8, 2008 to November 4, 2011)

[150] http://factfinder.census.gov/servlet/IBQTable?_bm=y&-ds_name=EC0731SG3&-ib_type=NAICS2007&-NAICS2007=334290

services are required to offer data roaming arrangements to other such providers on commercially reasonable terms and conditions.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities and Significant Alternatives Considered

46. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[151]

47. The adoption of a data roaming rule will benefit small providers in many ways. The record in this proceeding shows that, among other things, many small providers have had difficulty negotiating data roaming agreements with nationwide providers on commercially reasonable terms. The data roaming rule will benefit small providers by helping them to maintain their ability to compete with the major national providers, and ensuring that consumers of such small providers have access to data services when they travel outside of their provider's network coverage. Additionally, the data roaming will help to encourage investment by ensuring that small providers wanting to invest in their networks or expand their coverage into new areas can offer subscribers a competitive level of coverage during the early period of investment and buildout.

48. With respect to data roaming disputes, the Commission establishes a complaint process similar to the complaint process available under the current roaming obligations for interconnected voice and data services. Under the dispute resolution procedures established, providers, including small providers, may file a complaint or file a petition for declaratory ruling to resolve any disputes arising out of the data roaming rule adopted. Additionally, although all data roaming complaints will not automatically be placed on the Accelerated Docket, an affected small provider can seek consideration of its complaint under the Commission's Accelerated Docket rules and procedures where appropriate. Furthermore, during ongoing negotiations for data roaming, parties (including small providers) can seek Commission dispute resolution for claims such as, for example, those regarding the commercial reasonableness of the negotiations, providers' conduct, and the terms and conditions of the proffered data roaming arrangement. With respect to claims regarding the commercial reasonableness of the proffered terms and conditions, including prices, the Commission staff may, in resolving such claims, require both parties to provide to the Commission their best and final offers (final offers). This dispute resolution mechanism offers small providers an avenue to have disputes resolved in the event the parties are not able to agree on terms.

49. In light of the benefits described above that small providers will likely receive as a result of the adoption of the data roaming rule, and the extensive and uniform record support from small providers for a data roaming rule consistent with the Commission's approach, the Commission does not address any significant alternatives considered in developing that approach.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

50. None.

[151] *See* 5 U.S.C. § 603(c).

STATEMENT OF
CHAIRMAN JULIUS GENACHOWSKI

Re: ***Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265***

Roaming obligations have helped fuel competition, investment and consumer choice in America's wireless marketplace since the first cellular voice service in 1981. Today, we take a vital step to update this framework for the 21st century, as Americans increasingly use their mobile devices for data as well as voice.

The framework we adopt today will spur investment in mobile broadband and promote competition. It will ensure that rural and urban consumers have the ability they expect to use their mobile phones throughout the nation for voice calls or data—like email or mobile apps.

The rules we adopt today build on the Commission's longstanding and bipartisan voice roaming rules. As noted, the Commission first adopted roaming requirements in 1981 as part of the original cellular service rules. In 1996, the Commission extended these rules to the newly established Personal Communications Services and to certain Specialized Mobile Radio carriers. In 2007, under Republican Chairman Kevin Martin, the Commission unanimously clarified that carriers were required to provide "automatic" voice roaming. And last year, this Commission voted unanimously to increase consumers' access to roaming services by eliminating the so-called "home roaming exclusion."

And the record on voice roaming is one of unbridled success. Today, there are more than 300 million mobile voice subscribers and virtually every consumer has access to nationwide voice services and roaming.

And so I am pleased that Congressional members of both parties – as well as an overwhelming percentage of businesses in the industry -- have supported the simple, logical step of extending the basic roaming framework to mobile broadband.

Stemming from our focus on facts, data and the realities of technology and the marketplace, we today adopt an even lighter touch approach to reflect the swiftly evolving reality of today's data market. This approach has benefitted from input from all of my colleagues, including my colleagues who have decided not to support the item.

By adopting a "commercially reasonable" standard for data roaming offers, we give carriers flexibility to tailor agreements to different environments and to account for concerns regarding congestion and technical compatibility. We've also refined enforcement of the rules with an innovative process designed to drive deals in the market place and minimize the need for Commission involvement.

The Commission has the option of invoking a process similar to "baseball" style arbitration that should provide further incentive for the parties to reach agreement before ever filing a complaint with the Commission. And we have avoided, as we did unanimously in the voice roaming context, regulating rates for data roaming agreements, instead leaving it to the parties to set their terms.

Notwithstanding the enormous success of our voice roaming rules and the powerful logic of updating those rules to reflect advances in technology, some have objected that today's Order is unnecessary and may inhibit investment. The record is clearly to the contrary on both points.

First, the record demonstrates that there is, in fact, a significant problem. The evidence shows that mobile providers must be able to offer nationwide voice and data plans to have any chance of competing in today's market. Consumers have come to expect the ability to roam nationwide, and they demand it for all of their basic mobile services, whether it's a voice call, an email, an online check of out-of-town scores, or access to web job postings or health information while on the road.

Yet the record evidence supplied by carriers in the market shows that roaming deals simply are not being widely offered on commercially reasonable terms. On the contrary, the record makes clear that some providers have refused to negotiate 3G or 4G data roaming agreements, have created long delays, or have taken other steps to impede competition.

A broad coalition of rural carriers informed us that their attempts to enter into data roaming negotiations with nationwide providers are "many times rejected out of hand." One company reported that "even our requests for an assurance to negotiate at some point in the future have been refused." In short, in the absence of the basic framework that we have on the books for voice roaming, too many competitive carriers have been unable to get deals done.

As for the issue of investment, the record demonstrates that data roaming guarantees will help unleash significant broadband investment, especially in rural areas. Today, smaller and rural providers have said they can't raise the money to build out networks—or if they have the capital, can't make the economic case to move forward without certainty and predictability around roaming. One company told us that it has sidelined "several hundred million dollars in capital expenditures, new jobs, investments in intellectual property, and other economic activity" because in order to enter the wireless market, it needs the assurance of reasonable access to data roaming.

New investment in broadband will increase competition, accelerate broadband build out, and benefit both consumers and the nation's global competitiveness. In contrast, the absence of data roaming guarantees will limit our broadband future by eliminating choices, especially in rural areas, or in some cases delaying or preventing access to mobile broadband at all.

Indeed, every commenter that filed in this record, other than the two largest nationwide incumbents, asked the Commission to adopt data roaming rules. From both a policy and legal perspective, standing idle in the face of this record would amount to shirking our responsibility.

It's untenable to argue that the Commission lacks the authority to adopt data roaming rules—specifically that our framework amounts to "common carriage" prohibited by the statute. This argument is flat wrong: the framework we adopt leaves mobile service providers free to negotiate and determine, on an individualized case-by-case basis, the commercially reasonable terms of data roaming agreements. Under the law, this is the very opposite of common carriage.

Very often when we act here at the Commission, someone says we've exceeded our authority. But the truth is that these claims of overreaching are themselves an overreach. During the last four years, the federal courts have issued 16 published merits decisions addressing direct statutory challenges to FCC orders. The FCC prevailed in 15 of the 16 challenges—94% of the time. I am confident that the same result will pertain here, if this order is challenged.

The notion that sometimes – to promote competition and broadband deployment – the Commission must adopt sensible, light-touch rules to enable access to infrastructure is a familiar one.

The Commission has done so not only earlier this year and in past years with voice roaming, it did so earlier today with pole attachments. This is why both of these initiatives have bipartisan Congressional support. Broadband data roaming rules for rural and other competitive carriers are no less worthy of unanimous support than pole attachment rules for incumbent and competitive carriers.

Together, these actions on pole attachments and data roaming – both recommendations of the National Broadband Plan – mark a significant step to promote a vibrant and innovative broadband future, massive private investment, and our global competiveness.

We know that a vigorous and dynamic mobile data market is vital if America is to remain a global technology leader. Healthy competition is what drives greater innovation and investment, lower prices, and better service. So I am pleased that we are moving forward with this basic competition and consumer-protecting measure for America's mobile broadband future.

I thank the Bureaus and Offices, particularly the Wireless Telecommunications Bureau, the Office of Strategic Planning and Policy Analysis and the Office of the General Counsel, for their work on this order.

STATEMENT OF
COMMISSIONER MICHAEL J. COPPS

Re: ***Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265***

Today's action on data roaming advances two key goals of mine and of the Commission's—protecting wireless consumers and promoting sorely-needed competition in the wireless market. Consumer demand for mobile connectivity grows stronger by the day. That demand is not limited to voice service, and neither should be the requirement to offer roaming on reasonable terms. These safeguards ensure that small regional carriers can hope to compete in the wireless market-place while investing in their own build-out of facilities. It means that their subscribers can have comparable flexibility to move about the country as customers of the wireless behemoths.

Our regulations must always try to keep pace with the changing technology and market environments. In our new digital world, few consumers buy a mobile handset exclusively for voice telephony services. Americans in every corner of the land rely on their smartphones to stay connected through e-mail, social media and other applications—whether for business reasons or for communicating with family and friends. What good is that smartphone if it can't be used when a subscriber is roaming across the county or across the country? Our regulations must reflect today's reality and not make artificial distinctions between voice and data telecommunications.

I commend the Chairman for bringing this proceeding to resolution. And of course, I thank the staff of the Wireless Telecommunications Bureau for their tireless work on the item. I would have supported an item that gave carriers the right to negotiate roaming arrangements at "just and reasonable" rates as opposed to the "commercially reasonable" standard we adopt here. I am confident, however, that vigorous application of today's Order can and should lead to much the same result—ensuring that consumers, no matter where they live or what carrier they choose, can use mobile technology to the fullest extent possible.

DISSENTING STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL

Re: ***Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265.***

My colleagues and I agree that America's consumers expect that their mobile data services of today and tomorrow will work seamlessly wherever they go. Certainly it is important that all consumers, no matter where they live, work or travel, have the ability to benefit from the most advanced wireless services in a competitive market. I recognize and appreciate the complicated policy, legal and economic factors involved with the data roaming issue. I am grateful to the many proponents of today's rules for sharing their important insights and marketplace experiences with me. And, I also thank the Chairman for his diplomacy and graciousness in attempting to forge, in his view, a streamlined order that I know is motivated by the best of intentions. I am also grateful for the efforts of those companies that are continuing to reach roaming agreements, including for data services. The record reflects that numerous carriers seeking regulatory relief today have, in fact, struck many new deals.

I also agree with my colleagues that many benefits flow from the widespread availability of data roaming. Nonetheless, the Commission simply does not have the legal authority to adopt the regulatory regime mandated by this order. Accordingly, I regret that I cannot vote to approve today's order.

Even though the order attempts to explain otherwise, in mandating the provision of data roaming and establishing a means for dispute resolution that includes adjudicating terms and rates, my colleagues in the majority are, in essence, imposing a Title II common carrier regulatory regime in violation of Title III of the Communications Act and contrary to Commission precedent.

The effort to justify characterization of today's action as something other than a common carriage decision is understandable, for the law compels it. The problem, however, is that data roaming is what the law sees as a "private mobile service." In other words, the service is considered a "mobile service" under the Act, but not a "commercial mobile service or the functional equivalent of a commercial mobile service."[1] Because data roaming *is not* a commercial mobile service, Section 332(c)(2) of the Act prohibits the Commission from subjecting the provision of data roaming to common carrier regulation.[2] Under this rubric, the Commission in 2007 unanimously concluded that provision of wireless broadband Internet access service is an "information service" and that data roaming service must be "free from common carrier regulation."[3]

In establishing new regulations for roaming arrangements among commercial mobile data service providers, today's order goes to great lengths to argue that authority is pursuant to, and consistent with, Title III of the Communications Act. New rule Section 20.12(e)(1) states that a facilities-based provider of commercial mobile data services is required to offer roaming arrangements on "commercially reasonable" terms and conditions. The rule also provides that service providers will have discretion to

[1] 47 U.S.C. §§ 153(33), 332(d)(3).

[2] 47 U.S.C. § 332(c)(2).

[3] *Appropriate Regulatory Treatment of Broadband Access to the Internet Over Wireless Networks*, Declaratory Ruling, 22 FCC Rcd 5901, 5921 ¶ 54 (2007).

negotiate on an individualized basis and may reasonably choose not to offer roaming arrangements in certain circumstances. The text of the order concludes that these mandates do not constitute common carriage because they do not employ Title II terminology explicitly. In other words, the order justifies its mandate by claiming that the new rules do not constitute common carriage because they do not employ the terms "just and reasonable" and "not unreasonably discriminatory," as found in Sections 201 and 202.[4]

What is perhaps even more difficult to reconcile with the pattern and structure of the Act, however, is the new rule that invites data roaming complaints through the Commission's formal and informal complaint procedures as set forth in Part 1 of the Commission's rules. The text states that, for the purpose of new Section 20.12(e), references to a "carrier" or "common carrier," as set forth in Part 1, will mean "a provider of commercial mobile data services" even though the order disclaims elsewhere any intent to turn these providers into common carriers. And the order expressly acknowledges that this adjudication procedure will involve Commission decisions on rates and terms.

The majority's efforts to legally justify the new regulations, no matter how well meaning, cannot survive dispassionate analysis. This decision embodies the hallmarks of classic common carriage: The regime compels the provision of service and restricts the discretion of providers to determine to whom – and on what rates and terms – to provide it. Indeed, the new rules constitute common carrier regulation by their very existence – in mandating the provision of a mere information service. Thus, when considered in their totality, these new mandates plainly do violate the Act and Commission precedent. We cannot evade the law by upending years of legal precedent and congressional intent to recast and redefine the meaning of common carriage.

Moreover, in crafting a new rule for complaints by bootstrapping on to the complaint procedures that pertain to common carriers, the majority eliminates all of the commercial flexibility granted to the providers. That the new rules allegedly permit providers to negotiate commercially reasonable terms and to offer different terms to different parties does not change the common carrier nature of these regulations. After all, this new standard and process must, by their very terms, involve the Commission in setting rates, and, by extension, terms and conditions – and to do so with reference to similarly situated common carriers. As a practical and legal matter, how else would "commercial reasonableness" be determined?

No matter how noble a policy goal may be, we have a steadfast obligation to respect the boundaries established by Congress through our authorizing statute. Appellate courts frequently remind us of this legal duty.[5] The new regulations adopted today are in direct conflict with the Act and Commission precedent. Therefore, I respectfully dissent.

In the meantime, I will continue to strongly encourage carriers to continue to enter into roaming agreements. I am confident that, as the 700 MHz band is built out, there will be new incentives to reach agreement, especially for agreements involving LTE technology. These market developments will surely foster new incentives for mutually beneficial roaming relationships.

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[4] *See* 47 U.S.C. §§ 201-202.

[5] *See, e.g., Comcast Corp. v. FCC*, 600 F.3d 642 (D.C. Cir. 2010).

STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN

Re: ***Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265.***

In Section 706 of the 1996 Telecommunications Act, Congress directed the Commission to encourage the deployment of advanced communications services to all Americans by using measures that promote competition in local markets. Last year, the Fourteenth Mobile Services Report estimated that more than 10 million Americans still live in rural census blocks with two or fewer mobile service providers. The Report also explained that roaming is a critical component of the structure of the mobile services market because it permits competitors to enter hard to serve areas. With today's Data Roaming Order, the Commission takes an important step to ensure that the structure of the mobile data services market advances Section 706's goals and improves the ability of carriers to offer more rural Americans the competitive choices other Americans enjoy.

This Order also safeguards consumers' reasonable expectations in mobile wireless communications, wherever they travel in the country, or however they choose to communicate. In the early history of the wireless market, consumers expected seamless service in mobile voice and text services. Trends suggest that this expectation will extend to the most advanced IP-based broadband services. In 2008, 25 million Americans subscribed to mobile broadband service. That number is now over 70 million. Between 2008 and 2009, the percentage of smart phones that accounted for the number of handsets sold, rose from 27 to 44 percent. Over the past few years, the percentage of Americans, who solely rely on mobile services for their communications needs, has risen to over 25 percent.

To be sure, this growing demand for seamless mobile broadband services is due to investment and innovation in networks, handsets, and applications. But it is also due to wireless companies spending millions, and in some cases billions, on marketing campaigns to persuade consumers why they offer more advanced services over larger geographic areas of the country than their competitors. Wireless carriers have now shifted the focus of their marketing campaigns from voice quality to 3G and 4G network quality, coverage, and reliability.

One thing we do not hear these marketing campaigns mention however, is that roaming is an important reason why companies can even boast of offering nationwide coverage. No single wireless carrier has built out its entire licensed service area. Therefore, to fill gaps in their coverage, all carriers must potentially roam on networks that other, non-affiliated, companies built.

Some argue that the prevalence of roaming agreements for 2G services means a roaming requirement is not necessary for mobile broadband services. I disagree. Some of the opponents to this Order are companies, who over the past few years, have merged with several of their roaming partners. Those mergers mean the number of potential roaming partners for their competitors has dropped. The fact that these merged companies oppose a mobile broadband service roaming rule suggests to me that they might use their increased market power to unreasonably restrict consumer access to competitive alternatives. In fact, as the Order points out, a number of these companies resisted offering 3G mobile broadband roaming agreements to their competitors until just recently. That strategy may serve their companies' interests. But when an increasing number of Americans are choosing to rely solely on mobile service for their communication needs, and demanding more smart phones with mobile broadband service, these roaming restrictions do not serve the public interest.

Austin Schlick, Ruth Milkman, and their staffs, have done an excellent job explaining why the Commission has statutory authority under Title III, as well as Section 706, to impose roaming obligations on commercial mobile data services. As the item explains, the Commission will continue to monitor roaming in the mobile wireless market. If we continue to find problems, we may have to consider additional measures.

DISSENTING STATEMENT OF COMMISSIONER MEREDITH ATTWELL BAKER

Re: ***Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265***

I understand the importance of data roaming; but, I cannot support this Order for a fundamental reason: in imposing these data roaming obligations on mobile broadband services, we exceed our authority and impose rules of common carriage that are impermissible under our statute. Section 332(c)(2) of the Communications Act states in no uncertain terms that "a private mobile service [like data roaming] shall not . . . be treated as a common carrier for any purpose under this Act."[1]

This treatment differs fundamentally from voice roaming services that are commercial mobile services long subject to Title II common carrier obligations. Thus, the imposition of the common carrier requirements of sections 201 and 202 on voice roaming negotiations elicited not a single dissenting statement from the Commission— neither in 2007, nor in 2010 when we revisited voice roaming.[2] Yet here, we seek to extend those same types of requirements from voice to data under a very different legal analysis because of the clear statutory limits on this agency.

The Order, and much of the rhetoric that has developed around it, distinguishes data from voice roaming on a carrier's ability to negotiate individualized agreements. There is, however, no distinction here between voice and data roaming. That a deal is individually negotiated is not dispositive as to whether or not it is a common carrier offering. This fact is most clearly demonstrated by our prior findings that voice roaming is a common carrier offering although voice roaming deals are currently individually negotiated under common carriage rules.[3] Indeed, the fact that voice roaming agreements

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[1] 47 U.S.C. § 332(c)(2) (2006). Congress defined "private mobile service" as "any mobile service . . . that is *not* a commercial mobile service or the functional equivalent." *Id.* § 332(d)(3) (emphasis added). Section 332(d)(1) clearly establishes commercial mobile service as "any mobile service" that is provided for profit and makes service interconnected with the public switched network available. *Id.* § 332(d)(1), (d)(2). And, in 2007, the Commission unanimously found that wireless mobile broadband service [data roaming] is not a commercial mobile service because it is not an "'interconnected service' as defined in the Act and the Commission's rules." *See Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, 22 FCC Rcd 5901, 5916 ¶ 42 (2007). In addition, where the host provider enables data roaming as an information service to the subscriber, Section 153(51) is yet another bar to common carrier regulation." Section 153(51) provides that "a telecommunications carrier shall be treated as a common carrier…only to the extent that it is engaged in providing telecommunications services. 47. U.S.C. § 153 (51). The Order so much as concedes this, asserting that data roaming is not a common carrier requirement in an attempt to avoid the Act's clear prohibitions.

[2] *See Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, Order on Reconsideration and Further Notice of Proposed Rulemaking, WT Docket No. 05-265, 25 FCC Rcd 4181 (2010); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers*, Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 05-265, 22 FCC Rcd 15817 (2007).

[3] *See Orloff v. FCC*, 352 F.3d 415, 420 (D.C. Cir. 2003) (agreeing with the Commission's conclusion that the legality of Verizon's individualized sales concessions practice did not depend on the company's designation as a common carrier, but rather on whether the practice was unjust or unreasonable); *see also Iowa Telecomms. Servs. v. Iowa Utils. Bd.*, 563 F.3d 743, 750 (8th Cir. 2009) (affirming the district court's order and agreeing with the Iowa Utilities Board finding that Sprint's individually negotiated, private contracts did not outweigh the evidence that Sprint was acting as a telecommunications carrier). *See generally Ex Parte* Letter from John T. Scott, III, Vice (continued….)

are individually negotiated under our rules today underscores that individualized negotiations are *not* the touchstone of common carrier status.

The *NARUC* standard for determining common carriage is straightforward: whether a carrier is free to decide "whether and on what terms to deal."[4] We mandate today that a wireless provider must enter into a data roaming deal (the whether) and the terms of the deal (the what). These are Title II common carrier requirements that are not permitted under Section 332(c) [5]

Relevant precedent makes clear that the character of regulatory obligations determines whether they constitute common carrier treatment, not the words used to describe them or the purported source of authority.[6] While the Order substitutes a new standard— "commercially reasonable" for Title II's "just and reasonable" and "not unreasonably discriminatory" as a measure to assess terms and conditions—and a new source of authority—Title III—the character of the obligations is the same.[7] The obligations fundamentally track the obligations the previously Commission imposed under sections 201 and 202. As if to underscore the point, the dispute resolution factors of the Order are built upon the provisions in last year's *Order on Reconsideration* confirming roaming obligations on voice services under Title II.[8] What is worse, the structure we create today creates perverse incentives for parties seeking mandated roaming agreements. There will now be a real risk of a revolving door as parties file repeated complaints attempting to get the lowest mandated rate. This type of gamesmanship should not be permitted as it will undermine the commercial process and create a non-trivial burden on Commission resources.

I agree that consumers expect the ability to access their voice and data services nationally. On the record before us, most consumers have that ability today. National, regional, and new entrants all

(Continued from previous page)
President & Deputy Gen. Counsel, Regulatory Law, Verizon Wireless, to Marlene H. Dortch, Sec'y, FCC, WT Docket No. 05-265, at 7 (Mar. 30, 2011).

[4] *Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC (NARUC I)*, 525 F.2d 630, 642 (D.C. Cir. 1976) (stating it is not common carriage if "there is [any] indication in the proposed regulations that [providers] are to be in any way compelled to serve any particular applicant, or that their discretion in determining whom, and on what terms, to serve, is to be in any way limited").

[5] 47 U.S.C. § 332(c).

[6] *FCC v. Midwest Video Corp.*, 440 U.S. 689, 702 (1979); *NARUC I*, 525 F.2d at 644 ("A particular system is a common carrier by virtue of its functions, rather than because it is declared to be so.").

[7] It is noteworthy that Courts have held that an element of commercial reasonability is the ability to walk away from negotiations. *See, e.g., Centennial P.R. License Corp. v. Telecomms. Regulatory Bd*, No. 10-1091, 2011 U.S. App. LEXIS 2341, at **46-47 (1st Cir. Feb. 7, 2011) (holding that "commercially reasonable efforts" do not require a wireless carrier to reach an interconnection arrangement with "all suitors" when there is a "business, technology or efficiency ground" justification for not reaching an agreement); *W. Tex. Transmission, L.P. v. Enron Corp.*, 907 F.2d 1554, 1563-64 (5th Cir. 1990) ("Whether a specific condition is [commercially] reasonable must be determined by examining the circumstances of a particular case.") (citation omitted). The Order removes that option by giving the Commission the option of imposing the terms and conditions of the best and final offer of a party requesting roaming.

[8] *See Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, 25 FCC Rcd at 4182 ¶ 2, 4200-01 ¶¶ 37-40 (reiterating that automatic voice roaming is a common carrier obligation for CMRS carriers and that roaming disputes would be resolved taking into account eleven non-exclusive factors to determine whether a CMRS provider's response to a particular request for automatic roaming was reasonable).

advertise prominently on their websites nationwide data availability.[9] Many of those most actively seeking regulatory intervention have nationwide 3G data roaming arrangements in place. Overall, our record shows that there are not generalized or categorical refusals to deal by wireless providers. Instead, there is a fundamental inability to agree on financial terms and conditions, primarily rates. This is a compelling difference to me. It raises not only the issue of whether the Commission is best equipped to determine a "commercially reasonable" market rate., but also is an area that Congress has specifically told the Commission to avoid.

With respect to the rates, I hope that our implementation of this Order will not result in mandated rates that are so low as to adversely affect the incentives of any carriers to invest in facilities-based services. We all share a collective goal of nationwide 4G coverage, and we must seek to defend that goal in our approach to data roaming complaints. Regulator-sanctioned roaming rates could well create disincentives for host carriers to build the next tower and would create similar disincentives for roaming carriers to invest and expand their own networks.

This is particularly true with respect to 4G services. The 4G rollout is ongoing; carriers are investing billions in their next-generation networks, which bring a host of additional technical and technological challenges. A more prudent course would have been to limit the reach of this decision to allow 4G deployment to proceed, and for carriers to understand the challenges and opportunities of those new networks prior to the government mandating access.

While I do not vote for this Order, I nonetheless call on all parties, both those requesting roaming and host networks, to treat each request for data roaming services seriously and in good faith. With or without the "regulatory backstop" envisioned in this Order, it is ultimately incumbent upon our nation's mobile carriers to work together to develop the data roaming environment that meets the needs and expectations of each of us as we increasingly come to rely upon mobile data for all our communication needs.

I respectfully dissent. Nonetheless, I would like to thank everyone in the Commission who participated in this long endeavor. I appreciate your hard work and dedication.

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[9] *See, e.g.*, Sprint – Nationwide Coverage, http://coverage.sprint.com/IMPACT.jsp?mapzip=&covType=sprint&returnUrl=http%3A%2F%2Fshop2.sprint.com%2FNASApp%2Fonlinestore%2Fen%2FAction%2FDisplayPhones%3FINTNAV%3DLEG%3AHE%3APhones&language=EN (last visited Apr. 6, 2011); T-Mobile - Personal Coverage Check, http://www.t-mobile.com/coverage/pcc.aspx (last visited Apr. 6, 2011); MetroPCS – Coverage, http://www.metropcs.com/coverage/ (last visited Apr. 6, 2011); U.S. Cellular Voice and Data Maps, http://www.uscellular.com/coverage-map/voice-and-data-maps.html (last visited Apr. 6, 2011); Cricket – Broadband Coverage Maps, http://www.mycricket.com/coverage/maps/broadband?z=4&clat=37.02009820136811&clng=-98.173828125&addr=&city=&state=&zip=&persist=1 (last visited Apr. 6, 2011); Cincinnati Bell Cincinnati – Wireless Coverage Map, http://www.cincinnatibell.com/consumer/wireless/coverage/ (last visited Apr. 6, 2011).